

VIRGINIA DEPARTMENT OF ENVIRONMENT QUALITY

STATEMENT OF BASIS

Emporia Foundry 620 Reese Street

Emporia, Virginia

EPA ID No. VAD023720105

January 21, 2015

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I. INTRODUCTION

1.1. Facility Name

The Virginia Department of Environmental Quality (VDEQ) has prepared this Statement of Basis (SB) for the Emporia Foundry located at 620 Reese Street, Emporia, Virginia 23847 (hereinafter referred to as the Facility).

The Facility is subject to the Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. Sections 6901 to 6992k. The Corrective Action Program is designed to ensure that certain facilities subject to RCRA have investigated and cleaned up any releases of hazardous waste and waste constituents that have occurred at their property.

Information on the Corrective Action Program can be found by navigating <u>http://www.epa.gov/reg3wcmd/correctiveaction.htm</u>.

VDEQ has prepared this SB in cooperation with the United States Environmental Protection Agency (EPA). VDEQ has reviewed all available Facility data and has determined that no additional characterization or remediation is necessary for the Facility to satisfy its federal RCRA Corrective Action obligations. The components of VDEQ's proposed remedy are being implemented and are enforceable under the Permit entered into by the VDEQ and Emporia Foundry dated October 25, 2005. VDEQ is proposing to incorporate the remedy selection and determination of Corrective Action Complete with Controls in its modification of the Facility's Hazardous Waste Management Post-Closure Permit. Based on its review, in this SB VDEQ is proposing its final remedy for the Facility and providing the opportunity for public comment and review on its proposal and the associated permit modification.

1.2. Proposed Decision

This SB explains VDEQ's proposed decision that no further actions to remediate soil, groundwater, or indoor air contamination are necessary to protect human health and the environment given current and reasonably anticipated future land use. VDEQ's proposed decision requires the Facility to maintain certain property mechanisms known as Institutional Controls (ICs) and Engineering Controls (ECs). The proposed controls are discussed in Section V below. VDEQ's proposed decision represents "Corrective Action Complete with Controls" as described in EPA's "Final Guidance on Completion of Corrective Action Activities at RCRA Facilities", (68 FR 8757, February 25, 2003). A Corrective Action Complete with Controls determination indicates that protection of human health and the environment has been achieved, and will continue as long as the necessary operation and maintenance actions are performed, and the institutional controls are maintained and complied with.

This SB summarizes information that can be found in greater detail in the work plans and reports reviewed by VDEQ and EPA, which can be found in the Administrative Record (AR) included as an attachment to this SB.

1.3. Importance of Public Input

The purpose of this document is to solicit public comment on VDEQ's proposed remedy prior to VDEQ making its final remedy selection for the Facility. The public may participate in the remedy selection process by reviewing this SB and documents contained in the AR in support of VDEQ's proposed decision and submitting written comments to VDEQ during the public comment period. The information presented in this SB can be found in greater detail in the work plans and reports submitted by the Facility to VDEQ and EPA. To gain a more comprehensive understanding of the RCRA activities that have been conducted at the Facility, VDEQ encourages the public to review these documents, which are found in the AR. A copy of the AR is available for public review, in paper or electronic format, from the VDEQ contact person, the address and telephone number of which is provided as an attachment to this Statement of Basis.

When making a determination regarding the selection of a final remedy, VDEQ will consider all written comments received during the comment period (see Section VIII), any oral or written statements received during the public meeting, and requirements of the Virginia Hazardous Waste Management Regulations and 40 CFR Part 124. Each person who has submitted comments will receive a written response from VDEQ. If VDEQ determines that new information or public comments warrant a modification to the proposed decision, VDEQ will modify the proposed decision or select other alternatives based on such new information and/or public comments. VDEQ is proposing to incorporate the remedy selection and determination of Corrective Action Complete with Controls in its modification of the Facility's Hazardous Waste Management Post-Closure Permit. VDEQ anticipates that the final remedy will be implemented initially through the Facility's Permit and subsequently through an environmental covenant pursuant to the Virginia Uniform Environmental Covenants Act (UECA), Title 10.1, Chapter 12.2, Sections 10.1- 1238-10.1-1250 of the Code of Virginia (Environmental Covenant). The Facility's Permit will be allowed to expire once the Environmental Covenant has been recorded in the Clerk's Office of the Circuit Court of the City of Emporia, Virginia.

