

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) - REGION I

RCRA CORRECTIVE ACTION PROGRAM

STATEMENT OF BASIS

FOR A

CORRECTIVE ACTION COMPLETION DETERMINATION

RCRA RECORDS CENTER
FACILITY Jones Environmental
I.D. NO. MAD047075734
FILE LOC. R-6
OTHER # 103855

FOR



RDMS DocID 103855

JONES ENVIRONMENTAL SERVICES, INC.

(FORMERLY GEOCHEM; FORMERLY JET LINE ENVIRONMENTAL SERVICES, INC.)

263 HOWARD STREET, LOWELL, MASSACHUSETTS

EPA ID No. MAD047075734

APRIL 2006

Based upon investigation activities conducted at the Jones Environmental Services, Inc. facility, located at 263 Howard Street in Lowell, Massachusetts, EPA is announcing its Completion Determination remedy proposal that Corrective Action obligations under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act are "Complete with Controls".

INTRODUCTION

The U.S. Environmental Protection Agency - Region I (hereafter, "EPA") is announcing its Completion Determination remedy proposal under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act.¹ This proposal states that Corrective Action obligations at the Jones Environmental Services, Inc. facility, located at

¹ "Completion Determination" is a regulatory phrase that refers to a final disposition of a facility subject to Corrective Action obligations under the Resource Conservation and Recovery Act. In this case, the Completion Determination proposed for the Facility is one that is "Complete with Controls". More information on this category of Completion Determination can be found in the Federal Register notice entitled, Final Guidance on Completion of Corrective Action Activities at RCRA Facilities, 68 Fed. Reg. 8757 (Proposed Rule; Tuesday, February 25, 2003). This proposed rule is summarized for convenience on EPA's website at http://www.epa.gov/swerffrr/documents/guidance_on_completion_rcra.htm (accessed January 12, 2006).

263 Howard Street in Lowell, Massachusetts (hereafter, "Facility" or "Site") are "Complete with Controls". Investigation activities conducted at the Facility demonstrate that releases of hazardous wastes or hazardous constituents do not pose a threat to human health or the environment for the proposed risk exposure and current and future land use assumptions. EPA's proposed Completion Determination is based on the results of investigation and reporting activities conducted by the Facility largely under the Commonwealth of Massachusetts Department of Environmental Protection (hereafter, "MADEP") Massachusetts Contingency Plan, 310 CMR 40.0000 *et seq.* (hereafter, "MCP").

This document summarizes the regulatory status of the Facility, the results of various investigation and remediation activities performed at the Facility and the reasons for proposing that a Completion with Controls determination is appropriate. EPA is publishing this document to provide opportunity for public review and comment on this proposal. EPA will consider public comments as part of its decision making process.

This Statement of Basis is intended to:

- Explain the opportunities for public participation, including how the public may comment on this proposed Completion Determination and where the public can find more detailed information;
- Provide a brief description and history of the Facility;
- Present the principal findings of investigations and activities performed to date; and,
- Present EPA's rationale for proposing that Corrective Action obligations under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act are Complete with Controls for the proposed current and future land use of the Site.

THE PUBLIC'S ROLE IN EVALUATING THIS CORRECTIVE ACTION PROPOSAL / RECOMMENDATION

All interested persons are invited to express their views on this proposal. Public comment on all potential Corrective Action proposals or measures, and supporting information, is an important contribution to EPA's decision making/remedy selection process.

Public Comment Period

Written comments on this proposal will be accepted throughout a 45-day public comment period. To facilitate clear and uniform administrative decision making, EPA's public comment period will coincide with the MADEP's public comment period for its own proposal to reissue a license to the Facility to operate as a RCRA hazardous waste treatment, storage and disposal (TSD) Facility.

The public comment period will last forty-five (45) days from Friday, April 21, 2006 in order to provide an opportunity for public comment and involvement during the evaluation of this proposal. During this public comment period, the public is invited to review this Statement of Basis and supporting information, and to offer comments to EPA.

A final decision regarding this proposed completion determination will not be made until the public comment period has closed and all comments received by EPA have been evaluated and addressed. Based on any new information or comments from the public, EPA may modify its proposal.

Written Comments

If, after reviewing the information on the Facility, you would like to comment in writing on this proposal, or on any other issues related to this proposal, you should mail your written comments (postmarked no later than **Monday, June 5, 2006**) to:

Raphael Cody
Corrective Action Section
U.S. EPA
Suite 1100-HBT
One Congress Street
Boston, Massachusetts 02114-2023

Please be sure to clearly indicate that you are commenting on this proposal.

