



Jeremiah W. (Jay) Nixon, Governor

Sara Parker Pauley, Director

DEPARTMENT OF NATURAL RESOURCES

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MISSOURI HAZARDOUS WASTE MANAGEMENT FACILITY PERMIT PART I PERMIT NUMBER: MOD007146517

PERMITTEE

Owner: Beazer East, Incorporated
One Oxford Centre, Suite 3000
Pittsburgh, PA 15219

Operator: Beazer East, Incorporated
One Oxford Centre, Suite 3000
Pittsburgh, PA 15219

FACILITY LOCATION

6740 Stadium Drive
Kansas City, MO 64129
Jackson County
North Latitude – 39°03'55"
West Longitude – 94°30'10"

FACILITY DESCRIPTION

Beazer East, Incorporated, is a former wood treating site that began operating in the early 1920s under the name The National Lumber and Creosote Company. Railroad ties, posts, and telephone poles were pressure treated primarily with creosote. In 1937, the Koppers Company, Incorporated, purchased the facility and continued to conduct similar types of wood treating and preserving operations. In addition to creosote, the company reportedly used pentachlorophenol in the late 1950s and early 1960s as a wood preservative. In 1980, a Resource Conservation and Recovery Act (RCRA) regulated container storage area was constructed for the storage of hazardous wastes classified as K001 and U051.



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Koppers Company, Incorporated, permanently ceased active wood treating operations at the facility in late 1987/early 1988 and several buildings were subsequently demolished. Beazer Material and Services, Incorporated, purchased the facility in late 1988. In April 1990, Beazer Materials and Services, Incorporated, changed its name to Beazer East, Incorporated. Dismantling of all on-site structures and closure of the RCRA-regulated container storage area, via removal of the concrete pad and limited excavation of contaminated soil, occurred between 1990 to 1992. Environmental investigation, remediation, and post-closure care activities have been ongoing at the facility since 1994. The facility property is now largely covered with gravel and/or native vegetation and is inactive except for continued post-closure care, groundwater monitoring, and related corrective action activities associated with residual subsurface contamination.

A Missouri Hazardous Waste Management Facility Part I Permit (MOD007146517) was issued to Beazer East, Incorporated, on July 24, 1997. The 1997 Permit required post-closure care, including groundwater monitoring and corrective action, for the RCRA regulated hazardous waste container storage area, which was closed as a landfill, and for other Solid Waste Management Units and Areas of Concern at the facility.

The Missouri Department of Natural Resources initiated a Class 3 Modification of the 1997 Permit in response to Beazer East, Incorporated's proposal of a preferred final remedy, as contained in the Department approved Corrective Measure Study for the facility. The final Class 3 Permit Modification was issued September 23, 2005. The 2005 Permit Modification continued to require post-closure care and corrective action for the RCRA regulated hazardous waste container storage area. The 2005 Permit Modification also required implementation of a sitewide corrective action program to address releases from other Solid Waste Management Units and Areas of Concern at the permitted facility. Finally, the 2005 Permit Modification formalized removal of portions of the originally permitted property that require "No Further Corrective Action" from jurisdiction of the 1997 Part I Permit. These removed areas of the originally permitted property are now considered to be "off-site." The facility location is shown in Figure 1. Figure 2 shows the original permitted facility, the current revised permitted area with the removed portions of the facility being highlighted. Figure 3 provides a map and legal description of the current permitted facility property boundaries.

PERMITTED ACTIVITIES

This Permit requires post-closure care, including groundwater monitoring and corrective action for a RCRA regulated hazardous waste container storage area, which was closed as a landfill. This Permit also requires implementation of a sitewide corrective action program to address releases from Solid Waste Management Units and Areas of Concern. This Permit contains

provisions for contingent Corrective Action Conditions to address any potential newly-identified releases to the environment from previously- or newly-identified Solid Waste Management Units and Areas of Concern, as necessary and appropriate.

EFFECTIVE DATES OF PERMIT: September 30, 2011 to September 30, 2021

September 30, 2011
Date

[Original signed by Kathy Flippin for...]

David J. Lamb, Director
HAZARDOUS WASTE PROGRAM

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INTRODUCTION

After public notice, according to Code of State Regulations 10 CSR 25-8.124, and review of Beazer East Incorporated's Missouri Hazardous Waste Management Facility Permit Application, (hereafter referred to as the application), the Missouri Department of Natural Resources (hereafter referred to as the Department) has determined that the application conforms to the provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) and regulations promulgated thereunder by the U.S. Environmental Protection Agency (hereafter referred to as EPA) (codified and to be codified in Title 40 of the Code of Federal Regulations) and the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo. Pursuant to Section 260.375.13, RSMo, and the Solid Waste Disposal Act, the Department hereby approves the application and issues Permit Number MOD007146517 to Beazer East, Incorporated (hereafter referred to as the Permittee), for continued post-closure care and corrective action activities of the hazardous waste management facility as described in the application and this Permit. This Permit also addresses corrective action requirements for Solid Waste Management Units and the requirements of the Hazardous and Solid Waste Amendments of 1984 (HSWA) as administered and enforced by the Department. Applicable regulations are found in 40 CFR Parts 260 through 264, 266, 268, and 270, and 10 CSR 25-7, as specified in this Permit. The Department is issuing this Missouri Hazardous Waste Management Facility (MHWMF) Part I Permit (hereafter referred to as the Permit) under state authority. EPA Region 7 is issuing the HSWA Part II Permit under federal authority to address regulatory requirements of HSWA for which the state is not yet authorized. The MHWMF Part I Permit shall remain in effect even if the HSWA Part II Permit is terminated or has expired.

All citations to federal regulations throughout this Permit are for the sake of convenient reference. The federal regulations are adopted by reference in 10 CSR 25. In instances where state regulations are more stringent, the appropriate state reference is given and shall apply.

The provisions of this Permit are severable. If any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby.

All permit application information shall be available to the public unless the Permittee requests nondisclosure in writing, as described in Section 260.430, RSMo and 10 CSR 25-7.270(2)(B)2. This Permit and accompanying materials shall be available for review by the public at the Kansas City Public Library's Lucile H. Bluford Branch in Kansas City, Missouri; the Department's central office in Jefferson City, Missouri; and the EPA Region 7 office in Kansas City, Kansas.

Any appeals of this Permit based on state authority shall be filed in accordance with 10 CSR 25-2.020 and Sections 260.395.11 and 621.250, RSMo. If you are adversely affected by this decision, you may be entitled to pursue an appeal before the Administrative Hearing Commission (AHC). To appeal, you shall file a petition with the AHC within 30 days after the date this Permit was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, then it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Contact information for the AHC is as follows: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 West High Street, P.O. Box 1557, Jefferson City, MO 65102, telephone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc. The Department further requests that a copy of any appeal request be provided to the Director of the Department's Hazardous Waste Program, P.O. Box 176, Jefferson City, MO 65102-0176.

The following shall collectively be referred to as the “approved permit application”:

- The application submitted by the Permittee dated January 26, 2007.
- The revised application submitted by the Permittee dated April 30, 2007, in response to a Notice of Deficiency letter from the Department dated February 23, 2007.
- The additional technical information received in draft form September 29, 2009, as submitted in response to a technical deficiency letter from the Department dated August 3, 2009, and the final version of this additional technical information submitted May 20, 2011.

The “consolidated permit application” is defined as the approved permit application and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit. The Permittee shall maintain a copy of all documents outlined above with the consolidated permit application with the local facility representative and/or at the facility.

Any inaccuracies found in information submitted by the Permittee may be grounds for the termination, revocation and reissuance, or modification of this Permit according to 40 CFR Part 270 Subpart D, incorporated by reference in 10 CSR 25-7.270(1) and modified in 10 CSR 25-7.270(2)(D), and for potential enforcement action. The Permittee shall inform the Department of any deviation from, or changes in, the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

When the Department receives any information, such as inspection results, information from the Permittee, or requests from the Permittee, it may decide whether cause exists to modify, revoke and reissue, or terminate this Permit. All such changes to this Permit shall be in accordance with 10 CSR 25-7.270(2)(D), 10 CSR 25-8.124, and 40 CFR Part 270 Subpart D, as incorporated by reference in 10 CSR 25-7.270(1).

Post-closure operation of this hazardous waste facility and any required corrective action program activities shall be according to the provisions of this Permit, the Missouri Hazardous Waste Management Law (Sections 260.350 to 260.434, RSMo), the rules and regulations promulgated thereunder [Code of State Regulations, Title 10, Division 25 (10 CSR 25)] as effective on the date of this Permit, all final engineering plans, petitions, specifications, and operating procedures that were submitted to the Department during the permit application review process, which are included in the final version of the permit application, and any other conditions, changes, or additions to the engineering plans, specifications, and operating procedures as specified in this Permit. The consolidated permit application, which includes the final engineering plans, specifications, and operating procedures, is therefore incorporated by this reference into the conditions of this Permit. All conditions specified in this Permit supersede any conflicting information in the consolidated permit application. Where conflicts arise between documents, the latest revision shall be effective.

This Permit for post-closure care and corrective action program activities is issued only to the Permittee named above. This Permit is issued for a period of ten years and expires at midnight on September 30, 2021. This Permit is subject to review and modification by the Department according to Section 260.395.12, RSMo. According to 40 CFR 270.51, as incorporated in 10 CSR 25-7.270(1), the conditions of the expired permit continue in force until the effective date or denial of a new permit if a timely and complete application is submitted.

On July 6, 1999, Missouri received final authorization for revisions to its hazardous waste management program, including the corrective action portion of the HSWA Codification Rule (July 15, 1985, 50 FR 28702), which had been previously adopted by the state. Thus, the corrective action requirements implemented by the state in lieu of EPA are incorporated into this Permit and are under state authority. Authority for other HSWA requirements for which the state is not authorized is retained by EPA in the HSWA Part II Permit.

40 CFR 264.101(a), as incorporated by reference in 10 CSR 25-7.264(1), requires all owners or operators of facilities seeking a Permit for the treatment, storage, or disposal of hazardous waste to institute corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous constituents from any Solid Waste Management Unit, regardless of the time at which waste was placed in such unit.

40 CFR 264.101(b), as incorporated by reference in 10 CSR 25-7.264(1), requires that permits issued under the Hazardous Waste Management Law contain a schedule of compliance for corrective action (where corrective action cannot be completed before permit issuance) and assurances of financial responsibility for completing such corrective action.

40 CFR 264.101(c), as incorporated by reference in 10 CSR 25-7.264(1), requires that corrective action be taken by the facility owner or operator beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates that, despite the owner or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. 40 CFR 264.101(c) further stipulates that the owner or operator is not relieved of any responsibility to cleanup a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases shall be determined on a case-by-case basis. In addition, assurances of financial responsibility for completing such corrective action shall be provided, according to 40 CFR 264.101.

40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1), and Section 260.395.12, RSMo, require that each permit issued under that section contain terms and conditions as the Department determines necessary to protect human health and the environment.

The Permittee is required to comply with all applicable environmental laws and regulations enforced by the Department. These environmental laws and regulations are administered by the Air Pollution Control Program, Hazardous Waste Program, Land Reclamation Program, Solid Waste Management Program, and Water Protection Program. Failure to comply with these environmental laws and regulations may, in certain circumstances, result in the suspension or revocation of this Permit and may subject the permit holder to civil and criminal liability.

DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 260, 261, 264, 266, 268, and 270, and 10 CSR 25, unless this Permit specifically provides otherwise. Where terms are not defined in RCRA, the regulations, this Permit, or EPA guidance or publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

“Approved Permit Application” means the original permit application and all subsequent revisions or addenda to the permit application, and any completeness and technical information submitted as referenced in the Introduction of this Permit.

“Area of Concern (AOC)” means any area where an actual or potential release of hazardous wastes or hazardous constituents that is not from a Solid Waste Management Unit has occurred or is occurring and is determined by the Department to pose a current or potential threat to human health or the environment. Investigation and/or remediation of AOCs may be required pursuant to Section 260.395, RSMo, and 40 CFR 270.32(b)(2), as incorporated by reference in 10 CSR 25-7.270(1).

“Consolidated Permit Application” means the approved permit application, any changes resulting from the public comment period, and all additional documents required to be submitted under the Schedule of Compliance contained in this Permit.

“Director” means the Director of the Missouri Department of Natural Resources or authorized delegate.

“Facility” means:

- (1) All contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing, or disposing hazardous waste; and
- (2) All contiguous property under the control of the owner or operator, for the purpose of implementing corrective action under 40 CFR 264.101, as incorporated by reference in 10 CSR 25-7.264(1) and as specified in this Permit.

“Hazardous constituent” means any chemical compound listed in 40 CFR Part 261 Appendix VIII, as incorporated by reference in 10 CSR 25-4.261.

“Hazardous waste” means any waste, or combination of wastes as defined by or listed in 10 CSR 25-4, which, because of its quantity, concentration, physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness or which may pose a threat to the health of humans or other living organisms.

“Release” means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or hazardous constituents into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).

“Solid Waste Management Unit (SWMU)” means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which solid wastes have been routinely and systematically released.

“Stabilization” means actions to control or abate threats to human health and/or the environment from releases at RCRA facilities and/or to prevent or minimize the further spread of contamination while long-term remedies are pursued.

SCHEDULE OF COMPLIANCE

- I. Within 60 calendar days after the effective date of this Permit, the Permittee shall:
- A. Submit to the Department two copies of the consolidated permit application as required by 10 CSR 25-7.270(2)(B)7. This consolidated permit application shall include the following:
 - 1. The approved permit application, as identified in the Introduction of this Permit; and
 - 2. All changes made to the application as a result of the public comment period.
 - B. Submit to the Department a certification by the Permittee that the Permittee has read this Permit in its entirety and understands all permit conditions contained in this Permit.
 - C. Submit to the Department, to the attention of the Hazardous Waste Program, Permits Section, a check or money order payable to “State of Missouri” for any outstanding engineering review costs.
 - D. Submit to the Department, to the attention of the Hazardous Waste Program, Permits Section, a check or money order payable to “State of Missouri” for \$1000 for each year this Permit is to be in effect beyond the first year. This Permit is effective for ten years. Since the Permittee has submitted a \$1000 deposit with the permit application and paid a \$1000 permit continuation fee for the current year, the remaining balance to be submitted by the Permittee is calculated as:

$$\text{remaining balance} = \$9000.00 - \left(\left(\frac{\$1000.00}{365 \cdot \text{days}} \right) \times N_d \right)$$

where N_d equals the number of calendar days from the expiration date of the continued permit (which coincides with the anniversary date of the original permit issuance) to the date of permit reissuance. An invoice is included with this Permit based on the foregoing formula.

- E. Submit to the Department for approval, a revised Sampling and Analysis Plan to incorporate all groundwater monitoring conditions outlined in this Permit, as required in Corrective Action Condition III.D.2. of this Permit.

- F. Submit to the Department for approval, a revised surface water monitoring program to incorporate any changes in the surface water monitoring program outlined in this Permit, as required in Corrective Action Condition IV.A. of this Permit.
- II. Within 60 calendar days after the effective date of this Permit, the Permittee shall submit for Department evaluation, an updated post-closure care and corrective action cost estimate in accordance with Corrective Action Condition XXII. of this Permit.
- III. Within 30 calendar days after receipt of the Department’s written final response of the review of the updated post-closure care and corrective action cost estimate, the Permittee shall submit all documentation necessary to demonstrate that the Permittee satisfies the financial assurance criteria in accordance with Corrective Action Condition XXII. of this Permit.
- IV. If not previously submitted before the effective date of this Permit, the Permittee shall:
 - A. Within 15 calendar days after receiving the Department’s approval of the draft Environmental Covenant, the Permittee shall record with the county recorder of deeds, the local zoning authority, or the authority with jurisdiction over local land use, according to state law, the approved Environmental Covenant in the chain of title for the facility property or on some other instrument that is normally examined during title search that will, in perpetuity, notify any potential purchaser of the environmental conditions of the property.
 - B. Within 30 calendar days after recording the approved Environmental Covenant in the chain of title for the facility property or other instrument normally examined during a title search, the Permittee shall submit to the Department a notarized statement certifying that the approved Environmental Covenant has been recorded. Copies of the recorded pages that show that the approved Environmental Covenant has been recorded and become part of the property record shall be included with the notarized statement.
- V. The Permittee shall comply with all planned and contingent corrective action requirements of this Permit, as specified in the planned and contingent Corrective Action Conditions sections and as summarized in Table(s) 3, 4, 5, and 6.