II. FACILITY BACKGROUND

Emporia Foundry is located in an industrial area at 620 Reese Street in Emporia, Virginia. The facility consists of 20.16 acres and lies between multi-family residential areas to the North, and commercial/industrial areas to the South and East. The Facility manufactured gray-iron, municipal castings by mold-casting methods for use by municipal governments and the construction industry. Manufactured castings include manhole covers, manhole cover receptacles, and drain grates. The Facility has ceased operations and is in the process of decommissioning all equipment and closing the Facility.

The foundry site contains a closed hazardous waste landfill, approximately 3.7 acres; the landfill contains RCRA characteristic wastes. The landfill, a regulated unit (identified as SWMU 3 in

the Facility's Hazardous Waste Management Post-Closure Care Permit), is bounded on the north and east by Little Metcalf Branch, on the south by CSX Railroad tracks, and on the west by a drainage ditch (as shown on the attached map). The surface is generally level on the western sections but slopes upward to a steep bank on the eastern end of the landfill.

Between 1965 and 1975, foundry wastes consisting of cupola slag, spent casting sand, and spent steel shot were disposed in the landfill. Between January 1975, and December 1981, cupola baghouse dust was included with other wastes. Between January 1982, and the fall of 1982, foundry waste without cupola baghouse dust was disposed in the landfill, and by December of 1982, the landfill disposal operations ceased. The landfill was certified closed effective February 15, 1984 by the Virginia Department of Waste Management, predecessor of VDEQ.

Closure activities consisted of regrading the landfill, directing surface drainage to an on-site lagoon (later removed) and the application of a clay cap to perimeter slopes.

The Permittee performed post-closure care for the closed landfill identified in Permit Section III.B.l. from February 15, 1984 through February 15, 2014, [thirty (30) years after the date closure was certified].

Emporia Foundry operated under a Closure and Post Closure Care Plan, dated April 19, 1983, until it was issued a Post-Closure Care Permit in 1994 for its closed hazardous waste landfill. The Permit included requirements for initiation of a Groundwater Compliance Monitoring Program because it was determined during detection monitoring (begun in 1985) that there had been a release of constituents from the landfill above background concentrations. However, the concentrations of detected constituents in groundwater at the closed landfill unit boundary did not exceed, and do not now exceed, the GPS specified in the Permit (based on either EPA Maximum Contaminant Level (MCLs) or VDEQ Alternative Concentration Limits (ACLs), or site background).

The facility's Permit, effective October 25, 2005, required Emporia Foundry to perform certain site-wide corrective action investigations, including the submittal of a Phase I RCRA Facility Investigation (RFI) Work Plan to VDEQ and the USEPA for review and comment. The Work Plan was to allow the foundry to propose a plan to assess whether surface water, sediment, soil or groundwater had been impacted by activities associated with eight (8) Solid Waste Management Units (SWMUs) identified in the Post-Closure Care Permit.

III. SUMMARY OF ENVIRONMENTAL HISTORY

To date, the following RCRA CA milestones have been completed at this Facility:

- In December 1991, the site was assigned a medium Corrective Action (CA) priority;
- As part of the first phase in the RCRA Corrective Action process, the Facility submitted to VDEQ for review a Phase I RFI Work Plan. The RFI Work Plan was received by VDEQ on February 3, 2006. The DEQ completed its review of the RFI Work Plan and sent its comments to the Facility on August 18, 2006. Based on the

review of the February 2006 RFI Work Plan and other corresponding reviews, on June 28, 2007, VDEQ requested that the Facility submit a final copy of the RFI Work Plan for approval;