Questions may be directed to Raphael Cody at (617) 918-1366, cody.ray@epa.gov

Public Hearing

EPA will, upon request, hold a Public Hearing to accept oral comments on this proposal. This hearing would provide the opportunity for the public to comment on this proposal after reviewing this Statement of Basis. Comments made at the hearing will be transcribed, and a copy of the transcript will be added to the Administrative Record. The Administrative Record is available for public inspection at the EPA Record Center at One Congress Street in Boston, MA, and at the information repository location listed below. EPA will not provide responses to questions during the hearing.

You may request a public hearing by contacting Raphael Cody at the above address within 15 days of the close of the comment period (**Monday, May 22, 2006**).

EPA Review of Public Comments; EPA's Decision Making Process

EPA will review comments received from the public as part of the process of reaching a final decision regarding the most appropriate action at the Facility.

If EPA receives comments, then a brief decision making document (Decision Document) will be prepared by EPA in order to address all significant comments received during the public comment period. If the comments result in significant changes to this proposal, EPA will seek additional public comments on a revised proposal.

If no comments are received that result in significant changes to this proposal, EPA's final decision will be issued in a brief letter to the Facility and interested parties of record. In this case, then because the Facility will continue to operate as a hazardous waste TSD facility, and because EPA's Completion Determination proposal is a Completion with Controls determination, then as the current lead regulatory authority for Corrective Action, EPA will be obligated to issue a Hazardous and Solid Waste Amendments of 1984 (hereafter, "HSWA") permit to the facility. In brief, a HSWA permit modifies the facility's operating license (issued by the State) to ensure the Corrective Action obligations upon which this Completion with Controls Determination is predicated, will be implemented as a condition of the operating license. EPA intends to issue a HSWA permit to the Facility in the future. When EPA is prepared to issue a HSWA permit to the facility, it will again seek public participation and comment.

Additional Public Information

This Statement of Basis provides only a summary description of the investigation and activities performed at the Facility. Therefore, the public is encouraged to consult the **Administrative Record**. As explained in more detail below, the Administrative Record is that collection of information (including data, reports, etc.) that EPA relied upon for its proposed remedy decision. In this case, the Administrative Record contains this Statement of Basis, site assessments describing the Facility's release and operation history, the results of site investigation activities conducted under State regulation, and other Facility documents which provide additional information regarding the work conducted at the Facility.

The Administrative Record is available for review at the following locations:

EPA Records Center, One Congress Street, Boston, Massachusetts 02114
(617) 918-1420

The hours of the EPA record center are:

Monday-Friday
10:00 A.M. to 1:00 P.M.
and
2:00 P.M. to 5:00 P.M.

and

The Pollard Memorial Library, 401 Merrimack St., Lowell, MA. 01852
(978) 970-4120
Fax (978) 970-4117
<http://www.pollardml.org>

The hours of the Pollard Memorial Library are:

Monday-Saturday, 9:00 A.M. to 5:00 P.M.

Internet Access: For convenience, this Statement of Basis may also be accessed on the EPA New England website at <http://www.epa.gov/NE/cleanup/rcra/index.html> under the facility's former name, Jet-Line Services (Geochem).

BACKGROUND

The following information has been used as a basis for this Completion Determination remedy proposal and may be found in the Administrative Record at the locations provided above:

1. Environmental Site Assessment, Geochem Facility, 263 Howard Street, Lowell, Massachusetts, dated January 1985 (hereafter, "ESA");
2. Final Preliminary Assessment Plus Report, Jet-Line Services, Inc., Lowell, Massachusetts, dated May 15, 1992 (hereafter, "PA-Plus");
3. *Phase I Initial Site Investigation Report and Tier Classification*, dated February 1999 (hereafter, "Phase 1"), including:
 - the January 1985 ESA,
 - a July 1985 *Report on Subsurface Investigation (RSI)*,
 - the May 1992 PA-Plus,
 - an April 1994 report on *March 31, 1994 Sampling of Lowell Wells*,
 - a February 1995 *Final Assessment Report*,
 - a June 1996 *LSP Evaluation Opinion*, and
 - a July 1998 *Environmental Site Assessment*;
4. *Massachusetts Contingency Plan Phase II Comprehensive Site Assessment Report*, dated August 14, 2001 (hereafter, "Phase II") including a *Method 3 Risk Characterization*, Jones Environmental Services, Inc., 263 Howard Street, Lowell, Massachusetts, dated June 21, 2001 (hereafter, "Method 3 Risk Characterization");
5. *Phase III Identification, Evaluation and Selection of Comprehensive Remedial Action Alternatives Report*, 263 Howard Street, Lowell, Massachusetts, RTN 3-0601, dated June 19, 2002 (hereafter, "Phase III");
6. *Phase IV Implementation of the Selected Remedial Action Alternative (310 CMR 40.0870)*, 263 Howard Street, Lowell, Massachusetts, RTN 3-0601, dated June 19, 2002 (hereafter, "Phase IV"); and
7. *Draft Class A-3 Response Action Outcome Statement and Activity and Use Limitation, Former Jet-Line/Geochem, 263 Howard Street, Lowell, Massachusetts, DEP RTN 3-0601* (hereafter, "RAO Report"), dated December 14, 2005.

Other Information:

The Silresim Chemical Corporation Superfund site (hereafter, "Silresim") is located approximately 1,000 feet southwest of the site, and accordingly, interested parties may wish to review this information for additional background as to the general Howard Street area. The administrative record for the Silresim Superfund Site can be found at the EPA Record Center (address provided above) or, for

convenience, refer to EPA New England's website at <http://www.epa.gov/region1/superfund/findsite/fndindex.htm>

Facility History

The Jones Environmental Services, Inc. facility (formerly Geochem, Inc., formerly Jet-Line Environmental Services, Inc., currently a wholly-owned subsidiary of Veridium (www.veridium.com)) (hereafter, "Jones") located at 263 Howard Street in Lowell, Massachusetts (EPA ID No. MAD 047 075 734) is currently operating as an active Resource Conservation and Recovery Act (hereafter, "RCRA") hazardous waste treatment, storage and disposal (TSD) facility under an interim license (often referred to as a "Part B" license) issued by the Commonwealth of Massachusetts Department of Environmental Protection (hereafter, "MADEP" or "State").

The facility has been in operation since 1985 under varied ownership / stewardship. Jet-Line Environmental Services, Inc. (a subsidiary of Basil Waste Management) (hereafter, "Jet-Line") acquired the property and operated as a TSD facility between 1983 and 1997. Jet-Line's Interim Part B Operating License was suspended for one year in 1987 and was revoked in 1997 due to RCRA violations. Jones acquired the site in 1998 and resumed TSD operations under a reinstated Interim Part B license. The facility has been licensed for the reclamation, distillation and storage of solvents, acids, alkalis, volatile and non-volatile organic compounds, plating and metal waste and still bottoms. The site is presently utilized for the treatment and temporary storage of hazardous waste prior to off-site disposal.

The site property is located in an industrial-zoned area bounded by River Meadow Brook and the Lowell Connector to the northwest, Howard Street to the northeast, a power plant to the east, a boiler works and machine shop and Tanner Street to the south, and the Silresim Chemical Corporation Superfund site located approximately 1,000 feet southwest of the site.

The site property is approximately 30,000 square feet and currently there exist two interconnected single-story buildings located on the east side of the site. The eastern-most portion of the building (identified as "Building 1" on Figure 1-2 of Appendix A of the Draft RAO) is a wood-framed structure with a wood floor and underlying crawl space constructed in 1976 for use as offices, a laboratory and bermed hazardous waste storage areas. The western portion of the building (identified as "Building 2" on Figure 1-2 of Appendix A of the Draft RAO) is a concrete block structure with a concrete slab-on-grade foundation constructed in

1979 for use as bermed hazardous waste storage area. In the mid 1990's, the two buildings were connected via a passageway. A concrete loading dock is located on the northwest corner of Building 2. An outside storage area used to store plastics and empty containers is located in an unpaved area north of Building 1. The western portion of the site is asphalt paved and is used to store empty trailers and drums. The area was reported to have been unpaved prior to 1988.

Corrective Action obligations at the site have been regulated by EPA. The facility originally entered into EPA's Voluntary Corrective Action (VCA) Program in 1995. However, as a result of difficulties in achieving Corrective Action obligations during Jet-Line's stewardship, EPA notified the facility that it was no longer considered a participant in EPA's VCA Program. Subsequently, EPA and the State agreed to allow the facility to proceed under the State's 21E Program and its implementing regulations, the Massachusetts Contingency Plan, 310 CMR 40.0000 *et seq.* Under Jones stewardship and the MCP, the facility has made substantial progress. This proposal is the culmination of this progress.