SUBMISSION OF REQUIRED INFORMATION

- I. Unless otherwise requested, the Permittee shall submit three copies, including at least one paper/hard copy, of all reports, documents, and plans/specifications, and consolidated permit application required under the terms of this Permit to:

Chief, Permits Section
Missouri Department of Natural Resources
Hazardous Waste Program
P.O. Box 176
Jefferson City, MO 65102-0176

- II. The Permittee shall submit two copies, including at least one paper/hard copy, of all reports, documents, and plans/specifications, required under the terms of this Permit to:

Chief, RCRA Corrective Action & Permits Branch
U.S. Environmental Protection Agency Region 7
Air and Waste Management Division
901 North Fifth Street
Kansas City, KS 66101

- III. Should the Permittee require additional time to submit a scheduled document or perform other activities required by this Permit, the Permittee shall submit a written extension request to the Department. The Department shall receive the extension request at least 15 calendar days before the scheduled due date of the document or activity. The Permittee's extension request shall specify the amount of additional time needed and shall be accompanied by the Permittee's justification for the extension. The Department shall review the extension request according to the procedures described in Corrective Action Condition XXIII. of this Permit.

STANDARD PERMIT CONDITION

- I. The Permittee shall comply with the requirements set forth in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this Law), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR §§270.10, 270.30, 270.40, 270.42, and 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

GENERAL PERMIT CONDITIONS

- I. The Permittee shall comply with the requirements described in 40 CFR Part 264 Subparts B, C, D, E, G, and H, 40 CFR Part 268, and 40 CFR Part 270, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

- II. Notification of an Emergency Situation [Chapter 260.505.4, RSMo]

The Permittee shall, at the earliest practical moment upon discovery of an emergency involving the hazardous waste under the Permittee's control, notify the Department's emergency response hotline at (573) 634-2436 and the National Response Center at 1-800-424-8802.

Within 15 days of the incident occurrence, the Permittee shall submit a written report to the Department providing details. The content of the written report shall conform to 40 CFR 264.56(j), as incorporated in 10 CSR 25-7.264, and be provided to the addressees listed in "Submittal of Required Information" provision.

SPECIAL PERMIT CONDITIONS

In accordance with 40 CFR 270.32, as incorporated in 10 CSR 25-7.270(2), the Department has established the following permit condition for the Permittee's hazardous waste facility at the location specified in this Permit.

- I. 100-Year Floodplain Requirements [40 CFR 264.18(b)]

The Permittee has submitted information, as required in 40 CFR §§270.14(b)(11)(iii) and 270.28, that identifies the facility as not being located in the 100-year floodplain. The Permittee shall maintain the submitted information in the facility operating record.

POST-CLOSURE AND CORRECTIVE ACTION CONDITIONS

I. Introduction

The Permittee shall comply with all applicable post-closure care, groundwater monitoring, surface water monitoring, and corrective action requirements contained in 40 CFR Part 264 Subparts F and G, as incorporated by reference in 10 CSR 25-7.264(1), 10 CSR 25-7.264(2)(F) and (G), and this Permit for the former container storage area and for all previously and any newly identified SWMUs and AOCs or releases identified pursuant to the provisions of this Permit.

II. Post-Closure [40 CFR Part 264 Subpart G]

The Permittee shall comply with all applicable provisions of 40 CFR Part 264 Subpart G, as incorporated in 10 CSR 25-7.264(1) and modified in 10 CSR 25-7.264(2)(G), and all provisions of this Permit.

A. Post-Closure Care and Use of Property [40 CFR 264.117]

1. According to 40 CFR 264.117(a)(1), post-closure care begins after the acceptance of the closure certification of the hazardous waste management unit and continues for 30 years after that date, unless modified according to 40 CFR 264.117(a)(2) or otherwise specified by the Department. The certification of closure for Former Container Storage Area was submitted by the Permittee April 26, 1993. The Department accepted the closure certification July 6, 1995. Post-closure care for Former Container Storage Area began July 6, 1995.

Long-term corrective action activities and remedial measures are being conducted by the Permittee due to the presence of dense non-aqueous phase liquids (DNAPLs) remaining in the subsurface and contamination of the groundwater. Based on current site conditions, the non-groundwater related monitoring components of the post-closure care period shall remain at a rolling 14-year average after the date of issuance of this Permit. This post-closure care period may be reduced if the Permittee can demonstrate that groundwater clean up will be achieved sooner or if the contaminant levels are reduced to below applicable risk-based threshold/standards based on exposure scenarios appropriate for the current or anticipated future use of the property, as described in Post-Closure Care Condition II.A.7. of this Permit.

2. At a minimum, post-closure care shall be extended until such time as the groundwater protection standard maximum concentration limits (MCLs) or alternate concentration limits, as applicable, are met for a period of three consecutive years under the groundwater monitoring and corrective action program described in the Corrective Action Conditions of this Permit.
3. During the post-closure care period, the Permittee shall comply with the maintenance, monitoring, and reporting requirements of 40 CFR Part 264 Subparts F and N, as incorporated by reference in 10 CSR 25-7.264.
4. During the post-closure care period, the Permittee shall comply with the requirements of 40 CFR 264.310, including, but not limited to:
 - a. Maintaining the integrity and effectiveness of the final cover;
 - b. Maintaining and monitoring the groundwater monitoring system and complying with all applicable requirements of 40 CFR Part 264 Subpart F;
 - c. Preventing run-on and runoff from eroding or otherwise damaging the final cover; and
 - d. Protecting and maintaining surveyed benchmarks used to comply with 40 CFR 264.309.
5. The Permittee shall continue to provide for the proper operation and maintenance of any engineering controls implemented as part of the approved final remedy. These actions are necessary to prevent human exposure to soils and/or groundwater contaminated with hazardous wastes or hazardous constituents in concentrations exceeding applicable regulatory risk-based thresholds/standards. The engineering controls shall not be disturbed and shall remain in place and be effective unless or until the Department provides written approval to alter, modify, eliminate, or otherwise cease operation/maintenance of such controls.
6. Post-closure use of the property shall be restricted by the Permittee to prevent disturbance of the integrity of the final cover on the Former Container Storage Area and to prevent damage to the monitoring systems. The Department may approve a use of the property that disturbs the

integrity of the final cover if it is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment, or if it is necessary to reduce a threat to human health or the environment.

7. The Permittee may submit a request to the Department to shorten the post-closure care period. Justification for shortening the post-closure care period shall accompany any such request. The Department may approve the request if it determines that a shortened post-closure care period is sufficient to protect human health and the environment. Approval to shorten the post-closure care period shall be handled according to the applicable permit modification procedures in 40 CFR Part 270 and 10 CSR 25-8.124.

B. Post-Closure Plan and Amendments [40 CFR 264.118]

1. Post-closure care shall be conducted according to the post-closure care plan contained in Appendix I of the current approved permit application that was originally approved by the Department on September 11, 1995, and all conditions of this Permit. The post-closure care plan may be amended, according to 40 CFR 264.118(d), at any time during the active life of the facility or the post-closure care period. Amendments are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124.
2. Written requests for post-closure care plan amendments shall be submitted at least 60 calendar days before the proposed change in site operations, or not later than 60 calendar days after the occurrence of an unexpected event that has affected the post-closure care plan. The Department may request modifications to the post-closure care plan if changes in site operations affect the approved post-closure care plan. The Permittee shall submit the modified post-closure care plan no later than 60 calendar days after a request by the Department for modification of the post-closure care plan. Any modifications requested by the Department are subject to the applicable permit modification requirements of 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124.
3. During the post-closure care period, the facility contact shall keep the approved post-closure care plan for the post-closure care period, as required by 40 CFR 264.118(c).

C. Future Removal of Hazardous Wastes [40 CFR 264.119(c)]

If the Permittee wishes to remove hazardous wastes, hazardous waste residues, contaminated soils, or contaminated sludges from within the boundaries of the Former Container Storage Area, the Permittee shall request a modification of this Permit, according to the applicable requirements in 40 CFR Part 270 Subpart D, 10 CSR 25-7.270(2)(D), and 10 CSR 25-8.124. The request for a modification shall include a demonstration that the action will not increase the potential hazard to human health or the environment, or the action is necessary to reduce the threat to human health or the environment, in accordance with 40 CFR 264.117(c). By removing contaminants, the Permittee may become a generator of hazardous waste and shall manage any removed material according to all applicable laws, regulations, and ordinances.

D. Certification of Completion of Post-Closure Care [40 CFR 264.120]

No later than 60 calendar days after the completion of the post-closure care period (including any necessary extensions), the Permittee shall submit to the Director, by certified mail, a certification that the post-closure care period was performed according to the approved post-closure plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri, and shall include documentation supporting the certification.

E. Post-Closure Cost Estimate [40 CFR 264.144]

The post-closure cost estimate requirements are described in Corrective Action Condition XXII.

F. Post-Closure Financial Assurance [40 CFR 264.145]

The post-closure financial assurance requirements are described in Corrective Action Condition XXII.

III. Groundwater Monitoring and Corrective Action Program - Former Container Storage Area [40 CFR 264.90 - 264.100]

A. Groundwater Protection Standards (GPS), Hazardous Constituents, and Concentration Limits [40 CFR 264.92, 264.93 and 264.94]

The GPS establishes the MCLs for hazardous constituents in the groundwater at and beyond the point of compliance during the compliance period. The hazardous constituents, MCLs, and maximum analytical detection limits specified in Table 1 of this Permit constitute the GPS for the Permittee's Former Container Storage Area (land disposal unit). The listed GPS hazardous constituents either have been detected in the groundwater beneath and beyond the subject unit and/or are reasonably expected to be in or derived from the wastes managed at the land disposal unit.

1. The MCLs for the GPS hazardous constituents listed in Table 1 are based on protection of human health and the environment and were derived from several different sources as explained by the footnotes to Table 1.
2. The GPS MCL for some hazardous constituents is below the lowest, reasonably achievable detection limit (due to limitations in current analytical technology) for particular hazardous constituents. In these cases, the GPS MCL shall be equal to the corresponding GPS maximum detection limit.
3. The allowable GPS maximum detection limit shall never be greater than the GPS MCL. If the GPS maximum detection limit for specific GPS hazardous constituents cannot be achieved due to matrix interferences or other analytical limitations (provided that appropriate supporting documentation is provided), the affected sample and associated chemical analysis shall be exempted from this requirement. However, such an exemption does not in any way relieve the Permittee from complying with the GPS MCLs.
4. The Department reserves the right, based on future advances in analytical technology, to modify this Permit to require the Permittee to achieve analytical detection limits for the hazardous constituents covered by Corrective Action Condition III.A.2. of this Permit, which allow for adequate comparison with appropriate health- or environmental protection-based concentration limit(s).

5. The Permittee may make a demonstration to the Department, at any time during the term of this Permit, for establishment of Alternate Concentration Limits (ACLs) in lieu of the GPS MCLs contained in this Permit. Any such demonstration shall ensure that any and all ACLs proposed in lieu of the GPS MCLs are protective of human health and the environment in accordance with the requirements of 40 CFR 264.94(b). In proposing an ACL(s), the Permittee shall consider and formally address these factors listed in 40 CFR 264.94(b)(1) and (2) and EPA’s Interim Final Alternate Concentration Limit Guidance, Part I, OSWER Directive 9481.00-6C, EPA 530/SW-87-017, July 1987. Any ACLs approved by the Department shall require a permit modification in accordance with 40 CFR 270.42.

6. The Permittee shall propose modification of the GPS to include any additional hazardous constituent(s) (40 CFR Part 261, Appendix VIII.) in the groundwater that are identified during future sampling and analysis, if such constituents may be attributed to past operation of the regulated unit(s) and/or the degradation of hazardous constituents known to be present in the groundwater. The Appendix IX. (40 CFR Part 264) groundwater sampling and analysis requirements contained in Corrective Action Condition III.E.6. of this Permit shall be used as the basis for determining if the addition of hazardous constituents to the GPS is necessary. Any addition of hazardous constituents to the GPS as a result of the above determination shall require a Class 1 Permit Modification with prior Director’s approval. Any other changes to the GPS list of hazardous constituents shall require a permit modification in accordance with 40 CFR 270.42.

Table 1 - Groundwater Protection Standards

Hazardous Constituent	Chemical Abstract Number	Maximum Concentration Limit (µg/L) *		Maximum Detection Limit (µg/L)**
Acenaphthene	83-32-9	1,200.0	(b)	10.0 (1.0)
Acenaphthylene	208-96-8	170.0	(d)	1.0
Anthracene	120-12-7	9,600.0	(b)	10.0 (0.20)
Benzene	71-43-2	5.0	(a)	1.0
Benz(a)anthracene	56-55-3	10.0 (0.20)	(e)	10.0 (0.20)
Benzo(a)pyrene	50-32-8	10.0 (0.20)	(e) & (a)	10.0 (0.20)
Benzo(b)fluoranthene	205-99-2	10.0 (0.20)	(e)	10.0 (0.20)

Table 1 – Groundwater Protection Standards (con't)

Hazardous Constituent	Chemical Abstract Number	Maximum Concentration Limit (µg/L) *	Maximum Detection Limit (µg/L)**
Benzo(g,h,i)perylene	191-24-2	26.40 (d)	0.20
Benzo(k)fluoranthene	207-08-9	10.0 (0.20) (e)	10.0 (0.20)
Carbazole	86-74-8	26.40 (d)	10.0
4-Chloro-3-Methylphenol	59-50-7	3,700.0 (c)	10.0
Chrysene	218-01-9	10.0 (0.20) (e)	10.0 (0.20)
Dibenzo(a,h)anthracene	53-70-3	10.0 (0.20) (e)	10.0 (0.20)
Dibenzofuran	132-64-9	37.0 (c)	10.0
Ethylbenzene	100-41-4	700.0 (a)	1.0
Fluoranthene	206-44-0	300.0 (b)	10.0
Fluorene	86-73-7	1,300.0 (b)	10.0
Indeno(1,2,3-cd)pyrene	193-39-5	10.0 (0.20) (e)	10.0 (0.20)
2-Methyl-4,6-dinitrophenol	534-52-1	50.0 (e)	50.0
2-Methylnaphthalene	91-57-6	150.0 (c)	10.0
2-Methylphenol	95-48-7	1,800.0 (c)	10.0
3-Methylphenol	108-39-4	1,800.0 (c)	10.0
4-Methylphenol	106-44-5	180.0 (c)	10.0
Naphthalene	91-20-3	20.0 (b)	10.0 (1.0)
Pentachlorophenol	87-86-5	50.0 (e)	50.0
Phenanthrene	85-01-8	75.0 (d)	10.0 (0.20)
Phenol	108-95-2	300.0 (b)	10.0
Pyrene	129-00-0	960.0 (b)	10.0 (0.20)
2,3,4,6-Tetrachlorophenol	58-90-2	1,100.0 (c)	10.0
2,3,7,8-Tetrachlorodibenzo-p-dioxin (Dioxin, 2,3,7,8-TCDD) ***	1746-01-6	3.00E-05 (a)	3.10E-06
Toluene	108-88-3	1,000.0 (a)	1.0
Xylenes, total	1330-20-7	10,000.0 (a)	3.0

* Where multiple MCL values are listed for a hazardous constituent in this column, the first MCL value applies to any samples where the Permittee is using EPA Method 8270C to analyze the groundwater for semi-volatile organic compounds and the second MCL value (listed in parenthesis) applies only to samples where the Permittee is using EPA Test Methods 8270 Low Level or 8270 SIM to analyze the groundwater for Polynuclear Aromatic Hydrocarbons (PAHs).

** The Maximum Detection Limit is based upon the lowest achievable practical quantitation limit available from the lower of Method Detection Limits (MDLs) contained in the latest version of the EPA publication,

Test Methods for Evaluating Solid Waste- Physical/Chemical Methods (SW-846) or method specific detection limits routinely achieved by the Permittee’s current contract laboratory. Where multiple MDL values are listed for a hazardous constituent in this column, the first MDL value applies to any samples where the Permittee is using EPA Method 8270C to analyze the groundwater for semi-volatile organic compounds and the second MDL value (listed in parenthesis) applies only to samples where the Permittee is using EPA Test Method 8270C SIM to analyze the groundwater for PAHs.

- *** For the purpose of estimating equivalent concentrations of 2,3,7,8-TCDD to allow risk comparisons, toxicity equivalence factors (TEFs) of complex mixtures of chlorinated dibenzo-p-dioxins and dibenzofurans will be multiplied by the respective congener concentrations. The TEF values to be utilized in this risk comparison should be obtained from the EPA Guidance Document Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds (EPA/100/R 10/005), dated December 2010 or the latest revision of this document.
- (a) Denotes limits derived from Missouri Public Drinking Water Standards (10 CSR 60-4, dated November 30, 2010) and federal public drinking water regulations (40 CFR Part 141 and 40 CFR Part 143, dated July 1, 2006).
 - (b) Denotes limits derived from Missouri Water Quality Standards (10 CSR 20-7.031, dated September 30, 2009) for protection of groundwater.
 - (c) Denotes limits derived from risk-based concentration values for tap water as contained in EPA Region 6 Human Health Medium-Specific Screening Levels, dated June 2011.
 - (d) Lowest Default Target Levels (Table B-1 from Appendix B) of the Departmental Missouri Risk-Based Corrective Action technical guidance document, dated April 2006 with updates published in June 2006 and June 2008.
 - (e) Health- and/or environmental-based levels are lower than the ability of current analytical technology to detect at or below such levels. These hazardous constituents and their health-based criteria are listed below.