- The Phase I RFI Work Plan, dated February 2006, and revised July 17, 2007, was approved by VDEQ on August 8, 2007;
- The Phase I RFI field activities were conducted in March of 2008. The Phase I RFI Report was submitted on July 31, 2008. VDEQ technical review comments on the Phase I RFI Report were provided to the facility in a VDEQ letter, dated December 18, 2008. Subsequent response to comments, additional comments and revisions to the Phase I RFI Report submittals were made, and VDEQ approved the Final RFI Report in a letter dated December 10, 2010. No further action was recommended for three of the eight SWMUs (SWMU 4, SWMU 5, and SWMU 7). SWMU 3 (the hazardous waste landfill) would continue to be evaluated under the Facility's Post-Closure Care Permit;
- Environmental Indicator status was completed on November 11, 2008 with "Yes" for both human health and groundwater;
- The Phase I RFI included an ecological assessment of Little Metcalf Branch, which bounds the north side of the property. Based on the results of the assessment, VDEQ arranged for additional sampling by the USACE (results reported in the Phase II RFI Report);
- A Phase II RFI Work Plan for multiple SWMUs requiring additional investigation was submitted January 2011, revised June 2011 and October 2011. VDEQ approved the Work Plan on November 17, 2011;
- A Phase II RFI Report was submitted on July 7, 2012 which included sampling activities performed by the United States Army Corps of Engineers (USACE) and the Facility. That Report recommended no further action for SWMU 2, SWMU 6, and SWMU 8. Further study in soil at the riparian buffer sampling location (RS-3) and further assessment of SWMU 1 subsurface soils was recommended;
- After completion of Phase II activities, two areas were retained for additional evaluation, being SWMU 1 (Former Waste Oil Tank) and the Riparian Buffer area (near RFI Phase I RFI sampling location RS-3);
- A Risk Exposure and Analysis Modeling System (REAMS) risk analysis was completed for SWMU 1 on January 8, 2013 which recommended closure of the unit with controls (deed restriction eliminating future residential use). VDEQ reviewed the evaluation and determined in a memo dated March 5, 2013 that the cumulative risk to the industrial receptor is within the current risk based performance standard;

- The Facility submitted a proposal for additional soil sampling in the Riparian Buffer remediation area. VDEQ provided comments to the Work Plan on March 6, 2013; and
- The Facility submitted a Land Use Assumptions Report (LUAR) which designated the industrial user as the appropriate land use scenario. VDEQ approved the LUAR on December 13, 2013.

Riparian Buffer Area

- Facility Investigations of the riparian buffer remediation area identified areas of soil which exceeded the residential and industrial screening levels for lead, 400 mg and 800 mg, respectively. Remedial action consisted of placing a one foot soil cover on 0.17 acres of lead contaminated soil (concentrations greater than 400 mg/kg) adjacent to Metcalf Branch on the northern property boundary;
- The Facility submitted a Work Plan for Riparian Buffer Sampling on March 5, 2013. VDEQ responded with comments on March 6, 2013. A report of Riparian Buffer sampling was submitted on July 17, 2013 which recommended no further action with a deed restriction. VDEQ did not accept the recommendation and required the preparation of a Riparian Buffer Remediation Work Plan;
- The Riparian Buffer Remediation Work Plan was submitted on September 18, 2013. An addendum to the Work Plan was submitted on October 23, 2013. VDEQ provided response to the Work Plan on November 18, 2013 and after comments were addressed, approved the Work Plan in a December 26, 2013 letter;
- The Facility submitted the Riparian Buffer Remediation Report on June 24, 2014; and
- In a letter dated August 28, 2014, VDEQ determined that the RCRA investigation and interim measures implementation at the facility are complete and that the information submitted adequately meets the criteria and standards of the Corrective Action program.

The following table summarizes the SWMUs, constituents of concern (COCs) and the results of the RFIs at the site.