Release History

Volatile organic compounds (VOC) were first reported in soil, groundwater and/or surface water samples collected at the site in the January 1985 ESA. The presence of VOCs was subsequently confirmed in the July 1985 RSI. VOCs detected have included: tetrachloroethylene (PCE); trichloroethylene (TCE); 1,1,1-trichloroethane (1,1,1-TCA); 1,1-dichloroethylene (1,1-DCE); 1,1-dichloroethane (1,1-DCA); trans-1,2-dichloroethylene (trans-1,2-DCE); 1,2-dichloroethane (1,2-DCA); vinyl chloride (VC); methylene chloride (MC); chloroform; acetone; methyl ethyl ketone (MEK); benzene, toluene, ethyl benzene and total xylenes (collectively referred to as, "BTEX"); and trichlorofluoromethane (freon). In the 1992 PA-Plus report, EPA identified four (4) potential source areas - Areas of Concern (AOC) - for the VOCs as described below:

AOC 1. Hazardous waste storage areas, including a solvent recovery system, located in Building 1. The solvent recovery system, installed in 1978 and decommissioned in 1984, was historically used to recover 1,1,1-TCA, MC and Freon. No historic releases had been reported in this area.

AOC 2. Hazardous waste storage areas located in Building 2. No historic releases had been reported in this area.

AOC 3. A former catch basin/spill containment sump located near the southeast corner of Building 2. The sump was reported to have been constructed of two separate pre-cast concrete squares joined together by a

seam of unknown composition (e.g., caulking, asphalt, cement). The sump was reported to contain hazardous material and the MADEP subsequently required assessment, remediation and closure of AOC 3.

AOC 4. A former catch basin located in the loading dock area north of Building 2. Two historic spills were documented to have occurred in this area, including a spill of ethyl benzene and acetone from a 55-gallon drum in 1978 and a spill of an unknown quantity of undefined "ignitable wastes" in 1981.

Results of Investigation and Remediation Conducted at the Facility

Closure of the AOC 3 Former Catch Basin / Sump Area

The AOC 3 former catch basin / sump was discovered at the Site in 1986 in the southeast corner of Building 2. The sump was reported to be approximately 10 feet (ft) long by 5 ft wide by 5 ft deep and was reported to have been constructed of two separate pre-cast concrete squares as described above. Twenty-six (26) drums of liquid and three (3) drums of soil and sediment were removed from the sump on September 16, 1986. This waste contained high concentrations of the VOCs TCE, PCE, 1,1,1-TCA, methylene chloride and Freon; and concentrations of the metals barium, cadmium, chromium, lead, selenium and silver. In January of 1987, the sump was reported to have flooded with groundwater that was found to contain VOCs including 1,1,1-TCA, TCE, PCE and methylene chloride. In March of 1987, a groundwater monitoring well (MW-4) was installed in the sump area. A closure plan that included filling the sump with sand and capping the area with concrete was approved by the MADEP in 1988.

MCP Phase II Investigation

Under Jones' stewardship, a Phase II investigation was conducted. This Phase II documented the results of soil, groundwater, surface water and indoor and outdoor air sampling conducted at the site between 1992 and 2001 to investigate impacts from potential past releases from the four AOCs as well as other areas of the site including the paved parking areas on the west site of the site. As part of the Phase II assessment, soil, groundwater, surface water and air sampling was conducted at the facility and a Method 3 Risk Characterization was completed.

In brief, the Phase II identified a primary source of VOCs at the Building 2 former sump area (AOC 3). The compounds of concern identified consisted primarily of TCE and PCE (and their degradation products),² 1,1,1-TCA, toluene and other select

² Certain VOCs will degrade biotically (soil microbes) or abiotically (heat, temperature, etc.) under aerobic (oxygen rich) or anaerobic (oxygen deficient) environmental conditions.

VOCs. In addition, a potential indoor air risk (i.e., vapor intrusion) to building occupants was identified as arising in part from the presence of VOCs in soils and/or groundwater. Samples collected from indoor air as part of the Phase II investigation activities demonstrated that passive vents installed in the crawl space below Building 1 adequately mitigated this risk. See Table 9 of the Phase II Report.