<u>Hazardous Constituent</u>	<u>Maximum Concentration Limit (µg/l)</u>
Benz(a)anthracene	0.0044 (b)
Benzo(a)pyrene	0.20 (a)
Benzo(b)fluoranthene	0.0044 (b)
Benzo(k)fluoranthene	0.0044 (b)
Chrysene	0.0044 (b)
Dibenzo(a,h)anthracene	0.0044 (b)
Indeno(1,2,3-cd)pyrene	0.0044 (b)
2-Methyl-4,6-dinitrophenol	13.00 (b)
Pentachlorophenol	1.00 (a)

B. Point of Compliance [40 CFR 264.95]

The Point of Compliance is defined as a vertical surface located at the hydraulically downgradient limit of the waste management area that extends perpendicularly downward into the uppermost aquifer underlying the regulated units. For the purposes of this Permit, the waste management area is described by an imaginary line circumscribing the Former Container Storage Area (land

disposal unit). Groundwater contamination at and beyond the point of compliance that exceeds the GPS MCLs shall be subject to corrective action pursuant to 40 CFR 264.100.

Should the Permittee's ongoing site investigation reveal that the above sampling points do not adequately monitor groundwater at and beyond the point of compliance, the Permittee shall propose a permit modification to install or establish new compliance monitoring points and/or exclude existing compliance monitoring points in accordance with 40 CFR 270.42.

C. Compliance Period [40 CFR 264.96]

The compliance period for the Former Container Storage Area (land disposal unit) shall be equal to the active life of the Former Container Storage Area, which is 13 years. The compliance period began July 24, 1997, and was scheduled to end July 24 2010, if all GPS MCLs had been met for three consecutive years prior to that date. Since the GPS MCLs were exceeded at and beyond the point of compliance at the end of the scheduled compliance period, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that these limits have not been exceeded at and beyond the point of compliance for a period of three consecutive years.

D. General Groundwater Monitoring Requirements [40 CFR 264.97]

1. The Permittee shall comply with applicable sections of 40 CFR 264.97 for monitoring systems, as specified in 40 CFR 264.100, and the following additional requirements.
2. Within 60 calendar days of the effective date of this Permit, the Permittee shall revise and resubmit to the Department for approval a revised Sampling and Analysis Plan (SAP) to reflect any revised and additional requirements contained in this Permit. All SAP procedures and techniques used in groundwater sampling, sampling frequency, analysis, and measurement of groundwater-related parameters shall be designed to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(2)(F), and this Permit. The Permittee's sampling, analysis, and measurement protocols shall ensure the representative nature of all analysis and measurement results. The SAP shall be reviewed according to the procedures outlined in Corrective Action Condition XXIII. of this Permit.

3. The Permittee shall retain a copy of the approved groundwater SAP with the local facility representative and/or at the facility and comply with the sampling and analysis procedures. The groundwater SAP shall describe sample collection, preservation, and shipment methodology; chain-of-custody procedures; and analytical methodology for field samples, trip blanks, and other quality control samples.
4. The Permittee's groundwater monitoring systems shall be designed, installed, operated, and maintained during the compliance period in a manner that ensures:
 - a. Detection and/or delineation of the horizontal and vertical extent of groundwater contamination at and beyond the point of compliance, including beyond the facility property boundaries;
 - b. Determination of representative concentrations of hazardous constituents and contaminant plume indicator parameters in the groundwater; and
 - c. Determination of the effectiveness of any groundwater corrective action activities in terms of contaminant removal, destruction, and/or containment (plume stability).
5. The number, location, and depth of the Permittee's monitoring wells shall be sufficient to define the horizontal and vertical extent of groundwater contamination beneath the Permittee's property and beyond the facility property boundaries. If, at any time during the compliance period, including any necessary extensions, the Permittee or the Department determines that the existing monitoring system fails to define the horizontal and vertical extent of groundwater contamination, the Permittee shall submit, within 30 calendar days of such determination by the Permittee or written notification by the Department, a proposal for the installation of additional monitoring wells to define such extent.

At such time as the Department determines that the Permittee has adequately redefined the horizontal and/or vertical extent of groundwater contamination, the wells defining such extent shall be incorporated into and designated for continued monitoring in the Permittee's SAP. The Department shall notify the Permittee in writing regarding this

determination. Within 30 calendar days of receipt of this notification, the Permittee shall submit appropriate SAP revisions to the Department for approval.

6. Any new groundwater monitoring well(s) installed by the Permittee to meet the requirements of this Permit shall be designed and constructed according to the requirements of 40 CFR 264.97, applicable portions of the Missouri Well Construction Rules 10 CSR 23-1 through 10 CSR 23-4 (Monitoring Well Construction Code) and/or well-specific plans and specifications approved by the Department.

The Permittee shall submit to the Department, a copy of the well certification report form and the resulting certification acceptance required by 10 CSR 23-4.020 for any new monitoring wells installed pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Report, described in Corrective Action Condition XVIII.F. of this Permit.

7. Plugging and abandonment of any groundwater monitoring well(s) operated by the Permittee pursuant to the requirements of this Permit shall meet the requirements of 10 CSR 23-4.080.
 - a. The Permittee shall submit to the Department, a copy of the well registration report form and resulting registration acceptance required by 10 CSR 23-4.080, for any monitoring wells abandoned and plugged pursuant to this Permit. This information shall be reported as part of the Annual Groundwater Corrective Action Report, described in Corrective Action Condition XVIII. of this Permit.
 - b. At such time as the Permittee's well registration has been accepted by the Department's Division of Geology and Land Survey, the plugged wells shall be removed from any further monitoring requirement in the Permittee's currently-approved SAP. Within 30 calendar days of Division of Geology and Land Survey's registration acceptance, the Permittee shall submit appropriate SAP revisions to the Department.
8. A Class 2 Permit Modification is required for any change in the number, location, depth, or design of upgradient or downgradient wells of the

facility groundwater monitoring system, in accordance with 40 CFR 270.42. Replacement of any well without changing the location, depth, or design of that well shall require a Class 1 Permit Modification without prior Director approval, in accordance with 40 CFR 270.42. The Permittee may elect to submit an annual permit modification request to address these changes collectively in lieu of a modification for each individual change.

9. The Permittee shall contact the Department at least five working days before conducting any field work associated with the construction or modification of the groundwater monitoring system required by this Permit. The Department shall then have the option of observing any part of the system's construction or modification. This notification requirement applies to major work such as new wells, retrofitting of existing wells, or abandonment of wells. It does not apply to minor repairs, minor maintenance, or other minor changes.
10. A monitoring well inspection and maintenance program shall be implemented for the duration of the compliance period including any necessary extensions. This program shall be designed to ensure the structural integrity of all monitoring well installations during the compliance period. The Permittee's revised SAP shall address the details of this program according to the following requirements.
 - a. Surface well integrity inspections shall be performed at the time of each sampling event and shall be documented on a well inspection log sheet. Surface integrity evaluations for each monitoring well shall include a visual inspection of the outer protective casing, inner casing riser, surface well seal, well cap, and locking mechanism, to document any damage or deterioration. The ground surface in the immediate vicinity of each monitoring well and the annular space between the outer protective casing and casing riser shall be inspected for visible anomalies (e.g., collection or ponding of water, ground subsidence, etc.).
 - b. Subsurface well integrity inspections shall be performed annually on all wells, according to the provisions contained in the Permittee's SAP, and shall be documented on a well inspection log sheet. Subsurface well integrity inspections may consist of a combination of elements, including total well depth measurements,

groundwater turbidity measurements, in-situ hydraulic conductivity tests, casing caliper logs, down-hole television camera surveys, and/or other methods capable of verifying the subsurface integrity of the well casing and screen.

- c. Wellbore siltation evaluations shall be conducted annually on all monitoring wells. The Permittee's SAP shall specify performance standards for this evaluation to assess down-well siltation and well screen occlusion in all monitoring wells. This evaluation shall be designed to ensure the representative nature of the Permittee's groundwater sample, analysis, and field measurement results through minimization of sampling and measurement interferences (e.g., turbidity, excessive well screen occlusion, etc.).

The Permittee's SAP shall specify a well redevelopment trigger criterion based on a percentage of well screen occlusion and the potential of such occlusion to compromise the representative nature of the Permittee's groundwater sample analysis and field measurement results. Wells demonstrating well screen occlusion equal to or in excess of the selected criterion shall be redeveloped before the next regularly scheduled sampling event.

- d. The Permittee shall perform well-specific surface and subsurface integrity inspections within seven calendar days following any contact of wells by flood waters.
- e. Monitoring well repairs shall be started within 60 calendar days of identifying any surface or subsurface well integrity problem(s). If adverse weather or site conditions preclude the Permittee from gaining access to and/or repairing flood-impacted monitoring wells within 60 calendar days, the Permittee shall take appropriate action as soon as possible. A written justification for any delay, completed well inspection log sheets, a narrative description of any well repairs, and before and after repair photographic documentation (in the case of visible surface well repairs) shall be provided to the Department as part of the Annual Groundwater Corrective Action Report, as described in Corrective Action Condition XVIII. of this Permit.

E. Corrective Action Program [40 CFR 264.100].

The Former Container Storage Area (land disposal unit) is subject to the corrective action program requirements of 40 CFR 264.100, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit, until such time as the corrective action requirements contained in 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit have been satisfied.

1. The Permittee's corrective action program for the Former Container Storage Area (land disposal unit) shall consist of groundwater and surface water monitoring, according to Corrective Action Conditions III. and IV. of this Permit, and any further site investigation, evaluation, and/or implementation of remedial alternatives necessary to address sitewide groundwater contamination, according to Corrective Action Conditions IX. through XIII. of this Permit. The corrective action program shall address any groundwater contamination that has migrated off-site. The corrective action program is based on:
 - a. The inability to differentiate groundwater contamination related to releases from the Former Container Storage Area versus that potentially related to nearby SWMUs and AOCs, which are subject to corrective action according to 40 CFR 264.101.
 - b. The need for further site characterization to adequately support decisions regarding evaluation and/or implementation of groundwater remedial alternatives.
 - c. The desirability of implementing a holistic, sitewide approach to groundwater investigation, monitoring, and remediation given the foregoing circumstances.
2. The Permittee shall perform groundwater sampling and analysis and field measurement of groundwater-related parameters to monitor releases from the Former Container Storage Area according to the schedule presented in Table 2.
 - a. Sampling and analysis according to this schedule shall begin during the next regularly scheduled sampling event, according to the revised SAP required by Corrective Action Condition III.D.2. of this Permit. Given the potential lag time between the effective

date of this Permit and approval of the revised SAP required by Corrective Action Condition III.D.2. of this Permit, the Permittee shall continue sampling and analysis in accordance with the latest version of the approved SAP until such time as the revised SAP is approved.

- b. Sampling and analysis of groundwater from any newly installed wells required by 40 CFR Part 264 Subpart F or this Permit shall be performed no later than the next regularly scheduled sampling event following their installation.
 - c. Wells monitored to ensure adequate delineation of the horizontal and vertical extent of groundwater contamination (hereafter referred to as perimeter wells) shall be sampled and the samples analyzed annually, according Table 2.
 - d. Specific perimeter wells to be monitored shall also be specified in the Permittee's approved SAP required by Corrective Action Condition III.D.2. of this Permit.
 - e. Installation of additional perimeter wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 2. The addition of new perimeter wells is subject to the permit modification procedures outlined in Corrective Action Condition III.D.8. of this Permit.
 - f. Any future changes to the list of perimeter wells established in the Permittee's revised SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
3. Wells monitored to assess the effectiveness of the Permittee's corrective action program (hereafter referred to as effectiveness wells) shall be sampled and the samples analyzed annually, according to Table 2.

- a. Specific effectiveness wells to be monitored shall be specified in the Permittee's SAP required by Corrective Action Condition III.D.2. of this Permit.
 - b. Installation of additional effectiveness wells during the compliance period, including any extensions, may be necessary to meet the requirements of 40 CFR Part 264 Subpart F, as incorporated by reference in 10 CSR 25-7.264(1), and this Permit. If any such wells are installed, they may be subject to the monitoring requirements contained in Table 2. The addition of new effectiveness wells is subject to the permit modification procedures outlined in Corrective Action Condition III.D.8. of this Permit.
 - c. Any future changes to the list of effectiveness wells established in the Permittee's revised SAP shall be approved, in writing, by the Department. Within 30 calendar days of receipt of the Department's approval, the Permittee shall submit additional SAP revisions to incorporate the approved changes.
4. Only single sample analyses (as opposed to replicates) are required for the parameters listed in Table 2, with the exception of duplicate samples taken for Quality Assurance/Quality Control purposes.
 5. Field parameter values measured and reported by the Permittee shall be representative of stabilized well conditions.
 - a. Downwell measurement of non-aqueous phase liquid thickness, static water level, and total well depth shall be taken before well purging.
 - b. Specific conductance, pH, and temperature measurements reported to the Department shall be those taken immediately following adequate well purging. Additional field parameter measurements, such as those taken to verify the adequacy of well purging, shall be recorded in the field logbook.
 6. Within one year before the fifth and tenth years of this Permit, the Permittee shall sample and analyze groundwater from three historically contaminated downgradient wells for all parameters contained in Appendix IX of 40 CFR Part 264, as specified in Table 2.

- a. The wells sampled to meet this requirement are left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination, and one well demonstrating the presence of free phase contamination. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.
- b. This sampling and analysis is required to determine if additional hazardous constituents (40 CFR 261, Appendix VIII.) and/or contamination indicator parameters are present in the groundwater that may be attributable to a release(s) from the Former Container Storage Area (land disposal unit) or degradation of currently known hazardous constituents.
- c. If hazardous constituents and/or contamination indicator parameters are identified in the groundwater which are not currently specified in the GPS, the Permittee may resample the groundwater, according to 40 CFR 264.99(g). If the Permittee's subsequent groundwater analyses confirm the presence of additional hazardous constituents or contamination indicator parameters, then the Permittee shall propose a Class 1 Permit Modification with prior Director's approval, in accordance with 40 CFR 270.42, to add the confirmed hazardous constituent(s) or contamination indicator parameter(s) to the GPS specified in Table 1 and the monitoring program schedule specified in Table 2.
- d. The Permittee may submit a proposal to modify the above Appendix IX testing program, including, but not limited to, the number of wells being sampled, the frequency of the sampling, and/or the suite of chemicals being analyzed in association with this Appendix IX testing requirement. Any proposed modified Appendix IX testing program shall be submitted in a revised Monitored Plume Stability Evaluation Plan and Groundwater Monitoring Plan or in the new SAP submittal. The proposed modified Appendix IX testing program shall be reviewed and approved according to the procedures outlined in Corrective

Action Condition XXIII. of this Permit. The modified Appendix IX testing program can be implemented upon final approval from the Department.

7. Within one year before the fifth and tenth years of this Permit, the Permittee shall sample and analyze groundwater for polychlorinated dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) as part of the Appendix IX. sampling described above, from a total of three monitoring wells selected by the Permittee. The selected wells shall include one well which has recently become contaminated and is therefore representative of the leading edge of the plume; one well which has consistently contained high concentrations of dissolved phase non-aqueous phase liquids; and one well which has consistently contained DNAPLs. These samples shall be the groundwater (aqueous phase) obtained from impacted wells, not the non-aqueous phase liquid.
 - a. The Permittee shall perform sampling and analysis of monitoring wells in accordance with the requirements specified in Table 2.
 - b. The Permittee shall use the TEF method as defined in the footnotes of Table 1, in the evaluation of analytical results for PCDDs and PCDFs in the groundwater. The methodology for this sampling and equivalency approach shall be specified in the Permittee's revised SAP required by Corrective Action Condition II.D.2. of this Permit.
 - c. If the GPS MCL (or an approved alternative concentration limit) for 2,3,7,8-TCDD, as specified in Table 1, is being exceeded at the end of the compliance period at or beyond the point of compliance, the Permittee's groundwater corrective action program shall continue until the Permittee demonstrates that the GPS MCL has not been exceeded at and beyond the point of compliance for a period of three consecutive years.