Unit	Description	COCs	RFI Recommendation
SWMU 1 (Restricted Area I on attached map)	Former Waste Oil Tank	VOCs, TPH, Metals, PCBs	Subsurface soils contain concentrations of COCS at levels above residential screening levels. Institutional
			Controis recommended.
SWMU 2	Baghouses,	Arsenic, Barium,	No further action
	East Side of	Cadmium, Chromium,	
$CNUMUL 2^2$	Facility	Lead, Selenium, Silver	A second second second second
SWMU 3	Closed	Arsenic, Barium,	Assessed under Post-Closure
	Waste	cobalt Copper Lead	Monitoring Program
	Industrial	Mercury Thallium	Wolntoring Program
	Landfill	Zinc, Phenol	
SWMU 4	Waste Sand	Arsenic, Barium,	No further action
	Pile	Cadmium, Chromium,	
		Lead, Selenium, Silver	
SWMU 5 ¹	Inactive Cupola	Arsenic, Barium,	No further action
	Dust Treatment	Cadmium, Chromium,	
1	Area	Lead, Selenium, Silver	
SWMU 6 ¹	Concrete Pad	Arsenic, Barium,	No further action
	and Machinery	Cadmium, Chromium,	
		Lead, Selenium, Silver	
SWMU 7	Baghouses,	Arsenic, Barium,	No further action
	South Side of	Cadmium, Chromium,	
CWALLO	Facility	Lead, Selenium, Silver	N. Couthan and an
SWMU 8	Oil Tank	PCBs	No further action
Little Metcalf Branch	Bounds north	Lead	Subsurface soils contain lead
(Riparian Buffer	side of the		above the residential screening
Remediation Area –	property		level (400 mg/kg).
Restricted Area II on			Engineering and Institutional
attached map)			Controls required.
Outfalls			No further action

¹ The investigation and closure of SWMUs 5 and 6 were addressed under an Administrative Order of Consent between the Department and the Permittee dated November 23, 2003. Clean closure for these units was approved by VDEQ on December 12, 2012. The groundwater component of closure was addressed under site-wide corrective action under the Facility's Post-Closure Care permit.

² In December 1993, VDEQ's evaluation of analytical data from the 1993 sampling events indicated that there was evidence of a statistically significant increase in concentrations of both total and dissolved lead (Pb) and cadmium (Cd) downgradient of the closed landfill (SWMU 3). By letter dated December 27, 1993, VDEQ determined there had been a release from the unit and required the Facility to enter compliance monitoring. The compliance monitoring period began August 15, 1994 and terminated on August 26, 2013. The Facility conducted the last groundwater sampling event in December 2013. Records from the past ten sampling events have confirmed constituent concentrations in groundwater have remained below the Facility GPS and no increasing trend is evident.

The post-closure care monitoring period for SWMU 3 ended on February 14, 2014, and termination of post-closure care was approved on August 28, 2014. However, the Facility is still required to complete the site-wide corrective action requirements specified in Module VI of the Permit.

IV. CORRECTIVE ACTION OBJECTIVES

4.1 Soil

VDEQ's Corrective Action Objective for Facility soils is to control exposure to the hazardous waste constituents remaining in soils at SWMU 1 (Former Waste Oil Tank), SWMU 3 (hazardous waste landfill), and the riparian buffer area by requiring compliance with and maintenance of land use restrictions at the Facility.

4.2 Groundwater

Groundwater is not contaminated above drinking water standards. No further action is needed to protect human health and the environment in regards to groundwater.

V. PROPOSED REMEDY

VDEQ's proposed remedy for the Facility consists of the following components:

5.1 Compliance with and Maintenance of Institutional and Engineering Controls (ICs and ECs)

Because contamination will remain in the soils at the Facility, VDEQ's proposed final remedy includes land use restrictions to minimize the potential for human exposure to soil that contains contaminants above levels of concern. The land use restrictions will be implemented through institutional and engineering controls (ICs and ECs). ICs are non-engineered instruments such as administrative and/or legal controls that minimize the potential for human exposure to contamination by limiting land or resource use and inform subsequent purchasers of the environmental conditions at the Facility and of VDEQ's final remedy for the Facility. ECs encompass a variety of engineered and constructed physical barriers (e.g., soil capping, subsurface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property.

VDEQ is proposing the following institutional and engineering controls be implemented and maintained at the Facility:

1. The former Emporia Foundry Hazardous Waste landfill was closed and capped in 1984. The riparian buffer remediation area soil contaminated with lead above the residential screening level (400 mg/kg) was covered by a one (1) foot clean soil cover in 2014. The landfill cap and vegetated soil cover of the riparian buffer remediation area shall be monitored and inspected on an annual basis. Routine monitoring shall include

examination of the cover integrity. The inspection procedures shall be based on the inspection checklist included in the Facility's Permit and attached to this SB.