Accordingly, the Method 3 Risk Characterization (attached as Appendix D to the RAO Report and Appendix E to the Phase II Report) concluded that a level of *No Significant Risk to human health* exists at the site under current use assumptions that:

- (a) the property continues to be used for commercial or industrial purposes, and
- (b) passive vents installed in the crawl space below Building 1 remain in place.

As defined by the MCP, a level of *No Significant Risk* "means a level of control of each identified substance of concern at a site or in the surrounding environment such that no such substance of concern shall present a significant risk of harm to health, safety, public welfare or the environment during any foreseeable period of time." MCP, 310 CMR at 40.0006.

Nonetheless, the Method 3 Risk Characterization concluded a level of *No Significant Risk* had not been achieved with respect to future use assumptions, and public welfare and the environment as a result of the concentration of oil and/or hazardous material (OHM), see 310 CMR at 40.0006, that exceeded MADEP's Upper Concentration Limits (UCL), see 310 CMR at 40.0996, in groundwater at monitoring well MW-4 (at the AOC 3 former sump area). In brief, an exceedance of MADEP's UCL's (listed in Table 6 at 310 CMR 40.0996(5)) indicates the potential for significant risk to public welfare and the environment.

Phase III and IV Remedy Evaluation and Implementation

In accordance with the Phase II Method 3 Risk characterization, a Phase III Identification, Evaluation and Selection of Comprehensive Remedial Action (Phase III) and Phase IV Implementation of Selected Remedial Alternative (Phase IV) were completed on June 19, 2002. The Phase III identified soil vapor extraction and air sparging (SVE/AS) as the recommended remedial action alternative to remediate soils and groundwater in the vicinity of well MW-4 located in the AOC 3 former sump source area. The installation of the SVE/AS system was completed in April 2003. The SVE/AS system operated for 18 months until October 25, 2004. Groundwater samples were collected on a quarterly basis during the operation of the SVE/AS system. Two rounds of post remediation groundwater samples were collected on October 28, 2004 and March 31, 2005. The groundwater sampling

helped to confirm that the SVE/AS was successful in achieving a level of *No Significant Risk* to human health, safety, public health and the environment for current and future use.

Therefore, by virtue of achieving a level of *No Significant Risk* at the site for current and future human health, public welfare and the environment as defined by the MCP, the facility is seeking a Class A-3 Response Action Outcome (hereafter, "RAO") and has submitted an RAO Statement to EPA and MADEP to such effect in its Draft RAO Report.

Pursuant to the MCP, 310 CMR 40.1036(3), a Class A-3 RAO applies to a site where:

- (a) a Permanent Solution has been achieved;³
- (b) the level of oil and hazardous material in the environment has not been reduced to background; and
- (c) one or more Activity and Use Limitations have been implemented pursuant to 310 CMR 40.1012 to maintain a level of No Significant Risk.

The facility prepared an Activity and Use Limitation (AUL) with its RAO Report. The AUL was recorded at the Middlesex County Registry of Deeds - North District in Lowell, Massachusetts in January 2006.

EPA'S PROPOSAL

Based on the above information, EPA is proposing a Completion With Controls Determination for the Facility. In accordance with EPA guidance on Completion Determinations, EPA New England believes a Completion With Controls Determination is appropriate because:

- (1) a full set of corrective measures has been defined;
- (2) the facility has completed construction and installation of all required remedial actions;
- (3) site-specific media cleanup objectives have been met; and
- (4) all that remains is performance of required operation and maintenance and monitoring actions, and/or compliance with and maintenance of any institutional controls.

³ A Permanent Solution is defined in the MCP as "a measure or combination of measures which will, when implemented, ensure attainment of a level of control of each identified substance of concern at a disposal site or in the surrounding environment such that no substance of concern will present a significant risk of damage to health, safety, public welfare, or the environment during any foreseeable period of time." MCP, 310 CMR at 40.0006.

Final Guidance on Completion of Corrective Action Activities at RCRA Facilities, 68 Fed. Reg. 8757, 8762 (Proposed Rule: Tues., February 25, 2003) (hereafter, "Final Guidance on Completion Determinations").⁴ In this case, all that remains is compliance and maintenance of the AUL (i.e., institutional control) which restricts the facility to commercial and industrial uses and requires that the passive vents installed in the crawl space below Building 1 (i.e., the engineering control) remain in place, are maintained and continue to operate. By the terms of the AUL, no other operation, maintenance or monitoring is required to maintain the conditions of the Class A-3 RAO.

