



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

**SUBJECT:** Request for a Removal Action  
Chesapeake Products Site  
Chesapeake, Chesapeake County, Virginia

**FROM:** Dominic Ventura, On-Scene Coordinator  
Eastern Response Branch (3HS32)

A handwritten signature in black ink, appearing to read "Dominic Ventura", written over the printed name in the "FROM:" field.

**TO:** James Burke, Director  
Hazardous Sites Cleanup Division (3HS00)

## I. PURPOSE

The purpose of this Action Memorandum is to request and document approval for the time-critical Removal Action to mitigate the release and threatened release of hazardous substances and/or pollutants or contaminants from the Chesapeake Products site (Site), located in Chesapeake, Chesapeake County, Virginia. A removal assessment performed by the EPA OSC in accordance with the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 CFR Part 300, has identified a threat to public health or welfare or the environment. The hazardous substances or pollutants or contaminants detected at the Site include lead, copper, arsenic, zinc, and benzo(a)pyrene.

## II. SITE CONDITIONS

### A. Site Description

The Site is an inactive fertilizer production/packaging facility, approximately 7.6 acres in size, located adjacent to the southern branch of the Elizabeth River in a heavily industrialized area of Chesapeake, Virginia. The site includes several structures that were used for fertilizer manufacturing and storage of fertilizer raw materials. A number of piles of material containing hazardous substances or pollutants or contaminants are located inside the structures, either in loose piles or in large wooden storage bins. Two 30,000 gallon above ground storage tanks (AST) previously used to store sulfuric acid were removed in August 2002. The City of Chesapeake Fire Department inspected the facility in September 2004 and several buildings on site were deemed unsafe for occupancy.

### B. Site Background

In January 2005 the USEPA RCRA division received a request from the Virginia Department of Environmental Quality (VADEQ) RCRA division for assistance with an abandoned fertilizer facility. The adjacent property owner, Titan America, had completed a Phase I and II environmental assessment on the property and found various types of contamination. Titan America notified VADEQ about their findings and requested assistance to determine the cleanup measures that were

necessary at the property so they could assess the feasibility of purchasing the property. VADEQ and the Chesapeake Fire Marshall's Office inspected the facility and found the buildings to be of poor structural integrity and discovered multiple piles of unknown material. VADEQ forwarded this information to EPA and requested EPA to conduct a site assessment of the property.

On March 24, 2005 the OSC performed a Responsible Party (RP) search and found that Chesapeake Products, Inc. was the land owner. On March 30, 2005 the OSC met with VADEQ, the Chesapeake Deputy Fire Marshall, and the Chesapeake Fire Departments Hazardous Material Team to conduct a visual assessment of the property.

### **C. Quantities and Types of Substances Present**

On April 20, 2005 and August 1, 2006 EPA and its Superfund Technical Assessment and Response Team (START) sampled soils, standing water, and piles of unknown materials that are located on site. The analytical results indicated that soils and material piles contained lead at concentrations greater than 800 parts per million (ppm). Arsenic, copper, zinc, and benzo(a)pyrene were also detected at elevated levels. Chesapeake Products indicated that the unknown material is off specification product. The OSC sent the analytical results to the Agency for Toxic Substances and Disease Registry (ATSDR) for review and to determine whether health hazards exist at the site.

The majority of the piled material containing hazardous substances or pollutants or contaminants is located in the main warehouse building. Chesapeake Products indicated that there is another fertilizer manufacturer in the area who expressed interest in removing some of the piles of material from the site for use as a feedstock. The roof of this building has partially collapsed and almost the entire floor is flooded with water. The main warehouse building contains approximately 314,000 gallons of flood water. Samples collected from the flood water contained lead, arsenic, copper, and zinc at concentrations exceeding Criteria Maximum Concentrations (CMC), which are acute water quality criteria established pursuant to Section 304(a) of the Clean Water Act (CWA). Due to the questionable structural integrity of this building, EPA has not been able to fully enter the building in order to determine the entire amount of material or full extent of contamination inside the building.

### **D. State and Local Authorities**

The OSC has coordinated with both VADEQ and the City of Chesapeake officials regarding the actions anticipated at the Site.

## **III. THREATS TO PUBLIC HEALTH OR WELFARE OF THE ENVIRONMENT**

Section 300.415 of the NCP lists factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i), (iv), (v), and (vii) of Section 300.415 directly apply as follows to the conditions as they exist at the Site.