Table 2 - Groundwater Corrective Action Monitoring, Sampling, Analysis, and Parameter Measurement Schedule*

Parameters	Type	Maximum Detection Limit (ug/L)	Frequency
Appendix IX (1)	HC	PQLs per SW-846 **	Every five years
PCDDs/PCDFs (2)	HC	Per Table I ***	Every five years
Volatiles (3)	HC	Per Table I ***	Annually
Semi-Volatiles (4)	HC	Per Table I ***	Annually
NAPL thickness (5)	FM	Not Applicable	Annually
pH	FM	Not Applicable	Annually
Specific Conductance	FM	Not Applicable	Annually
Static Groundwater Elevation (6)	FM	Not Applicable	Annually
Temperature	FM	Not Applicable	Annually
Total Well Depth	FM	Not Applicable	Annually

* HC = Hazardous Constituent, FM = Field Measurement, PQL = Practical Quantification Limit, PCDDs/PCDFs = Polychlorinated Dioxins/Polychlorinated Dibenzofurans, NAPL = non-aqueous phase liquid.

** The current SW-846 versions at the time of sampling should be used.

*** Detection Limit should be based upon the lowest achievable practical quantitation limit available from the Permittee's contract laboratory or the current SW-846 version at the time of sampling.

- (1) Appendix IX. (40 CFR 264) on samples collected from three wells only or an alternate number of wells if approved by the Department. The wells sampled are left to the discretion of the Permittee; however, the choice of wells shall include one well containing low levels of dissolved phase contamination, one well containing moderate levels of dissolved phase contamination, and one well demonstrating the presence of free phase contamination. The sample to be analyzed from the free phase contaminated well shall be the groundwater (aqueous phase) obtained from this well, not the non-aqueous phase liquid.
- (2) EPA SW-846 Method 8280 or equivalent on samples collected from three wells only. The wells sampled are left to the discretion of the Permittee; however, the choice of wells shall include one well which has recently become contaminated and is therefore representative of the leading edge of the plume; one well which has consistently contained high concentrations of dissolved phase non-aqueous phase liquids; and one well which has consistently contained dense non-aqueous phase liquids. These samples shall be the groundwater (aqueous phase) obtained from impacted wells, not the non-aqueous phase liquid.
- (3) EPA SW-846 Method 8260 or equivalent.
- (4) EPA SW-846 Method 8270 or equivalent for perimeter wells and EPA SW-846 Method 8270 Low Level or 8270 SIM or equivalent for effectiveness wells.
- (5) NAPL detection and thickness measurements shall be made at the time of sampling (prior to well purging) and prior to removal of the NAPL from any well. Static groundwater elevations and total well depth measurements shall be made prior to well purging.

- (6) Potentiometric measurements shall be obtained at the time of each regularly scheduled sampling from all monitoring wells at the facility, including those which are not being sampled regularly. Elevations shall be measured to the nearest 0.01 foot.

IV. Surface Water Monitoring [10 CSR 25-7.264(2)(F)4.]

- A. Within 60 calendar days of the effective date of this Permit, the Permittee shall submit to the Department for approval, revisions to the surface water monitoring program to reflect any modifications contained in this Permit and the requirements of 10 CSR 25-7.264(2)(F)4. Surface water monitoring shall continue throughout the post-closure care period of the Former Container Storage Area, including any extensions, or until such time as the Permittee makes a successful demonstration for exemption from these requirements. Compliance with this monitoring program is for the purposes of this Permit only and does not relieve the Permittee of the obligation to comply with any other federal, state or local water monitoring requirements. The Permittee's surface water monitoring program shall be performed as described in the approved permit application, this Permit, and the approved SAP.
 1. The Permittee's surface water monitoring program shall be incorporated directly into, and be submitted as part of, the groundwater SAP required by Corrective Action Condition III.D.2. of this Permit.
 2. The Permittee's surface water sampling locations shall be sufficient to yield representative data on background and downgradient surface water quality and shall be depicted in the SAP. Sampling and analysis methods for hazardous constituents shall be consistent with those specified in Tables 1 and 2 of this Permit (excluding PCDDs/PCDFs) and the Permittee's Missouri State Operating Permit #MO-0120294 from the Department's Missouri Clean Water Commission and Water Protection Program.
 3. After Department approval of the surface water monitoring program, the Permittee shall implement the surface water sampling on a schedule consistent with the approved SAP.
 4. Reporting and analysis of data and information collected as part of the surface water monitoring program shall be sufficient to ensure that the requirements of 10 CSR 25-7.264(2)(F)4. are met, and shall be included as part of the Annual Groundwater Corrective Action Report, as defined in Corrective Action Condition XVIII. of this Permit. In addition to other

reporting requirements for the surface water monitoring program, the Permittee shall include with the Annual Groundwater Corrective Action Report, a discussion of any exceedances of the limits defined in the Missouri State Operating Permit.

- B. The Permittee may, at any time during the post-closure care period of the Former Container Storage Area, including any extensions, make a demonstration to the Department for a surface water monitoring exemption. A successful demonstration for such an exemption shall, at a minimum, address the elements of 10 CSR 25-7.264(2)(F)4.A. and 40 CFR 264.94(b), as applied to potentially affected surface water bodies. This demonstration shall be certified by a geologist or professional engineer registered in Missouri. Department approval of the Permittee's surface water monitoring exemption shall necessitate a permit modification, according to 40 CFR 270.42. In addition, any exemption shall not affect any obligation on the part of the Permittee to apply for and obtain a Missouri State Operating Permit from the Department's Clean Water Commission and Water Protection Program for discharges to waters of the State.

V. Identification of SWMUs and AOCs [40 CFR 264.101]

- A. EPA completed a RCRA Facility Assessment (RFA) to identify and gather information on releases or potential releases from SWMUs and AOCs at the facility, including those which appeared to require further investigation. The RFA report, finalized by EPA November 5, 1991, identified five SWMUs (No. 1 through No. 5) and five AOCs (No. 1 through No. 5) at the facility which required further investigation and/or remediation. Due to the close proximity of many of these SWMUs and AOCs and the broad extent of soil and groundwater contamination discovered during the RFA and subsequent site investigations, certain SWMUs and AOCs (located primarily in Tract C) were placed into a single "SWMU group" for the purpose of further investigation and/or remediation. Figure 4 shows the approximate locations of these SWMUs and AOCs at the facility.

As a result of the RFA, the Permittee submitted a RCRA Facility Investigation (RFI) Report January 29, 1999, with revisions submitted June 23, 2000. The final RFI report was approved by the Department on September 8, 2000. During the RFI field investigation activities, two additional SWMUs (No. 6 and No. 7) were identified which required further investigation and/or remediation activities. SWMU No. 6 and No 7 are located on Tracts D and E, which are adjacent to, but not part of either the original permitted facility or part of the revised permitted

facility. Figure 5 shows the approximate location of these two additional SWMUs and Tracts A through E associated with this facility.

The Permittee submitted a Corrective Measures Study (CMS) report August 10, 2001, with revisions dated December 2002, August 29, 2003, and March 3, 2004. The final CMS Report was approved by the Department March 24, 2004. No additional SWMUs or AOCs were identified at the facility during the CMS activities. The RFI and CMS activities were completed in accordance with the requirements of the 1997 MHWMF Part I Permit.

The SWMU grouping and the other individual SWMUs identified at the facility during the RFA and RFI are as follows:

1. SWMU Group No. 1: Northern Treatment Building and Container and Process Creosote Tank Storage Areas comprised of the following:
 - a. AOC No. 1 Tank Farm “A”,
 - b. AOC No. 2 Tank Farm “B”,
 - c. AOC No. 3 Pentachlorophenol Storage Tanks,
 - d. AOC No. 4 Treatment Building and Cylinders,
 - e. AOC No. 5 Oil Unloading Area,
 - f. SWMU No. 1 Tank Farm “C”, and
 - g. SWMU No. 2 Former Container Storage Area.
(SWMU No. 2 was closed as a landfill and is a RCRA-regulated unit. A map and description of SWMU No. 2 is provided in Figure 6.)
2. SWMU No. 3: Biodegradation Plots - Two land treatment cells constructed in 1978 and 1981 for the treatment of creosote impacted soils.
3. SWMU No. 4: Drip Track Area - Consisted of a series of tracks that were aligned with the three wood preserving cylinders at the plant and were used for the movement of wood into and out of the treatment cylinders.
4. SWMU No. 5: Plant Landfill Area - This SWMU was used to dispose of debris from the wood milling and material handling operations. The materials disposed in this area were composed primarily of untreated railroad crosstie end cuts and sawdust.

5. SWMU No. 6: Historical impoundments - The approximate location and identification of these impoundments is based upon historical information and aerial photographs. The location of these historic impoundments is shown on Figure 4 in the area of Tract E.
 6. SWMU No. 7: Contaminated creek tributary channels and associated surface drainage features - This SMWU was originally identified as AOC #6 in the 1997 MHWMF Part I Permit and consists of Drainage Ditches A, B, C, and D. The locations of these drainage ditches are shown on Figure 5.
- B. For SWMU No. 5, the RFA and RFI did not identify any record of releases or environmental impacts from materials placed in this Plant Landfill Area, so no remediation activities were required to protect human health and the environment in the area of this SWMU. In addition, this SWMU is located on a portion of Tract B of the originally permitted facility that was removed (Northern Removed Area) when a Class 3 Permit Modification was issued September 23, 2005. This SWMU area is not part of the current revised permitted facility.
- C. For the remaining SWMUs/AOCs identified during the RFA or RFI, the Permittee has conducted a number of interim measures to address contaminated surface soil/sediments, groundwater and surface water. Implementation of these interim measures addressed Corrective Action Objectives related to the surface soil/sediments and surface water at the remaining SWMUs/AOCs as acknowledged by the Department and EPA via approval of the CMS, inclusion in the Statement of Basis supporting the proposed final remedy for the facility, and, ultimately, issuance of the 2005 Class 3 Modification of the MHWMF Part I Permit. No further corrective action is required for the surface soil/sediments and surface water for the SWMUs/AOCs at this facility at this time. However, long-term corrective action activities and remedial measures are still being conducted by the Permittee due to the presence of DNAPL remaining in the subsurface and due to contamination of the groundwater. These activities are required to address residual contamination at the facility thereby providing for continued protection of human health and the environment..
- D. The information regarding the SWMUs and AOCs at the facility is based on available information at the time of issuance of this Permit. In the event new information becomes available indicating that human health or the environment may be adversely impacted, the Permittee may be required to conduct additional investigations and evaluations, as necessary, to determine the need for additional

corrective action for the previously-identified SWMUs and AOCs or any newly-identified SWMUs and AOCs, including off-site release(s), as specified in Corrective Action Conditions VI. and VII. of this Permit.

- E. The Permittee shall conduct additional investigation(s) and/or take corrective action as deemed appropriate by the Department for the previously-identified SWMUs and AOCs or any newly-identified SWMUs and AOCs, including off-site release(s), demonstrating releases of hazardous waste or hazardous constituents to soil, surface water, sediment, groundwater, and/or air in excess of applicable regulatory thresholds, as specified in Corrective Action Conditions VI. and VII. of this Permit. Any off-site releases to surface water, sediment, or groundwater shall be addressed to the extent that these media are impacted by groundwater or soil contamination originating from SWMUs and AOCs on the permitted facility property.

VI. Notification Requirements for, and Assessment of, Newly-Identified SWMUs and AOCs

- A. The Permittee shall notify the Department and EPA in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any new SWMU(s) or AOC(s) identified after the issuance of this Permit.
- B. The Department may require the Permittee to conduct an investigation of any newly-identified SWMU(s) or AOC(s). The Department shall notify the Permittee in writing, of this decision. Within 30 calendar days after receipt of the Department's request to conduct an investigation, the Permittee shall prepare and submit a SWMU/AOC Assessment Work Plan to the Department for approval. The SWMU/AOC Assessment Work Plan shall include, but not be limited to, the following:
 - 1. A discussion of past hazardous wastes management practices related to the unit(s);
 - 2. A detailed investigation approach for surface and subsurface soils, surface water, groundwater, and air as necessary to:
 - a. Determine if a release of hazardous wastes or hazardous constituents has occurred or is occurring at the unit(s);
 - b. Yield reliable, representative samples and results;

- c. Determine impacts or potential impacts to human health and the environment; and
 - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the unit(s).
 3. A proposed schedule for implementing the SWMU/AOC Assessment Work Plan, which is predicated on the date of Departmental approval of the plan; and
 4. Identification of all data to be collected necessary to provide for a complete SWMU/AOC Assessment Report, as specified below.
- C. The Department shall review the SWMU/AOC Assessment Work Plan according to the procedures described in Corrective Action Condition XXIII. of this Permit. The Permittee shall complete all activities described in the SWMU/AOC Assessment Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a SWMU/AOC Assessment Report to the Department and EPA according to the schedule specified in the approved SWMU/AOC Assessment Work Plan. The SWMU/AOC Assessment Report shall present and discuss the information obtained under the approved SWMU/AOC Assessment Work Plan. At a minimum, the SWMU/AOC Assessment Report shall provide the following information for each newly-identified SWMU or AOC:
 1. The location of the newly-identified SWMU or AOC in relation to other SWMU(s) and AOC(s);
 2. The type and function of the SWMU or AOC;
 3. The general dimensions, capacities, and structural description of the SWMU or AOC;
 4. The period during which the SWMU or AOC was operated;
 5. The physical and chemical properties of all wastes that have been or are being managed at the SWMU or AOC, to the extent possible;
 6. The results of any sampling and analysis conducted;

7. Past and present operating practices;
 8. Previous uses of the area occupied by the SWMU or AOC;
 9. Amounts of waste handled;
 10. Drainage areas and/or drainage patterns near the SWMU or AOC; and
 11. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the SWMU/AOC Assessment Report shall include a proposal for additional investigation or corrective action, as appropriate.
- E. The Department shall review the SWMU/AOC Assessment Report according to the procedures described in Corrective Action Condition XXIII. of this Permit. Based on the findings of the report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or a RFI, at specific unit(s) identified in the SWMU/AOC Assessment Report.
- F. If the Department determines that additional investigations are needed, the Department may require the Permittee to prepare and submit for approval a work plan for such investigations. The Department shall review this work plan for additional investigations according to the procedures described in Corrective Action Condition XXIII. of this Permit. The Permittee shall complete all activities described in the work plan according to the schedule contained in the approved plan.
- VII. Notification Requirements for, and Assessment of, Newly-Identified Releases from Previously-Identified SWMUs and AOCs
- A. The Permittee shall notify the Department and EPA in writing, no later than 15 calendar days after discovery or after discovery should have been made, of any newly-identified release(s) of hazardous wastes or hazardous constituents from previously-identified SWMU(s) or AOC(s) discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after issuance of this Permit. The Department may examine the Facility's inspection records to determine if the Permittee should have known such a release has occurred.

- B. The Department may require the Permittee to conduct an investigation of the newly-identified release(s). The Department shall notify the Permittee in writing of this decision. Within 30 calendar days after receipt of notice that the Department requires an investigation, the Permittee shall prepare and submit a Newly-Identified Release Work Plan to the Department for approval. The Newly-Identified Release Work Plan shall include, but not be limited to, the following:
1. A discussion of the hazardous waste/chemical management practices related to the release(s);
 2. A detailed investigation approach for groundwater, land surface and subsurface soils, surface water, and air as necessary to:
 - a. Define the extent of the release area(s);
 - b. Yield reliable, representative samples and results;
 - c. Determine impacts or potential impacts to human health and the environment; and
 - d. Sufficiently assess all hazardous wastes and hazardous constituents related to the release(s).
 3. A proposed schedule for implementing the Newly-Identified Release Work Plan, which is predicated on the date of Departmental approval of the plan; and
 4. Identification of all data to be collected necessary to provide for a complete Newly-Identified Release Report, as specified below.
- C. The Department shall review the Newly-Identified Release Work Plan according to the procedures described in Corrective Action Condition XXIII. of this Permit. The Permittee shall complete all activities described in the Newly-Identified Release Work Plan according to the schedule contained in the approved plan.
- D. The Permittee shall submit a Newly-Identified Release Report to the Department and EPA according to the schedule specified in the approved Newly-Identified Release Work Plan. The Newly-Identified Release Report shall present and

discuss the information obtained under the approved Newly-Identified Release Work Plan. At a minimum, the report shall provide the following information for each newly-identified release:

1. The location of the newly-identified release in relation to the SWMU(s) or AOC(s) under investigation and to any other SWMU(s) and AOC(s);
 2. The general dimensions of the release;
 3. The period during which the release is suspected to have occurred;
 4. The physical and chemical properties of all wastes that have been determined to comprise the release;
 5. The results of any sampling and analysis conducted;
 6. Past and present operating practices near and at the location of the release;
 7. Previous uses of the area(s) occupied near and at the location of the release;
 8. Amounts of waste handled near and at the location of the release;
 9. Drainage areas and/or drainage patterns near and at the location of the release; and
 10. A recommendation as to whether further action is necessary and justification for the recommendation. If further action is recommended, the Newly-Identified Release Report shall include a proposal for additional investigation or corrective action, as appropriate.
- E. The Department shall review the Newly-Identified Release Report according to the procedures described in Corrective Action Condition XXIII. of this Permit. Based on the findings of the report and any other available information, the Department shall determine the need for additional investigation, including interim/stabilization measures or an RFI, at specific releases(s) identified in the Newly-Identified Release Report.