Note 1: Notwithstanding this Completion Determination, EPA or an authorized State may conclude additional cleanup is needed if, subsequent to this Completion Determination, EPA or an authorized State discovers evidence of unreported or misrepresented releases. See Corrective Action Completion Guidance 1 at 50197; Corrective Action Completion Guidance 2 at 9177 n15.

Note 2: Although this is a formal Completion Determination that is intended to result in a final administrative disposition of Corrective Action requirements for the site, this is not an "unrestricted use" - or "walk-away" - situation. See generally, Final Guidance on Completion Determinations, 68 Fed. Reg. at 8761 n9. In this case, EPA or an authorized state is retaining an interest in the maintenance of, and compliance with, ongoing engineering and/or institutional controls. See Final Guidance on Completion Determinations at 8761. For this reason, among others, EPA is requesting input from the public.

Note 3: In addition to a continuing interest in maintenance of, and compliance with, ongoing engineering and/or institutional controls, because the State of Massachusetts is not currently authorized for Corrective Action,⁵ EPA is obligated to issue a HSWA permit at a future date. EPA intends to issue a HSWA permit to

⁴ Other EPA guidance that informs today's proposal includes: Announcement of Availability and Request for Comment on "Recognizing Completion of Corrective Action Activities at RCRA Facilities" Guidance. 66 Fed. Reg. 50195, 50197 (proposed Oct. 2, 2001) (hereafter, "Corrective Action Completion Guidance 1") and Announcement of Availability and Request for Comment on "Completion of Corrective Action Activities at RCRA Facilities" Guidance; Notice. 67 Fed. Reg. 9174 (proposed Feb. 27, 2002) (hereafter, "Corrective Action Completion Guidance 2").

⁵ Under Section 3006 of the Resource Conservation and Recovery Act, Congress anticipated that States would oversee implementation of hazardous waste programs. "Authorization" refers to a process by which a State may be delegated responsibility for these programs. See Solid Waste Disposal Act, 42 U.S.C.A. §1002, 3006, as amended by the Resource Conservation and Recovery Act, 42 U.S.C.A. §6901, 6926, as amended by the Hazardous and Solid Waste Amendments of 1984, Pub. L. 98-618 (Nov. 8, 1984) (collectively referred to as the Resource Conservation and Recovery Act (RCRA)).

the Facility in the future. When EPA is prepared to issue a HSWA permit to the facility, it will again seek public participation and comment.

EPA'S RATIONALE FOR DISCONTINUATION OF THE FACILITY'S CURRENT
CORRECTIVE ACTION OBLIGATIONS

As briefly described above, EPA believes a Corrective Action "Complete With Controls" Completion Determination is appropriate for the following reasons: ⁶

1. A full set of corrective measures has been defined

As a result of a sequence of investigation and remediation activities conducted under the purview of the MADEP and the MCP culminating with the Phase III and Phase IV, the Phase III report identified, evaluated and selected the most appropriate corrective measure(s) based upon both media standards in the MCP and the land use assumptions provided in the Phase II Method 3 Risk Characterization.

In this case, the primary corrective measures included excavation and capping of the former catch basin in the AOC 3 area (described above) and installation and operation of a soil vapor extraction and air sparging system (SVE/AS) in the AOC 3 area. Performance of the SVE/AS system was confirmed with SVE/AS operating performance data and a series of groundwater monitoring events.

In addition, based on the Method 3 Risk Characterization, it was determined that passive vents installed under Building 1 would effectively mitigate a potential vapor intrusion occupational risk exposures to building occupants under the exposure and industrial / commercial land use assumptions provided. Because the site is located in an industrial / commercial area and will continue to be utilized as a licensed RCRA treatment, storage and disposal facility, the land use assumptions provided by the Method 3 Risk Characterization are reasonable and appropriate.

2. The facility has completed construction and installation of all required remedial actions

Remediation of the AOC 3 former sump area by excavation was completed in September of 1986 and closure of the former AOC 3 sump area was completed in the late 1980's "under a closure plan approved by DEP". ⁷ Phase II at 7.

⁶ Again, these decision making criteria may be found in the Final Guidance on Completion Determinations at 8762.

⁷ This refers to the general closure provisions included in the facility's Hazardous Waste Management Plan dated August 25, 1996. EPA believes the AOC 3 former sump area is not a RCRA Unit subject to the requirements of 40 CFR 264 Subparts G and H.