300.415 (b)(2)(i)      Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants

Lead was detected in the surface soil at concentrations up to 7,900 parts per million (ppm). Lead is poisonous to humans by ingestion and inhalation. In particular, lead is neurotoxic to infants and developing fetuses. Human systemic effects by ingestion and inhalation are loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, hallucinations, distorted perceptions, muscle weakness, gastritis, and liver changes. Lead also affects the human nervous system, the blood system and the kidneys. Chronic exposure can lead to irreversible vascular sclerosis, tubular cell atrophy, interstitial fibrosis, and glomerular sclerosis. Severe toxicity can cause sterility, miscarriage, and neonatal mortality and morbidity. Based on analytical results, current site conditions, potential residential development of the adjacent property, and recent evidence of trespassers accessing the site, ATSDR considers exposure to chemicals at this site a public health hazard. Arsenic, copper, zinc, and benzo(a)pyrene were also detected at elevated concentrations in areas where there were high concentrations of lead. However, sampling to date has indicated that lead contamination at the site is the factor requiring a removal action to protect public health.

300.415 (b)(2)(iv)      High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate

Lead has been detected in soils at the site at concentrations of up to 7,900 ppm. Arsenic, copper, zinc, and benzo (a) pyrene were also detected at elevated concentrations in areas where there were high concentrations of lead. No controls are in place to prevent the migration of hazardous substances or pollutants or contaminants. The site may be redeveloped for industrial use and there is a plan to build condominiums on the adjacent property. There are large unpaved areas on site which accelerate the likelihood of migration. Due to uncontrolled access to the Site, the hazardous substances or pollutants or contaminants have the potential for migrating from typical human activities such as parking and walking. In addition, disturbance or excavation of these areas could result in high levels of lead being placed in areas where exposures could occur, or where lead could migrate through surface runoff to the southern branch of the Elizabeth River or adjacent properties.

300.415 (b)(2)(v)      Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released

The Site is located in an industrial area and there are several storm drains located on the property. Precipitation in this area will likely cause the migration of the lead contamination into the storm water runoff system which empties into the southern branch of the Elizabeth River. Additionally, heavy precipitation could cause contamination to spread to adjacent properties through surface runoff.

300.415 (b)(2)(vii)    *The availability of other appropriate Federal or State response mechanisms to respond to the release*

The City of Chesapeake, while supporting the actions of EPA, does not have the resources to clean up the site. VADEQ is focusing on other priorities with their available funding and is therefore unable to address this Site at the present time.

#### **IV. ENDANGERMENT DETERMINATION**

Actual or threatened releases of hazardous substances or pollutants or contaminants from this Site, if not addressed by implementing the response actions outlined in this Action Memorandum, may present an imminent and substantial endangerment to the public health, welfare or the environment.

#### **V. PROPOSED ACTIONS AND ESTIMATED COSTS**

The proposed action is intended to mitigate the threat posed to the public health and welfare due to the release of hazardous substances or pollutants or contaminants from the Site.

##### **A. Proposed Actions**

1. Provide 24-hour security during removal activities to minimize or prevent the exposure of trespassers.
2. Conduct structural integrity assessment of buildings to determine whether they are safe for conducting removal activities.
3. Remove and contain standing water from main building to facilitate sampling and disposal of standing water and removal and cleanup of material and surfaces inside the building.
4. Implement engineering controls to reduce runoff or spread of contamination during removal activities, as necessary (e.g. install silt fencing and wetting down dry soil with water).
5. Fully delineate the nature and extent of contamination in site soils and inside structures.
6. Assess potential contamination of groundwater.
7. Material piles currently located in warehouses will be shipped off site for re-use as feedstock at a facility in accordance with CERCLA Section 121(d)(3) if the OSC determines that re-use as feedstock is appropriate.
8. Excavate soil from the property to a maximum depth of two feet below ground surface and remove material from inside buildings that contains lead at concentrations greater than 800 ppm. Soil and material that does not contain lead at concentrations greater than 800 ppm may also be removed if they contain concentrations of hazardous substances or pollutants or contaminants at concentrations that exceed a cancer risk of  $1 \times 10^{-4}$  and a hazard quotient greater than one.
9. Decontaminate solid surfaces inside and outside of buildings. Decontamination water will be collected for disposal.
10. Prepare excavated soil and all material addressed in paragraph 8 for off-site transportation and disposal. Waste will include piles of materials from inside warehouses if re-use is not appropriate.

11. Dispose of soil, water and material addressed in paragraphs 3, 8, 9, and 10 off site in accordance with 40 CFR Section 300.440 and Section 121(d)(3) of CERCLA.
12. After excavation activities are complete, conduct post excavation sampling and restore the site to prevent exposure to contamination that may exist two feet below ground surface.
13. If post removal sampling indicates that contamination is present below two feet, place warning barrier, and cover with clean soil to prevent direct contact with contaminated soil below two feet.
14. Ensure the integrity of the removal action by maintaining soil cover over areas that are backfilled with clean soil .