VIII. Historical and Contingent Interim/Stabilization Measures

- A. In addition to the closure activities undertaken at the facility, a number of interim/stabilization measures (ISMs) have been completed at the site, including, but is not limited to, the ISMs listed below. These ISMs have been completed to stabilize surface soils, remove and consolidate contaminated soils, address surface water drainage problems, minimize the potential for direct contact with residually-contaminated soils, and remove free product from the groundwater. These interim measures were previously reviewed and approved by the Department and are consistent with the objectives of the final remedy implemented pursuant to the 1997 MHWMF Part I Permit which will continue under this Permit.
1. Surface Water Drainage Ditches A and B in 1997: Excavation of impacted materials from the surface and near surface.
 2. Surface Water Drainage Ditch D in early 2001: Reconstructed to manage stormwater flow entering the site from properties to the east and to eliminate direct stormwater discharge onto Tract C.
 3. Biodegradation Cells in 2001: Soils excavated and placed on Tract C to consolidate impacted material at the site onto Tract C.
 4. Soil Cover Tracts B and C in 2001 and 2002: A clay soil cover was installed over approximately 18 acres on Tracts B and C. The soil utilized as cover material was obtained from the Corp of Engineers Blue River Rechannelization Project.
 5. DNAPL Recovery since 1997: DNAPL has been periodically purged from several monitoring wells at the facility to remove free product from the groundwater.
- B. The Permittee shall notify the Department and EPA within 24 hours after becoming aware or should have become aware of a situation that may require ISMs to protect human health or the environment. The Department may examine the Facility's inspection records to determine if the Permittee should have known if such ISMs and notification should have occurred.
- C. If, during the course of any activity conducted under this Permit, the Permittee or the Department determines that a release or potential release of hazardous wastes

or hazardous constituents poses a threat to human health or the environment, the Department may require ISMs to slow or stop the further spread of contamination until final corrective action measures are implemented. The Department shall determine the specific action(s) that shall be taken to implement ISMs, including potential permit modifications and the schedule for implementing the ISMs. The Department shall notify the Permittee in writing of decisions regarding the action(s). This requirement does not preclude the Permittee from responding to an emergency situation without direction from the Department.

- D. The Permittee shall notify the Department and EPA in writing, no later than ten calendar days after determining or after a determination should have been made, that the ISMs are not effectively limiting or stopping the further spread of contamination. The Department may require the ISMs be changed to make them effective in limiting or stopping the spread of contamination, or that final corrective action measures are required to remediate the contaminated media.
- E. In cases where releases or potential releases present minimal exposure concerns and/or the remedial solution is relatively uncomplicated, the Permittee may propose ISMs for review and approval by the Department. These ISMs shall be consistent with and may supplement or satisfy the requirements for a final remedy(s) in specific areas. Proposed ISMs that are determined by the Department to be significant (e.g., those which are anticipated to make up a substantial part of a final remedy) may be subject to public review and comment before final approval by the Department.

IX. Historical and Contingent RCRA Facility Investigation (RFI) Work Plan

- A. The Permittee submitted a facility-wide RFI Work Plan, dated January 2, 1998. The Department and EPA provided comments to the Permittee on May 8, 1998. The Permittee submitted a revised RFI Work Plan in response to these comments on June 2, 1998. The Department and EPA approved the revised RFI Work Plan on July 2, 1998.
- B. If the Department determines that additional investigations are needed, the Department may require the Permittee to conduct a RFI. The Department shall notify the Permittee in writing, of this decision. Within 60 calendar days after receipt of the Department's request to conduct a RFI, the Permittee shall prepare and submit an RFI Work Plan to the Department and EPA for approval. The RFI Work Plan shall be designed to investigate releases of hazardous wastes and hazardous constituents to all appropriate media of concern including surface and

subsurface soils, surface water, groundwater, and air, as necessary. In order to substantiate future corrective action decisions, the RFI Work Plan shall contain provisions that are sufficient to meet the following objectives and a proposed schedule for implementing the RFI Work Plan, which is predicated on the date of Departmental approval of the plan:

1. Full characterization of the nature, vertical and horizontal extent, and rate of migration of releases of hazardous wastes and hazardous constituents from SWMUs and AOCs, or groups of SWMUs and AOCs, or newly-identified release(s) at the facility and the actual or potential receptors of such releases; and
 2. Collection of any other pertinent data that may be utilized to substantiate future corrective action decisions.
- C. The RFI Work Plan shall be appropriate for site-specific conditions and shall be consistent with and address all applicable investigation elements described in the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version. At a minimum, the RFI Work Plan shall detail all proposed activities and procedures to be conducted at the facility including, but not limited to, the following:
1. A description of current conditions;
 2. The schedule for implementing and completing such investigations and for submission of reports (including the RFI Report);
 3. The qualifications of personnel performing or directing the investigations, including contractor personnel; and
 4. The overall management of the RFI activities.
- D. The RFI Work Plan shall include a Quality Assurance Project Plan (QAPP). The QAPP shall present the policies, organization, objectives, functional activities, and specific quality assurance and quality control activities designed to achieve the data quality goals of the RFI. It shall include, at a minimum, the RFI objectives, sampling procedures, analytical methods, field and laboratory quality control samples, chain-of-custody procedures, and data review, validation, and reporting procedures. The Permittee shall follow the EPA document entitled,

EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5, March 2001, (reissued May 2006) or the most recent version.

- E. The Permittee shall prepare and maintain a Health and Safety Plan during the project that assures the RFI activities are conducted in a manner that is protective of human health and the environment.
 - F. Due to the complexity of defining the extent of contamination, the Permittee may be required to use a phased approach that requires the submittal of supplemental RFI Work Plans.
 - G. The Department shall review the RFI Work Plan(s) according to the procedures described in Corrective Action Condition XXIII. of this Permit. The Permittee shall complete all activities described in the RFI Work Plan(s) according to the schedules contained in the approved plan(s).
- X. Historical and Contingent RCRA Facility Investigation (RFI) Report
- A. The Permittee submitted the initial facility-wide RFI Report, dated January 29, 1999, to the Department February 5, 1999. The Department and EPA provided comments on the initial RFI Report to the Permittee on June 4, 1999, August 27, 1999, and April 5, 2000. The Permittee submitted a revised RFI Report, dated June 23, 2000, to the Department June 26, 2000. The Department and EPA approved the final RFI Report, consisting of the Permittee's January 1999 RFI Report and June 2000 revisions, on September 8, 2000.
 - B. Should any additional RFI investigations become necessary, the Permittee shall submit additional RFI Reports to the Department and EPA according to the schedule specified in the approved RFI Work Plan described in Corrective Action Condition IX. of this Permit. The RFI Report shall present all information obtained under the approved RFI Work Plan along with a brief facility description and map showing the property boundary and all SWMUs and AOCs. The RFI Report shall contain adequate information to support additional corrective action decisions at the facility. Information contained in the RFI Report shall be presented in a format that is consistent with Section 5 of the EPA document entitled, RCRA Facility Investigation (RFI) Guidance, EPA 530/SW-89-031, May 1989, or the most recent version.
 - C. The RFI Report shall provide an interpretation of the RFI information gathered, supported with adequate documentation, to enable the Department to determine

whether additional ISMs or a CMS may be necessary. The RFI Report shall describe the procedures, methods, and results of all investigations of SWMUs and AOCs and associated releases, including, but not limited to, the following, as appropriate:

1. Characterization of the nature, concentration(s), horizontal and vertical extent, and direction/rate of migration of releases from SWMUs and AOCs at the facility;
2. Characterization of the environmental setting of the facility, including:
 - a. Hydrogeological conditions;
 - b. Climatological conditions;
 - c. Soil and bedrock characteristics;
 - d. Surface water and sediment quality; and
 - e. Air quality and meteorological conditions.
3. Characterization of SWMUs and AOCs from which releases have been or may be occurring, including unit and waste characteristics;
4. Descriptions of human and environmental receptors and associated risks to the receptors which are, may have been, or, based on site-specific circumstances, could be exposed to release(s) from SWMUs and AOCs;
5. Assessment of potential risks to the human and environmental receptors exposed to release(s) from SWMUs and AOCs;
6. Extrapolations of future contaminant migration including description of contaminant fate and transport mechanisms, and pathways for human and environmental exposure;
7. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies or other technologies that may be appropriate in implementing remedies at the facility;

8. Statistical analyses to aid in the interpretation of data;
 9. Results of any interim/stabilization measures previously implemented; and
 10. Evaluation of data quality that may affect the nature and scope of a CMS, as well as the evaluation of corrective measures alternatives thereunder (e.g., identification of any potential bias in the RFI data and documentation of its precision, accuracy, representativeness, completeness, comparability, validation, etc.).
- D. The Department shall review the RFI Report according to the procedures described in Corrective Action Condition XXIII. of this Permit. If the Department determines that the objectives of the RFI have not been met, the Department may require additional investigation. Upon approval of the RFI Report, the Department shall notify the Permittee of the next step in the corrective action process, which may include the submittal of a CMS Work Plan, described in Corrective Action Condition XI. of this Permit.

XI. Historical and Contingent Corrective Measures Study (CMS) Work Plan

- A. The Permittee submitted an initial facility-wide CMS Work Plan, dated December 12, 2000, to the Department December 13, 2000. The Department and EPA provided comments to the Permittee on the initial CMS Work Plan on January 11, 2001. The Permittee submitted revisions to the initial CMS Workplan dated February 19, 2001. The revised CMS Work Plan was prepared in accordance with Special Permit Condition X.C. of the 1997 MHWMF Part I Permit. The Department and EPA approved the final CMS Work Plan March 7, 2001.
- B. If the Department determines that there has been a release of hazardous waste or hazardous constituents from newly- or previously-identified SWMUs or AOCs that may pose a threat to human health or the environment, the Department may require the Permittee to conduct a CMS. The Department shall notify the Permittee, in writing, of this decision. The notice shall identify the hazardous constituent(s) of concern and may specify remedial alternatives to be evaluated by the Permittee during the CMS.
- C. As part of the CMS, the Department may require the Permittee to evaluate one or more specific potential remedies for removal, containment, and treatment of hazardous wastes and hazardous constituents in contaminated media based on the

objectives established for the corrective action. These remedies may include a specific technology or combination of technologies that, in the Department's judgment, may be capable of achieving standards for protecting human health and the environment.

- D. Within 45 calendar days after receipt of the Department's request to conduct a CMS, the Permittee shall prepare and submit a CMS Work Plan to the Department and EPA for approval. The CMS Work Plan shall be consistent with the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version. At a minimum, the CMS Work Plan shall provide the following information, as appropriate, and a proposed schedule for implementing the CMS Work Plan, which is predicated on the date of Departmental approval of the plan:
1. A description of the general approach to investigating and evaluating potential remedies
 2. A definition of the specific objectives of the study.
 3. A description of the remedies which will be studied.
 4. A description of those potential remedies that were preliminarily considered, but were dropped from further consideration including the rationale for elimination.
 5. The specific plans for evaluating remedies to ensure compliance with remedy standards.
 6. The schedules for conducting the study and submitting a CMS Report.
 7. The proposed format for the presentation of information.
 8. Laboratory, bench-scale, pilot-scale and/or appropriate tests or studies to determine the feasibility or effectiveness of treatment technologies, or other technologies that may be appropriate in implementing remedies at the facility.
- E. The Department shall review the CMS Work Plan according to the procedures described in Corrective Action Condition XXIII. of this Permit. The Permittee

shall complete all activities described in the CMS Work Plan according to the schedules contained in the approved plan.

XII. Historical and Contingent Corrective Measures Study (CMS) Report

- A. The Permittee submitted an initial facility-wide CMS Report, dated August 10, 2001, to the Department August 13, 2001. The Department and EPA provided comments on the initial CMS Report to the Permittee on April 30, 2002. The Permittee revised and resubmitted the CMS Report to the Department in December 2002. The Department and EPA provided additional comments on the revised CMS Report to the Permittee on July 8, 2003. The Permittee revised and resubmitted the CMS Report again on August 29, 2003, with additional revised pages to the CMS Report submitted on March 3, 2004. The Department approved the Permittee's revised CMS Report on March 24, 2004.
- B. If the Department determines that an additional CMS Report is necessary to address a release(s) of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs, the Permittee shall submit a CMS Report to the Department and EPA according to the schedule specified in the approved CMS Work Plan described in Corrective Action Condition XI. of this Permit. The CMS Report shall present all information obtained under the approved CMS Work Plan and shall be consistent with guidance contained in the EPA document entitled, RCRA Corrective Action Plan (Final), OSWER Directive 9902.3-2A, May 1994, or the most recent version.
- C. The CMS Report shall describe the results of the investigations for each remedy studied and any bench-scale or pilot tests conducted. The CMS Report shall include, but not be limited to, the following information:
1. Evaluation of performance, reliability, ease of implementation, and potential impacts of each remedy studied, including safety impacts, cross media impacts, and control of exposure to any residual contamination;
 2. Assessment of the effectiveness of each remedy in achieving adequate control of sources and clean up of the hazardous waste or hazardous constituents released from the SWMU(s) and AOC(s);
 3. Assessment of the time required to begin and complete each remedy;
 4. Estimation of the costs of implementing each remedy;

5. Recommendation of a remedy, or combination thereof, and rationale for the selection; and
 6. Assessment of institutional requirements that may be needed (e.g., state or local permits), discussion of other environmental or public health requirements or institutional controls that may substantially affect implementation of the final remedy (e.g., local ordinances), and/or a draft of any site-specific institutional controls that are proposed as part of a final remedy (e.g., an environmental covenant prepared under the Missouri Environmental Covenants Act).
- D. The CMS Report shall contain adequate information to support the Department in the final remedy decision-making process.
- E. The Department shall review the CMS Report according to the procedures described in Corrective Action Condition XXIII. of this Permit. Upon approval of the CMS Report, the Department may approve a final remedy as specified in Corrective Action Condition XIII. of this Permit.

XIII. Historical and Contingent Final Remedy Approval

- A. Following the Department's approval of the final CMS Report on March 24, 2004, the Department prepared a Statement of Basis that summarized the remedial alternatives evaluated by the Permittee and the Department's basis of support for the proposed final remedy. The final remedy selected for the facility included the corrective measures as described in the revised CMS Report approved by the Department on March 24, 2004, as Alternative 1A. This preferred final remedy (Alternative 1A) includes use of multiple wells (existing and future wells) for Gradient-Enhanced DNAPL Recovery, separation of DNAPL from recovered fluids, Monitored Plume Stability for shallow and deep groundwater units at the site, maintenance of surface cover, and the application of institutional controls. The Statement of Basis was provided for public comment with the draft Class 3 Permit Modification on May 11, 2005 and was finalized with the issuance of the Class 3 Modification on September 23, 2005.
- B. If the Department determines that an additional CMS Report is necessary to address a release(s) of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs and following the approval of this additional CMS Report or equivalent (as described in Corrective Action Condition XII. of this Permit), the Department shall prepare a Statement of Basis

that summarizes the remedial alternatives evaluated by the Permittee and the Department's basis of support for the proposed final remedy.

- C. Following the Department's preparation of an additional Statement of Basis, a permit modification shall be initiated in accordance with 40 CFR 270.41 or 270.42(c), as applicable, to facilitate public review and comment on the Statement of Basis and proposed final remedy, final remedy approval by the Department, and implementation of the approved final remedy by the Permittee.
- D. Upon completion of the public participation activities associated with the permit modification to implement the proposed final remedy, the Department shall approve a final remedy that shall:
 - 1. Be protective of human health and the environment.
 - 2. Control and/or eliminate the source(s) of contaminants so as to reduce or eliminate, to the maximum extent practicable, further contaminant releases, exposures or migration that may pose a threat to human health and the environment.
 - 3. Meet all applicable federal, state, and local laws and regulations.