The installation of the SVE/AS system was completed in April 2003. The SVE/AS system operated for 18 months until October 25, 2004. Groundwater samples were collected on a quarterly basis during the operation of the SVE/AS system. In addition, in accordance with the MCP, two rounds of post remediation groundwater samples were collected on October 28, 2004 and March 31, 2005. The groundwater monitoring helped to confirm that the SVE/AS was successful in reaching a level of *No Significant Risk* to human health, safety, public health and the environment for current and future use.

In addition, as described in Section 4.4 of the Phase II report, vents were installed in the foundation beneath Building 1. Indoor air concentrations declined following removal of possible indoor air sources in Building 1 and the installation of these vents. See Table 9 of the Phase II Report. Based on these results, risk calculations performed in the Method 3 Risk Characterization indicate that under the current and likely future use of the site for commercial / industrial purposes, potential volatilization of VOCs from groundwater or soil into indoor air "do not pose a significant risk of either noncarcinogenic or carcinogenic health effects" to employees, trespassers (children) nor construction workers. Method 3 Risk Characterization at pp. 47-50.

3. Site-specific media cleanup objectives have been met

Following operation of the SVE/AS system, although concentrations of VOCs in groundwater no longer exceed the MCP's Upper Concentration Limits (UCLs), the concentration of VOCs measured in groundwater near the building continue to exceed their respective MCP Method 1, GW-2 Groundwater standards. However, indoor air samples collected from the site demonstrate that, under the risk assumptions provided in the Method 3 Risk Characterization, the passive vents installed in the crawl space have adequately mitigated risk from VOC vapors that may be entering the building from groundwater or soil.

In addition, although VOCs measured in soil currently exceed their respective Method 1, S-2/GW-2 Soil Standards, the Method 3 Risk Characterization demonstrated that these concentrations do not pose a risk to human health, public safety, welfare or the environment under the assumption that the use of the property remains industrial / commercial.

These media concentrations are commensurate with media protection standards and the Response Action Outcomes established by the State in its MCP. In addition, EPA believes that the remaining soil and/or groundwater contamination is well

bounded by the characterization activities conducted to date and that continued natural attenuation of the remaining contamination will occur over time.

In order to ensure the property maintains a level of *No Significant Risk*, an Activity and Use Limitation (AUL) was recorded with the Middlesex County Registry of Deeds in January of 2006.

Lastly, the Method 3 Risk Characterization included a Stage I Environmental Screening. Based on this screening, concentrations of VOCs were "well below their respective benchmarks, indicating that these concentrations are unlikely to result in adverse impact to receptors potentially exposed to VOCs in River Meadows Brook. Since these exposure pathways do not pose a significant risk, a Stage II Environmental Assessment is not necessary." Method 3 Risk Characterization at 60.

4. All that remains is performance of required operation and maintenance and monitoring actions, and/or compliance with and maintenance of any institutional controls.

In this case, all that remains is compliance and maintenance of the AUL (i.e., institutional control) which restricts the facility to commercial and industrial uses and requires that the passive vents installed in the crawl space below Building 1 (i.e., the engineering control) remain in place and operation. By the terms of the AUL, no other operation, maintenance or monitoring is required to maintain the conditions of the Class A-3 RAO.

Normally, EPA would be obligated to issue the facility a HSWA permit in conjunction with its remedy decision in order to "ensure that an enforceable mechanism is in place so that there is compliance with and maintenance of the controls." Final Guidance on Completion Determinations at 8762. However, the AUL recorded by the facility is enforceable by the State. Consistent with EPA's Final Guidance on Completion Determinations, EPA New England believes that this "other enforceable mechanism" is appropriate for implementing the controls until such time as EPA issues a HSWA permit. *Ibid.*

In addition, because the MADEP is proposing to issue a Part B hazardous waste operating license to the facility simultaneously with this remedy proposal, there will be no ongoing treatment, storage or disposal activities that require a permit. Corrective Action Completion Guidance 1 at 50197;

Further, EPA believes the closure activities of the AOC 3 sump area were conducted under a MADEP-approved Hazardous Waste Management Plan and that

the sump area is not a RCRA unit subject to closure/postclosure requirements of 40 CFR 264 Parts G and H.