- 2. The Facility property containing the hazardous waste landfill, SWMU-1 (designated as Restriction Area I on the attached map), and the riparian buffer area soil cover (designated as Restriction Area II on the attached map) shall not be used for residential purposes or for children's (under the age of 16) daycare facilities, schools or playground purposes.
- 3. All earth moving activities including excavation, drilling and construction activities that would result in direct exposure to soil or disturbance of the soil on those portions of the Facility property on which the hazardous waste landfill, SWMU-1 (Restriction Area I), and the riparian buffer area soil cover (Restriction Area II) exist shall be prohibited without VDEQ approval of a Materials Management Plan. Any identified disturbances in the landfill cap or soil cover shall be repaired.
- 4. Compliance with the institutional controls shall be evaluated by the Facility on an annual basis. A report documenting the findings of the evaluation shall be provided to VDEQ no later than March 1 of every year for the prior year.
- 5. Owner and its successors-in-interest shall provide VDEQ with a "Certified, True and Correct Copy" of any instrument that conveys any interest in the Property.
- 6. Owner and its successors-in-interest shall allow VDEQ and its authorized agents and representatives, access to the Property to inspect and evaluate the continued effectiveness of the Final Remedy.

A Deed Notice is already in place with the Clerk's Office of the Circuit Court of the City of Emporia, Virginia, Deed Reference, Book 142, Page 580, dated January 12, 1984 identifying the location of the Facility's closed hazardous waste landfill. However, VDEQ anticipates that the boundaries of the hazardous waste landfill (as defined by the survey dated October 7, 2014 prepared by James T. Bailey, L.S. entitled "Plat of Survey for Closed Hazardous Waste Landfill, Emporia Foundry, Inc.") and the boundaries of SWMU-1 (Restriction Area I) and the riparian buffer area soil cover (Restriction Area II) (as defined by the survey plat dated June 17, 2014, as revised November 20, 2014 prepared by James T. Bradley, L.S. entitled, "Plat for Emporia Foundry, Inc. Restriction Areas") will be incorporated into the Permit and an environmental covenant pursuant to the Virginia Uniform Environmental Covenants Act (UECA), Title 10.1, Chapter 12.2, Sections 10.1- 1238 through10.1-1250 of the Code of Virginia. The covenant will be recorded in the Clerk's Office of the Circuit Court of the City of Emporia, VA.

5.2 No Further Action for Groundwater

VDEQ has determined that concentrations of constituents of interest are below the site-specific Groundwater Protection Standard (MCL, ACL or background concentrations) for SWMU 3 and below the MCLs or applicable risk-based screening levels for the remaining units investigated;

therefore, no further action is required to be protective of human health and the environment in regards to groundwater.

5.3 Implementation

VDEQ is proposing to incorporate the remedy selection and determination of Corrective Action Complete with Controls in its modification of the Facility's Hazardous Waste Management Post-Closure Permit. VDEQ anticipates that the final remedy will be implemented initially through the Facility's Permit and subsequently through an environmental covenant pursuant to the Virginia Uniform Environmental Covenants Act (UECA), Title 10.1, Chapter 12.2, Sections 10.1- 1238 through10.1-1250 of the Code of Virginia (Environmental Covenant). The Facility's Permit will be allowed to expire once the Environmental Covenant has been recorded in the Clerk's Office of the Circuit Court of the City of Emporia, Virginia.

VI. EVALUATION OF VDEQ'S PROPOSED DECISION

This section provides a description of the criteria VDEQ used to evaluate the proposed remedy consistent with EPA guidance. VDEQ evaluated three remedy threshold criteria as general goals.

6.1 Protect Health and the Environment

The proposed remedy is protective of human health and the environment. Sampling results show that the Facility's groundwater is within an acceptable range for drinking water. With respect to Facility soils, the primary human health and environmental threats posed by contaminated soil at the Facility were related to direct contact with those soils. VDEQ has proposed land use restrictions in order to minimize the potential for human exposure to that contamination.

6.2 Achieve Media Cleanup Objectives

For groundwater, the Facility meets EPA's MCLs or applicable risk-based screening levels. With this remedy decision, VDEQ requires the implementation and maintenance of institutional controls to ensure the Facility soils are used for industrial purposes only and prohibit contact with soil underneath the remediation area's soil cover and the landfill cap.