XIV. Historical and Contingent Corrective Measures Implementation (CMI) Work Plan

- A. According to the requirements of Special Permit Condition XIII. of the Class 3 Modification to the MHWMF Part I Permit issued September 23, 2005, the Permittee prepared and submitted to the Department and EPA a CMI Work Plan, dated February 21, 2006. The Department approved the CMI Work Plan March 24, 2006. The CMI Work Plan provided detailed plans for implementing the approved final remedy at the SWMUs requiring corrective action, as described in Corrective Action Condition XIII.B. of this Permit, that were consistent with the objectives specified in the revised CMS Report approved by the Department March 24, 2004.
- B. If the Department determines that an additional final remedy is necessary to address a release(s) of hazardous waste or hazardous constituents from newly- and/or previously-identified SWMUs/AOCs:
 - 1. According to the schedule established in conjunction with any permit modification to implement an additional final remedy as specified by

Corrective Action Condition XIII.D. of this Permit, the Permittee shall submit a CMI Work Plan to the Department and the EPA to provide detailed design specifications, construction plans, and a schedule for implementation of corrective measures at the SWMUs requiring corrective action identified in Corrective Action Condition VI.D. or VII.D. of this Permit. The CMI Work Plan shall provide detailed plans for remedy implementation consistent with all applicable CMI components as specified in the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, or the most recent version, and shall be consistent with the objectives specified in the approved CMS Report.

2. This additional CMI Work Plan will be reviewed and approved in accordance with the procedures set forth in Corrective Action Condition XXIII. of this Permit. The Permittee shall implement the approved CMI Work Plan in accordance with the schedules contained in the plan.

XV. Certification of Completion of Construction of Final Remedy and Corrective Measures Implementation (CMI) Report

- A. This Permit and the Corrective Action Conditions contained herein are based on the approved, final CMS Report and the approved final remedy specified in the 2005 Class 3 Permit Modification. Construction activities associated with ISMs for the RCRA regulated Former Container Storage Area were completed January 2002, with the installation of a clay soil cover over approximately 18 acres of Tracts B and C, and the replacement of storm water pipe near Drainage Ditch B completed in August 2005. In addition, a large-diameter recovery well was installed in April 2008 to conduct a Gradient-Enhanced DNAPL Recovery Pilot Study as the remedy selected in the approved final remedy. If any new or revised final remedy is determined to be necessary by the Department, all Corrective Action Conditions of this Permit shall continue to be in force, unless and until appropriate permit modifications are reviewed and approved.
- B. Within 60 calendar days of completion of all construction activities associated with implementation of any new or revised approved final remedy, the Permittee shall:
 1. Submit a written certification to the Department and EPA, by certified mail, stating that the new final remedy has been constructed according to the approved CMS Report, new or revised final remedy decision, and CMI

Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

2. Submit a CMI Report to the Department and the EPA. This CMI Report shall contain a summary of remedial activities conducted at the facility and provide detailed descriptions of the long-term operation, maintenance, and monitoring program associated with the corrective measures. For SWMUs requiring extended time periods for operation of the remedy, the Permittee shall summarize the progress of the remedy and continue to provide data obtained during remedy operation in the Annual Progress and Corrective Action Effectiveness Report required in Corrective Action Condition XIX. of this Permit.
3. Submit a revised Long Term Operation, Maintenance, and Monitoring (LT OM&M) Plan. The revised LT OM&M Plan shall specify operation, maintenance, and monitoring procedures for the final remedy including, at a minimum, the information described below, and as described in Chapter V, Section II of the EPA document entitled, RCRA Corrective Action Plan (Final), May 1994, OSWER Directive 9902.3-2A, or the most recent version. The LT OM&M Plan shall meet the approved standard operating procedures (SOPs) and institutional controls described in the approved final remedy.
 - a. All long-term groundwater monitoring conducted as specified in Corrective Action Condition III. of this Permit for the SWMUs.
 - b. All long-term analytical groundwater sampling data shall be included in the Annual Groundwater Corrective Action Reports in accordance with Corrective Action Condition XVIII. of this Permit.
 - c. The Permittee shall continue to evaluate the availability and viability of innovative treatment technologies and their potential application to areas of high contaminant concentrations in groundwater with the objective of meeting the GPS every five years. These evaluations shall be reported every fifth year as part of the Annual Progress and Corrective Action Effectiveness Report, required by Corrective Action Condition XIX. of this Permit.

- d. The operation and maintenance procedures for all elements/ components of the final remedy, including the replacement schedule for equipment and installed components. All monitoring to be performed to determine effectiveness of the final remedy in meeting the GPS in Table 1.
4. The revised LT OM&M Plan will be reviewed in accordance with the procedures set forth in Corrective Action Condition XXIII. of this Permit. Upon approval by the Department, the Permittee shall implement all activities detailed therein and comply with the schedule(s) contained in the approved plan.

XVI. Certification of Completion of Corrective Measures

- A. When the Permittee decides to verify completion of corrective measures at a SWMU, or group of SWMUs, the Permittee shall submit documentation to demonstrate that groundwater contaminant levels do not exceed the applicable GPS MCLs specified in Corrective Action Conditions III.A. of this Permit, the SAP required by Corrective Action Condition III.D.2. of this Permit, and as specified in Tables 1 and 2. The Permittee's groundwater corrective action program shall continue until the Permittee demonstrates, individually or collectively, that these limits have not been exceeded for a period of three consecutive years at each SWMU, or group of SWMUs. Groundwater corrective action may stop at any individual SWMUs, or group of SWMUs, once this three year criterion has been met. Modifications of this Permit under 40 CFR 270.42 or 270.41, as appropriate, shall be required to address changes in the groundwater corrective action status of individual SWMUs, or group of SWMUs. The subject documentation shall be included in the Annual Progress and Corrective Action Effectiveness Report submitted according to Corrective Action Condition XIX. of this Permit.
- B. The Department shall review and approve the documentation verifying completion of all corrective action at each SWMU, or group of SWMUs, according to the procedures described in Corrective Action Condition XXIII. of this Permit.
- C. Within 60 calendar days after receipt of the Department's approval of the documentation verifying completion of all corrective action under Corrective Action Condition XV.B. of this Permit, the Permittee shall submit a written certification to the Department and EPA, by certified mail, stating that the final

remedy has been completed according to the approved CMS Report and CMI Work Plan. The certification shall be signed by the Permittee and a professional engineer registered in Missouri.

XVII. Activity and Use Limitations (AULs)

A. Soil or Other Media Disturbance at the Facility

The Permittee shall notify the Department at least 30 calendar days before any planned construction, excavation, or maintenance and repair activities that would disturb existing contamination at any SWMUs, AOCs, or other areas subject to AULs. The Permittee shall, in coordination with the owner(s) of any off-site areas impacted by soil and/or groundwater contamination originating from SWMUs and AOCs at the facility, assess the potential hazards associated with activities that potentially disturb or expose any contaminated environmental media and ensure that necessary precautions are taken, including protective and/or remedial measures, prior to performing the activity. In situations where advance notice is not feasible (i.e., utility service or repair) notice shall occur as soon as practical. Future construction, excavation activities, or land use changes may necessitate further evaluation of site conditions at SWMUs or AOCs having residual levels of contamination that exceed applicable regulatory thresholds.

The Permittee may, at its discretion, request development of an Excavated Soil Management Plan for approval by the Department. Any such plan would be designed to expedite future subsurface utility and construction activities in potentially contaminated subsurface areas at the facility.

B. Transfer of Interest of Property

The Permittee shall notify the Department at least 90 calendar days before the transfer of any interest in any property at the facility. The Permittee shall submit a permit modification according to 40 CFR 270.40, before transferring ownership or control of any portion of the permitted facility.

C. Change of Use of Property

The Permittee shall notify the Department at least 30 calendar days before any planned physical alternations or additions to the permitted facility including any applications for building permits or other proposals for site work potentially affecting the contamination on the facility property.

D. Deed Notice

The Permittee filed a Certificate of Survey with the Recorder of Deeds of Jackson County in Missouri, placing a deed notice in the chain-of-title for the Former Container Storage Area at the facility, as described below. Details on the Certificate of Survey and on the specific location of the Former Container Storage Area can be found with the Recorder of Deed of Jackson County in Missouri and on Figure 6 of this Permit.

1. The deed notice for the Former Container Storage Area was filed June 2, 1993, at the Office of Recorder of Deeds of Jackson County, Missouri. This Certificate of Survey provides notice that the area described previously contained a hazardous waste management unit and that the described area is restricted and any future use of the area must be approved by the Missouri Department of Natural Resources in accordance with the approved closure plan. A copy of the deed notice (Instrument Number 1993K1082873) can be found on Page 48 of Book 4 in the Office of Recorder of Deeds of Jackson County, Missouri.

E. Missouri Environmental Covenants Act

Any environmental covenant required by this Permit shall comply with the Missouri Environmental Covenants Act, Section 260.1000 through 260.1039, RSMo.

F. Environmental Covenant Provisions

The Permittee submitted a draft environmental covenant for the permitted facility property to the Department in March 2009. The Department is currently reviewing the draft environmental covenant. The following requirements shall apply to any environmental covenant required by this Permit.

1. Within 15 calendar days after execution (signature by all parties) of an approved environmental covenant required as part of an approved final remedy for the facility property, the Permittee shall record, according to state law, the approved environmental covenant in the chain-of-title for the facility, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the environmental conditions of the property.

2. Within 15 calendar days after execution (signature by all parties) of an approved environmental covenant required as part of an approved final remedy for any off-site areas impacted by soil and/or groundwater contamination originating from SWMUs and AOCs on the facility property, the Permittee shall record, according to state law, the approved environmental covenant in the chain-of-title for the off-site areas impacted by contamination originating from SWMUs and AOCs at the facility, or on some other instrument which is normally examined during title search, that will in perpetuity notify any potential purchaser of the environmental conditions of the property.
3. Within 30 calendar days after recording an approved environmental covenant, the Permittee shall provide a notarized statement to the Department, certifying that an approved environmental covenant required by Corrective Action Conditions XVII.F.1. or F.2. of this Permit has been recorded, including a copy of the environmental covenant.
4. The environmental covenant required in Corrective Action Conditions XVII.F.1. or F.2. of this Permit shall run with the land and shall be binding upon any future owners, operators, heirs, successors, lessees, or assigns and their authorized agents, employees, or persons acting under their direction or control. In the event of permit termination, the Permittee and/or facility owner shall cause any lease, grant, or other transfer of any interest in the facility property to include a provision expressly requiring the lessee or transferee to comply with the environmental covenant conditions filed in the chain-of-title for the facility property according to Corrective Action Condition XVII.E. of this Permit.
5. In the event that future additional remediation at the property, before or after permit termination, reduces contaminant levels to below applicable risk-based threshold/standards based on use of the property, the environmental covenant, or portions thereof, may be rescinded by written approval of the Department. Rescission of the environmental covenant may be accomplished by placement of an additional document in the property chain-of-title indicating that the environmental covenant, or portions thereof, have been rescinded.

G. Environmental Covenant Provision Requirements Before Permit Termination

1. If the Permittee desires to rescind all or part of an approved environmental covenant, the Permittee shall submit a demonstration to the Department within 180 calendar days before the effective date of any proposed permit termination. The demonstration shall be signed by the Permittee and shall evaluate the residual levels of contamination in comparison with then-current risk-based thresholds/standards. The Permittee shall demonstrate that contaminant levels have decreased to less than applicable risk-based thresholds/standards based on use of the property for any SWMUs identified in Corrective Action Conditions XVIII.E.1. or E.2. of this Permit. The demonstration shall include, at a minimum, a summary of analytical data collected during any monitoring and/or confirmation sampling of contaminated media, a summary of all relevant historical data, accompanying narrative discussion, and any other relevant information ensuring that residual contaminant levels are protective of human health and the environment.
2. If the Department determines, based on the demonstration required in Corrective Action Condition XVII.G.1. of this Permit, that the residual levels of contamination present may still pose a threat to human health or the environment based on use of the property, the Department shall notify the Permittee, in writing, that the terms of the existing environmental covenant are still appropriate or that the Permittee shall prepare and submit for approval, a revised draft environmental covenant to address the changed conditions at the facility. Within 60 calendar days after receipt of the Department's notification of the need for a revised draft environmental covenant, the Permittee shall prepared and submit a revised draft environmental covenant to the Department for approval.
3. The Department shall review and approve the revised draft environmental covenant according to the procedures described in Corrective Action Condition XXIII. of this Permit.
4. The Permittee shall record the approved revised environmental covenant and submit any documentation according to the schedule outlined in Corrective Action Condition XVII.F.3. of this Permit. The Permittee shall also comply with any additional environmental covenant conditions as outlined in Corrective Action Condition XVII.C. of this Permit, as appropriate.

XVIII. Annual Groundwater Corrective Action Reports

The Permittee shall prepare and submit an Annual Groundwater Corrective Action Report providing a comprehensive evaluation of the facility-wide groundwater monitoring program and all uninterpreted analytical data from the Permittee's annual groundwater sampling event for the previous calendar year (i.e., January through December). The Annual Groundwater Corrective Action Reports shall be submitted to the Department and EPA by March 1 of each calendar year for the previous calendar year. The Annual Groundwater Corrective Action Reports shall include the following information for the time period being reported:

- A. All original, uninterpreted laboratory analytical data package reports from the Permittee's annual groundwater sampling events, groundwater analysis results, field parameter measurement results, copies of field sampling and well inspection log sheets, well repair documentation, Quality Assurance/Quality Control data, statistical analysis of groundwater data, field investigation results, volume of groundwater and/or DNAPL extracted, and other relevant groundwater-related information, as appropriate.
- B. A discussion of any exceedances of the GPS and limits specified in the Missouri State Operating Permit.
- C. A narrative discussion of the nature and evolution of the Permittee's groundwater monitoring program, as well as conclusions concerning the overall adequacy of the program as related to its intended purpose, including any interim measures/stabilization actions/remedial action plans. Any conclusions concerning inadequacies in the Permittee's groundwater monitoring program shall be accompanied by a discussion of proposed remedies. Specific details concerning any proposed remedies shall be further developed outside of the scope of these reports or as otherwise specified in this Permit.
- D. Comprehensively address all technical requirements of 40 CFR Part 264 Subpart F and this Permit. The Permittee shall summarize relevant groundwater monitoring information and present this information in the form of narrative discussions, groundwater flow calculations, and/or diagrammatic illustrations (e.g., tabular groundwater and statistical data summaries, hydrogeologic and potentiometric contour maps/cross-sections, chemical parameter trend graphs, calculated rate(s) of contaminant migration, contaminant isoconcentration maps/cross-sections, fence/isometric diagrams, groundwater flow nets, etc.), as appropriate.

- E. Evaluate the effectiveness of the groundwater corrective action program, including, but not limited to, the following:
1. The rate and direction of groundwater movement in underlying aquifers and potential effects on any corrective action measures being designed or implemented at the facility for removal, containment or control of the groundwater contaminant plume(s).
 2. The horizontal and vertical extent and concentrations of hazardous constituents (Table 1) in groundwater throughout the contaminant plume(s) as evaluated from the data obtained through the Permittee's groundwater monitoring program.
 3. Any surface and/or subsurface well integrity problems and their potential or actual influence on the groundwater data or effectiveness of the groundwater corrective action program.
 4. The quantity of free Non-Aqueous Phase Liquids (NAPLs) if present and groundwater extracted from the subsurface during either stabilization activities, remedial action plans, or as part of the groundwater corrective action program. This information should be reported both as a total amount and per well or extraction location, as appropriate, and shall be used in conjunction with dissolved phase contaminant concentration information to estimate quantities of contaminants removed.
 5. The estimated quantity/mass of contaminants remaining in the groundwater and the quantity/mass of groundwater contaminants removed/treated as part of the groundwater corrective action program. The Permittee shall report this information as a total amount and, as appropriate, per well or extraction location. The Permittee shall also evaluate contaminant concentration information and indicators of natural attenuation in selected wells as a means to estimate the quantity/mass of contaminants potentially being addressed by natural attenuation processes.
 6. Contaminant trend analyses from year to year using analytical results of the groundwater samples to help evaluate the overall progress/trends of the corrective action program, an annual plume stability analysis to demonstrate whether the plume is growing, shrinking or stable, and a mass reduction based plume analysis to look at both plume stability and CA

effectiveness to provide the basis for future decisions regarding the need for additional corrective action/stabilization measures at the facility.

7. The conclusions and summary, including statistical evaluation, of analytical results from surface water monitoring conducted during the report period.
- F. Contain detailed boring logs for new exploratory borings and/or detailed “as-built” monitoring well diagrams for any new monitoring wells installed during the corresponding reporting period and the monitoring well-related information specified in Corrective Action Conditions III.D.5. and III.D.6. of this Permit.

XIX. Annual Corrective Action Progress Update

- A. The Permittee shall prepare and submit an annual corrective action progress update to the Department and EPA as part of the Annual Groundwater Corrective Action Reports required by Corrective Action Condition XVIII. of this Permit. This update shall summarize all corrective action activities undertaken pursuant to this Permit during the previous calendar year (i.e., January through December). These annual progress updates shall continue to be submitted until the Permittee’s corrective action activities (including any long-term operation, maintenance, and monitoring activities) are complete.
- B. The Annual Progress Updates shall include the following information for the time period being reported:
 1. A description of the work completed.
 2. Summaries of all findings, including summaries of laboratory data.
 3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems.
 4. Projected work for the next reporting period.
 5. Any instances of noncompliance with the corrective action requirements of this Permit not otherwise required to be reported elsewhere in this Permit.

- C. If the Department determines that further “active” corrective action is required under Corrective Action Conditions VI. through XIV. of this Permit, the frequency of corrective action progress updates to the Department may increase. If an increase in reporting frequency is necessary, the Department shall provide written notification of the new reporting frequency to the Permittee.
- D. As part of any additional corrective action activities undertaken pursuant to this Permit, detailed technical information required to be submitted as part of ISMs, RFI and/or CMS work plans and reports need not be reproduced as part of the Permittee’s corrective action progress updates.
- E. Copies of other reports (e.g., inspection reports), information, or data shall be made available to the Department and EPA upon request.

XX. Planned and Contingent Activities

- A. The Permittee shall comply with the schedule for planned corrective action activities as specified in this Permit and summarized on Table 4.
- B. The Permittee shall comply, as necessary, with the schedule(s) for contingent corrective action activities as specified in this Permit and summarized in Table 5.

XXI. Supplemental Data

All uninterpreted data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this Permit shall be maintained by the Permittee during the term of this Permit, including the term of any reissued permits.

XXII. Post-Closure Care, Corrective Action Cost Estimates and Financial Assurance

The Permittee shall comply with the requirements described in the Missouri Hazardous Waste Management Law (and all standards, rules, and regulations adopted under this act), Section 260.350, et seq., RSMo, 40 CFR Part 264 Subpart H, 40 CFR 270.30, 40 CFR 270.40, 40 CFR 270.42, and 40 CFR 270.51, as incorporated and modified in 10 CSR 25-7 and 10 CSR 25-8.

A. Cost Estimates

1. Post-Closure Care and Corrective Action Cost Estimate

Within 60 calendar days of the effective date of this Permit, according to Corrective Action Condition II.E. of this Permit, the Permittee shall submit an updated, detailed written cost estimate, in current dollars, of the cost of hiring a third party to perform the post-closure care and corrective action activities required by this Permit.

- a. The corrective action cost estimate shall account for the total cost of all work activities that are expected to continue until such time as final clean-up objectives are met and confirmed. This includes any long-term costs such as final remedy operation, maintenance, monitoring; decommissioning of remediation equipment and proper plugging/abandonment of monitoring wells, payment of real estate taxes on the property and Departmental oversight cost reimbursement. The corrective action cost estimate for the selected final remedy shall be based on a “rolling” 30 years’ duration unless and until the Permittee makes a successful demonstration pursuant to this Permit for a shorter time, in which case the cost estimate shall then be based on the shorter time period.
- b. The post-closure portion of the cost estimate related to non-groundwater activities is calculated by multiplying the annual post-closure cost estimate for non-groundwater activities by a rolling fourteen (14) years of post-closure care. The post-closure portion of the cost estimate related to non-groundwater activities shall be based on a “rolling” 14 years’ duration, unless and until, the Permittee makes a successful demonstration pursuant to this Permit for a shorter time, in which case the cost estimate shall then be based on the shorter time period.
- c. A third party is a party who:
 - (1) Is neither a parent nor a subsidiary of the Permittee; and
 - (2) Does not share a common parent or subsidiary with the Permittee.

- d. The cost estimates shall not include any salvage value that may be realized from the sale of wastes, facility structures or equipment, land, or other assets associated with the facility.
- e. Discounting is not allowed.

The Permittee shall submit each post-closure care and corrective action cost estimate for review and evaluation by the Department. If the cost estimate requires modification, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submission of a revised cost estimate for further evaluation and final written response.

The Permittee shall maintain in the operating record the most recent post-closure care and corrective action cost estimate that has received a final written response from the Department.

2. Revisions to the Post-Closure Care and Corrective Action Cost Estimate

a. Annual Adjustment for Inflation

The Permittee shall adjust annually the post-closure care and corrective action cost estimates for inflation until all corrective action activities required by this Permit are complete. The inflation adjustment shall be determined by using the procedures described in 40 CFR 264.142(b) except that the inflation factor shall be derived from the most recent annual Implicit Price Deflator for the Gross Domestic Product instead of the Gross National Product. The cost estimate is due within 60 calendar days before the anniversary date of the establishment of the financial assurance instrument used to comply with this section. If the Permittee uses a financial test or corporate guarantee to demonstrate financial assurance, the cost estimate is due within 30 calendar days of the end of the provider's fiscal year.

b. Additional Post-closure Care or Corrective Action Activities

The Permittee shall increase the post-closure care and/or corrective action cost estimate if:

- (1) The Permittee or the Department determines that any additional post-closure care and/or corrective action activities are required; or
- (2) If any other conditions increase the estimated cost of the post-closure care and/or corrective action activities to be performed under this Permit.

If the Department determines that a new cost estimate is required, the Department shall notify the Permittee in writing of this requirement.

The Permittee shall submit each revised post-closure care and/or corrective action cost estimate for review and evaluation by the Department within 60 calendar days of the Permittee's determination that a revised cost estimate is necessary or written notification by the Department that a new cost estimate is required. If the new cost estimate requires further revision, the Department shall notify the Permittee, in writing, of the estimate's deficiencies and specify a due date for submission of a new revised cost estimate.

B. Financial Assurance

In order to provide for the full and final completion of the post-closure care and corrective action activities required by this Permit, the Permittee shall establish and maintain financial assurance for the benefit of the Department in the amount at least equal to the most recent post-closure care and corrective action cost estimate that received a final written response from the Department. The Permittee may use one or more of the financial assurance forms generally described in Corrective Action Condition XXII.B.11. of this Permit. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department. The Department reserves the right to limit the choices of the Permittee to one or more of the instruments described in Corrective Action Condition XXII.B.11. of this Permit, on a case-by-case basis, in order to ensure the full and final completion of the post closure and corrective action activities required by this Permit.

1. Timeframes for Financial Assurance Instruments (other than Financial Test or Corporate Guarantee)

- a. Within 30 calendar days after receipt of the Department’s final written response to the Permittee’s post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit draft financial assurance instruments and related documents to the Department for review and evaluation. This applies to all financial assurance instruments except the financial test or corporate guarantee. See Corrective Action Condition XXII.B.2. of this Permit for time frames for financial tests and corporate guarantees.
 - b. Within ten calendar days after receiving the Department’s final written response regarding the draft financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the financial assurance documents reviewed and responded to by the Department.
 - c. Within 30 calendar days after receiving the Department’s final written response regarding the draft financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.
2. Time frames for Financial Tests and Corporate Guarantees
- a. Within 30 calendar days after the Department’s final written response regarding the Permittee’s post-closure care and corrective action cost estimates pursuant to this Permit, the Permittee shall submit to the Department all documentation necessary to demonstrate that the Permittee satisfies the financial test criteria pursuant to Corrective Action Condition XXII.B.11.e. of this Permit.
 - b. The Permittee’s financial assurance shall be effective immediately upon the Permittee’s receipt of the Department’s final written response regarding the Permittee’s post-closure care and corrective action cost estimates or the Permittee’s demonstration that the

Permittee satisfies the financial test criteria under Corrective Action Condition XXII.B.11.e. of this Permit, whichever date is later.

- c. The Permittee agrees that if the Permittee provides financial assurance by means of a corporate guarantee or financial test, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. Any request by the Department for this information shall be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

3. Certified Mail

The Permittee shall submit all required financial assurance instruments and related documents to the Department by certified mail.

4. Multiple Instruments

The Permittee may combine more than one mechanism to demonstrate financial assurance for the post-closure care and corrective action activities required by this Permit. However, mechanisms guaranteeing performance rather than payment may not be combined with other instruments.

5. Inadequate Financial Assurance Instrument

- a. If at any time the Department determines that a financial assurance instrument provided pursuant to this Permit is inadequate, or no longer satisfies the requirements, the Department shall notify the Permittee in writing. This applies whether there is an increase in the estimated cost of the corrective action activities required by this Permit as independently determined by the Department or due to a determination by the Permittee pursuant to XXII.B.5.b.

- (1) Within 30 calendar days of receipt of such notice, the Permittee shall submit draft revised financial assurance instruments and related documents to the Department for review and evaluation. The draft revised financial

assurance instruments and related documents shall address the inadequacies outlined in the Department's notice.

- (2) Within ten calendar days of receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall execute or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. The instruments or other documents shall be in a form identical to the revised financial assurance documents reviewed and responded to by the Department.
 - (3) Within 30 calendar days after receiving the Department's final written response regarding the draft revised financial assurance instrument(s), the Permittee shall submit all original executed and/or otherwise finalized instruments or other documents to the Department. Facsimiles or photocopies are not acceptable.
- b. If at any time the Permittee determines that any financial assurance instrument provided pursuant to this Permit is inadequate or no longer satisfies the requirements described or incorporated by reference herein, the Permittee shall notify the Department in writing within ten calendar days of this determination. This applies whether due to an increase in the estimated cost of post-closure care and/or corrective action activities required by this Permit or for any other reason. The Permittee shall follow the procedures in Corrective Action Condition XXII.B.5.a. of this Permit to replace the financial assurance instrument.
6. **Obligation to Complete Post-Closure Care and Corrective Action Activities**

The Permittee's inability or failure to establish or maintain financial assurance for completion of the post-closure care and corrective action activities required by this Permit in no way excuses performance of any other requirements of this Permit, including, without limitation, the obligation of the Permittee to complete all necessary post-closure care and corrective action activities in strict accordance with the terms of this Permit.

7. Automatic Renewal

All financial assurance instruments shall automatically renew at the time of their expiration unless the financial assurance provider notifies both the Permittee and the Department by certified mail of a decision to cancel, terminate, or not renew a financial assurance instrument. The Permittee and the Department shall receive such notification at least 120 calendar days before expiration, cancellation, or termination of the instrument. Under the terms of the financial assurance instrument, the 120 calendar days shall begin on the date of receipt of the notice by certified mail by both the Permittee and the Department.

Within 90 calendar days following receipt of such notice by both the Permittee and the Department, the Permittee shall provide alternate financial assurance and obtain a written final response from the Department regarding such alternate financial assurance.

If the Permittee fails to provide alternate financial assurance within 90 calendar days, the Department shall notify the financial assurance provider, in writing, before the expiration of the instrument. The notification to the financial assurance provider shall instruct the financial assurance provider to immediately deposit the funds obligated under the financial assurance into the standby trust fund or a newly-created trust fund acceptable to the Department.

8. Modification of Amount and/or Form of Financial Assurance

a. Reduction of Amount of Financial Assurance

If the Permittee believes that the estimated cost to complete the post-closure care and corrective action activities required by this Permit has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may submit a written proposal to the Department to reduce the amount of the financial assurance provided under this Permit. The amount of the financial assurance proposed shall be at least equal to the estimated cost of the remaining post-closure care and corrective action activities required by this Permit. The written proposal shall specify, at a minimum, the cost of the remaining post-closure care and corrective action activities to be performed and the basis upon

which such cost was calculated (e.g., years remaining until established clean-up standards are expected to be met). In seeking approval of a revised financial assurance amount, the Permittee shall follow the procedures described in Corrective Action Condition XXII.B.8.b.(2) of this Permit. The Department shall notify the Permittee in writing regarding its evaluation of the revised financial assurance amount. The Permittee may reduce the amount of the financial assurance after receiving the Department's written response to the proposed revisions, but only according to and to the extent permitted by the Department's response. No change to the form or terms of any financial assurance provided under this Section, other than a reduction in amount, is authorized except as provided in Corrective Action Condition XXII.B.8.b. of this Permit.

b. Change of Form of Financial Assurance

- (1) If the Permittee desires to change the form or terms of financial assurance, the Permittee may submit a written proposal to the Department to change the form of financial assurance. The submission of such a proposal shall be as provided in Corrective Action Condition XXII.B.8.b.(2) of this Permit. The acceptance of a proposal submitted under this Corrective Action Condition XXII.B.8. of this Permit shall be made at the Department's sole discretion.
- (2) A written proposal for a revised or alternative form of financial assurance shall specify, at a minimum,:
 - (a) The cost of the remaining post-closure and/or corrective action activities to be performed;
 - (b) The basis upon which such cost was calculated; and
 - (c) The proposed revised form of financial assurance, including all proposed instruments or other documents required in order to make the proposed financial assurance legally binding.

The proposed revised or alternative form of financial assurance shall satisfy all requirements described or incorporated by reference in this Permit. The Department shall notify the Permittee, in writing, of its decision regarding the revised or alternative form of financial assurance submitted pursuant to this paragraph.

Within ten calendar days after receiving a final written response regarding the proposed revised or alternative financial assurance, the Permittee shall execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding and effective in a form identical to the documents submitted to the Department.

Within 30 calendar days of receiving a final written response regarding the proposed revised or alternative financial assurance, the Permittee shall submit to the Department all original executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding.

The Department shall release, cancel, or terminate the prior existing financial assurance instruments only after the Permittee has submitted all executed and/or otherwise finalized new financial assurance instruments or other required documents to the Department.

9. Performance Failure
 - a. In the event that the Department determines that the Permittee:
 - (1) Has ceased implementation of any of the post-closure care and/or corrective action activities required by this Permit;
 - (2) Is significantly or repeatedly deficient or late in its performance of the post-closure care and/or corrective action activities required by this Permit; or

- (3) Is implementing the post-closure care and/or corrective action activities required by this Permit in a manner that may cause an endangerment to human health or the environment;

The Department may issue a written notice (“Performance Failure Notice”) of the Permittee’s failure to perform to both the Permittee and the financial assurance provider. The notice shall specify the grounds upon which it was issued and shall provide the Permittee a period of ten calendar days to remedy the circumstances.

- b. If the Permittee fails to remedy the relevant Performance Failure to the Department’s satisfaction before the expiration of the ten calendar day notice period specified in Corrective Action Condition XXII.B.9.a. of this Permit, the Department shall have immediate access to and benefit of the financial assurance provided. The Department may, at any time thereafter, direct the financial assurance provider to immediately:
 - (1) Deposit into the standby trust fund, or a newly-created trust fund acceptable to the Department, the remaining funds obligated under the financial assurance instrument; or
 - (2) Arrange for performance of the post-closure care and/or corrective action activities required by this Permit.
- c. The Department shall give the Permittee written notice if:
 - (1) The Department determines that any of the circumstances described in Corrective Action Condition XXII.B.9.(a) (1), (2), or (3) of this Permit have occurred; and
 - (2) The Department is nevertheless unable, after reasonable efforts, to secure the payment of funds or performance of the post-closure care and/or corrective action activities required by this Permit from the financial assurance provider.
- d. Within ten calendar days of receiving such written notice, the Permittee shall provide cash to fund the standby trust fund, or a

newly-created trust fund acceptable to the Department. The funds shall at least equal the cost of the remaining post-closure and corrective action activities required by this Permit. The deposit shall be made in immediately available funds and without setoff, counterclaim, or condition of any kind.

10. Release of Financial Assurance.

The Permittee may submit a written request to the Department to release the Permittee from the requirement to maintain financial assurance after the Department and the Permittee have mutually agreed that all post-closure care and corrective action activities required by this Permit are complete. The Department shall notify both the Permittee and the provider(s) of the financial assurance if and when the Permittee is released from all financial assurance obligations under this Permit. The Permittee shall not release, cancel, or terminate any financial assurance provided pursuant to this Permit except as provided in this paragraph or Corrective Action Condition XXII.B.8.b. of this Permit.

11. Financial Assurance Instruments

The wording of the financial assurance documents shall meet the requirements of 40 CFR 264.143 and 40 CFR 264.151, as incorporated and modified in 10 CSR 25-7 except that deviation in wording of a financial assurance instrument to incorporate coverage for corrective

action activities is allowed. All financial assurance instruments provided pursuant to this Permit shall be satisfactory in form and substance as determined by the Department.

a. Trust Fund

The trust fund shall be:

- (1) Established for the benefit of the Department;
- (2) Administered by a trustee who has the authority to act as a trustee under federal or state law and whose trust operations are regulated and examined by a federal or state agency; and

- (3) Acceptable in all respects to the Department.

The trust agreement shall provide that the trustee shall make payments from the fund as the Department shall direct in writing:

- (4) To reimburse the Permittee for expenditures made by the Permittee for post-closure and corrective action activities performed according to this Permit; or
- (5) To pay any other person whom the Department determines has performed or will perform the post-closure care and corrective action activities required by this Permit.

The trust agreement shall further state that the trustee shall not refund to the grantor any amounts from the fund until the Department has advised the trustee, in writing, that the post-closure and corrective action activities performed according to this Permit have been completed to the satisfaction of the Department.

b. Surety Bond

A surety bond shall unconditionally guarantee either:

- (1) Payment at the direction of the Department into a standby trust fund that meets the requirements of the trust fund in Corrective Action Condition XXII.B.11.a. of this Permit; or
- (2) Performance of the post-closure care and corrective action activities required by this Permit. The Surety Company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal Bonds as described in Circular 570 of U.S. Department of the Treasury.

If the Permittee seeks to establish financial assurance by using a surety bond, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XXII.B.11.a. of this Permit. Funds from the surety bond shall be deposited into the

standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XXII.B.9. of this Permit.

c. Irrevocable Letter of Credit

An irrevocable letter of credit shall be payable at the direction of the Department into a standby trust fund that meets the requirements of Corrective Action Condition XXII.B.11.a. of this Permit. The letter of credit shall be issued by a financial institution:

- (1) That has the authority to issue letters of credit; and
- (2) Whose letter-of-credit operations are regulated and examined by a federal or state agency.

If the Permittee seeks to establish financial assurance by using a letter of credit, the Permittee shall, at the same time, establish and maintain a standby trust fund. The standby trust fund shall meet the requirements of Corrective Action Condition XXII.B.11.a. of this Permit. Funds from the letter of credit shall be deposited into the standby trust fund if the Department directs the financial assurance provider to do so, pursuant to Corrective Action Condition XXII.B.9. of this Permit.

d. Policy of Insurance

A policy of insurance shall:

- (1) Provide the Department with rights as a beneficiary which are acceptable to the Department; and
- (2) Be issued by an insurance carrier that:
 - (a) Has the authority to issue insurance policies in Missouri; and
 - (b) Whose insurance operations are regulated and examined by a federal or state agency.

- (3) The insurance policy shall be issued for a face amount at least equal to the current post-closure care and corrective action cost estimate for which the facility has received a written final review response from the Department except that the face amount may exclude costs that are covered by another financial assurance instrument, as permitted in Corrective Action Condition XXII.B.4. of this Permit.
- (4) The insurance policy shall state that the insurer shall make payments up to an amount equal to the face amount of the policy as directed by the Department in writing:
 - (a) To reimburse the Permittee for expenditures made by the Permittee for post-closure care and/or corrective action activities performed according to this Permit; or
 - (b) To pay any other person whom the Department determines has performed or will perform the post-closure care and/or corrective action activities required by this Permit.
- (5) The insurance policy shall also state that it may not be canceled, terminated or non-renewed and the policy shall remain in full force and effect in the event that:
 - (a) The Permittee is named as a debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or
 - (b) The Department notifies the insurer of the Permittee's failure to perform, under Corrective Action Condition XXII.B.9. of this Permit.

e. Financial Test

A Permittee may provide financial assurance through a demonstration by the Permittee that the Permittee meets the financial test criteria of 40 CFR.264.143(f), provided that all other requirements of 40 CFR 264.143(f), as incorporated and modified

in 10 CSR 25-7, are satisfied. See Corrective Action Condition XXII.B.11.g. of this Permit for further requirements.

A commercial facility may not satisfy financial assurance requirements for post-closure care by use of a financial test.

f. Corporate Guarantee

A direct or indirect parent company of a Permittee may provide a corporate guarantee executed in favor of the Department. Such guarantee shall state that the company providing the guarantee shall perform the post-closure care and corrective action activities required by this Permit or that the company shall establish a trust fund as permitted by Corrective Action Condition XXII.B.11.a. of this Permit. Any company providing such a guarantee shall demonstrate, to the satisfaction of the Department, that it meets the financial test requirements of 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7. See Corrective Action Condition XXII.B.11.g. of this Permit for further requirements.

g. Additional Requirements for Financial Test/Corporate Guarantee

If at any time during the term of this Permit the Permittee demonstrates financial assurance for the post-closure care and corrective action activities required by this Permit by providing a financial test or corporate guarantee pursuant to Corrective Action Conditions XXII.B.11.e. or XXII.B.11.f. of this Permit, the Permittee shall also comply with the other relevant requirements of 40 CFR 264.143(f), 40 CFR 264.151(f), and 40 CFR 264.151(h)(1), as incorporated and modified in 10 CSR 25-7, relating to these methods, unless otherwise provided in this Permit. This includes, but is not limited to:

- (1) Initial submission of required financial reports and statements from the guarantor's chief financial officer and independent certified public accountant;
- (2) Annual re-submission of such reports and statements within 90 calendar days after the close of each of the guarantor's fiscal year; and

- (3) Notification to the Department by certified mail within 90 calendar days after the close of any of the guarantor's fiscal year in which any such guarantor no longer satisfies the financial test requirements described at 40 CFR Part 264.143(f)(1), as incorporated and modified in 10 CSR 25-7.

If the Permittee provides financial assurance by means of a financial test or corporate guarantee, the Department may request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time. Any request by the Department for this information shall be in writing and shall specify a due date for submission of this information. The Permittee shall promptly provide the requested information to the Department.

For purposes of the financial test or corporate guarantee described in Corrective Action Conditions XXII.B.11.e. and XXII.B.11.f. of this Permit, references in 40 CFR 264.143(f), as incorporated and modified in 10 CSR 25-7, to "the sum of current closure and post closure costs and the current plugging and abandonment cost estimates" and references in 40 CFR 264.101(c), as incorporated and modified in 10 CSR 25-7, to "Assurances of financial responsibility for such post-closure care and corrective action shall be provided shall mean "the sum of all environmental remediation obligations" guaranteed by such company or for which such company is otherwise financially obligated, in addition to the cost of the post-closure care and corrective action activities required by this Permit. This includes obligations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), RCRA, Underground Injection Control (UIC) Program, Toxic Substances Control Act (TSCA), and any other state or tribal environmental obligation.

XXIII. Review and Approval Procedures

- A. Following submission of any plan or report pertaining to corrective action activities (excluding the Annual Groundwater Corrective Action Report and Annual Progress Reports, unless proposed actions to address inadequacies are contained therein, and the Certification of Completion of Construction of Final

Remedy and CMI Report), the Department shall review and either approve or provide written comments on the plan or report. If the Department does not approve the plan or report, the Department shall notify the Permittee, in writing, of the plan or report's deficiencies and specify a due date for submittal of a revised plan or report.

- B. If the Department does not approve the revised plan or report, the Department may modify the plan or report and notify the Permittee of the modifications. The plan or report, as modified by the Department, shall be the approved plan or report.
- C. If the Permittee disagrees with any Department-initiated plan or report modifications, and a mutually acceptable resolution of such modifications cannot be informally reached, the Permittee may file any appeal of the Department-initiated modifications according to 10 CSR 25-2.020, and Sections 260.395.11 and 621.250, RSMo.

FACILITY SUBMISSION SUMMARY TABLES

Table 3 - Summary of Planned Post-Closure and Corrective Action Submittal Requirements Pursuant to this Permit and Schedule of Compliance

Item No.	Planned Submittal Requirements	Due Date ¹	Permit Condition
Submittals Due Within 60 days of Permit Issuance			
1.	Two copies of the consolidated permit application	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.A.
2.	Certification that Permittee has read and understands all permit conditions in this Permit	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.B.
3.	Check or money order for any outstanding engineering review costs	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.C.
4.	Check or money order for each year this Permit is to be in effect beyond the first year	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.D.
5.	Revised SAP	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.E. and Corrective Action Condition III.D.2.
6.	Revised surface water monitoring program	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item I.F. and Corrective Action Condition IV.A.
7.	Updated post-closure care and corrective action cost estimate	Within 60 calendar days after effective date of this Permit.	Schedule of Compliance Item II. and Corrective Action Condition XXII.A.1.

Item No.	Planned Submittal Requirements	Due Date ¹	Permit Condition
Annual Submittals			
8.	Annual Groundwater Corrective Action Reports	By March 1 of each calendar year for the preceding calendar year.	Corrective Action Condition XVIII.
9.	Annual Corrective Action Progress Updates	Included in Annual Groundwater Corrective Action Report to be submitted by March 1 of each calendar year.	Corrective Action Condition XIX.A.
Every Even Numbered Calendar Year Submittals			
10.	Biennial Report with information required by 40 CFR 264.75	March 1 of each even numbered calendar year.	General Permit Condition I.
Five Calendar Year Information to be Included in other Submittals			
11.	Sample and analyze groundwater for Appendix IX parameters or on an alternate schedule if approved by the Department	Within one year before the fifth and tenth years of this Permit.	Corrective Action Condition III.E.6.
12.	Sample and analyze groundwater for PCDDs and PCDFs	Within one year before the fifth and tenth years of this Permit.	Corrective Action Condition III.E.7.
13.	Evaluation of availability and viability of innovative treatment technologies and potential application to high contaminant areas	Every fifth year as part of the Annual Progress and Corrective Action Effectiveness Report.	Corrective Action Condition XV.B.3.c.

Item No.	Planned Submittal Requirements	Due Date ¹	Permit Condition
Submittal Due Date is Contingent			
14.	Updated draft financial assurance instrument	Within 30 calendar days after receipt of the Department's written response regarding the updated post-closure care and corrective action cost estimate.	Schedule of Compliance Item III. and Corrective Action Condition XXII.B.2.a.
15.	Notarized statement certifying the approved Environmental Covenant was recorded	Within 30 calendar days of recording an approved environmental covenant.	Schedule of Compliance Item IV.A. and Corrective Action Condition XVII.F.3.
16.	Permit Renewal Application	Within 180 calendar days of expiration date of this Permit.	Standard Permit Condition I.
17.	Certification of completion of corrective measures	Within 60 calendar days after receipt of the Department's approval.	Corrective Action Condition XVI.C.
18.	Notarized statement certifying the approved environmental covenant was recorded	Within 30 calendar days after recording approved environmental covenant.	Corrective Action Condition XVII.F.3.
19.	Updated post-closure care and corrective action cost estimate for annual adjustment for inflation	Annually, within 60 calendar days before anniversary date of establishment of the financial assurance instrument.	Corrective Action Condition XXII.A.2.a.
20.	Draft financial assurance instrument(s)	Within 30 calendar days after receipt of the Department's written response regarding the post-closure care and corrective action cost estimate.	Corrective Action Condition XXII.B.1.a.

Item No.	Planned Submittal Requirements	Due Date ¹	Permit Condition
21.	Original executed financial assurance instruments	Within 30 calendar days after receipt of the Department's written response regarding the draft financial assurance instrument(s).	Corrective Action Condition XXII.B.1.c.

^{1.} Extensions may be requested and granted by the Department for cause without modifying this Permit. The extension request shall be submitted at least 15 calendar days before the scheduled due date of the document or activity.

Table 4 - Summary of Contingent Post-Closure and Corrective Action Submittal Requirements Pursuant to this Permit

Item No.	Contingent Submittal Requirements	Due Date	Corrective Action Condition
1.	Notification of an emergency situation	Within 15 days of the incident occurrence.	General Permit Condition II.
2.	Proposed amendment to post-closure care plan by Permittee	At least 60 calendar days prior to a proposed change in site operations and no later than 60 calendar days after occurrence of an unexpected event which has affected plan.	II.B.
3.	Requested modification of post-closure care plan by Department	No later than 60 calendar days after request for modification of the plan.	II.B.
4.	Certification of completion of post-closure care period	No later than 60 calendar days after completion of the post-closure care period (including any necessary extensions).	II.D.
5.	Proposal for new monitoring wells to further define extent of the contamination	Within 30 calendar days of such a determination by the Permittee or a notification of such by the Department.	III.D.5.
6.	Revisions to SAP to incorporate new monitoring wells installed to further define extent of the contamination	Within 30 calendar days of receipt of notification that a modified monitoring system adequately defines extent of contamination.	III.D.5.
7.	Well certification report forms and certification/registration acceptance for new wells or plugged/abandoned wells	By March 1 of each calendar year in Annual Groundwater Corrective Action Report.	III.D.6. and III.D.7.a.
8.	Revisions to SAP to remove any plugged and abandoned monitoring wells	Within 30 calendar days of registration acceptance of plugged or abandoned wells.	III.D.7.b.

Item No.	Contingent Submittal Requirements	Due Date	Corrective Action Condition
9.	Notification of any field work associated with construction or modification of the monitoring system	At least five working days prior to conducting the field work.	III.D.9.
10.	Well-specific surface and subsurface integrity inspections	Within seven calendar days following any contact of wells by flood waters.	III.D.10.d.
11.	Monitoring well repairs for integrity problem(s) identified by flood water contact	Within 60 calendar days of identification of integrity problem or as soon as practicable given conditions.	III.D.10.e.
12.	Revisions to SAP	Within 30 calendar days of receipt of approval of any changes to list of perimeter or effectiveness wells.	III.E.2.f. and III.E.3.c.
13.	Notification of newly-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	VI.A.
14.	SWMU/AOC Assessment Work Plan for releases from newly-identified SWMU(s) and AOC(s)	Within 30 calendar days of notice by the Department that a work plan is required.	VI.B.
15.	SWMU/AOC Assessment Report for newly-identified SWMU(s) and AOC(s)	According to the schedule in the approved SWMU/AOC Assessment Work Plan.	VI.D.
16.	Written notification of newly-identified releases from previously-identified SWMU(s) and AOC(s)	No later than 15 calendar days after discovery.	7.A.
17.	Newly-Identified Release Work Plan for previously-identified SWMU(s) and AOC(s)	Within 30 calendar days of notice by the Department that a work plan is required.	7.B.

Item No.	Contingent Submittal Requirements	Due Date	Corrective Action Condition
18.	Newly-Identified Release Report from previously-identified SWMU(s) and AOC(s)	According to the schedule in the approved Newly-Identified Release Work Plan.	7.D.
19.	Notification of situation that may require interim/stabilization measures	Within 24 hours of discovery of need for stabilization measures.	7I.B.
20.	Notification of interim/stabilization measures not effective	Within ten calendar days of determination by Permittee.	7I.D.
21.	RCRA Facility Investigation (RFI) Work Plan	Within 60 calendar days of notice of Department request to conduct a RFI.	IX.B.
22.	RCRA Facility Investigation (RFI) Report	According to the schedule in the approved RFI Work Plan.	X.B.
23.	Corrective Measures Study (CMS) Work Plan	Within 45 calendar days of notice of Department request to conduct a CMS.	XI.D.
24.	Corrective Measures Study (CMS) Report	According to the schedule in the approved CMS Work Plan.	XII.B.
25.	Corrective Measures Implementation (CMI) Work Plan	According to the permit schedule of compliance for any new final remedy.	XIV.B.1.
26.	Certification of final remedy construction	Within 60 calendar days after completion of all construction activities associated with an approved final remedy.	XV.B.
27.	Corrective Measures Implementation (CMI) Report	Within 60 calendar days after completion of all construction activities associated with an approved final remedy.	XV.B.2.

Item No.	Contingent Submittal Requirements	Due Date	Corrective Action Condition
28.	Revised Long Term Operation, Maintenance, and Monitoring Plan	Within 60 calendar days after completion of all construction activities associated with an approved final remedy.	XV.B.3.
29.	Activity and Use Limitations (AULs)	At least 30 calendar days before activities requiring AULs notification.	Corrective Action Condition XVII.A.
30.	Transfer of Interest of Property	Notification at least 90 calendar days before the transfer of any interest in any property.	XVII.B.
31.	Change of Use of Property	Notification at least 30 calendar days before changes in the use of the facility property.	XVII.C.
32.	Demonstration supporting rescinding all or part of a previously recorded environmental covenant	Within 180 calendar days before the effective date of any proposed permit termination.	XVII.G.1.
33.	Revised corrective action cost estimate for additional corrective action activities	Within 60 calendar days after Permittee determines or Department notifies in writing that a new cost estimate is required.	XXII.A.2.b.
34.	Draft financial assurance instrument(s)	Within 30 calendar days after Department's notice of inadequate financial assurance instrument.	XXII.B.5.a.(1).
35.	Original executed financial assurance instruments for notice of inadequate financial assurance instrument	Within 30 calendar days after receipt of Department's written response regarding revised draft financial assurance instrument(s).	XXII.B.5.a.(3)

FIGURES

Figure 1 - Location of the Beazer East Incorporated Facility

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Figure 2 - Current Permitted Facility and Removed Portions of the Original Permitted Facility

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Figure 3 - Current Permitted Property Boundaries

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**Figure 4 - Location of SWMUs and AOCs Identified at the Original Permitted Facility and
Associated Off-Site Tracts**

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Figure 5 - Tracts Identified with Original Permitted Facility and Associated Off-Site Tracts

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Figure 6 - Location of Former Container Storage Area

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