It is important to note again that this is not an unrestricted use or walk-away decision. The decision requires:

- the land use of the property remains industrial / commercial;
- the exposure assumptions of the Method 3 risk Characterization do not change; and
- the AUL remains in effect indefinitely and for the long-term notwithstanding possible future transfer of ownership.

It is important to point out that this Completion Determination proposal in no way affects the ongoing requirement of the facility to conduct Corrective Action for any future releases at the facility. *See Final Guidance on Completion Determinations* at 8761 n7. Although this will be a condition of the facility's HSWA permit, EPA understands the facility will be required by State law (i.e., the MCP) to notify the State of any future releases; and in general, be subject to the release notification and cleanup requirements of the MCP.

Lastly, the facility currently obtains its water from municipal sources. It is unlikely that groundwater at the site will be used for drinking water purposes, and it is likely that the zoning for the area will remain commercial / industrial.

Evaluation of Remedy with respect to Standards and Decision Factors

Significant flexibility is accorded to EPA in making completion determinations. *See Corrective Action Completion Guidance 2* at 9177. EPA New England believes that, in addition to the rationale presented above, evaluation of the Facility with respect to Remedy Selection Criteria set forth in available EPA guidance provides a framework for measuring the effectiveness of a proposed remedy. *See Corrective Action for releases from Solid Waste Management Units at Hazardous Waste Management Facilities*, 61 Fed. Reg. 19432, 19449 (proposed May 1, 1996) (hereafter, "Subpart S ANPR"). These Remedy Selection Criteria are presented below:

Threshold Criteria:

Overall Protection. This completion determination proposal provides protection of human health and the environment. Specifically, the investigative and remedial work (including the AUL) conducted by the facility demonstrates protection of human health, public welfare, and environment for current and future as these terms are defined in the MCP.

Attainment of Media Cleanup Standards. This proposed completion determination attains industrial / commercial media protection standards established by the State for Class A-3 RAO's. Significantly, concentrations of VOCs in groundwater no longer exceed the MCP's Upper Concentration Limits (UCLs).

Controlling Sources of Releases. The available information demonstrates that the historical on-site release of hazardous waste and hazardous constituents to soil or groundwater at the former AOC 3 sump area have been remediated to levels and conditions established by the State for Class A-3 RAO's. The remaining contamination is anticipated to naturally attenuate with time and mitigation measures for controlling vapor intrusion risk have been written into the AUL which is enforceable by the State.

Compliance with Waste Management Standards. The proposed remedy complies with all applicable requirements for the management of solid wastes.

Balancing Criteria:

Long-term Reliability and Effectiveness. This remedy is effective and reliable with respect to the long-term under the assumption that the AUL remains in place. Use of institutional and/or engineering controls is appropriate in achieving a final disposition of Corrective Action obligations. Accordingly, so long as (a) the AUL remains in place (b) exposure conditions assumed by the Method 3 Risk Characterization do not change and (c) changes in land use do not occur, this proposed Completion Determination provides for long-term reliability and effectiveness.

Reduction of Toxicity, Mobility, or Volume of Wastes. The toxicity, mobility and volume of waste impacting the environment as a result of Facility operations has been reduced. Continued decreases in the concentration of VOCs by natural attenuation is expected to result in a reduction in the overall toxicity, mobility and volume of VOCs at the site.

Short-term Effectiveness. The proposed remedy is comprehensive in the short-term since there are no immediate risks to human health or the environment.

Implementability. This remedy is believed to be easily implemented through maintenance of the AUL.

Cost. The Facility has spent significant time and money to demonstrate compliance with the State's cleanup regulations (i.e., the MCP). A Completion with Controls completion determination is appropriate for the facility given that it will remain an operating TSD facility located in an industrial / commercial setting and subject to stringent hazardous waste regulation. The facility property has been returned to a beneficial use commensurate with the zoning and land use for the area.

In summary, EPA, using all available information, is announcing its Corrective Action "Completion with Controls" Completion Determination proposal. Because investigations performed at the Facility demonstrate that releases of hazardous wastes do not pose a threat to human health or the environment; because the Facility has attained media protection and human health and environmental standards promulgated by the Commonwealth of Massachusetts for protection of human health, public welfare and the environment; because the Commonwealth of Massachusetts plans to issue a Part B hazardous waste TSD operating permit to the facility; because the site is currently zoned industrial / commercial and this zoning classification is unlikely to change in the near future, a Complete with Controls Determination is reasonable and appropriate.

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