**B. Contribution to Remedial Performance**

The Site is not on the National Priorities List (NPL). The actions proposed in this funding request will not interfere with any remedial actions that may occur in the future and any actions will be consistent with the requirement of Section 104(a)(2) of CERCLA, 42 U.S.C. § 104(a)(2), which states that a removal action should contribute to the efficient performance of any long term action, should a remedial action occur.

**C. Compliance with ARARs**

The proposed Removal Action will comply with Federal and State applicable or relevant and appropriate environmental and facility siting requirements (ARARs) to the extent practicable considering the exigencies of the situation. The OSC requested State ARARs from the Commonwealth of Virginia in a letter date March 15, 2007. The OSC will continue to identify and evaluate ARARs as site work proceeds.

**D. Estimated Costs**

Extramural Costs	
Regional Allowance Costs (This cost category includes estimates for ERRS contractors, subcontractors, letter contracts, orders for services, notices to proceed, alternative technology contracts, and inter-agency agreements with other Federal Agencies)	\$1,081,851
Other Extramural Costs Not Funded from the Regional Allowance START Contractor	\$178,655
Subtotal, Extramural Costs	\$1,260,506
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	\$252,101
<b>TOTAL REMOVAL ACTION PROJECT CEILING</b>	<b>\$1,512,607</b>

**VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

If the actions described in this Action Memorandum are not conducted, hazardous substances or pollutants or contaminants will continue to be exposed on the surface of the Site. Without immediate actions to reduce the potential for direct contact with hazardous substances or pollutants or contaminants at the Site, potential threats posed to human and ecological receptors may increase. The high concentrations of hazardous substances or pollutants or contaminants in surface soils and in piles of materials left on site could migrate to surrounding properties through disturbance from vehicle traffic, pedestrian tracking or other activities on Site. The large quantity of water containing hazardous substances or pollutants or contaminants in the main warehouse poses a threat of release and could cause the migration of hazardous substances or pollutants or contaminants. Wind and rain could erode the material piles and soil causing additional migration.

The OSC has coordinated with VADEQ officials regarding the actions anticipated at the Site. VADEQ is focusing on other priorities with their available funding and at the present time does not plan to take the actions which the OSC proposes. EPA's financial assistance is vital to ensure that the threat posed by the Site is mitigated in a timely manner.

**VII. OUTSTANDING POLICY ISSUES**

There are no outstanding policy issues pertaining to the Chesapeake Products Site.

**VIII. ENFORCEMENT STATUS**

The OSC has provided the EPA Removal Enforcement Section with information available to pursue any and all enforcement actions pertaining to the Chesapeake Products Site. See attached Confidential Enforcement Addendum.

The total cumulative EPA costs for this Removal Action, based on full cost accounting practices that will be eligible for cost recovery are estimated below as:

Direct Extramural Cost:	\$1,512,607
Direct Intramural Costs:	\$ 129,000
Indirect Costs (67.13% of above)	\$1,102,011
Estimated EPA Costs for the Removal Action:	\$2,743,618

The total EPA costs for this Removal Action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,743,618<sup>1</sup>.

<sup>1</sup> Direct Costs include direct extramural and direct intramural costs. Indirect Costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a Removal Action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual costs from this estimate will affect the United States' right to cost recovery.

**IX. RECOMMENDATION**

This decision document represents the selected action for the Chesapeake Products Site in Chesapeake, Chesapeake County, Virginia, developed in accordance with CERCLA, as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the site.

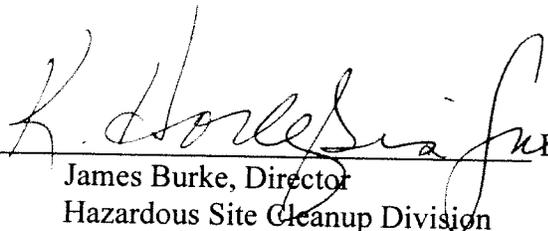
Pursuant to Section 113(k) of CERCLA and EPA Delegation No. 14-22, I hereby establish the document listed below as the Administrative Record supporting the issuance of this Action Memorandum.

Trip Report for the Chesapeake Products Site, October 2006  
Trip Report for the Chesapeake Products Site, June 2005  
ATSDR Health Consultation November 27, 2006

Conditions at the Chesapeake Products Site meet the NCP Section 300.415(b) criteria for a removal action and I recommend your approval of the proposed Removal Action. The total Removal Action Project Ceiling, if approved, will be \$1,512,607. Of this, an estimated \$1,081,851 comes from the Regional Removal Allowance.

This decision document represents the selected Removal Action for the Chesapeake Products Site, in Chesapeake, Virginia, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the site.

APPROVED:

 Date 5/31/07  
James Burke, Director  
Hazardous Site Cleanup Division  
EPA Region 3

ATTACHMENT: Enforcement Confidential Memo