6.3 Remediating the Source of Releases

In all remedy decisions, VDEQ seeks to eliminate or reduce further releases of hazardous wastes or hazardous constituents that pose a threat to human health and the environment. The Facility's contaminated soil areas are localized and groundwater data has demonstrated that the soils are not a source of release to groundwater.

VII. FINANCIAL ASSURANCE

Since no further investigations or corrective actions are anticipated, financial assurance for corrective action is not required for the Facility. The Facility was released from financial

assurance requirements in a letter dated August 28, 2014 due to the termination of the Post-Closure Care period.

VIII. PUBLIC PARTICIPATION

Interested persons are invited to comment on VDEQ's proposed decision during the comment period for the modification of the Facility's Hazardous Waste Post-Closure Care Permit being requested to incorporate the remedy. The public comment period will last sixty (60) calendar days from the date the notice is published in a local newspaper.

The Administrative Record contains all the information considered by VDEQ for its proposed remedy for the Facility. To receive a copy of the Administrative Record or for additional information regarding the proposed remedy, please contact Mrs. Tara Mason at (804) 698-4218 or tara.mason@deq.virginia.gov.

The public comment period will last sixty (60) calendar days from the date the notice is published in a local newspaper. Comments may be submitted by mail, fax, e-mail, or phone to Ms. Julia King-Collins at the address listed below.

Virginia Department of Environmental Quality 629 East Main Street P.O. Box 1105 Richmond, VA 23219 Contact: Julia King-Collins Phone: (804) 698-4237 Email: Julia.King-Collins@deq.virginia.gov

VDEQ will make a final decision after considering all comments, consistent with the applicable RCRA requirements and regulations. If the decision is substantially unchanged from the one in this Statement of Basis, VDEQ will issue a final decision and inform all persons who submitted written comments or requested notice of VDEQ's final determination. If the final decision is significantly different from the one proposed, VDEQ will issue a public notice explaining the new decision and will reopen the comment period.

A	dm	in	istr	ativ	e Re	cord

Post- Closure Care Permit Emporia Foundry	October 25, 2005
Human Health Environmental Indicator (HHEI) Determination	September 25, 2007
Report	
Final RFI Report	Revised and Final
	December 2010
Closure Status Report (Consent Order)	March 24, 2011
Emporia Foundry Inc. Supplemental Sampling Report	October 2011
Phase II Workplan	October 26, 2011
Emporia Foundry Supplemental Sampling Report	October 2011
VDEQ approval of Phase II Sampling and Analysis Plan	November 17, 2011
Closure Report Addendum (Consent Order)	December 2011
VDEQ Closure Plan Addendum Comments	March 12, 2012
Phase II RFI Report and Revisions	July 2012
VDEQ Clean Closure approval	December 12, 2012
SWMU-1 Risk Assessment and Riparian Buffer Sampling	January 8, 2013
Emporia Foundry Phase II RFI – Riparian Buffer	July 17, 2013
Land Use Assumptions Report	October 7, 2013
VDEQ Comments to Land Use Assumptions Report	October 30, 2013
Emporia Response to VDEQ Comments on Land Use	December 4, 2013
Assumptions Report	
VDEQ Approval of Land Use Assumptions Report	December 13, 2013
Emporia Response to Comments on Riparian Buffer	December 17, 2013
Remediation Work Plan	
VDEQ approval of Riparian Buffer Remediation Work Plan	December 26, 2013
USACE letter indicating Permit not required (included in June	April 22, 2014
24, 2014 Riparian Buffer Remediation Report)	
Riparian Buffer Remediation Report	June 24, 2014
VDEQ approval of Riparian Buffer Remediation	August 28, 2014
Statement of Basis	January 21, 2015



EXAMPLE ANNUAL INSPECTION LOG

١.	Landfill Cover and Security Fence; and Riparian Buffer Remediation Cover
A.	Inspected by (full name):
в.	Date/Time of Inspection:
c.	Inspection Observations/Comments:
	C.1 Run-Off Control:
	C.2 Run-On Control:
	C.3 Water/Wind Erosion:
	C.4 Rodent/Vector Activity:
	C.5 Deep Root Vegetation:
	C.6 Vegetation Stress:
	C.7 Unauthorized Vegetation:
	C.8 Authorized Cover Condition:
	C.9 Subsidence/Cracks:
D.	Inspection Comments: