ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

217/524-3301

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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Multistate Environmental Response Trust
c/o Greenfield Environmental Multistate Trust LLC, Trustee
Attn: Ms. Cynthia Brooks
11 Flagg Street
Unit 1
Cambridge, Massachusetts 02138

Re: 1190650001 -- Madison County
Greenfield Environmental Multistate Trust LLC
ILD020367561
Log No. B-150R2
RCRA Administrative Record
Permit Draft

Dear Ms. Brooks:

Attached is a draft renewed Resource Conservation and Recovery Act (RCRA) post-closure permit (permit) and fact sheet for the above-referenced facility. The draft renewed permit is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in Title 35 Illinois Administrative Code (35 Ill. Adm. Code) 705.144.

Under the provisions of 35 Ill. Adm. Code 705.141(d), the draft renewed permit and administrative record must be publicly noticed and made available for public review and comment. The Illinois EPA must also provide an opportunity for a public hearing. Copies of the draft decision, fact sheet, and renewal permit application are available for review at the Madison Public Library, 1700 5th Street, Madison, Illinois. The Illinois EPA has not scheduled a public hearing at the current time. However, any interested party may request a public hearing. The public comment period will close on April 26, 2024.

During the comment period, the applicant or any interested party may submit comments to the Illinois EPA on the draft renewed permit. At the close of the comment period, the Illinois EPA will prepare a response to significant comments. Comments on the draft renewed permit may be submitted to:

Brad Frost, Office of Community Relations (#5)
Illinois Environmental Protection Illinois EPA
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

The Illinois EPA will issue a final renewed permit after the close of the public comment period unless the Illinois EPA decides to reverse the tentative decision. The appeal process and limitations are addressed in 35 Ill. Adm. Code 705.212.

Any questions regarding the groundwater monitoring aspects of this draft renewed permit, please contact Amy Butler at 217/558-4716. Any questions regarding corrective action, please contact Curt Samson at 217/524-8115. Any questions regarding the other aspects of this draft renewed permit, please contact Kelly Huser at 217/524-3867.

Sincerely,

Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC: KDH: 1190650001-RCRA-B150R2-Draft.docx
KDH TNH CS AMB JMC
Attachment: Fact Sheet
Draft Renewed RCRA Post-Closure Permit

cc: Tasha Lewis, Greenfield Multistate Trust

FACT SHEET
for
DRAFT RENEWED RCRA POST-CLOSURE PERMIT
Multistate Environmental Response Trust
Madison, Illinois
FEDERAL ID NO. ILD 020367561
STATE ID NO. 1190650001
RCRA POST-CLOSURE PERMIT LOG NO. B-150R2

This fact sheet has been prepared pursuant to the requirements of Title 35 Illinois Administrative Code (35 Ill. Adm. Code) 705.143. The fact sheet is intended to be a brief summary of the principal facts and significant factual, legal, methodological, and policy questions considered in preparing a draft renewed Resource Conservation and Recovery Act (RCRA) post-closure permit (permit).

This renewed permit requires Multistate Environmental Response Trust (Multistate Trust) to provide at least thirty (30) years post-closure care for a hazardous waste surface impoundment closed as a landfill, conduct a groundwater corrective action program, and provide corrective action for the solid waste management units at the facility. The post-closure care period began on March 29, 1994, the date the hazardous waste surface impoundment was certified closed. Procedures for the reduction or extension of the post-closure care period are set forth in 35 Ill. Adm. Code 724.217(a)(2)(A) and 724.217 (a) (2) (B) respectively.

Pursuant to 35 Ill. Adm. Code 705.143(a), this fact sheet is sent to the applicant and to any other person who requests it.

I. INTRODUCTION

The draft renewed permit for Multistate Trust contains the standard conditions required by 35 Ill. Adm. Code Parts 702, 703, and 724 and the applicable conditions of 35 Ill. Adm. Code Part 724 for post-closure care of a closed hazardous waste surface impoundment. This includes among other things, monitoring the groundwater.

The Multistate Trust site is an existing facility that has been under a RCRA permit (Log No. B-150) first issued on March 29, 1994. The original RCRA permit for this facility expired on May 3, 2004. An application to renew this permit was initially submitted by Tronox on November 5, 2003. A completely revised renewal application was subsequently submitted on July 31, 2008. A renewed RCRA permit was issued on June 2, 2010 (Log No. B-150R). This draft renewed permit (Log No. B-150R2) contains requirements similar to those set forth in the original permit and first renewed permit, updated as appropriate to reflect the current status of the facility and the applicable regulations.

II. DESCRIPTION OF FACILITY

1. General

Greenfield Environmental Multistate Trust LLC, not individually, but solely in its representative capacity as Trustee of the Multistate Environmental Response Trust (Multistate Trust or Permittee), became responsible for the site on February 14, 2011 as the result of the Tronox Consent Decree and Environmental Settlement Agreement (the "Tronox Settlement Agreement") and the Multistate Environmental Response Trust Agreement (collectively, the Tronox Bankruptcy Agreements) filed in the United States Bankruptcy Court, Southern District of New York (Case No. 09-10156(ALG)). The United States and the State of Illinois are among the beneficiaries of the Multistate Trust.

The facility has been decommissioned and all manufacturing process equipment has been removed. Currently, the only activities at the site are related to the post-closure care of a former hazardous waste surface impoundment and a groundwater remediation effort (both activities are the subject of this renewed RCRA permit). A RCRA permit was initially issued to Kerr Mc-Gee by the Illinois EPA on March 29, 1994, and the permit was subsequently transferred to Tronox. On February 9, 2011, Tronox requested that the Illinois EPA transfer the permit to the Multistate Trust pursuant to the terms of the Tronox Bankruptcy Agreements. Illinois EPA formally transferred the permit to the Multistate Trust in a letter dated May 30, 2013.

Several buildings at the facility were also demolished during the decommissioning effort. A few buildings do remain at the facility, including the office building, a building which houses groundwater treatment equipment and a small storage building. A former surge tank was also retained to be used in the treatment of groundwater.

A surface impoundment at the facility was used until 1986 for the treatment of wastewater contaminated with creosote-coal tar solutions: the sludge which accumulated in the impoundment was a listed hazardous waste – K001. The impoundment measured roughly 1,250 feet long, 125 feet to 150 feet wide (approximately 4.8 acres in size), and three (3) feet deep. The former hazardous waste surface impoundment is located at the northeast corner of the facility.

The surface impoundment was used for the storage of hazardous waste after 1980, and therefore it was subject to the interim status regulations of RCRA. A plan for closing the unit as a landfill was approved by the Illinois EPA in 1985. On February 8, 1998, the Illinois EPA accepted certification of closure of the former hazardous waste surface impoundment at the facility as a landfill (Log No. B-150-M3); that letter also pointed out that the post-closure care period for the unit began on March 29, 1994. This renewed RCRA permit requires the Permittee to

continue providing post-closure care of this closed hazardous waste surface impoundment.

2. Site Description

The Multistate Trust site is approximately 82.3 acres in size and located at 2 Washington Street, Madison, Illinois. This site was previously owned by Kerr-McGee and later by Tronox, who operated a wood treating plant (treating mainly railroad ties with creosote/coal tar solution). The wood treatment operations were terminated in November 2003. A map showing the location of the site is provided in Attachment B of the renewed RCRA permit.

III. HAZARDOUS WASTE MANAGEMENT ACTIVITIES

1. Post-Closure

The following hazardous waste management unit shall be provided with post-closure care:

Type of Waste Unit	Capacity	Wastes Contained
Landfill (D80) – former surface impoundment (closed)	23,232 cubic yards 4.8 acres (approximate)	K001 – wastes from wood preserving processes

Post-closure permit conditions deal with monitoring, maintaining, and recordkeeping of the hazardous waste management unit described above in accordance with the provisions of the post-closure care plan. Section II of the permit contains conditions specific to post-closure and implement the regulatory requirements of 35 Ill. Adm. Code 724, Subpart G. The purpose of this RCRA permit is to require that the closed hazardous waste surface impoundment receives post-closure care for at least thirty (30) years. Groundwater monitoring must continue through the post-closure care period for established monitoring wells, at a minimum. Inspections during this post-closure period must identify any maintenance needed, including, but not limited to, the final cover system and vegetation on the closed landfill (D80). A written record of the post-closure inspections and maintenance activities performed must be kept by the Permittee during post-closure.

2. Groundwater Program

Hazardous constituents released from the closed surface impoundment have been detected in the groundwater at and beyond the point of compliance at concentrations above background values. Therefore, a corrective action program meeting the requirements of 35 Ill. Adm. Code 724.200 must be implemented at

the Permittee's site in Madison, Illinois. In addition to the corrective action necessary to treat or remove hazardous constituents released to groundwater from the closed surface impoundment, this RCRA permit also requires the Permittee to implement a corrective action program for the groundwater present in the uppermost aquifer beneath the closed surface impoundment and off-site as necessary. The location of the closed surface impoundment is shown in Figure C-1 of the approved permit application and Attachment B of the renewed RCRA Permit.

A. Groundwater Corrective Action Program

Section III of the permit implements the regulatory requirements of 35 Ill. Adm. Code 724, Subpart F and outlines the groundwater monitoring requirements necessary to remediate impacts to groundwater. The major components of the groundwater corrective action program include: (1) a groundwater management zone (GMZ); (2) semi-annual groundwater monitoring through a network of wells installed both on-site and off-site; (3) control of the shallow groundwater through a network of pumping wells (the deep recovery system was shut down in 1993); and (4) removal of groundwater and dense nonaqueous phase liquid (DNAPL) via the recovery wells for treatment. Groundwater is sampled for creosote-related constituents based on historical activities at the site, and results are reported to the Illinois EPA semi-annually.

The uppermost aquifer is composed of two (2) water-bearing units: a shallow zone and a deep zone. The shallow zone consists of the finer grained materials usually extending twenty-five (25) feet to thirty (30) feet in depth, and the deep zone consists of coarser materials extending from the bottom of the shallow zone to bedrock at approximately 100 feet in depth. These zones have similar groundwater elevations and are considered to be unconfined or semi-confined. The depth to groundwater is less than twenty (20) feet below ground surface (bgs) at all wells, less than ten (10) feet bgs at some wells in the shallow zone, and between twenty (20) feet and thirty (30) feet bgs in the deep zone. The groundwater is classified as a Class I Groundwater.

B. Parameters

Parameters monitored at the site and the respective concentration limits to be met are listed below. The following hazardous constituents and their concentration limits comprise the groundwater protection standard. The compliance period (post-closure period) during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded at the point of compliance for three (3) consecutive years:

Hazardous Constituents	STORET NO.	Concentration Limits (mg/L)
Acenaphthene	34205	0.42
Acenaphthylene	34200	0.21
Anthracene	34220	2.1
Benzo(a)anthracene	34526	0.00013
Benzo(a)pyrene	34247	0.0002
Benzo(g,h,i)perylene	34521	0.21
Benzo(k)fluoranthene	34242	0.00017
Carbazole	77571	0.001
Chrysene	34320	0.012
Dibenz(a,h)anthracene	34556	0.0003
Fluoranthene	34376	0.28
Fluorene	34381	0.28
Indeno(1,2,3 c,d)pyrene	34403	0.00043
Naphthalene	34443	0.14
Phenanthrene	34461	0.21
Phenols	32730	0.1
Pyrene	34469	0.21
2 Chlorophenol	34586	0.035
2,4 Dimethylphenol	34606	0.14
2,4,6 Trichlorophenol	34621	0.01
2,3,4,6 Tetrachlorophenol	77770	0.21

1. In addition to meeting the individual Class I groundwater recommendations indicated in the table above, the following equations for mixtures of similar-acting substances must be satisfied for non-carcinogenic substances, as required by 35 Ill. Adm. Code 620.615 and 35 Ill. Adm. Code 742.805(c), in order to protect against liver, kidney, and blood toxicity:

Liver:

$$HI^{(1)} = \frac{[\text{acenaphthene}]}{0.42\ \text{mg/l}} + \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{acenaphthylene}]}{0.21\ \text{mg/l}} \leq 1$$

Kidney:

$$HI = \frac{[\text{benzo(g,h,i)perylene}]}{0.21\ \text{mg/l}} + \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{pyrene}]}{0.21\ \text{mg/l}} + \frac{[\text{phenanthrene}]}{0.21\ \text{mg/l}} \leq 1$$

Blood:

$$HI = \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{fluorene}]}{0.28\ \text{mg/l}} \leq 1$$

(1) = Hazard Index

2. In addition to meeting the individual Class I groundwater recommendations indicated in the table above, the requirements of 35 Ill. Adm. Code 620.615 and per 35 Ill. Adm. Code 742.805(d) must be met. Per 35 Ill. Adm. Code 742.805(d), the evaluation of 35 Ill. Adm. Code 620.615 regarding mixtures of similar-acting chemicals is considered satisfied if the cumulative risk from any contaminants of concern listed in Appendix A, Table I, plus any other contaminants of concern detected in groundwater listed in Appendix A, Table F as affecting the same target organ/organ system as the contaminants of concern detected from Appendix A, Table I, does not exceed 1 in 10,000.
3. Calculations to meet Items B.1 and B.2 above must be based on the most current information to remain protective of human health and the environment.

C. Monitoring Wells

A list of monitoring wells for the groundwater corrective action program is provided within Section III of the renewed RCRA permit. An engineered corrective action is not ongoing for the deep zone; therefore, the wells previously identified as deep zone Groundwater Management Zone wells and Corrective Action Effectiveness wells monitoring the contaminant plume in the downgradient direction have been renamed to Observation wells.

4. Closure and Corrective Action Activities

In accordance with 35 Ill. Adm. Code 724.201 and Section V of the original RCRA permit, this facility is required to conduct 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 units (SWMUs) of concern at this facility.

The facility's original RCRA permit issued on March 29, 1994 (Log No. B-150) required the facility to conduct corrective action on twelve (12) SWMUs; a thirteenth (13^{th}) SWMU was discovered while carrying out these requirements. Corrective action has been completed at twelve (12) SWMUs. As part of these

efforts, an environmental land use control (ELUC) was established to: (1) require that an engineered barrier remain in place and be maintained over the former process area at the facility where several of the SWMUs of concern were located; and (2) restrict exposure to the soil remaining beneath the barrier.

A renewed RCRA permit, effective June 2, 2010, required the facility to (1) provide post-closure care for a former hazardous waste surface impoundment at the facility closed as a landfill; (2) implement a groundwater corrective action program; and (3) carry out corrective action, as appropriate, on the SWMUs of concern at the facility.

This 2024 renewed RCRA permit will require the Permittee to: (1) continue post-closure care; (2) continue compliance with the ELUC; (3) complete corrective action at SWMU 3, known as the "Drip Pad"; (4) continue the groundwater corrective action program; and (5) continue investigation and conduct corrective action, as necessary at areas of concern (AOCs) 1 and 2; and (6) conduct corrective action, as necessary, in response to any future releases observed at any SWMU present and any newly identified AOC at the facility.

Off-site DNAPL and groundwater contamination require monitoring and gauging be conducted in the Village of Madison, Illinois, in the Hill Street residential area, to ensure measures remain protective of human health and the environment. At this time, the facility is operating six (6) recovery wells and is conducting an in-situ biosparging (ISB) treatability work plan with increased gauging and monitoring to verify protectiveness. Activities were initially approved by the Illinois EPA as a Temporary Authorization on September 20, 2023 (Log No. B-150R-TA-1). A summary of the approved activities is described below:

a. Operate six (6) shallow recovery wells: MSRW-1, MSRW-5, MSRW-10, MSRW-13, MSRW-14, and MSRW-15;

b. Conduct groundwater gauging quarterly for thirteen (13) monitoring wells located off-site: MSRW-13, MSRW-14, MSRW-15, G105, G107, G109, G110, G112, Z1, AA1, T1R, T3R, and G106.

c. Collect weekly groundwater elevation data for a period of one (1) year to ensure groundwater flow, in the shallow zone of the uppermost aquifer and towards the Hill Street residential area, is controlled and monitored.

d. The ISB treatability study workplan is being conducted to determine whether biosparging can serve as a corrective measure to reduce contaminant concentrations and prevent contaminant migration.

5. Standard Conditions

Standard permit conditions are regulatory requirements of 35 Ill. Adm. Code, Parts 702, 703, and 724. These conditions are of a general nature and are applicable to all hazardous waste management facilities regulated pursuant to an Illinois EPA RCRA permit. These conditions include the effectiveness of the permit, permit actions, severability, permit expiration, monitoring and retention of records, transfer of permits, and compliance schedules.

IV. CONSIDERED PERMIT ACTIONS OTHER THAN RCRA

1. Air

The air emissions from this site are regulated under RCRA, and the Clean Air Act (CAA), the Illinois Environmental Protection Act (Act) and State regulations at Title 35: Environmental Protection, Subtitle B: Air Pollution. Under these regulations, it is required to obtain a permit to install or operate any process which is, or may be, a source of air pollutants. The only air emission source currently present at the facility is the groundwater remediation and treatment system. This system operates under a permit from Illinois EPA's Bureau of Air (Identification No. 119065AAG; Application No. 73120119).

2. Water

Discharge of any waste waters from a hazardous waste management facility into the waters of the State is required to have a National Pollutant Discharge Elimination System (NPDES) permit, issued by the Illinois EPA under Section 39(b) of the Act. The groundwater remediation and treatment system at this site has a permit from Illinois EPA's Bureau of Water (Permit No. 1991-EN-3107). The treated wastewater from this system is discharged to the Granite City Regional Wastewater Treatment Plant via a sewer connection.

V. PROCEDURES FOR REACHING A FINAL DECISION

Pursuant to 35 Ill. Adm. Code 705.162 (a) (2), the public is given at least forty-five (45) days to review the renewal permit application and comment on the draft renewed RCRA permit conditions prior to Illinois EPA taking any final permitting action on the renewal permit application for this draft renewed RCRA permit. The comment period will begin on, March 12, 2024, the date of the first publication of the public notice in the newspaper of general circulation in the area. The comment period will end on April 26, 2024.

Copies of the renewal permit application, draft renewed RCRA permit, and fact sheet are available for review at:

Madison Public Library
1700 5th Street
Madison, Illinois 62060

The administrative record contains the renewal permit application, draft renewed RCRA permit, fact sheet, and other supporting documents and correspondence submitted to the Illinois EPA. The administrative record can be made available for public inspection by appointment only at the Illinois EPA's headquarters in Springfield, Illinois, from 9:00 a.m. to 5:00 p.m., Monday through Friday. Inspection of the administrative record must be scheduled in advance by contacting Brad Frost at the address listed below.

In response to requests received during the comment period or at the discretion of the Illinois EPA, a public hearing may be held to clarify one or more issues concerning the renewal permit application. A request for a public hearing must be submitted in writing and shall state the nature of the issues proposed to be raised at the hearing. Public notice of a public hearing will be issued at least forty-five (45) days before the hearing date.

For further information regarding the permit process, to submit written comments on the draft renewed RCRA permit, or to request a public hearing, please contact:

Brad Frost, Office of Community Relations, #5
Illinois Environmental Protection Agency
1021 N. Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
(217) 782-7027

When the Illinois EPA makes its final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The renewed RCRA permit will become effective thirty-five (35) days after service of notice of the decision or at a later date if stated in the permit unless the decision is appealed.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 · (217) 782-3397
JB PRITZKER, GOVERNOR JOHN J. KIM, DIRECTOR

HAZARDOUS WASTE MANAGEMENT RCRA POST-CLOSURE PERMIT

1190650001 – Madison County
ILD020367561
Greenfield Environmental Multistate Trust LLC
Permit Log B-150R2
RCRA Administrative Record

Issue Date: DRAFT
Effective Date: DRAFT
Expiration Date: DRAFT

PERMITTEE
Multistate Environmental Response Trust
c/o Greenfield Environmental Multistate Trust LLC, Trustee
Attn: Ms. Cynthia Brooks
11 Flagg Street, Unit 1
Cambridge, Massachusetts 02138

FACILITY LOCATION
2 Washington Street
Madison, Illinois

A Renewed RCRA Post-Closure hazardous waste permit is hereby granted to Multistate Environmental Response Trust (Multistate Trust) as Owner, Operator, and Permittee pursuant to Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code (35 Ill. Adm. Code) Subtitle G. It is understood that Greenfield Environmental Multistate Trust LLC is the court appointed trustee for Multistate Environmental Response Trust as set forth in a Consent Decree and Environmental Settlement Agreement for Tronox LLC filed in the United States Bankruptcy Court, Southern District of New York (Case No. 09-10156 (ALG)).

PERMITTED HAZARDOUS WASTE ACTIVITY

This permit requires Multistate Trust to conduct the following hazardous waste activities in accordance with the approved permit application and the conditions in this permit:

Post-Closure Care: one closed surface impoundment (D80)
Groundwater Monitoring: Corrective Action Monitoring
Corrective Action: for several Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs)

This permit consists of the conditions contained herein and those in the sections and attachments in this permit. The Permittee must comply with all terms and conditions of this permit and the applicable regulations contained in 35 Ill. Adm. Code Parts 702, 703, 705, and 720 through 729 in effect on the effective date of this permit.

This permit is issued based on the information submitted in the approved permit application identified in Attachment A of this permit and any subsequent amendments. Any inaccuracies found in the information provided in the permit application may be grounds for the termination or modification of this permit (see 35 Ill. Adm. Code 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

DRAFT
Jacqueline M. Cooperider, P.E.
Permit Section Manager
Bureau of Land

JMC: KDH: 1190650001-RCRA-B150R2-Draft.docx

Hazardous Waste Management RCRA Post-Closure Permit

Greenfield Environmental Multistate Trust LLC

Madison, Illinois

Illinois EPA No. 1190650001

ILD020367561

Hazardous Waste Management RCRA Post-Closure Permit
Multistate Environmental Response Trust

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SECTION I: GENERAL FACILITY DESCRIPTION

A. OWNER AND OPERATOR

The facility is owned and operated by the Greenfield Environmental Multistate Trust LLC, herein referred to as the "Permittee." (35 Ill. Adm. Code 702.121, 702.123 and 703.181).

Greenfield Environmental Multistate Trust LLC
11 Flagg Street, Unit 1
Cambridge, Massachusetts 02138

Facility Contact:
Tasha Lewis
Portfolio Manager and Project Manager
602-321-6993
tl@g-etg.com

B. LOCATION

1. Location of the Facility:

   The facility is a former wood treating plant previously known as Tronox Facility and is approximately 82.3 acres in size and located at 2 Washington Street, Madison, Illinois. The wood treating plant terminated operations in November 2003.

2. Facility Maps:

   The general location of the facility is shown on Figure B-1, Attachment B of this permit. The locations of the hazardous waste management unit (HWMU) and solid waste management units (SWMUs) regulated by this permit are shown on the Site Map, Attachment B of this permit.

C. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES

The facility has been decommissioned and all manufacturing process equipment has been removed. Currently, the only activities at the site are related to the post-closure care of a hazardous waste management unit (HWMU) known as the former surface impoundment and a groundwater remediation effort (both of these activities are the subject of this RCRA permit). A RCRA permit was initially issued to Kerr Mc-Gee by the Illinois EPA on March 29, 1994, and the permit was subsequently transferred to Tronox. On February 9, 2011, Tronox requested that the Illinois EPA transfer the permit to the Multistate Trust pursuant to the terms of the Tronox Bankruptcy Agreements. The Illinois EPA formally transferred the permit to the Multistate Trust in a letter dated May 30, 2013.

Several buildings at the facility were also demolished during the decommissioning effort. A few buildings do remain at the facility, including the office building, a building which houses groundwater treatment equipment and a small storage building. A former surge tank was also retained to be used in the treatment of groundwater.

An interim status surface impoundment at the facility was used until 1986 for the treatment of wastewater contaminated with creosote-coal tar solutions. The sludge which accumulated in the surface impoundment was a listed hazardous waste – K001. The surface impoundment measured roughly 1,250 feet long, 125 feet to 150 feet wide (approximately 4.8 acres in size), and three (3) feet deep. The former surface impoundment is located at the northeast corner of the facility.

The surface impoundment was used for the storage of hazardous waste after 1980 and therefore, it was subject to the interim status regulations of RCRA. A plan for closing the unit as a landfill was approved by the Illinois EPA in 1985. On February 8, 1998, the Illinois EPA accepted certification of closure of the former surface impoundment at the facility as a landfill (Log No. B-150-M-3); that letter also pointed out that the post-closure care period for the unit began on March 29, 1994. This RCRA permit requires the Permittee to continue providing post-closure care of this closed surface impoundment.

This permit also requires the Permittee to implement a groundwater corrective action program which includes: (1) a groundwater pump and treat program to prevent contaminated groundwater from flowing off-site; and (2) a program to monitor the effectiveness of the pump and treat system. Furthermore, continuing to complete corrective action for the identified solid waste management units (SWMUs) and areas of concern (AOCs) at the facility. The soil portion of corrective action at twelve (12) out of thirteen (13) SWMUs, as part of its efforts to comply with its initial RCRA permit, were partially completed; however, an additional RCRA Facility Investigation may be required to address an indoor vapor exposure route at the twelve (12) SWMUs. Continued corrective action effort at SWMU 5 is still required. The Permittee must also address corrective action at AOCs, which were not specifically identified as AOCs in the previous permit (these requirements are set forth in Section IV of this permit).

SECTION II: POST-CLOSURE

A. SUMMARY

Once the certification of closure is approved in writing by the Illinois EPA, hazardous waste management units (HWMUs) where waste is left in place (e.g., landfills) must receive post-closure care for a minimum of thirty (30) years. Activities required during post-closure care include but are not limited to: (1) maintenance of the final cover; (2) management of leachate; (3) monitoring and as necessary remediation of the groundwater; and (4) providing financial assurance for post-closure activities pursuant to 35 Ill. Adm. Code Part 724.

An interim status surface impoundment at the facility was once used for the storage of wastewater contaminated with creosote coal tar solutions. The sludge which accumulated in the surface impoundment was a listed hazardous waste – K001. The surface impoundment measured roughly 1,250 feet long, 125 feet to 150 feet wide (approximately 4.8 acres in size), and three (3) feet deep. The former surface impoundment is located at the northeast corner of the facility; a drawing showing the location of this unit is provided in Attachment B of this permit.

A plan for closing the unit as a landfill was approved by the Illinois EPA in 1985. Closure of the surface impoundment included dewatering of the contents, recovery of the creosote, and excavation of sludge and some contaminated soil. The surface impoundment was then backfilled with clean, compacted material; this material formed the base for final surface elevations which would allow for the run-off of any precipitation falling on the closed unit. Then, a 2-foot-thick compacted layer of material (cap) with a permeability of no greater than 1×10^{-7}cm/sec was placed upon the compacted material. Finally, a 6-inch-thick layer of steel furnace slag was placed on top of the cap to prevent erosion. Closure activities were completed in 1987.

On February 8, 1998, the Illinois EPA accepted certification of closure of the former surface impoundment at the facility as a landfill (Log No. B-150-M-3); that letter also pointed out that the post-closure care period for the unit began on March 29, 1994.

B. UNIT IDENTIFICATION

1. The Permittee shall provide post-closure care for the following HWMU(s), as described in the approved permit application, subject to the terms and conditions of this permit:

Unit Designation	Capacity (yd^3)	Surface Area Dimensions of Unit (Acres)	Description of Waste and Hazardous Waste No.
Former Surface Impoundment Closed (D80)	23,232 (approximate)	4.8 (approximate)	K001- Sludge; wastes from wood preserving process

2. The location and horizontal extent of the closed surface impoundment is identified on the Site Map of Attachment B to this permit. Closure of the impoundment included dewatering of the contents, recovery of the creosote, and excavation of some contaminated soil. The impoundment was backfilled with clean, compacted material; this material formed the base of the final surface elevations.

3. The cover system on the top of the closed surface impoundment is constructed of the following layers, specified from the top to bottom:

   a. 6-inch-thick layer of steel furnace slag;

   b. 2-foot-thick compacted clay layer; and

   c. Clean compacted material to surface elevation.

4. A survey plat indicating the location and dimensions of the closed surface impoundment with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The Notice of Land Used to Manage Hazardous Waste states the owner's and operator's obligation to restrict disturbance of the closed surface impoundment in accordance with the applicable 35 Ill. Adm. Code 724, Subpart G regulations. These notes state:

   a. The waste materials contained in the closed surface impoundment are considered RCRA hazardous wastes. They include sediments and soils consider a listed hazardous waste (K001 – wastes from wood preserving process).

   b. Any material removed from the closed surface impoundment during future activities must be managed as a hazardous waste in accordance with 35 Ill. Adm. Code Subtitle G: Waste Disposal, Part 724.

   c. The use of this area is restricted.

5. The survey plat (PIN) and notification were filed with the Madison County Recorder on August 21, 1997, in Book 4160, Page 821. The survey plat and notification were recorded to meet the requirements of 35 Ill. Adm. Code 724.216 and 724.219. These documents identify:

   a. The location of the closed surface impoundment; and

   b. The restrictions imposed on future use/activities associated with the closed surface impoundment.

C. POST-CLOSURE CARE PERIOD

1. The post-closure care period began on March 29, 1994, the date of completion of closure of the unit listed in Condition II.B.1. In accordance with 35 Ill. Adm. Code 724.241 and Section 39(g) of the Act, the post-closure care of the closed surface impoundment shall continue beyond the initial thirty (30) year post-closure care period. The Permittee must continue post-closure care of the closed surface impoundment until Condition II.C.2 is met.

2. The post-closure care of the closed surface impoundment shall continue to meet the post-closure requirements of this permit until such time that the Illinois EPA can approve the completion of post-closure care for the unit, which may include a clean closure demonstration of the unit or an alternative long term stewardship demonstration to allow for completion of the post-closure under a RCRA permit. Such demonstration and request to complete post-closure care must be submitted to the Illinois EPA as a permit modification request in accordance with 35 Ill. Adm. Code 703, Subpart D and 724, Subpart G.

3. The Permittee shall not allow the property where the unit identified in Condition II.B.1 is located to be used in a way that could disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems unless the Illinois EPA finds, by way of a permit modification, that such use is necessary for either of the following reasons:

   a. It is necessary to the proposed use of the property, and will not increase the potential hazard to public health or the environment, or

   b. It is necessary to reduce a threat to human health or the environment.

4. The Illinois EPA may require the continuation of the security requirements during part or all of the post-closure period.

D. INSPECTIONS

1. The Permittee shall inspect the components, structures, and equipment at the site in accordance with the inspection schedule in the approved post-closure plan,

found in Appendix 9 of the approved permit application, and the conditions in this permit. The forms in the approved post-closure plan shall be used to document inspections and any repairs performed at the facility.

2. The Permittee shall inspect the facility semi-annually or within 72 hours of any rainfall event of three (3) or more inches in 24 hours for evidence of any of the following:

   a. Deterioration, malfunctions, or improper operation of run-on and run-off systems.

   b. The deterioration of the cover system.

3. The Permittee shall inspect the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, and other events. Corrective action shall be taken if ponding has been observed, if cracks or erosion channels greater than one inch wide have formed, if gas, odor, vegetative or vector problems arise, if leachate popouts or seeps are present, or if vegetation with tap roots is found to be growing in areas which are not designed to accommodate such. If corrective action is taken, the area involved shall be reinspected one month following completion of the work to ensure the corrective actions have adequately corrected the problem(s) noted.

4. The Permittee shall inspect, protect, and maintain surveyed benchmarks used in complying with surveying and recordkeeping requirements.

5. Results of all inspections and a description of any remedial actions taken shall be documented in the Repair Log in the Operating Record and maintained for the entire post-closure period.

E. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee shall implement the approved post-closure plan contained in Appendix 9 of the approved permit application. All post closure care activities must be conducted in accordance with the provisions of the approved post-closure plan.

2. The Permittee shall keep and maintain a written operating record that includes all the records, reports, notifications, monitoring data, testing or analytical data, results of inspections, and corrective action data required by 35 Ill. Adm. Code 724.173 and the conditions in this permit, for the entirety of the post-closure care period. The operating record shall be kept on-site at the facility and available for Illinois EPA review.

3. The Permittee shall maintain the fence around the entire facility to provide adequate security as required by 35 Ill. Adm. Code 724.114 in preventing access to the closed surface impoundment identified in Condition II.B.1.

4. The Permittee shall maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, and other events.

5. The Permittee shall prevent run-on and run-off from eroding or otherwise damaging the final cover. At a minimum, the run-on control system shall be capable of preventing flow onto the final cover of the landfill during peak discharge from a 25-year storm event.

6. All repairs identified to be necessary during the required post-closure inspections at the facility must be carried out as soon as practicable, based on: (1) the availability of any needed part or piece of equipment; and (2) the impact the problem needing repair has on protecting human health, the environment and the safe operation of the facility.

7. The Permittee shall maintain and monitor the groundwater monitoring system and comply with the other applicable regulations of 35 Ill. Adm. Code 724, Subpart F (Groundwater Protection) during the post closure period.

F. NOTICES AND CERTIFICATIONS

1. If needed, the Illinois EPA may request the Permittee to submit a modification to the approved post-closure plan. This modification must be submitted no later than sixty (60) days after the request. A request to change the approved post-closure plan must be submitted in the form of a permit modification request. This request must be in accordance with applicable requirements of 35 Ill. Adm. Code Parts 702, 703 and 724 and must include a copy of the amended post-closure plan for approval by the Illinois EPA.

2. The Illinois EPA may include restrictions upon the future use of the site if necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. After administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the hazardous waste disposal site is located.

3. If the Permittee or any subsequent owner or operator of the land upon which the closed surface impoundment listed in Condition II.B.1 is located wishes to remove hazardous waste, hazardous waste residue, or contaminated soil, they

must request a modification to this RCRA permit in accordance with the applicable requirements in 35 Ill. Adm. Code Parts 703, 705, and 724. At a minimum, the owner or operator must demonstrate that the removal of such material will satisfy the criteria of 35 Ill. Adm. Code 724.217(c).

4. If the Permittee seeks to demonstrate that they should be allowed to end the post-closure care period (e.g., all waste has been removed, and leachate and groundwater monitoring results do not indicate a potential for migration of waste at levels which may be harmful to human health and the environment), the permittee shall submit an environmental covenant (EC) for the future land use and management of the property on which the closed surface impoundment is located pursuant to the Uniform Environmental Covenants Act, 765 Illinois Compiled Statutes (ILCS) 122 et seq. The EC shall be submitted at least one (1) year prior to the date the Permittee expects to submit the Certification of Completion of Post-Closure.

   Pursuant to Section 39(g) of the Act, the purpose of the EC is to place restrictions upon the future use of the site necessary to protect human health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. The EC shall be pursuant to a consent order between the Permittee and the State of Illinois and in the form and format specified by the Illinois EPA.

5. If the Permittee seeks to exit post-closure care, the Permittee shall submit the following documents to the Illinois EPA Bureau of Land Permit Section by registered mail no later than sixty (60) days after completion of the established post-closure care period for the closed surface impoundment listed in Condition II.B.1 of this permit:

   a. A properly completed Certification of Completion of Post-Closure Care form provided in Attachment E that states the post-closure care for the closed surface impoundment was performed in accordance with the specifications in the approved post-closure plan in the approved permit application and the conditions in this permit. The owner and operator and a qualified professional engineer registered in the State of Illinois must sign the certification form.

   b. A Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure period. The Post-Closure Documentation Report must include the following:

      1. Background information about the facility and the unit subject to the post-closure certification. Describe the facility and RCRA permit history for the unit.

2. A detailed description of the unit subject to the post-closure care certification that includes the following as applicable:

   i. The Unit's design, including liner system, sumps, leachate collection, leak detection, and gas systems, and cover system including stormwater run-off and run-on controls. Provide this information in both a narrative form, and scale drawings.

   ii. How it was operated and how it was closed.

   iii. When it was operated, and when it was closed.

   iv. The wastes disposed of in it (including waste codes).

   v. The amount of leachate pumped each year from each sump in the unit's leachate collection and leak detection systems during the post-closure period. Provide this information in both a table and graphically. Demonstrate the unit has met the requirements of 35 Ill. Adm. Code 724.410(b)(2).

   vi. A scaled map showing the location of unit within the facility. Include all wells in the groundwater monitoring system for the unit on this map.

   vii. Scaled drawings (plan view and cross-section) that show the horizontal and vertical extent of the unit at the time it was certified closed, every ten (10) years after it was closed, and at the time the Post-Closure Documentation Report is submitted (e.g., at the end of the post-closure period). The scale of the plan view should be 1 inch = 200 feet. All design components of the unit must be shown on the drawings.

   When the drawings are compared; if a difference in elevation of more than two (2) feet exists at any location on the unit, the Post-Closure Documentation Report needs to indicate the reason for the change in elevation, and why it would not be a concern in the future.

   viii. A survey of the unit when it was certified closed and at the time the Post-Closure Documentation Report is submitted (e.g., when the post-closure period ended). The surveys must be certified by a professional land surveyor.

3. A general discussion on the inspection and maintenance of, and repairs to, the cover system, leachate collection, leak detection, gas collection, stormwater run-off and run-on controls, wells in the groundwater monitoring system, and any corrective action system required for the unit or groundwater contamination associated with it. Describe any problems and/or repairs to these systems that were

addressed over the post-closure care period in chronological order. Show the locations of each of the repairs to these systems during post-closure care on a scaled drawing of the unit.

4. A discussion on the groundwater monitoring program, including any corrective measures that were completed during the post-closure care period, and a summary of the three (3) most recent years of groundwater data. Identify the horizontal and vertical extent of any groundwater contaminant plume from the unit that existed at the beginning of the post-closure period and every five (5) years after that. The facility must have complied with all requirements of 35 Ill. Adm. Code Part 620 and 724, Subpart F, in order to certify completion of post-closure care activities.

5. Colored photos of unit(s) at post-closure completion. Photo documentation of the unit should include at least one aerial (satellite) photo and photos of all design features of the unit.

6. Completed Illinois EPA LPC-PA23 and 39i Forms.

c. Documentation that the EC required by Condition II.F.4 has been placed on the deed to the property on which the closed surface impoundment is located has been filed with the County Recorder's Office.

6. The certification of completion of post closure care shall not be approved by the Illinois EPA until the Permittee demonstrates that the EC required by Condition II.F.4 has been properly filed with the appropriate government office (e.g., State of Illinois, or County Recorder's office).

7. Within sixty (60) days after receiving certifications from the owner or operator and a qualified professional engineer that the post-closure care period has been completed for the closed surface impoundment listed in Condition II.B.1 of this permit in accordance with the approved post-closure plan, the Illinois EPA shall notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care of that unit unless the Illinois EPA determines that post-closure care has not been in accordance with the approved post-closure plan. The Illinois EPA shall provide the owner or operator with a detailed written statement of any such determination that post-closure care has not been in accordance with the approved post-closure plan.

G. POST-CLOSURE CARE COST ESTIMATE/FINANCIAL ASSURANCE

1. Total remaining funds allocated to this site including all required activities required in this permit per Consent Decree and Environmental Settlement Agreement is

$3,609,870 as of March 31, 2023 (in 2023 dollars). The balance of the fund remaining will reflect the activities completed (i.e., fund used) and any additional funds become available for the site, if any, each year hereafter. The Permittee shall prepare and provide a financial statement for this site for the State's review as required in the Consent Decree and Environmental Settlement Agreement.

SECTION III: GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Hazardous constituents released from the closed surface impoundment have been detected in the groundwater at and beyond the point of compliance at concentrations above background values. Therefore, a corrective action program meeting the requirements of 35 Ill. Adm. Code 724.200 must be implemented at the Permittee's facility. In addition to the corrective action necessary to treat or remove hazardous constituents released to groundwater from the surface impoundment, this permit also requires the Permittee to implement a corrective action program for the groundwater present in the uppermost aquifer beneath the closed surface impoundment. The location of the closed surface impoundment is shown on Figure C-1 of the approved permit application and the Site Map in Attachment B.

The groundwater corrective action program required by this permit includes:

1. Control of the horizontal and vertical flow in the uppermost aquifer such that groundwater flow is adequately controlled. This control of groundwater flow will be accomplished by withdrawing sufficient quantities of groundwater from the uppermost aquifer. Such flow control is necessary to prevent contamination due to on-site releases of product or waste migration beyond the boundaries of the Permittee's facility.

2. Verification that the flow of groundwater is adequately controlled as required by Condition III.A.1.

3. Monitoring the quality of groundwater in the uppermost aquifer beneath the Permittee's facility to determine the effectiveness of the corrective action program.

B. IMPLEMENTATION

1. The Permittee shall implement the groundwater corrective action program established in this permit upon the effective date of this permit. On that date, the groundwater monitoring and corrective action requirements set forth in this permit shall supersede those previously established.

2. The Permittee shall carry out the corrective action requirements specified in this permit on the groundwater present beneath the Permittee's facility, and off-site as necessary. The uppermost aquifer is defined as an alluvium displaying a coarsening downward sequence of clay to silt to sand to gravel. The uppermost aquifer is composed of two zones: (1) a shallow zone; and (2) a deep zone. The shallow zone consists of the finer-grained materials usually extending twenty-five

(25) feet to thirty (30) feet in depth. The deep zone consists of coarser materials extending from the bottom of the shallow zone to bedrock at approximately 100 feet in depth.

3. At this time, the point of compliance, which is the vertical surface located at the hydraulically downgradient limits of the waste management area (closed surface impoundment) extending down into the uppermost aquifer underlying the regulated unit, will be postponed until such time that the monitoring wells at the facility have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition III.D.1 and the Groundwater Management Zone (GMZ) expires. The GMZ is the three dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site. At that time, the facility must submit a proposal for the establishment of a point of compliance which satisfies the regulatory requirements found in 35 Ill. Adm. Code 724, Subpart F and reflects the current conditions at the facility.

4. The Permittee must continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the Permittee is conducting corrective action at the end of the compliance period, the Permittee must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The Permittee may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if the Permittee can demonstrate, based on data from the groundwater monitoring program pursuant to 35 Ill. Adm. Code 724.200(f), that the groundwater protection standards found in Condition III.D.1 have not been exceeded for a period of three consecutive years.

C. WELL LOCATIONS AND CONSTRUCTION

1. The Permittee shall maintain the groundwater monitoring wells, piezometers, and recovery wells identified in the table below to allow for the collection of groundwater samples from the uppermost aquifer. The location of these wells is specified in Figure C-1 of the approved permit application.

IEPA Well No.	Facility Well No.	Well Depth (ft-bgs)	Well Depth Elevation (ft-MSL)	Well Screen Interval (ft-MSL)
SHALLOW ZONE				
Upgradient Well				
GT1S	T1	22.37	389.36	400.46 389.86

Observation Wells				
RB2M	B2R	42.97	373.04	383.71 373.71
RC2M	C2R	42.86	372.93	383.49 373.49
GV1S	V1	20.74	388.92	398.29 387.99
GW1S	W1	22.30	388.32	399.87 389.57
GX1S	X1	24.64	388.08	400.52 390.22
Groundwater Management Zone Wells				
RH1S	H1R	28	384.91	394.91-384.91
GK1S	K1	23.43	393.92	403.27 393.27
RP2S	P2R	29.72	389.73	401.71 391.11
GZ1S	Z1	21.50	387.48	399.36-388.71
G102	G102	25.0	388.4	398.4 388.4
G103	G103	25.00	388.1	398.1 388.1
G104	G104	28.00	386.5	396.5 386.5
G105	G105	25.00	389.3	399.3 389.3
Corrective Action Effectiveness Wells				
GA1S	AA1	22.59	386.78	403.27 387.37
GBB1	BB1	24.50	391.53	403.03-393.03
RG1S	G1R	27.09	391.17	402.14 391.54
GP13	P13	30.00	381.40	395.83-390.83
GP15	P15	23.31	390.54	394.77 389.77
GY1S	Y1	32.85	385.33	401.13 386.13
Piezometers				
GO2M	O2	43.39	367.13	378.51 367.91
GP8S	P8	16.82	396.06	397.20 392.20
GP9S	P9	20.74	392.82	397.20 392.20
GP17	P17	29.45	388.33	401.78 391.78
AP3S	Q1	31.95	389.06	399.21 389.61
RP4S	R1	28.61	392.90	403.90 393.30
Recovery Wells				
SR01*	MSRW 1	27.25	383.89	399.24 383.89
SR02	MSRW 2	26.53	384.69	399.67 384.67
SR03	MSRW 3	25.47	384.38	399.38 384.38
SR04	MSRW 4	26.55	383.60	398.60 383.60
SR05*	MSRW 5	26.04	384.80	399.80 384.80
SR06	MSRW 6	26.19	385.17	400.17 385.17
SR07	MSRW 7	26.52	384.45	399.45 384.45
SR08	MSRW 8	26.00	383.51	398.51 383.51
SR09	MSRW 9	26.87	385.99	401.82 385.99

SR10*	MSRW 10	27.05	385.54	400.54 385 54
SR11	MSRW 11	25.56	386.83	401.83 386.83
SR12	MSRW 12	30.76	381.29	396.29 381.29
SR13*	MSRW 13	25.06	380.08	395.58 380.58
SR14*	MSRW 14	24.06	380.98	396.48 381.48
SR15*	MSRW 15	24.63	384.30	399.80 384.80
IR01	MIRW 1	35.70	376.24	391.24 376.24
IR02	MIRW 2	35.96	374.47	390.10 374.47
IR03	MIRW 3	35.99	373.66	388.66 373.66
Monitoring Well/Piezometer for Free Product Measurement/Recovery				
AP10	P10A	34.40	382.12	396.58 386.58
GP12	P12	32.38	385.50	395.78 385.58
GP14	P14	31.76	384.85	391.01 386.01
DEEP ZONE				
Upgradient Well				
GT3D	T3R	109.04	302.73	313.47 302.87
Observation Wells				
GN3D	N3	109.48	308.78	317.66-307.66
GO3D	O3	103.02	307.78	321.46-310.86
RP21	P21R	39.18	378.10	382.99-377.99
RLD2	S3	106.50	306.97	320.89-310.29
G106	G106	108.00	312.4	322.4 312.4
RG3D	G3R	114.30	304.28	314.28-304.28
RK3D	K3R	112.02	305.62	316.04-306.14
RM3D	M3R	113.58	306.93	316.71-306.71
RF2D	Q3	112.82	308.26	319.80-309.30
GJ2D	J2	89.72	328.77	335.59-325.59
Piezometers				
G101	MW1	86.78	326.39	352.17 322.17
RP18	P18R	39.37	379.32	384.93 379.93
RP19	P19R	38.55	378.88	383.27 378.27
RP20	P20R	39.18	378.36	383.22 378.22
RP22	P22R	38.61	379.75	384.14 379.14
RP23	P23R	38.66	379.33	383.77 378.77
Recovery Wells				
DR01	MDRW 1	107.00	312.95	342.19 312.59
DR02	MDRW 2	106.00	311.84	341.31 311.31
DR03	MDRW 3	109.00	309.74	338.74 308.96

DR04	MDRW 4	106.00	312.21	341.70 311.70
DR05	MDRW 5	108.00	311.20	341.90 310.40
DR06	MDRW 6	107.00	311.94	343.21 313.21

Notes:
"Ft-bgs" = refers to the number of feet below the ground surface
"Ft-MSL" = refers to the number of feet referenced to mean sea level.
"Stick-up" = refers to the height of the reference survey datum. This point is determined with + 0.01 foot in relation to mean sea level, which in turn is established by reference to an established National Geodetic Vertical Datum.

* = Recovery wells currently operating.

2. Construction of each monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on the Illinois EPA website, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the "Field Boring Log" form on the Illinois EPA website, unless otherwise approved by the Illinois EPA.

3. The Permittee shall notify the Illinois EPA within thirty (30) days in writing if any of the wells identified in Condition III.C.1 are damaged, or the structural integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well shall accompany the notification. The well shall not be plugged until the new well is on-line and monitoring data has been obtained and verified unless the well is extremely damaged or would create a potential route for groundwater contamination. Prior to replacing the subject well, the Permittee shall obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.

4. Should any well become consistently dry or unserviceable, a replacement well shall be provided within ten (10) feet of the existing well. This well shall monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the wells are replaced. A well which is more than ten (10) feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well.

5. The Permittee shall submit boring logs, construction diagrams and datasheets from installation and development of a new or replacement well to the Illinois EPA at the address below within thirty (30) days of the date that installation of the well is completed. In addition, the Permittee shall submit certification that

plugging and abandonment of a well was carried out in accordance with the approved procedures to the Illinois EPA at the address below within thirty (30) days of the date that the well is plugged and abandoned. All pertinent information should be submitted to the appropriate State agencies.

Illinois Environmental Protection Agency
Bureau of Land -- #33
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

6. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.

7. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed, and maintained in accordance with 77 Ill. Adm. Code Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III.C.3.

D. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and their concentration limits comprise the groundwater protection standard for the groundwater monitoring wells found in Condition III.C.1. Total values shall be used for comparison with groundwater quality standards. The facility is not performing statistical analysis on analytical results of sampling; therefore, dissolved values are not required.

Field Parameters	STORET NO.	Units
pH	00400	Standard Units
Specific Conductance	00094	micromos/cm
Temperature of Water Sample	00011	(°F)
Turbidity	45626	Ntus
Depth to Water (below land surface)	72019	Feet
Depth to Water (below measuring point)	72109	Feet
Elevation of Groundwater Surface	71993	Ft-MSL
Elevation of Bottom of Well #	72020	Ft-MSL

Elevation of Measuring Point (Top of casing) ##	72110	Ft-MSL

#Shall be determined during the first semi-annual sampling event each year.

##Shall be surveyed once every five (5) years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition III.H.9.a.

Hazardous Constituents	STORET NO.	Concentration Limits (mg/L)
Acenaphthene	34205	0.42
Acenaphthylene	34200	0.21
Anthracene	34220	2.1
Benzo(a)anthracene	34526	0.00013
Benzo(a)pyrene	34247	0.0002
Benzo(g,h,i)perylene	34521	0.21
Benzo(k)fluoranthene	34242	0.00017
Carbazole	77571	0.001
Chrysene	34320	0.012
Dibenz(a,h)anthracene	34556	0.0003
Fluoranthene	34376	0.28
Fluorene	34381	0.28
Indeno(1,2,3 c,d)pyrene	34403	0.00043
Naphthalene	34443	0.14
Phenanthrene	34461	0.21
Phenols	32730	0.1
Pyrene	34469	0.21
2 Chlorophenol	34586	0.035
2,4 Dimethylphenol	34606	0.14
2,4,6 Trichlorophenol	34621	0.01
2,3,4,6 Tetrachlorophenol	77770	0.21

a. In addition to meeting the individual Class I groundwater recommendations indicated in the table above, the following equations for mixtures of similar-acting substances must be satisfied for non-carcinogenic substances, as required by 35 Ill. Adm. Code 620.615 and 35 Ill. Adm. Code 742.805(c), in order to protect against liver, kidney, and blood toxicity:

Liver:

$$HI^{(1)} = \frac{[\text{acenaphthene}]}{0.42\ \text{mg/l}} + \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{acenaphthylene}]}{0.21\ \text{mg/l}} \leq 1$$

Kidney:

$$HI = \frac{[\text{benzo(g,h,i)perylene}]}{0.21\ \text{mg/l}} + \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{pyrene}]}{0.21\ \text{mg/l}} + \frac{[\text{phenanthrene}]}{0.21\ \text{mg/l}} \leq 1$$

Blood:

$$HI = \frac{[\text{fluoranthene}]}{0.28\ \text{mg/l}} + \frac{[\text{fluorene}]}{0.28\ \text{mg/l}} \leq 1$$

(1) = Hazard Index

b. In addition to meeting the individual Class I groundwater recommendations indicated in the table above, the requirements of 35 Ill. Adm. Code 620.615 and per 35 Ill. Adm. Code 742.805(d) must be met. Per 35 Ill. Adm. Code 742.805(d), the evaluation of 35 Ill. Adm. Code 620.615 regarding mixtures of similar-acting chemicals is considered satisfied if the cumulative risk from any contaminants of concern listed in Appendix A, Table I, plus any other contaminants of concern detected in groundwater listed in Appendix A, Table F as affecting the same target organ/organ system as the contaminants of concern detected from Appendix A, Table I, does not exceed 1 in 10,000.

c. Calculations to meet Conditions III.D.1.a and 1.b above must be based on the most current information to remain protective of human health and the environment.

2. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment.

a. Where a hazardous constituent has a standard in 35 Ill. Adm. Code Part 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act or reapply once corrective measures have been implemented pursuant to 35 Ill. Adm. Code 620.450.

b. For those hazardous constituents without a 35 Ill. Adm. Code Part 620 standard, the alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

3. The compliance period (post-closure period) during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded at the point of compliance for three (3) consecutive years.

E. GROUNDWATER CORRECTIVE ACTION PROGRAM

The Permittee shall conduct the corrective action program and perform groundwater monitoring detailed in this section, in accordance with the following:

1. The Permittee shall monitor shallow zone and deep zone wells designated in Condition III.C.1 for all hazardous constituents listed in Condition III.D.1. In the event a well contains free product, samples for groundwater quality will not be collected. Samples must be collected as follows:

   a. GMZ wells must be monitored semi-annually; and

   b. Corrective Action Effectiveness wells, Observation wells (shallow zone only), and Upgradient wells must be sampled annually.

2. The shallow zone GMZ must be monitored and maintained as follows:

   a. The shallow zone GMZ horizontal boundary shall be defined by the facility monitoring wells: Z1, P2R, K1, H1R, G102, G103, G104, G105.

   b. Evaluation of the GMZ must be completed at least every five (5) years in accordance with guidance entitled, "Re-evaluation of Groundwater Management Zones." This guidance is located at the Illinois EPA website.

   c. The Permittee must establish a groundwater ordinance(s) to prevent access to the deep zone contaminant plume exceedances above the Class I concentration limits listed in Condition III.D.1. If an ordinance cannot be established, additional corrective action may be required. At this time, the deep zone contaminant plume must continue to be monitored. The most downgradient wells currently installed are O3, N3, P21R, S3 and G106 and these are identified as GMZ wells. Status updates on establishing the ordinance shall be submitted to the Illinois EPA semi-annually in accordance with the schedule found in Condition III.H.2.

   d. Vertical boundaries of the GMZs shall range from the approximate top of the uppermost aquifer (403 feet to 385 feet MSL) to the deepest depth at which groundwater is being controlled and managed by the shallow zone

pumping wells.

e. The results of monitoring the GMZ shall be submitted to the Illinois EPA semi-annually in accordance with the schedule found in Condition III.H.2.

f. The GMZ expires when all groundwater monitoring wells within the GMZ have attained the appropriate Class I concentration limits that comprise the groundwater protection standards found in Condition III.D.1.

3. The corrective action program shall control the horizontal and vertical flow in the vertical column of water present in the uppermost aquifer beneath the facility and monitor the position and rate of migration of the contaminant plume as follows:

a. The pumping from the Recovery Wells shall maintain a withdrawal rate to ensure groundwater flow is adequately controlled in the uppermost aquifer.

b. The pumping rate for each Recovery Well shall be recorded daily using hour meters. This data shall be used to calculate the monthly average withdrawal and to ensure that the recovery system is operating properly.

c. Quarterly monitoring of the piezometric head at wells in the uppermost aquifer identified in Condition III.C.1 to demonstrate that groundwater flow is properly controlled throughout the contaminated area requiring corrective action in the uppermost aquifer is being contained.

d. Determine the free product thickness in each well quarterly. Once the measurement is taken, the removal of the free product can take place.

4. The Permittee shall evaluate the results of the analyses required by Condition III.E.1 and identify:

a. The concentration of any organic constituent detected which is equal to or greater than the appropriate concentration limit listed in Condition III.D.1.

b. The concentration of any constituent detected which was not detected during the previous sampling event.

c. The concentration of any constituent which exhibits a progressive increase over four (4) consecutive sampling events.

5. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually from the monitoring wells listed in Condition III.C.1.

6. Portions of the groundwater program extend off-site into the Village of Madison, Illinois. See the requirements outlined in Section IV.D.

7. Annual analysis of constituents identified in 35 Ill. Adm. Code 724, Appendix I shall be postponed until such time that the corrective action at the facility reduces contamination at the shallow zone point of compliance wells to the groundwater protection standards listed in Condition III.D.1. However, at that time samples collected during the second quarter of each year shall be analyzed for the constituents identified in 35 Ill. Adm. Code 724, Appendix I.

8. The Permittee shall operate the biosparge workplan and/or other technologies approved by the Illinois EPA in order to remediate off-site groundwater and/or free product in accordance with Section IV.D and 35 Ill. Adm. Code Parts 620, 724, and 742.

F. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to MSL each time a well is sampled in accordance with Condition III.H.3.

2. The Permittee shall report the surveyed elevation of stick-up and ground surface referenced to MSL once every five (5) years or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition III.H.9.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported at least annually. The mandatory measurement shall be taken during the second semi-annual sampling event each year.

G. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall follow the techniques and procedures described in Section C.8.4.3 of approved permit application, except as modified below, when obtaining and analyzing samples from the groundwater monitoring wells listed in Condition III.C.1:

1. Samples shall be collected by the techniques described in Section C.8.4.3 of the approved permit application.

2. Samples shall be preserved, shipped, and handled in accordance with the procedures specified in Section C.8.4.3 of the approved permit application.

3. Samples shall be analyzed according to the procedures specified in Section C.8.4.3 of the approved permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in

USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)".

4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in Section C.8.4.3 of the approved permit application.

H. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Sections III.D, III.E and III.F into the operating record.

2. Samples collected to meet the requirements of the groundwater monitoring program described in Sections III.D. and III.E shall be collected and reported as identified in the table below. The results of the analyses conducted on the groundwater quality samples shall be submitted in accordance with this schedule. All additional data collected for the groundwater monitoring program as specified in Sections III.D, III.E and III.F shall also be submitted to the Illinois EPA in accordance with this schedule.

Sampling Event of Calendar Year	Samples to be Collected During the Months of	Results Submitted to the Illinois EPA by the Following
First Quarter	January - February	July 15
Second Quarter	April - May	July 15
Third Quarter	July - August	January 15
Fourth Quarter	October - November	January 15

3. Groundwater surface elevation data measured pursuant to Condition III.F.1, shall be collected at least quarterly and submitted to the Illinois EPA as identified in Condition III.H.2.

4. Free product thickness data measured pursuant to Condition III.E.3.d shall be collected quarterly and submitted to the Illinois EPA as identified in Condition III.H.2.

5. Groundwater withdrawal rates calculated pursuant to Conditions III.E.3.a and III.E.3.b shall be submitted semi-annually as identified in Condition III.H.2.

6. Gradient control measurements collected pursuant to Condition III.E.3.c shall be submitted to the Illinois EPA semi-annually as identified in Condition III.H.2.

7. The Permittee shall report the groundwater flow rate and direction, as required by Condition III.E.5, at least annually, as identified in Condition III.H.2.

8. Groundwater quality samples collected to meet the requirements of Condition III.E.1.a shall be collected during the second and fourth quarter for GMZ wells. Groundwater quality samples collected to meet the requirements of Condition III.E.1.b shall be collected during the second quarter for Corrective Action Effectiveness Wells, Observation Wells, and Upgradient Wells. Groundwater quality samples shall be submitted to the Illinois EPA semi-annually as identified in Condition III.H.2.

9. The Permittee shall report the surveyed elevation, as required by Condition III.F.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:

   a. For wells identified in Condition III.C.1, every five (5) years (during the second quarter sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.

   b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements shall be made every five (5) years (during the second quarter sampling event) or whenever the elevation changes.

10. Elevation of the bottom of each monitoring well identified in Condition III.C.1, referenced to MSL, is to be reported annually. This measurement shall be taken during the second quarter sampling event (STORET 72020).

11. Information required by Conditions III.H.2, III.H.3, III.H.9, and III.H.10 must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in the form, "Formatting Requirements for the 01 Record of the Electronically Submitted Groundwater and Leachate Data," located on the Illinois EPA website and in accordance with the schedule found in Condition III.H.2. Additional guidance regarding the submittal of the information in an electronic format can also be found on the Illinois EPA's website.

12. The Permittee shall submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC 592) as a cover sheet for any notices or reports required by the facility's permit for identification purposes. The form is located on the Illinois EPA website. Only one (1) copy of the LPC 592 must accompany the submittal. However, the Permittee must submit one (1) original and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two (2) copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit modification requests.

13. The Permittee shall report all information to the Illinois EPA in a form which can be easily reviewed. All submittals must contain tables of data, drawings, and text (as necessary) to accurately describe the information contained in the submittal.

14. The Permittee shall generate groundwater surface maps without water level measurements from extraction wells.

15. The Permittee shall submit a written report, annually to the Illinois EPA by July 15 of each year, which discusses the effectiveness of the corrective action program. At a minimum, the report must include, but not be restricted to, the following:

    a. Address the information requirements in Sections III.C, III.D, III.E and III.F.

    b. Evaluate the effectiveness of the hydraulic control and contaminant removal, including the information required by Section III.D.

    c. Provide a discussion of any change in the quality of groundwater which has resulted from the corrective action.

16. If the Permittee determines that groundwater flow is not being adequately controlled, the Permittee shall:

    a. Notify the Illinois EPA in writing within seven (7) days of the date that this determination is made;

    b. Take actions as necessary to regain the control of groundwater flow as required by Condition III.E.3;

    c. Submit a written report to the Illinois EPA within thirty (30) days describing the actions taken to regain control of groundwater flow. In addition, the report must contain information which demonstrates that groundwater flow is being adequately controlled; and

    d. Submit a request for permit modification to the Illinois EPA within sixty (60) days describing any changes which must be made to the corrective action program to ensure that the groundwater flow is adequately controlled.

I. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the corrective action program required by this permit no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within ninety (90) days, submit an application for permit modification to the Illinois EPA to make any appropriate changes to the program which will satisfy the regulations.

2. Conditions in this section of the permit may be modified by the Illinois EPA in accordance with 35 Ill. Adm. Code 702.183 and 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification in this section of the regulations include, but are not limited to, alterations to the permitted facility, additional information which would have justified the application of different permit conditions at the time of permit issuance, and new regulations.

SECTION IV: CORRECTIVE ACTION

A. INTRODUCTION

1. In accordance with Section 3004(u) of RCRA and 35 Ill. Adm. Code 724.201, the Permittee shall institute such 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 (SWMU) at the facility. This section contains the conditions which must be followed to ensure these requirements are met.

2. The original RCRA post-closure permit issued by the Illinois EPA for the facility on March 29, 1994 required the facility conduct corrective action for twelve (12) SWMUs.

   The facility subsequently discovered an area of concern (AOC) that was eventually identified as a new SWMU 13 and was incorporated into an RCRA Facility Investigation (RFI) Phase II Investigation. The Illinois EPA issued a renewed RCRA post-closure permit to the former Tronox on June 2, 2010 with subsequent modifications.

3. The Permittee was appointed a facility Trustee by the United States Bankruptcy Court for the Southern District of New York (U.S. Bankruptcy Court) associated with Tronox's bankruptcy filing and the Bankruptcy Settlement Agreement (Settlement Agreement) on February 14, 2011 (Case No. 09-10156).

   All requirements of the Settlement Agreement including, but not limited to, those which address closure, corrective action, investigation, monitoring, remediation, financial assurance, or transfer of property are incorporated herein by reference and must be carried out in accordance with the terms of that Settlement Agreement and this RCRA permit.

4. Based on previous RFI activities conducted by the Permittee and an electro-magnetic (EM) survey conducted by the Illinois EPA's Office of Site Evaluation (OSE) in 2023 at the facility, two additional AOCs were identified and required corrective action: (1) AOC 1 (Off-Site Groundwater Contamination); and (2) AOC 2 (EM Survey Area 2)

5. As 35 Ill. Adm. Code Part 742 was amended to include indoor inhalation exposure route, all SWMUs obtained no further action for corrective action as listed in Condition IV.B.1 must be re-evaluated for the indoor inhalation pathway and meet all updated remediation standards to meet the requirements of 35 Ill. Adm. Code Part 742.

6. The facility has completed a substantial amount of investigation/remediation to date. A summary of these completed efforts, based on the date that the Illinois EPA approved workplans and reports associated with these efforts, as of July 2023, is provided in Section IV.C.

7. The Permittee must develop and implement a Corrective Measures Program (CMP), as necessary, to protect human health and the environment from any SWMUs and AOCs at the facility.

8. The Permittee must carry out interim measures in accordance with the terms, conditions, and requirements of this permit to address existing contamination at the facility until such time as a final corrective measure can be developed and implemented.

9. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMU/AOC; and/or (2) future releases for existing SWMUs at the facility.

10. Investigation and remediation efforts carried out as part of the corrective action program implemented in accordance with this permit must meet the requirements of: (1) this permit, and the regulations cited herein; (2) the Illinois EPA and the USEPA guidance documents regarding such efforts; and (3) the Illinois EPA letters regarding such activities.

11. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of Sections 39(a) and 40(a) of the Illinois Environmental Protection Act (Act).

12. All documents submitted to the Illinois EPA regarding corrective action efforts must be accompanied by a completed RCRA Corrective Action Certification Form (LPC 632). This form can be found on the Illinois EPA website.

13. Based on the results of the investigative efforts as required in corrective action, the Illinois EPA reserves the right to withdraw any "No Further Action" (NFA) determinations.

B. CORRECTIVE ACTION REQUIREMENTS

1. Twelve (12) SWMUs were listed in the facility's original 1994 permit as units to be addressed by the facility's corrective action program; SWMU 13 was added in 1996. As of October 2023, the following list of SWMUs have been identified at the facility that are subject to corrective action:

Note: ELUC = Environmental Land Use Control
NFA = No Further Action

SWMU No.	SWMU Name	Corrective Action Status
1	Tank Farm	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
2	Retort	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
3	Unloading Pad	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
4	Old Cooling Tower Basin (Barometric Basin)	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
5	Drip Track/Pad	This unit was operated until December 2003 as a less-than 90-day hazardous waste accumulation area in accordance with 35 Ill. Adm. Code 722.134. Further RFIs and corrective measures are still required.
6	Creosote Recovery/Wastewater Treatment System	NFA determination was made on May 16, 1995
7	Old Secondary Oil/Water Separator	NFA determination was made on May 16, 1995
8	Creosote Recovery Sump	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
9	Railroad Tank Car	The engineered barrier and associated ELUC were approved by the Illinois EPA on December 22, 2006 and May 22, 2007, respectively. NFA determination for soil provided that required groundwater remediation continues.
10	Wood Waste Pile (off-site)	This unit is composed of two areas, the North and the South. Investigations were conducted in both areas. In a May 19, 1997 letter, the Illinois EPA determined that no further action is necessary in North area. In a June 22, 2000 letter, the Illinois EPA determined that no further action is necessary in the South area.

11	Old Solid Waste Disposal	No further investigation is needed, according to the results provided in the RFI Phase I Workplan, approved by the Illinois EPA on February 23, 1996.
12	Retention Pond (off-site)	No further investigation is needed, according to the results provided in the RFI Phase I Workplan, approved by the Illinois EPA on February 23, 1996.
13	Steel Box Disposal Area	This unit was discovered during the Phase I RFI. The Illinois EPA determined no further action is necessary on May 19, 1997.
AOC No.	**AOC Name**	**Corrective Action Status**
1	Off-Site Groundwater Contamination	Groundwater contamination extending to the off-site areas.
2	EM Survey Area	Area identified as a potential for buried drums during Illinois EPA's EM Survey.

2. Conduct additional investigation and remediation, as necessary, to address any on-site and/or off-site contamination, which has migrated beyond the property boundaries from the former operation of the facility.

3. Obtain NFA determinations from the Illinois EPA for the units and any other impacted areas identified during the RFI, where the contamination has migrated off-site from the former operation of the facility, when sufficient information has been provided by the Permittee that the media of interest has been adequately remediated for the SWMUs and other identified areas of concern.

4. All plans and reports associated with all aspects of corrective action at this facility must be submitted to the Illinois EPA for review and approval before being implemented.

5. All investigation efforts must be sufficient as to thoroughly characterize contamination associated with all the identified environmental conditions present in the facility.

6. The Permittee must implement a corrective action program by completing or having completed corrective action at the facility. Section IV.D describes the corrective action efforts which must still be completed at this facility.

7. The requirements of 35 Ill. Adm. Code Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action. In addition, all corrective action efforts must meet the requirements of 35 Ill. Adm. Code 724.201.

8. Components of the corrective action program must include:

a. Post-closure care activities – Section II of this RCRA permit.

b. Continued operation of the non-aqueous phase liquid (NAPL) recovery wells and/or other groundwater remediation system approved by the Illinois EPA.

c. Continued groundwater monitoring and corrective action program in accordance with Section III of this RCRA permit.

d. Continued submittal of corrective action effectiveness reports in accordance with Condition III.H.15 of this RCRA permit.

e. Establishment of groundwater ordinances in the Villages of Madison and Venice.

f. Complete corrective action at the Former Drip Pad Investigation (SWMU #5) in accordance with Section IV.D of this RCRA permit.

g. Continued implementation of ELUC – Section IV.E of this RCRA permit.

9. The Permittee may request modifications to the approved corrective action program for this facility. Requests must be submitted in writing to the Illinois EPA for review and approval. Such requests must contain detailed information about the proposed modifications and justification for the change(s).

C. SUMMARY OF HISTORICAL CORRECTIVE ACTION EFFORTS COMPLETED

1. RFI Summary Between 1994 and 2013 (Pre-Bankruptcy of Tronox)

a. On March 29, 1994, the Illinois EPA issued a RCRA Post-Closure Permit for the facility (Log No. B-150). Section II of that permit contained the groundwater corrective action program to address groundwater contamination around the closed surface impoundment.

Section IV of that permit contained corrective action requirements (Subsection B contained requirements to implement the groundwater corrective action program in Section II of that permit as an interim measure/stabilization effort). Subsections C, D and E of Section IV of that permit contained corrective action requirements for twelve (12) SWMUs within the site. A thirteenth (13^{th}) SWMU was later identified as a SWMU at the facility during the Phase I RFI.

b. On May 16, 1995, the Illinois EPA approved an RFI Phase I workplan from the facility (Log No. B-150-CA-1). Soil investigations were required at SWMUs 5, 10, 11, and 12. Information in the workplan indicated no further

investigation needed for SWMUs 6 and 7.

Note that SWMUs 1, 2, 3, 4, 8, and 9 are within the Process Area. The permit did not require they be investigated until: (1) final closure of the facility; or (2) the end of required post-closure care period.

c. On June 29, 1995, the Illinois EPA re-approved the RFI Phase I workplan, thus superseding the May 16, 1995 letter.

d. On February 23, 1996, the Illinois EPA approved the RFI Phase I report; no further investigation is required at SWMUs 11 and 12. In addition, the RFI Phase II workplan for SWMUs 5 and 10 was also approved.

e. A thirteenth (13^{th}) SWMU was reported to the Illinois EPA in July 1996. The locations of all thirteen (13) SMUWs were shown on Figure B-3 of the renewal application.

f. On May 19, 1997, the Illinois EPA approved the RFI Phase II report (Log No. B-150-CA-2); continued groundwater monitoring is required for SWMU 5 and the south portion of SWMU 10. No further action was determined at SWMU 13 (identified during the Phase I RFI) and the north part of SWMU 10.

g. On February 4, 1998, the Illinois EPA accepted certification of closure of the permitted hazardous waste surface impoundment as a landfill (Log No. B-150-M-3). The surface impoundment must continue post-closure care in accordance with the post-closure permit, which began on March 29, 1994.

h. On June 22, 2000, the Illinois EPA determined that no further investigation was required at: (1) the South Waste Wood Pile (the south portion of SWMU 10); and (2) wells CC1 and DD 1 (Log No. B-150-CA-3).

i. On September 5, 2003, Kerr-McGee submitted a letter to the Illinois EPA which indicated the plant had closed as of December 31, 2002. This letter also identified a Drip Pad at the facility which must be addressed.

j. On August 26, 2004, the Illinois EPA approved a soil investigation workplan for SWMUs 1, 2, 3, 4, 8 and 9 (Log No. B-150-CA-4).

k. On May 17, 2005, the Illinois EPA approved the soil investigation report for SWMUs 1, 2, 3, 4, 8 and 9 (Log No. B-150-CA-5). The facility was informed plans for an engineered barrier and associated institutional control must be submitted to the Illinois EPA for review and approval.

l. On January 10, 2006, the Illinois EPA approved the proposed engineered barrier design and required an ELUC be developed for SWMUs 1, 2, 3, 4, 8 and 9 (Log No. B-150-CA-6).

m. On December 22, 2006, the Illinois EPA approved a remedial design plan of an engineered barrier over SWMUs 1, 2, 3, 4, 8 and 9 (Log No. B-150-CA-7). A draft ELUC was also approved, which required the afore-mentioned engineered barrier be properly managed and exposure to the soils beneath the barrier be restricted.

n. On May 22, 2007, the Illinois EPA accepted a certified copy of the ELUC filed with Madison County Recorder (Log No. B-150-CA-8). (Illinois EPA had approved this ELUC in draft form on December 22, 2006).

o. On October 7, 2008, the Illinois EPA issued a letter which approved a process to attempt "clean" closure of the Drip Pad. Tronox must achieve the remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742 (Log No. B-150-CA-9).

p. On June 2, 2009 (Log No. B-150-CA-12), the Illinois EPA approved a plan to conduct a soil investigation around the perimeter of the Drip Pad.

q. On January 19, 2010 (Log No. B-150-CA-13), the Illinois EPA approved a report which documented the results of a soil investigation conducted around the Drip Pad. In the letter, the Illinois EPA required the Permittee to further address the contamination identified at this unit.

r. On June 2, 2010, with subsequent modifications, the Illinois EPA renewed and issued to Tronox the facility's RCRA Post-Closure Permit (Log No. B-150R).

2. RFI Summary Between May 2013 and 2023 (Post-Bankruptcy of Tronox)

1. On May 30, 2013, the Illinois EPA formally transferred the RCRA permit to the Multistate Trust (Log No. B-150R-M-4), pursuant to the terms of the Tronox Bankruptcy Agreements.

2. On June 21, 2017 (Log Nos. B-150R-CA-1 and CA-2), the Illinois EPA approved proposed investigation efforts (dated May 15, 2015 and May 8, 2017) to examine the extent of off-site migration beyond the eastern border of SWMU 5 (additional groundwater and soil gas sampling).

3. On December 6, 2018 (Log No. B-150R-CA-3), the Illinois EPA approved a report, titled "Off-site Area Vapor Intrusion – Indoor Inhalation Exposure Route Investigation Report (Draft Version 1)", dated July 27, 2018. Off-site evaluation of the indoor-inhalation exposure route was conducted in the

residential area due to contaminated groundwater migrating off-site from the facility in accordance with the Illinois EPA's July 21, 2017 letter (Log Nos. B-150R-CA-1 and 2). The Illinois EPA also approved certain Tier 3 property-specific soil-gas and groundwater remedial objectives for the residential properties based upon data obtained from the September 2017 investigation.

4. On September 9, 2019 (Log Nos. B-150R-CA-4 and 5), the Illinois EPA approved two submittals: (1) the document entitled "Extension Request to Condition 8 Log No. B-150R-CA-3", dated May 28, 2019; and (2) the document entitled "Temporary and Permanent Groundwater Monitoring Well Installation and Work Plan", dated August 21, 2019.

5. The May 28, 2019 submittal requested additional time to finalize planning with field work and local offices regarding groundwater ordinances.

6. The August 21, 2019 submittal was a workplan to meet the requirements of Condition 8 of the Illinois EPA letter issued December 6, 2018 (Log No. B-150R-CA-3) for delineation of benzene and naphthalene in groundwater contamination found in off-site well GW 11.

7. On February 11, 2020 (Log No. B-150-CA-15), the Illinois EPA approved the document entitled "Additional Investigation Work Plan, Former Wood Treating Facility, SWMU 5 – Former Drip Pad", dated April 15, 2010, to collect additional site-specific soil property data for surface and subsurface soils to develop site-specific Tier 2 remedial objectives.

8. On August 25, 2021 (Log No. B-150R-CA-6), the Illinois EPA approved a proposed workplan, a document entitled "Revised Additional Work Plan for the Former Drip Pad (SWMU 5)", dated May 8, 2020. This document was submitted in accordance with Condition 1 of the Illinois EPA's February 11, 2020 letter, (Log No. B-150-CA-15) which required Multistate Trust to submit a revised additional investigation work plan for SWMU 5.

3. AOC 1 – Off-Site Groundwater Contamination

a. The Illinois EPA approved a document entitled "Off-site Area Vapor Intrusion-Indoor Inhalation Exposure Route Investigation Report (Draft Version 1)" on December 6, 2019 (Log No. B-150R-CA-3). The document reported investigation efforts of the off-site residential area (Hill Street), east of the facility in accordance with Illinois EPA's July 21, 2017 letter (Log Nos. B-15R-CA-1 and CA-2) and included evaluation of the indoor-inhalation (i.e., vapor intrusion) exposure route in the residential area due to the contaminated groundwater migrating off-site from the facility. The site-specific soil-gas and groundwater remedial objectives were approved based upon data

collected from September 2017. Additional groundwater investigation due to exceedances in GW 11 were required.

b. A document, entitled "Extension Request to Condition 8 Log No. B-150R-CA-3", dated May 28, 2019, and received by the Illinois EPA on May 30, 2019 was submitted by Multistate Trust as a request of extension to finalize work planning relative to field work and discussion with local offices regarding groundwater ordinances. The extension was approved by the Illinois EPA on September 9, 2018 (Log Nos. B-150R-CA-4 and CA-5). Conditions 8 and 9 of the Illinois EPA's letter issued December 6, 2018 (Log No. B-150R-CA-3) required delineation of benzene and naphthalene in groundwater and the submittal of a workplan within 180 days, respectively. The extension was requested to finalize work planning relative to field work and discussions with local offices regarding groundwater ordinances.

c. The Illinois EPA approved a workplan to address delineation of benzene and naphthalene in groundwater entitled "Temporary and Permanent Groundwater Monitoring Well Installation and Work Plan" on September 9, 2019 (Log Nos. B-150R-CA-4 and CA-5). Multistate Trust proposed six (6) new permanent wells G107 through G112. These wells run parallel with the closed surface impoundment, NE-SW beyond the facility's property into the Village (residential areas) as GMZ wells to be sampled semi-annually. Temporary wells were proposed to be installed east and southeast of temporary well GW11 to provide monitoring locations in effort to determine the selection site for permanent monitoring well G108.

d. The Illinois EPA approved a temporary authorization request on September 20, 2023 (Log No. B-150R-TA-1), entitled "RCRA Post-Closure Permit Temporary Authorization Modification Request", dated May 16, 2023, and received by the Illinois EPA on May 17, 2023. The facility is approved to operate six (6) recovery wells and conduct an in-situ biosparging (ISB) treatability work plan with increased gauging and monitoring to verify protectiveness.

e. The Illinois EPA approved the submittal on December 20, 2023 (Log No. B-150R-CA-7) entitled "Submission of Temporary and Permanent Groundwater Monitoring Well Installation, Sampling Results and Technical Memorandum" dated June 12, 2020. This approval allowed shallow zone groundwater monitoring wells G107, G109, G110, and G112 to monitor for benzene and naphthalene in groundwater and will be used to verify the indoor inhalation exposure route is incomplete.

4. AOC 2 – EM Survey Area

   a. In April 2023, an EM survey was conducted by the Illinois EPA's OSE in an effort to screen for potential drums buried underground at the northern portion of the newly included facility parcel. A small area in the northeastern portion of the facility was identified as a potential area for buried metallic object(s) during the EM survey. Thus, this area is designated in this permit as a newly identified AOC and must be investigated further under corrective action.

D. SUMMARY OF CORRECTIVE ACTION EFFORTS STILL TO BE COMPLETED

1. The Permittee must conduct the corrective action activities to continue the SWMU 5 investigation and implement corrective measures as necessary to complete corrective action at SWMU 5:

   a. On February 11, 2020 (Log No. B-150-CA-15), the Illinois EPA approved the document entitled, "Additional Investigation Work Plan, Former Wood Treating Facility, SWMU 5 – Former Drip Pad", dated April 15, 2010. The Permitted must continue to collect additional site-specific soil property data for surface and subsurface soils to develop site-specific remedial objectives.

   b. The Permittee must continue to address comments from the Illinois EPA on the document entitled, "Revised Additional Investigation Work Plan for the Former Drip Pad (SWMU 5)", dated May 8, 2020, and approved by the Illinois EPA on August 25, 2021 (Log No. B-150R-CA-6).

   c. The Permittee must continue to address the primary objectives set forth in the document entitled, "Investigation Report for the Former Drip Pad (SWMU #5), dated June 24, 2022 (Log No. B-150R-CA-8) and received by the Illinois EPA on June 27, 2022. Note, this document is currently under review by the Illinois EPA.

   d. Additional corrective action activities must be carried out and additional information must be submitted to Illinois EPA, as necessary, to ensure SWMU 5 is properly remediated.

   e. If the Drip Pad cannot be remediated in accordance with 35 Ill. Adm. Code Part 742, it must be closed as a landfill and receive post-closure care. If this situation were to occur, an application to modify the RCRA post-closure permit for the facility must be submitted to include the post-closure care requirements for this unit (including groundwater monitoring and as appropriate, groundwater remediation) in the permit.

2. The Permittee must meet the applicable indoor inhalation remediation objectives both on-site and the impacted off-site properties in accordance with 35 Ill. Adm. Code Part 742.

   a. Additional evaluation for the indoor inhalation exposure route requirements must be met for all SWMUs, and AOCs listed in Condition IV.B.1.

   b. The indoor inhalation exposure route requirements at the following with NFA may be met for soil only: SWMUs 1, 2, 3, 4, 8, and 9. This condition is necessary due to ongoing groundwater remediation requirements at the time of NFA determinations for soils for these SWMUs. See Section IV.E for additional requirements.

3. Groundwater corrective measures associated with AOC 1 must include the following:

   a. Off-site free product and groundwater contamination associated with AOC 1 requires monitoring, gauging, and corrective measures be conducted in the residential area east of the facility, to ensure measures remain protective of human health and the environment in accordance with 35 Ill. Adm. Code Parts 620, 724, and 742.

      i. Groundwater monitoring wells AA, T1R, Z1, G105, G107, G109, G110, and G112 must be sampled for benzene and naphthalene on a semi-annual basis during the Second and Fourth Quarter of each year. These wells will be considered part of the off-site groundwater monitoring program for AOC-1. Reporting shall be included within the reports required by the Groundwater Corrective Action Program and potentiometric maps and plume maps combined.

         1. Groundwater concentrations at the off-site wells must meet Class I Groundwater Quality Standards, in accordance with 35 Ill. Adm. Code Part 620 for the groundwater ingestion route.

         2. The indoor inhalation exposure route must also be evaluated each semi-annual groundwater event. Screening levels listed below were calculated based on residential scenarios with a dirt floor with a basement, and dirt floor with a crawl space, for the shallowest possible groundwater elevation. All scenarios will be considered below the risk criteria if the following screening levels are met; therefore, the following screening levels must be used:

Groundwater Screening Levels	Benzene 2.6 µg/L	Naphthalene 1.4 µg/L

µg/L = micrograms per liter

3. Further evaluation must be provided for exceedances of 35 Ill. Adm. Code Part 620 and/or screening levels at the well(s) where it occurs. Submit a demonstration for Illinois EPA review and approval for any exceedances within 30 days of the determination there are exceedances. Propose additional corrective action if necessary.

4. The screening values in Condition 3.a.i.2 above must be reevaluated, as necessary, if any toxicological information for the constituents of concern for the site or the vapor intrusion risk model as allowed in 35 Ill. Adm. Code Part 742 are updated or modified.

ii. Following completion of the biosparge treatability workplan approved in the Temporary Authorization dated September 20, 2023 (Log no. B-150R-TA-1) outlined in Condition 3.b below, and approval of the final corrective measure, a Groundwater Management Zone (GMZ) must be proposed. Guidance for establishment of a GMZ can be located on the Illinois EPA website.

b. The facility is approved to operate six (6) recovery wells and conduct an in-situ biosparging (ISB) treatability workplan with increased gauging and monitoring to verify protectiveness. Additional corrective action is required as outlined in Section IV.D to determine the extent of contamination of benzene and naphthalene in groundwater from AOC 1. Within ninety (90) days of completion of the approved ISB treatability study, submit a workplan for corrective measures to address the off-site contamination.

c. The facility must meet the remedial objectives set forth in 35 Ill. Adm. Code Part 742 for each sampling location.

d. If any chemical or specific parameters that would affect the remedial objectives in Section III of this permit changes to become more stringent, then the site-specific remedial objectives must be revised accordingly to be protective of human health and the environment.

4. Corrective action investigation is required at AOC 2. Based upon the results of the April 2023 EM survey conducted by the Illinois EPA's OSE, the Illinois EPA made the determination that this area is an AOC with a potential for buried drums or other sources of contamination. A plan to investigate this area must be

submitted within ninety (90) days of the effective date of this permit. Any necessary interim corrective measures must be implemented at the site in accordance with Section IV.F of this permit, as appropriate, to complete corrective action required under this permit for the facility.

5. Additional corrective action investigation must be conducted for any newly discovered area (i.e., the additional 39.3 acres) in the future that were not disclosed by the former property owners Tronox and Kerr-McGee, as required in Section IV.G of this permit. This additional acreage is adjoining to the current permitted area and was historically used for operation by Tronox and Kerr-McGee. The extent of environmental concerns (e.g., buried drums or wastes and other contamination associated with the historical operation of the site) must be determined.

E. CONTINUED COMPLIANCE WITH ELUC

1. As part of the corrective action efforts conducted at the former Process Area (which includes SWMUs 1, 2, 3, 4, 8, and 9), the Permittee filed, in February 2007, an ELUC (Document No. 2007R06120) with the Madison County Recorder's Office, for Parcel Index Numbers 21-1-19-36-11-201-002 and 21-1-19-36-00-000-001. This ELUC was established to limit use of the site to prevent occupational and construction worker exposure to hazardous constituents present in the soils at the former Process Area.

   a. The ELUC: (1) requires the engineered barrier over the Process Area be properly maintained; (2) restricts exposure to the soils beneath the engineered barrier; (3) restricts use of the property to industrial/commercial only; and (4) groundwater under the property shall not be used as a potable supply of water.

   b. The facility is subject to an ELUC filed with the Madison County Recorder's Office on February 5, 2007, as Document Number 2007R06120. This ELUC shall apply in perpetuity to the facility and shall not be released until (1) the Illinois EPA determines there is no longer a need for the ELUC; (2) the Illinois EPA, upon written request from the property owner and in accordance with 35 Ill. Adm. Code 742.1010, issues an amended certification of closure or a permit modification approving modification of the ELUC requirements; and (3) a release or modification of the ELUC is filed on the chain-of-title for the property.

F. CORRECTIVE MEASURES REQUIREMENTS

1. If it is determined that corrective measures must be taken at a SWMU, then the Permittee must implement a Corrective Measures Program (CMP) for such SWMUs in general accordance with the procedures set forth in Attachment D. The corrective measures implemented by the Permittee must be sufficient to

ensure the appropriate requirements of 35 Ill. Adm. Code Parts 302, 620, 724, and 742 are met.

2. The types of corrective measures which may be implemented include, but are not limited to:

   a. Removal of the contaminants or the contaminated media so that the remaining media meet remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742;

   b. Closing the SWMU as a landfill by establishing a proper final cover over the SWMU and then providing proper long-term monitoring/maintenance/management of: (1) leachate; (2) subsurface gas; (3) final cover system; and (4) groundwater;

   c. Establishing engineered barriers to restrict exposure to the contaminants remaining at the SWMU (necessary to certain remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742); and

   d. Establishing institutional controls to restrict activities at the facility, as necessary, to support remediation objectives established in accordance with 35 Ill. Adm. Code Part 742.

3. The CMP described in Attachment D consists of five (5) phases:

   a. Phase I--conceptual design of the selected corrective measure.

   b. Phase II--development of the final design plans for the corrective measure, including installation and operation/maintenance plans.

   c. Phase III--actual construction/installation/implementation of the corrective measure.

   d. Phase IV--operation/maintenance/monitoring, as necessary, of the corrective measure to ensure it is being properly implemented and is properly protecting human health and the environment.

   e. Phase V--demonstration/verification that the corrective measure has been completed and that the established remediation objectives have been achieved.

   f. Phases may be combined or skipped, depending on the actual corrective measure selected. The overall CMP implemented at a given SWMU must: (1) be logical in nature: and (2) allow for the Illinois EPA oversight and approval throughout the entire process. As such, it will be necessary for the Permittee to submit workplans and reports regarding all aspects of

corrective measures for the Illinois EPA review and approval prior to carrying out any corrective measure activity.

4. A Phase I CMP workplan, or its equivalent, must be submitted to the Illinois EPA within ninety (90) days of the date that the Illinois EPA notifies the Permittee of the need for a CMP.

5. Subsequent CMP related workplans and reports must be submitted to the Illinois EPA for review and approval in accordance with a schedule approved by the Illinois EPA.

6. Once all corrective measures have been completed, a report must be developed documenting all efforts and results associated with the completed measure, including, as appropriate, information demonstrating the approved remediation objectives for the project have been achieved.

G. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(s) AND AREA(s) OF CONCERN (AOCs)

1. The Permittee shall notify the Illinois EPA in writing of any newly identified SWMU and/or AOCs discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than thirty (30) days after discovery. The notification shall provide the following information, as available:

   a. The location of the newly-identified SWMU/AOC in relation to other SWMUs on a scaled map or drawing;

   b. The type and past and present function of the unit;

   c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);

   d. The period during which the unit was operated;

   e. The specifics on all materials, including but not limited to, wastes and hazardous constituents, that have been or are being managed at the SWMU/AOC, to the extent available; and

   f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.

2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous waste constituents from the newly identified SWMU/AOC, the Illinois EPA may request in writing, that the Permittee prepare a SWMU

Assessment Plan and a proposed schedule of implementation and completion of the Plan for any additional SWMU(s) discovered subsequent to the issuance of this permit. This SWMU Assessment Plan must also propose investigations, including field investigations, if necessary, to determine the release potential to specific environmental media for the newly identified SWMU/AOC. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly identified SWMU/AOC to the environment.

3. Within ninety (90) days after receipt of the Illinois EPA's request for a SWMU Assessment Plan, the Permittee shall submit a SWMU Assessment Plan to the Illinois EPA for review and approval.

4. After the Permittee submits the SWMU Assessment Plan, the Illinois EPA shall either approve, conditionally approve, or disapprove the Plan in writing. If the Plan is approved, the Permittee shall begin to implement the Plan within forty-five (45) days of receiving such written notification or according to the terms and schedule established within the Plan and any conditions placed on it. If the Plan is disapproved, the Illinois EPA shall notify the Permittee in writing of the Plan's deficiencies and specify a due date for submittal of a revised plan.

5. The Permittee shall submit a report documenting the results of the approved SWMU Assessment Plan to the Illinois EPA in accordance with the schedule in the approved SWMU Assessment Plan. The SWMU Assessment Report shall describe all results obtained from the implementation of the approved SWMU Assessment Plan.

6. Additional investigation plans and reports must be submitted to and approved by the Illinois EPA, as necessary, to ensure the nature and extent of contamination at the SWMU/AOC is adequately characterized. Once the contamination is characterized, the Permittee shall develop remedial objectives for the SMWU/AOC in accordance with 35 Ill. Adm. Code Part 742; such objectives are subject to the Illinois EPA review and approval.

7. The Permittee must implement a CMP, as necessary, to properly address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time the Illinois EPA notifies the Permittee of the need for such a program.

8. All efforts carried out at newly identified SWMU/AOCs must meet the requirements of 35 Ill. Adm. Code 724.201.

H. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs identified in the RCRA Facility Assessment (RFA) which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from such a SWMU in the future, then the Illinois EPA must be notified of this release within thirty (30) days after its discovery following the procedures set forth in Condition IV.G.1. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedure set forth in Section IV.F. The results of all corrective action efforts required by this condition must meet the requirements of 35 Ill. Adm. Code 724.201.

I. INTERIM MEASURES/STABILIZATION

The Permittee shall carry out interim measures/stabilization activities to prevent or mitigate the migration of a release of hazardous substances into the environment, and to provide adequate protection to human health and the environment.

1. At any time during the corrective action process, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous constituents. It shall not be necessary to conduct all phases of a RFI or a Corrective Measures Study (CMS) prior to implementing an interim measure if the Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal CMS.

2. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA for approval. This information shall include, at a minimum:

    a. Objectives of the interim measures; how the measure is mitigating a potential threat to human health and the environment and/or is consistent with and integrated into any long-term solution at the facility;

    b. Design, construction, and maintenance requirements;

    c. Schedules for design and construction; and

    d. Schedules for progress reports.

3. If the Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of the other

corrective action efforts being carried out at the facility or of any other portion of the permit.

4. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit modification.

5. Consistent with the annual reporting requirements of this permit, the Permittee shall submit a report assessing the effectiveness of any interim measures being carried out in accordance with this permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:

   a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);

   b. Results of all monitoring efforts carried out during the year;

   c. A discussion of the effectiveness of the system supported as appropriate with data and calculations; and

   d. Recommended changes, if any, which should be made to the system to improve its effectiveness.

6. The Illinois EPA reserves the right to require the Permittee to remove or treat soil if the Illinois EPA determines that contaminants are present in the soils at levels such that the remediation system is unable to protect human health and the environment. Remediation objectives for corrective measures will be established by the Illinois EPA at a later date.

7. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon the Illinois EPA review and approval of the RFI reports and the CMP, as required by this permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

8. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the permit are ineffective in protecting human health and the environment.

J. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. Total remaining funds allocated to this site including all required activities required in this permit per Consent Decree and Environmental Settlement Agreement is $3,609,870 as of March 31, 2023 (in 2023 dollars). The balance of the fund remaining will reflect the activities completed (i.e., fund used) and any additional funds become available for the site, if any, each year hereafter. The Permittee shall prepare and provide a financial statement for this site for the State's review as required in the Consent Decree and Environmental Settlement Agreement.

SECTION V: SPECIAL CONDITIONS

A. HAZARDOUS WASTE MANAGEMENT ACTIVITIES

1. The agreement, provisions and requirements of the Tronox Bankruptcy Agreements shall supersede the requirements of this permit.

B. REQUIRED FORMS

1. The Permittee shall provide a completed Illinois EPA permit application form LPC-PA23 with all additional information, permit modifications, and permit applications that are submitted to the Illinois EPA Bureau of Land.

2. The Permittee shall submit current 39(i) certification and supporting documentation with all applications for a permit.

C. COMPLIANCE SCHEDULE

Since the GMZ is proposed to extend off-site, two (2) additional considerations must first be met:

1. The GMZ can only extend off-site if groundwater off-site is actively undergoing corrective action; and

2. Within 180 days of the effective date of this permit, the Permittee must submit written documentation to the Illinois EPA, from each respective property owner where a GMZ extends onto their property, that they acknowledge the establishment of the GMZ.

Additional soil gas and/or groundwater sampling:

3. Within 120 days of the effective date of this permit, the Permittee must submit an off-site vapor intrusion investigation workplan to investigate and evaluate the current conditions to the east of the facility at the Hill Street residential area. The workplan must be submitted as a corrective action modification to the Illinois EPA for review and approval.

SECTION VI: STANDARD CONDITIONS

GENERAL REQUIREMENTS

1. EFFECT OF PERMIT. The existence of a RCRA permit shall not constitute a defense to a violation of the Environmental Protection Act (Act) or Subtitle G, except for development, modification or operation without a permit. Issuance of this permit does not convey property rights or any exclusive privilege. Issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 Ill. Adm. Code 702.181)

2. PERMIT ACTIONS. This permit may be modified, reissued or revoked for cause as specified in 35 Ill. Adm. Code 703.270 through 703.273 and 702.186. The filing of a request by the Permittee for a permit modification or reissuance, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 Ill. Adm. Code 702.146)

3. SEVERABILITY. The provisions of this permit are severable, and 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. (35 Ill. Adm. Code 705.202)

4. PERMIT CONDITION CONFLICT. In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 Ill. Adm. Code 702.160)

5. DUTY TO COMPLY. The Permittee shall comply with all conditions of this permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 Ill. Adm. Code 702.141 and 703.242)

6. DUTY TO REAPPLY. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must apply for a new permit at least 180 days before this permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 Ill. Adm. Code 702.142 and 703.125)

7. PERMIT EXPIRATION. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 35 Ill. Adm. Code 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 Ill. Adm. Code 702.125.

8. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (35 Ill. Adm. Code 702.143)

9. DUTY TO MITIGATE. In the event of noncompliance with the permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 Ill. Adm. Code 702.144)

10. PROPER OPERATION AND MAINTENANCE. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit. (35 Ill. Adm. Code 702.145)

11. DUTY TO PROVIDE INFORMATION. The Permittee shall furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this permit. (35 Ill. Adm. Code 702.148)

12. INSPECTION AND ENTRY. The Permittee shall allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:

    a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

    b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

    c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

    d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 Ill. Adm. Code 702.149)

13. MONITORING AND RECORDS. (35 Ill. Adm. Code 702.150)

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from 35 Ill. Adm. Code 721, Appendix A. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846, latest versions; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved Waste Analysis Plan.

b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least three (3) years from the date of the sample, measurement, report or application. These periods may be extended by request of the Illinois EPA at any time. The Permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

c. Records of monitoring information shall include:

i. The date(s), exact place, and time of sampling or measurements;

ii. The individual(s) who performed the sampling or measurements;

iii. The date(s) analyses were performed;

iv. The individual(s) who performed the analyses;

v. The analytical technique(s) or method(s) used; and

vi. The result(s) of such analyses. (35 Ill. Adm. Code 702.150)

14. REPORTING PLANNED CHANGES. The Permittee shall give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as permit modification request that complies with the requirements of 35 Ill. Adm. Code 703.280. (35 Ill. Adm. Codes 702.152(a))

15. CONSTRUCTION CERTIFICATION. For a new hazardous waste management facility, the permittee shall not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified the Permittee shall not treat, store or dispose of hazardous

waste in the modified portion of the facility, until:

a. The Permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

b. 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the permit; or

2. If, within fifteen (15) days of the date of submission of the letter in paragraph (a), the Permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived, and the Permittee may commence treatment, storage, or disposal of hazardous waste. (35 Ill. Adm. Code 703.247)

16. ANTICIPATED NONCOMPLIANCE. The Permittee shall give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 Ill. Adm. Code 702.152(b))

17. TRANSFER OF PERMITS. This permit may not be transferred by the Permittee to a new owner or operator unless the permit has been modified or reissued pursuant to 35 Ill. Adm. Code 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator shall submit a revised permit application no later than ninety (90) days prior to the scheduled change. (35 Ill. Adm. Code 703.260)

18. MONITORING REPORTS. Monitoring results shall be reported at the intervals specified in the permit. (35 Ill. Adm. Code 702.152(d))

19. COMPLIANCE SCHEDULES. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than specified in 35 Ill. Adm. Code 702.162. (35 Ill. Adm. Code 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

a. The Permittee shall report to the Illinois EPA any noncompliance with the permit which may endanger human health or the environment. Any such information shall be reported orally within twenty-four (24) hours from the time the Permittee becomes aware of the following circumstances. This report shall include the following:

i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.

ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.

b. The description of the occurrence and its cause shall include:

i. Name, address, and telephone number of the owner or operator;

ii. Name, address, and telephone number of the facility;

iii. Date, time, and type of incident;

iv. Name and quantity of material(s) involved;

v. The extent of injuries, if any;

vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and

vii. Estimated quantity and disposition of recovered material that resulted from the incident.

c. A written submission shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five (5) day written notice requirement in favor of a written report within fifteen (15) days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))

21. OTHER NONCOMPLIANCE. The Permittee shall report all instances of noncompliance not otherwise required to be reported under Standard Conditions 16, 19 and 20, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Standard Condition 20. (35 Ill. Adm. Code 702.152(g))

22. OTHER INFORMATION. Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee shall promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))

23. SUBMITTAL OF REPORTS OR OTHER INFORMATION. All written reports or other written information required to be submitted by the terms of this permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Land
Permit Section - #33
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

24. SIGNATORY REQUIREMENT. All permit applications, reports or information submitted to the Illinois EPA shall be signed and certified as required by 35 Ill. Adm. Code 702.126. (35 Ill. Adm. Code 702.151)

25. CONFIDENTIAL INFORMATION. Any claim of confidentiality must be asserted in accordance with 35 Ill. Adm. Code 702.103 and 35 Ill. Adm. Code Part 161.

26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE. The Permittee shall maintain at the facility, until closure is complete, the following documents and amendments, revisions, and modifications to these documents:

a. Post-closure plan as required by 35 Ill. Adm. Code 724.218(a) and this permit.

b. Cost estimate for facility closure as required by 35 Ill. Adm. Code 724.242(d) and this permit.

c. Operating record as required by 35 Ill. Adm. Code 724.173 and this permit.

d. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this permit.

GENERAL FACILITY STANDARDS

27. GENERATOR REQUIREMENTS. Any hazardous waste generated at this facility shall be managed in accordance with the generator requirements at 35 Ill. Adm. Code Part 722.

28. SECURITY. The Permittee shall comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).

29. GENERAL INSPECTION REQUIREMENTS. The Permittee shall follow the approved inspection schedule. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 35 Ill. Adm. Code 724.115(c). Records of inspections shall be kept as required by 35 Ill. Adm. Code 724.115(d).

30. CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS. The Permittee shall close containers storage areas, tanks, drip pads, or containment buildings used for the accumulation of on-site generated hazardous waste in accordance with the requirements identified at 35 Ill. Adm. Code 722.117(a)(8).

PREPAREDNESS AND PREVENTION

31. DESIGN AND OPERATION OF FACILITY. The Permittee shall maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 Ill. Adm. Code 724.131)

RECORD KEEPING

32. OPERATING RECORD. The Permittee shall maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.

POST-CLOSURE

33. CARE AND USE OF PROPERTY. The Permittee shall provide post-closure care for the facility as required by 35 Ill. Adm. Code 724.217 and in accordance with the approved post-closure plan.

34. AMENDMENT TO POST-CLOSURE PLAN. The Permittee must amend the post-closure plan whenever a change in the facility operation plans, or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 Ill. Adm. Code 724.218(d).

35. COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:

    a. Adjusted for inflation either sixty (60) days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within thirty (30) days after close of the firm's fiscal year.

    b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of closure.

    c. Kept on record at the facility and updated. (35 Ill. Adm. Code 724.244).

    d. Maintained at the value approved by the Illinois EPA with annual adjustment for inflation and cannot be decreased unless approved by the Illinois EPA in a permit modification.

36. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE. The Permittee shall demonstrate compliance with 35 Ill. Adm. Code 724.245 by providing documentation of financial assurance, as required by 35 Ill. Adm. Code 724.251, in at least the amount of the cost estimates required by Standard Condition 35. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 Ill. Adm. Code 724.245.

Financial assurance documents submitted to the Illinois EPA should be directed to the following address:

Illinois Environmental Protection Agency
Bureau of Land #24
Financial Assurance Program
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

37. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 Ill. Adm. Code 724.248 whenever necessary.

SECTION VII: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA permit are summarized below. This summary table is provided to "highlight" the various reporting and notification requirements of this permit but is not meant to supersede the requirements of the various sections of this permit.

Condition	Action	Due Date
Section II: Post-Closure		
F.1	Modification of approved post-closure plan.	Within 60 days of request from Illinois EPA
F.3	Request permit modification to remove the liner or hazardous waste.	Prior to removing the liner or wastes
F.4	Submit environmental covenant.	One year prior to submittal of Certification of Completion of Post-Closure
F.5.a	Submit Certification of Completion of Post-Closure Care Form.	Within 60 days of completion of post-closure care period
F.5.b	Submit Post-Closure Documentation Report.	Within 60 days of completion of post-closure care period
G.1	Annual budget	As required in Consent Decree and Environmental Agreement
Section III: Groundwater Program		
C.3	Notification that well has been damaged or its structural integrity compromised.	Within 30 days of identification
C.5	Boring logs, construction diagrams and datasheets from installation and development of new/replaced well.	Within 30 days after well installed

H.2 General schedule for collection and reporting of groundwater data:

Sampling Event of Calendar year	Collected During the Months of	Results Submitted to the Illinois EPA by the Following
First Quarter	January-February	July 15
Second Quarter	April-May	July 15
Third Quarter	July-August	January 15
Fourth Quarter	October-November	January 15

Condition	Action	Due Date
H.3	Groundwater surface elevation data.	Quarterly as set forth in Condition III.H.2
H.4	Free product thickness data.	Quarterly as set forth in Condition III.H.2
H.5	Groundwater withdrawal rates.	Semi-annually as set forth in Condition III.H.2
H.6	Gradient control measurements.	Semi-annually as set forth in Condition III.H.2
H.7	Groundwater flow rate and direction.	Annually as set forth in Condition III.H.2
H.8	Groundwater quality results.	Semi-annually as set forth in Condition III.H.2
H.9	The surveyed elevation of the top of well casing.	Every 5 years
H.10	Elevation of the bottom of each monitoring well.	Second quarter as set forth in Condition H.2
H.15	Report to Illinois EPA on effectiveness of corrective action program.	By July 15 of each year
H.16.a	Notify the Illinois EPA in writing that groundwater flow is not being adequately controlled.	Within 7 days
H.16.c	Submit a report to Illinois EPA describing the actions taken to regain control of groundwater flow.	Within 30 days
H.16.d	Submit a request for permit modification to Illinois EPA describing any changes to the corrective action program to regain controls of groundwater flow.	Within 60 days
I.1	Modification of groundwater corrective action program.	Within 90 days of determination existing program does not meet the requirements of 35 Ill. Adm. Code 724, Subpart F
Section IV: Corrective Action		
F.4	Submit Phase I CMP Workplan.	Within 90 days of notification from Illinois EPA
G.1	Notification of Newly Identified SWMU/AOCs.	Within 30 days of discovery
G.3	Submittal of Assessment Plan for Newly Identified SWMU.	Within 90 days of request for plan from Illinois EPA

Condition	Action	Due Date
G.5	Submittal of SWMU Assessment Report for Newly Identified SWMU.	In accordance with schedule in assessment plan
H	Notification of Release from Existing SWMU.	Within 30 days of discovery
J	Prepare and provide financial assurance	As required in Consent Decree and Environmental Settlement Agreement
Section V: Special Conditions		
B.1	Submit LPC-PA23 form.	With all additional information, permit modifications, and permit applications
B.2	Submit 39i certification form.	With all permit applications
Section VI: Standard Conditions		
6	Submit complete application for new permit.	At least 180 days prior to permit expiration
11	Information requested by Illinois EPA and copies of records required to be kept by this permit.	Reasonable time
14	Notify Illinois EPA of planned physical alterations or additions.	As soon as possible
16	Notify Illinois EPA of changes which may result in permit noncompliance.	Advanced written notice to the Illinois EPA
17	Application for permit modification indicating permit is to be transferred.	90 days prior to change in ownership
20	Report to Illinois EPA any non-compliance which may endanger health or environment.	
	- via telephone	Within 24 hours after discovery
	- in writing	Within 5 days after discovery
21	Report all other instances of noncompliance.	At the time monitoring reports are submitted
34	Application for permit modification amending post-closure plan.	60 days prior to the proposed change in facility design or

Condition	Action	Due Date
		operation, or no later than 60 days after an unexpected event has occurred
35.a	Adjust post-closure cost estimates for inflation.	Within 60 days before anniversary date, or within 30 days after close of the firm's fiscal year
35.b	Revision post-closure cost estimates.	As needed, within 90 days of discovery of revision
36	Change in financial assurance mechanism for post-closure.	As needed
37	Notify Illinois EPA of commencement of voluntary or involuntary bankruptcy proceedings.	Within 10 days after commencement of proceeding

ATTACHMENT A

IDENTIFICATION OF APPROVED PERMIT APPLICATION

ILLINOIS EPA NO. 1190650001

ILD020367561

POST-CLOSURE PERMIT LOG NO. B-150R2

ATTACHMENT A
IDENTIFICATION OF APPROVED PERMIT APPLICATION

1. RCRA Post-Closure Renewal Application dated January 8, 2020.
2. Additional information dated August 11, 2023.

ATTACHMENT B

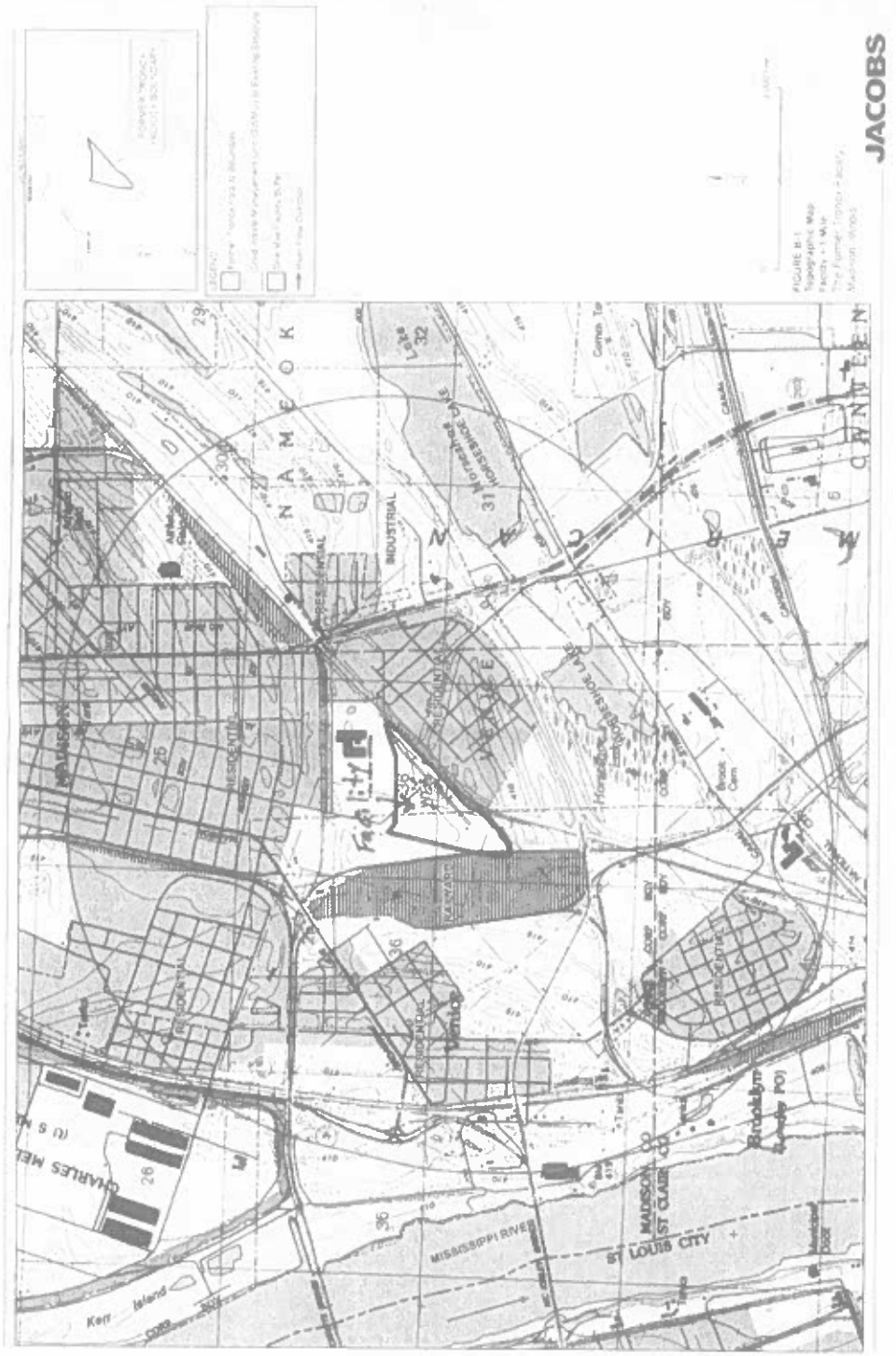
LOCATION MAP & DRAWING OF PERMITTED UNITS

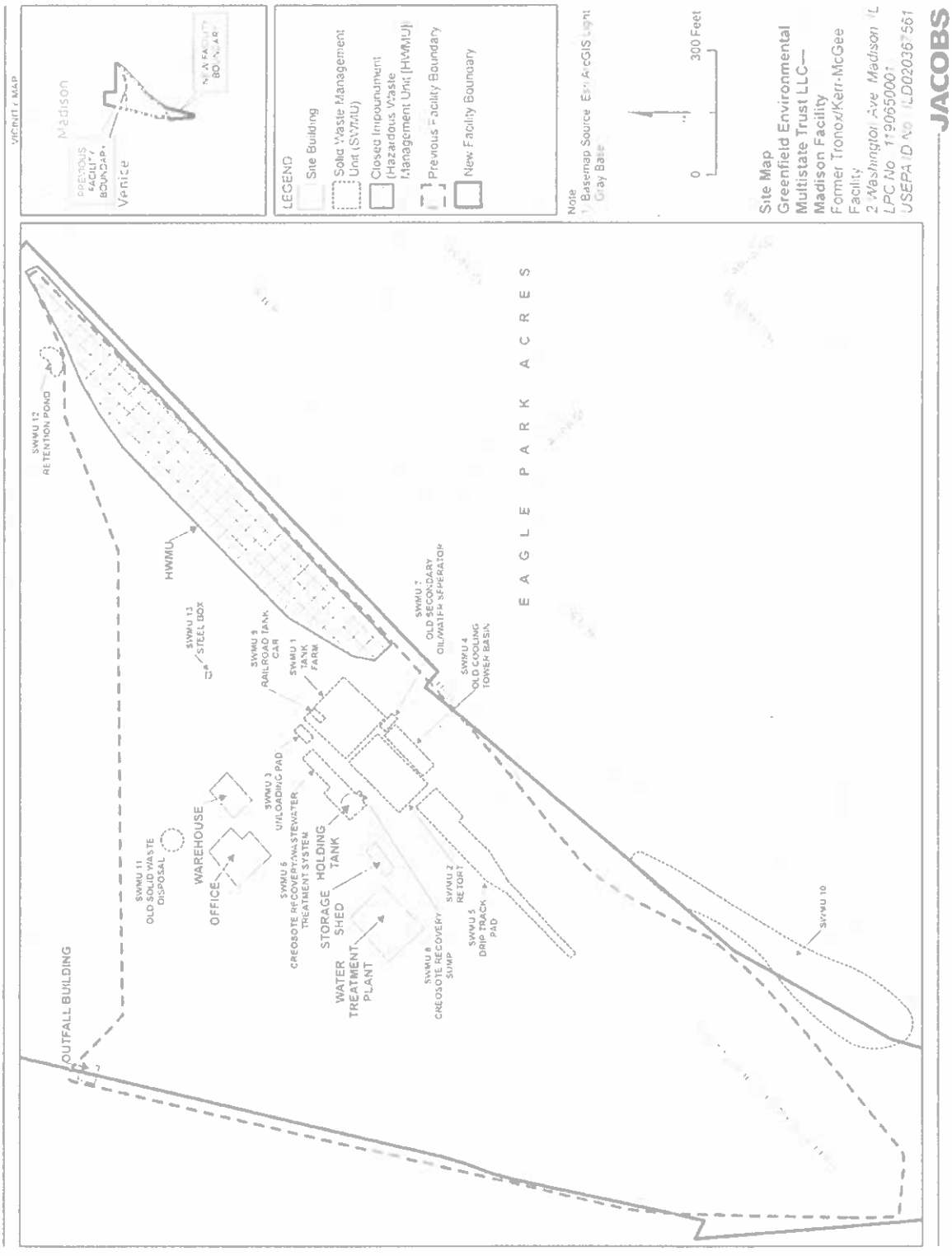
ILLINOIS EPA NO. 1190650001

ILD020367561

POST-CLOSURE PERMIT LOG NO. B-150R2

Facility Location Map & Facility Site Features




VICINITY MAP
Madison
PREVIOUS FACILITY BOUNDARY
Venice
NEW FACILITY BOUNDARY
LEGEND
Site Building
Solid Waste Management Unit (SWMU)
Closed Impoundment (Hazardous Waste Management Unit [HWMU])
Previous Facility Boundary
New Facility Boundary
Note
1. Basemap Source: ESRI ArcGIS Light Gray Base
0
300 Feet
Site Map
Greenfield Environmental Multistate Trust LLC—
Madison Facility
Former Tronox/Kerr-McGee Facility
2 Washington Ave Madison IL
LPC No. 1190650001
USEPA ID No. ILD020367561
JACOBS
EAGLE PARK ACRES
SWMU 12 RETENTION POND
HWMU
SWMU 13 STEEL BOX
SWMU 9 RAILROAD TANK CAR
SWMU 1 TANK FARM
SWMU 7 OLD SECONDARY OIL/WATER SEPERATOR
SWMU 4 OLD COOLING TOWER BASIN
SWMU 3 UNLOADING PAD
SWMU 6 CREOSOTE RECOVERY/WASTEWATER TREATMENT SYSTEM
WAREHOUSE
OFFICE
SWMU 11 OLD SOLID WASTE DISPOSAL
STORAGE SHED
HOLDING TANK
WATER TREATMENT PLANT
SWMU 8 CREOSOTE RECOVERY SUMP
SWMU 2 RETORT
SWMU 5 DRIP TRACK PAD
SWMU 10
OUTFALL BUILDING

ATTACHMENT C

SUMMARY OF CORRECTIVE ACTION SUBMITTALS

ILLINOIS EPA NO. 1190650001

ILD020367561

POST-CLOSURE PERMIT LOG NO. B-150R2

Summary of Corrective Action and Permit Related Submittals

The following is a list of the corrective action related submittals which have been made to date by Multistate Trust and that the Illinois EPA approved them. Each submittal was assigned a log number by Illinois EPA and is presented in the order it was received.

Log No. B-	Topic of Submittal	Date Approved
-----	GMZ Proposal	4/6/94
150-CA-1	RFI Phase I Work Plan and PRS Corrective Action Plan (for 10 SWMUs and 1 PRS).	9/7/94
150-CA-1	RFI Phase I Report	12/2/96
150-CA-2	Conceptual Phase II/III Work Plan (for 10 SWMUs and 1 PRS)	8/6/97
150-CA-3	FCSA Characterization Report	10/7/97
150-CA-4	LOD Monitoring Program	1/14/98 (disapproved)
150-CA-5	Updated GMZ	1/14/98 (disapproved)
150-CA-6	Phase II Workplan for the CDF and MRSA.	8/7/98
150-CA-7	CDF Cover Evaluation Workplan	6/10/98
150-CA-8	CDF Well Evaluation Workplan	11/18/98
150-CA-9	FCSA Phase II workplan	Superseded by CA-15
150-CA-10	Updated GMZ	12/5/00 (disapproved)
150-CA-11	LOD Characterization Report	2/26/01 (disapproved)
150-CA-12	CDF Cover Evaluation Report	9/7/99
150-CA-13	CDF and MRSA Phase II/III report	8/17/00
150-CA-14	Workplan for Vegetative Cover Pilot Study at CDF.	6/15/99
150-CA-15	FCSA Phase II Workplan, Revision 1	Superseded by CA-20
150-CA-16	CDF Well Evaluation Report	11/28/00
150-CA-17	Tree Hydraulic Control Pilot Study Workplan -CDF	10/5/99
150-CA-18	CDF Slurry Wall Investigation Workplan	5/10/01
150-CA-19	Plan to Remove 36" and 72" Outfalls (FCSA)	8/2/00
150-CA-20	36" and 72" Outfall Removal Report (at FCSA); and Phase II/III RFI for FCSA	11/13/03
150-CA-21	Response to IEPA's CA-13 letter re: the CDF/ MRSA	Superseded by CA-26&27
150-CA-22	Response to Cond. 8 of IEPA's CA-16 letter re: CDF	6/4/01
150-CA-23	Proposed GW Program for CDF	Superseded by CA-29
150-CA-24	Phase II/III Workplan (for 10 SWMUs and 1 PRS).	8/9/01
150-CA-25	Initial CA725 Determination	2/11/02
150-CA-26	CMP Report for CDF	1/10/02
150-CA-27	Determination of Class II GW for MRSA	2/6/02
150-CA-28	CMP Report for MRSA	2/6/02
150-CA-29	GW Monitoring Program for CDF	9/13/02
150-CA-30	CA750 Determination	6/11/02
150-CA-31	Re-Evaluation of GMZ	4/24/02
150-CA-32	Parcel A workplan	9/5/02
150-CA-33	FCSA, Class II Determination	9/5/02
150-CA-34	FCSA RFI Phase II report	11/13/03

Log No. B-	Topic of Submittal	Date Approved
150R-CA-1	Off-Site Area Indoor Investigation Work Plan	6/21/17
150R-CA-2	Offsite Area Indoor Inhalation Exposure Route Investigation Work Plan	6/21/17
150R-CA-3	Draft Offsite Area Vapor Intrusion – Indoor Inhalation Exposure Rout Investigation Report	12/6/18
150R-CA-4	Extension Request	9/9/19
150R-CA-5	Temporary and permanent groundwater monitoring well installation and sampling work plan	9/9/19
150R-CA-6	Revised additional investigation work plan for the former drip pad SWMU 5	8/25/21
150R-CA-7	Submission of Temporary and Permanent Groundwater Monitoring Well Installation, Sampling Results and Technical Memorandum	12/20/23
150R-CA-8	SWMU 5 Report received 6/27/23 and is under review	

ATTACHMENT D

CORRECTIVE MEASURES PROGRAM REQUIREMENTS

ILLINOIS EPA NO. 1190650001

ILD020367561

POST-CLOSURE PERMIT LOG NO. B-150R2

ATTACHMENT D

CORRECTIVE MEASURES PROGRAM REQUIREMENTS

1.0 INTRODUCTION/PURPOSE

RCRA corrective action projects typically consist of two phases: (1) A RCRA Facility Investigation (RFI) where an investigation is conducted at the solid waste management units (SWMU's) of concern at a facility; and (2) implementation of corrective measures needed to properly address any contaminant encountered during the RFI. This document has been developed to outline the procedures to be carried out to implement a corrective measure program.

2.0 BRIEF OVERVIEW OF A RCRA CORRECTIVE MEASURES PROGRAM

Typically, at the end of an RFI, the concentration of contaminants present in the soil/sediments/groundwater/surface waters at a SWMU or other area of concern (AOC) is compared to remediation objectives developed in accordance with Title 35 Illinois Administrative Code (35 IAC) Part 742. If the contaminant levels are above these objectives, then some type of corrective measure must be completed to achieve these objectives. In addition, certain corrective measures may need to be carried out to support the established remediation objectives (i.e., the establishment of engineered barriers and/or institutional controls). However, at a unit where waste or high levels of contamination remains, a decision may be made to close the unit as a landfill and then provide post-closure rather than removing the material and/or achieving remediation objectives developed in accordance with 35 IAC Part 742.

To allow for a logical and orderly progression in developing and implementing necessary corrective measures, the Corrective Measures Program (CMP) being carried out in accordance with this RCRA permit should be carried out in five phases which build on each other. It is not necessary for a corrective measures program at a given SWMU or other AOC to follow these five (5) phases step-by-step; rather, phases can be combined and/or skipped, depending on the actual remedial measure selected. The overall CMP implemented must set forth a logical path for its implementation and allow for Illinois EPA oversight and approval throughout the entire process.

A brief discussion of the five (5) phases of a CMP is as follows:

1. Phase I is the conceptual design of the selected corrective measure(s).

2. Phase II is the development of final design plans for the corrective measure, including installation and operation/maintenance plans.

3. Phase III is the actual construction/installation of the selected corrective measure.

4. Phase IV is the operation, maintenance, and monitoring of the selected corrective measure to ensure it is properly protecting human health and the environment.

5. Phase V is the final demonstration/verification that the implemented corrective measure achieved the approved remedial objectives.

Sections 3.0 through 7.0 which follow provide a more detailed discussion of each of these five phases. Section 8.0 has been developed to describe the CMP which may be used in lieu of the afore-mentioned five phase procedure when soil removal is the selected remedy. It must be noted that work plans, reports, etc. must be developed to document how the Permittee carries out the required corrective measures program at each SWMU or other AOC. All such documents must be reviewed and approved by the Illinois EPA prior to their implementation.

3.0 PHASE I OF THE CMP

Phase I of the CMP includes selection of the corrective measure to be taken and developing a basis for completing the final design of the measure. This effort should be documented in a Conceptual Design Report which describes the proposed corrective measure for each SWMU and other AOCs and provides a conceptual design for these measures. The main criteria for the Illinois EPA review are whether the proposed corrective measures are able to achieve the final cleanup objectives previously established by the Permittee and the Illinois EPA and/or provide the necessary institutional controls to prevent the migration of contaminants from the SWMU of concern. Based upon a review of the Conceptual Design Report, the Illinois EPA may approve the corrective measures, require revisions to the proposed corrective measures, or require that a new corrective measures proposal be submitted to the Illinois EPA.

The Conceptual Design Report should contain the following sections:

1. Introduction/Purpose. This section should contain: (1) general background information regarding the project; (2) the purpose and goals of the submittal; and (3) the scope of the project.

2. Existing Site Conditions. This section should contain a summary of the investigative activities conducted for each of the units of concern. Investigation analytical results should be provided in tabular form, and maps depicting both the horizontal and vertical extent of contamination at the site should be provided.

3. Evaluation for Potential Future Migration. Based on the existing site conditions, a conceptual model of the site should be developed and presented in this section. The potential for additional future migration of contamination for each of the units of concern must then be evaluated, especially those units which have been determined to have released hazardous waste/hazardous constituents to the groundwater. It may be helpful to develop conceptual models for contaminant migration. Of special concern in this evaluation are (1) the physical properties of the contaminants (solubility, volatility,

mobility, etc.); and (2) existing site conditions (types of soil present, location of contamination, hydrology, geology, etc.).

4. Corrective Measures Objectives. This section should discuss the general objectives of the proposed corrective measure to be constructed/installed, and the ability of the proposed corrective measure to achieve the established remediation objectives (unless the selected corrective measure is closure as a landfill which will require proper establishment of a final cover and proper post-closure care of the closed unit).

5. Identification of Options Available. This section should contain a brief discussion of the various options available to achieve the corrective measures objectives for each unit. This discussion should identify: (1) a general overview of each option available, including how the option will achieve the stated objective; (2) the advantages associated with each option; (3) the disadvantages associated with each option and (4) an estimate of the cost associated with choosing each remedial option.

6. Description of Selected Corrective Measure. This section should contain a qualitative discussion of the corrective measure chosen, along with the rationale which was used to select this measure from all those identified initially. This discussion should include documentation that the selected corrective measure will be effective.

7. Identification of Design Criteria. This section should identify what information must be available to design the selected corrective measure.

8. Review of Available Information. This section should contain an evaluation of the existing information to ensure that it is sufficient to complete the design of the selected corrective measure. If insufficient information is available, then the report should contain procedures for collecting the required additional information.

9. Procedures for Completing the Design. This section should contain a description of the procedures which will be followed to complete the design of the corrective measure. This should include as appropriate:

   a. Identification of the references and established guidance which will be used in designing the selected corrective measure. Justification for the selection of this procedure should also be provided.

   b. A description of the procedures which will be used to complete the design of the corrective measure.

   c. Identification of assumptions to be used in the design, and the impact these assumptions have on the overall corrective measure;

   d. Significant data to be used in the design effort;

e. Identification and discussion of the major equations to be used in the design effort (including a reference to the source of the equations);

f. Sample calculations to be used in the design effort;

g. Conceptual process/schematic diagrams;

h. A site plan showing a preliminary layout of the selected corrective measure;

i. Tables giving preliminary mass balances;

j. Site safety and security provisions.

This information will form the technical basis for the detailed design of the remedial measure and the preparation of construction plans/specifications.

10. Identification of Required Permits. This section should identify and describe any necessary permits associated with the selected corrective measure, as well as the procedures which will be used to obtain these permits.

11. Long lead Procurement Considerations. This section should identify any elements/components of the selected corrective measure which will require a large amount of time to obtain/install. The following issues should also be discussed: (1) the reason why it will take a large amount of time to obtain/install the item; (2) the length of time necessary for procurement and (3) recognized sources of such items.

12. Project Management. This section should contain information regarding the procedures and personnel which will be involved in completing the design of the selected corrective measure. A schedule for completing the design should also be provided.

4.0 PHASE II OF THE CMP

Once the Illinois EPA approves the Conceptual Design Report, the facility should complete the design of the approved corrective action (Phase II of the CMP). Upon final completion of the design, a Final Design Report, consisting of final plans, specifications, construction work plan, etc., must be submitted to the Illinois EPA for review and approval.

Several documents must be submitted to the Illinois EPA as part of Phase II of the CMP. The following text describes the expected contents of the various documents which should be developed and submitted to the Illinois EPA as part of Phase II of the CMP.

1. Final Design Report and Construction Work Plan. The Final Design Report and Construction Work Plan must contain the detailed plans, specifications and drawings needed to construct the corrective measure. In addition, this document must contain (1) calculations, data etc., in support of the final design; and (2) a detailed description of the

overall management strategy, construction quality assurance procedures and schedule for constructing the corrective measure. It must be noted that the approved Conceptual Design Report forms the basis for this final report. The information which should be provided in this document includes:

a. Introduction/Purpose. This portion of the document should: (1) provide background information regarding the project, (2) describe the purpose and goals of the project, and (3) describe the scope of the project.

b. Detailed Plans of the Design System, including the following:

1) Plan views;

2) Section and supplementary views which, together with the specifications and general layouts, facilitate construction of the designed system;

3) Dimensions and relative elevations of structures;

4) Location and outline form of the equipment;

5) Ground elevations; and

6) Descriptive notations, as necessary, for clarity.

c. Technical Specifications. Complete technical specifications for the construction of the system, including, but are not limited to, the following:

1) All construction information, not shown in the drawings, which is necessary to inform the contractor in detail as to the required quality of materials, workmanship, and fabrication of the project;

2) The type, size, strength, and operating characteristics of the equipment;

3) The complete requirements for all mechanical and electrical equipment, including machinery, valves, piping and jointing of pipe;

4) Electrical apparatus, wiring and meters;

5) Construction materials;

6) Chemicals, when used;

7) Miscellaneous appurtenances;

8) Instruction for testing materials and equipment as necessary; and

9) Availability of soil boring information.

d. Project Management. A description of the construction management approach, including the levels of authority and responsibility, lines of communication and qualifications if key personnel who will direct corrective measures construction/installation must be provided in the work plan.

e. Construction Quality Assurance/Quality Control. A construction quality assurance/quality control plan describing the procedures which will be followed to ensure the corrective measure is constructed/installed in accordance with the approved plans and specifications.

f. Schedule. The work plan must contain a schedule for completion of all major activities associated with construction/installation of the selected corrective measures. All major points of the construction/installation should be highlighted.

g. Waste Management Practices. This portion of the document should identify the wastes anticipated to be generated during the construction/installation of the corrective measures and provide a description of the procedures for appropriate characterization and management of these wastes.

h. Required Permits. Copies of permit applications submitted to other Bureaus of the Illinois EPA for the selected corrective measure must be provided in the report. If it is determined that no permit is required for construction/installation and implementation of the corrective measures, rationale and justification must be provided to support this contention.

i. Cleanup Verification. The report must contain the procedures which will be followed that the approved remediation objectives have been achieved when operation of the system is completed.

2. Operation and Maintenance Plan. An Operation and Maintenance Plan must be developed and submitted as part of Phase II of the CMP. This plan should outline the procedures for performing operations, long term maintenance, and monitoring of the corrective measure.

a. Introduction and Purpose. This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.

b. System Description. This portion of the document should provide a description of the corrective measure and significant equipment, including manufacturer's specifications. This portion of the permit should also include a narrative of how the selected system equipment is capable of complying with the final engineered design of the corrective measure.

c. Operation and Maintenance Procedures. This portion of the document should provide a description of the normal operation and maintenance procedures for the corrective measures system, including:

   1) Description of tasks for operation;

   2) Description of tasks for maintenance;

   3) Description of prescribed treatment or operation conditions; and

   4) Schedule showing the frequency of each operation and maintenance task.

d. Inspection Schedule. This portion of the document should provide a description of the procedures for inspection of the corrective measures system, including problems to look for during the inspection procedure, specific inspection items, and frequency of the inspections.

e. Waste Management Practices. This portion of the document should provide a description of the wastes generated by the corrective measure, and the appropriate procedures for proper characterization/management of these wastes.

f. Contingency Procedures. This portion of the document should provide a description of the procedures which will address the following items:

   a. System breakdowns and operational problems including a list of redundant and emergency backup equipment and procedures;

   b. Alternative procedures (i.e., stabilization) which are to be implemented in the event that the corrective measure fails. The alternative procedures must be able to prevent release or threatened releases of hazardous wastes/hazardous constituents which may endanger human health and the environment, or exceed cleanup standards.

   c. Notification of facility and regulatory personnel in the event of a breakdown in the corrective measures, including written notification identifying what occurred, what response action is being taken and any potential impacts on human health and the environment.

5.0 PHASE III OF THE CMP

Once the final design report is approved by the Illinois EPA, construction/installation of the approved corrective measure must commence. During this period, quarterly reports should be submitted which contain the following information:

1. Summary of activities completed during the reporting period;

2. An estimate of the percentage of the work completed;

3. Summaries of all actual or proposed changes to the approved plans and specifications or its implementation;

4. Summaries of all actual or potential problems encountered during the reporting period;

5. Proposal for correcting any problems; and

6. Projected work for the next reporting period.

Upon completion of construction/installation of the approved corrective measure, a Construction Completion Report must be submitted to the Illinois EPA documenting that these efforts were carried out in accordance with the Illinois EPA approved plans and specifications. This report should contain a thorough description of the efforts that went into constructing/installing the corrective measure and demonstrate that the procedures in the Illinois EPA approved Final Design Report were followed during this effort. Such a report should be formatted in a logical and orderly manner and contain the following information:

1. An introduction discussing the background of the project and the purpose and scope of the corrective measure described in the report.

2. Identification of the plans, technical specifications and drawings which were used in constructing/installing the corrective measure. These specifications and drawings should have been approved by the Illinois EPA during Phase II.

3. Identification of any variations from the Illinois EPA approved plans, technical specifications and drawings used in construction/installing the corrective measure. Justification regarding the need to vary from the approved plans and specifications must also be provided.

4. A description of the procedures used to construct/install the corrective measure, including the procedures used for quality assurance and quality control.

5. As built drawings, including identification of any variations from the approved plans, technical specifications and drawings.

6. A summary of all test results from the construction/installation effort, including quality assurance/quality control testing.

7. Actual test results, including quality assurance/quality control test results. These results should be located in an attachment/appendix and be well organized.

8. Identification of any test results which did not meet the specified value and a description of the action taken in response to this failure, including re testing efforts.

9. Photographs documenting the various phases of construction.

10. A detailed discussion of how the construction/installation effort met the requirements of the approved Final Design Report.

11. A certification meeting the requirements of 35 IAC 702.126 by an independent qualified, licensed professional engineer and by an authorized representative of the owner/operator.

6.0 PHASE IV OF THE CMP

Once the corrective measure has been constructed/installed, it must be operated, maintained and monitored in accordance with the approved plans and specifications (this is Phase IV of the CMP). During this period, quarterly reports must be submitted to the Illinois EPA documenting the results of these efforts. These reports include the following:

1. Introduction. A brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.

2. System Description. A description of the corrective measures constructed/installed at the site, and identify significant equipment.

3. Monitoring Results. A description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measures, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures and inspections performed, and include a summary of the monitoring results for the corrective measure. Copies of all laboratory analytical results which document system monitoring must be provided.

4. Effectiveness Determination. Calculations and other relevant documentation which demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective measures final design. Copies of relevant analytical data should be provided to substantiate this determination.

5. System Effectiveness Recommendation. Based upon the results of the effectiveness determination required under Item 4 above, recommendations on continued operation of the corrective measure must be provided. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions or expansion of the system should be provided.

7.0 PHASE V OF THE CMP

Once all corrective measures have been completed, a report must be developed documenting all the efforts which were carried out as part of implementing the corrective measure and demonstrating, as appropriate, that the approved remediation objectives have been achieved. This report should contain a compilation of all previous reports and also contain sufficient information to demonstrate that the approved remediation objectives have been achieved. It must be noted that such a report will not be developed for a unit closed as a landfill until the post-closure care period has been completed.

8.0 PROCEDURES WHICH SHOULD BE FOLLOWED WHEN SOIL REMOVAL IS THE SELECTED CORRECTIVE MEASURE

Sections 2.0 through 6.0 above describe the procedures which should be followed when it is necessary to design a physical corrective measure (e.g., a final cover system, certain type of treatment system, etc.). However, such detail is not necessary if excavation/removal is selected as the remedial action for the contaminated soil encountered at the site. In general, a work plan should be developed for this effort (for Illinois EPA review and approval) which fully describes each step to be used in removing the contaminated soil from the property. This includes a description of (1) the equipment utilized in the removal effort, (2) the pattern followed in removing the soil; (3) the depth to which the soil will be removed; (4) management of the soil on-site after it is removed from the ground; (5) loading areas; (6) the ultimate destination of the soil; and (7) any other steps critical to the removal effort.

One way to conduct a soil removal effort is to collect and analyze a sufficient number of soil samples to clearly determine the horizontal and vertical extent of soil contamination prior to conducting the soil removal effort. The boundaries of soil which must be removed are defined by the Illinois EPA established cleanup objectives for the project. Soil excavation must extend to sample locations where soil test results indicate that the remediation objectives are met. Closure verification sampling is not necessary in such cases, if a registered professional engineer oversees the soil removal effort and certifies that the remediation limits extend to these boundaries.

Another way to conduct a soil removal effort is to collect and analyze a limited number of soil samples prior to the soil removal effort and to rely mainly on field observation to determine the extent of the soil removal. In such cases closure verification sampling is necessary. Soil samples must be collected for analysis from the bottom and sidewalls of the final excavation. The following sampling/analysis effort is necessary to demonstrate that the remaining soil meets the established cleanup objectives:

1. A grid system should be established over the excavation.

2. Samples should be collected from the floor of the excavation at each grid intersection, including intersections along the perimeter of the excavation.

3. Samples should be collected at 6-inch to 12-inch below the ground surface (bgs) along the excavation sidewalls at each grid intersection around the excavation perimeter. Samples must also be collected at the midpoint of the excavation wall at each grid intersection along the excavation perimeter.

4. Collection/analysis of all required samples must be in accordance with the procedures set forth in the approved plan.

5. Soil samples which must be analyzed for volatile organic compounds (VOCs) must be collected in accordance with the procedures set forth in Method 5035 of SW-846. In addition, such samples must be collected 6-inch to 12-inch beneath the floor/sidewalls of the excavation to minimize the possibility of volatilization of the contaminants prior to the collection of the samples.

6. No random sampling may be conducted to verify achievement of cleanup objectives have been met.

Additional soil must be removed, as necessary, until it can be demonstrated that the remaining soil in and around the area of concern meets the established cleanup objectives. Additional samples must be collected and analyzed in accordance with the procedures described above from areas where additional soil has been removed.

ATTACHMENT E

CERTIFICATION OF COMPLETION OF POST-CLOSURE

ILLINOIS EPA NO. 1190650001

ILD020367561

POST-CLOSURE PERMIT LOG NO. B-150R2

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE
Multistate Trust (1190650001) – Madison County
USEPA ID: ILD020367561
RCRA Permit Log No. B-150R2

To meet the requirements of 35 Ill. Adm. Code 724.220, this statement is to be completed by both a responsible officer of the owner/operator (as defined in 35 Ill. Adm. Code 702.126) and by a qualified professional engineer upon completion of post-closure care of the closed surface impoundment. Submit one copy of the certification with original signatures and two additional copies.

The hazardous waste management unit closed as a landfill, known as the surface impoundment, has been closed in accordance with the specifications in the approved closure plan. Post-Closure care required for the surface impoundment has been provided and completed in accordance with the RCRA Permit. A report documenting that required post-closure care have been carried out and completed in accordance with the approved post-closure care plan is attached.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS5/44(h))

Facility Name	**Printed Name of Responsible Officer**
Signature of Owner/Operator Responsible Officer **Date**	**Printed Title of Responsible Officer**
Signature of Licensed P.E. **Date**	**Printed Name of Licensed P.E. and Illinois License Number**
Mailing Address of P.E.:	**Licensed P.E.'s Seal:**