

217/524-3300

September 28, 2001

Texaco Refining and Marketing, Inc.
Attn: Roger K. Hadley, Vice President
1111 Bagby Street
Room 3534
Houston, Texas 77002

Texaco Refining and Marketing, Inc.
Attn: Randy W. Jewett
Project Manager, Lockport Plant
P.O. Box 7756
Burbank, California 91510-7756

Re: 1970500012 -- Will County
Texaco/Lockport
ILD041518861
RCRA Log B-38RI
RCRA Post-Closure Permit - Admin. Record File

Dear Mr. Hadley and Mr. Jewett:

Enclosed is a final RCRA Part B Hazardous Waste Management Post-Closure permit. The final permit is based on the administrative record contained in the Illinois Environmental Protection Agency's files. The contents of the administrative record are described in 35 Illinois Administrative Code (Ill. Adm. Code) Section 705.211. Read this document carefully. Failure to meet any portion of the permit could result in civil and/or criminal penalties.

Within 35 days after the notification of a final permit decision, the permittee may petition the Illinois Pollution Control Board to contest the issuance of the permit. The petition shall include a statement of the reasons supporting a review, including demonstration that any issues raised in the petition, were previously raised during the public comment period. In all other respects the petition shall be in accordance with the requirements for permit appeals as set forth in 35 Ill. Adm. Code Part 105. Nothing in this paragraph is intended to restrict appeal rights under Section 40(b) of the Environmental Protection Act (35 Ill. Adm. Code 705.212(a)).

Copies of Illinois EPA's responses to the applicants' comments on the Draft Permit issued on November 17, 2000 are also attached to this letter as Attachments 1, 2 and 3. The Illinois EPA's responses to Texaco Refining and Marketing Inc.'s comments (hereafter referred to as Texaco) were developed as a result of reviewing the comments submitted by Texaco dated March 15, 2001 and were received by the Illinois EPA on March 19, 2001. The response to community comments will be sent out under the Agency Response Summary document.

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If you have any questions regarding this permit, please contact Jeff Guy for specific questions related to groundwater issues and James K. Moore for specific questions related to Corrective Action issues. Both of these individuals can be reached at 217/524-3300. All other questions regarding this draft permit should be referred to John Riekstins at 524-3309.

Sincerely,

(SIGNED)

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

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Enclosure: RCRA Part B Post-Closure Permit

Attachments: 1, 2 and 3 (Illinois EPA's Response to Comments)

cc: USEPA Region V -- Harriet Croke (w/enclosures and attachments)
TriHydro Corp. -- Tom Niessen, CPG (w/enclosures and attachments)

RCRA Post-Closure Permit Log No. B-38RI

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE MANAGEMENT RCRA POST-CLOSURE PERMIT

IEPA #1970500012 -- Will County
USEPA ILD #041518861
Texaco/Lockport Facility
Permit Log No. B-38RI
RCRA Post-Closure Permit - Admin. Record File

Issue Date: September 28, 2001
Effective Date: *
Expiration Date: **

Texaco Refining and Marketing, Inc.
Attn: Roger K. Hadley, Vice President
1111 Bagby Street
Room 3534
Houston, Texas 77002

Texaco Refining and Marketing, Inc.
Attn: Randy W. Jewett
Project Manager, Lockport Plant
P.O. Box 7756
Burbank, California 91510-7756

A RCRA Part B Hazardous Waste Management Post-Closure permit is hereby granted pursuant to the Resource Conservation and Recovery Act, Illinois Environmental Protection Act, and Title 35 Illinois Administrative Code (Ill. Adm. Code) parts 702, 703, 705, and 720 through 729 to Texaco Refining and Marketing, Inc. (TRMI) for post-closure care of five (5) waste management units previously involved in the treatment and/or disposal of hazardous waste. TRMI's Texaco/Lockport facility is located within the Southwest Quarter of Section 11 and part of the Northwest Quarter of Section 14, Township 36 North, Range 10 East of the Third Principal Meridian, in Lockport Township, Will County, Illinois.

This permit consists of the conditions contained herein (including those in any attachments) and applicable regulations contained in the Illinois Environmental Protection Act and Title 35 Ill. Adm. Code Parts 702, 703, 705 and 720 through 729 in effect on the effective date of this permit. The Environmental Protection Act (Ill. Rev. Stat., Chapter 111 1/2, Section 1039) grants the Illinois Environmental Protection Agency the authority to impose conditions on permits which are issued.

If you have any questions regarding this permit, please contact John Riekstins at 217/524-3309.

Sincerely,

(SIGNED)

Joyce L. Munie, P.E.
Manager, Permit Section
Bureau of Land

*The permit will become effective 35 days after issuance, or upon dismissal of the appeal in case number PCB 93-213, whichever is later.

**Permit shall expire 10 years after date of Final Permit issuance.

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RCRA POST-CLOSURE PERMIT

ISSUED TO

TEXACO REFINING AND MARKETING, INC.

TEXACO/LOCKPORT FACILITY

LOCKPORT, ILLINOIS

ILD041518861

STATE ID # 1970500012

POST-CLOSURE PERMIT LOG NO. B-38RI

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RCRA POST-CLOSURE PERMIT
TEXACO REFINING AND MARKETING, INC.
TEXACO/LOCKPORT FACILITY

Lockport, Illinois
ILD041518861
Post-Closure Permit Log No. B-38RI

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION

Pursuant to Illinois hazardous waste management requirements, the Permittee has prepared the following formal plans and documents, collectively known as the Permit Application, covering the various facets of the monitoring of five (5) closed hazardous waste management units undergoing post-closure care. The issuance of this permit approves the plans and documents identified below unless otherwise indicated in the permit.

The Permit Application includes: (1) the "RCRA Post-Closure Permit Application, Volume 1 and Volume 2," dated January 12, 2000 and received by the Illinois Environmental Protection Agency (Illinois EPA) January 13, 2000; (2) a submittal dated September 11, 2000 containing revised language to the Introduction subsection on Property, History, Acreage and Ownership to reflect that in the year 2000, TRMI anticipates to sell approximately ten acres of property within the plant to a third party; (3) a submittal dated October 10, 2000 containing revised language in the permit application to reflect the replacement of two groundwater monitoring wells; correction to the description of groundwater sampling procedures; removal of one constituent from the analyte list for groundwater quality monitoring; and correction of survey coordinates listed on the plat in Appendix INT of the permit application; and (4) several documents identified at the end of this section regarding corrective action activities being conducted at the facility.

Each plan or document regarding all aspects of this permit except corrective action and its location within the approved Permit Application are as follows:

<u>Plan or Document</u>	<u>Location in the Approved Permit Application</u>
1. General Facility Description	Volume 1 - Section B
2. Groundwater Detection Monitoring Program	Volume 1 - Section E-6
3. Groundwater Corrective Action Program	Volume 1 - Section E-8
4. Inspection Schedule	Volume 1 - Section F-2
5. Post-Closure Care	Volume 1 - Section I

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

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|--------------------------------------------------------------------|--------------------------|
| 6. Financial Test and Corporate
Guarantee for Post-Closure Care | Volume II - Appendix I-7 |
| 7. Facility Part B Certification | Volume II - Appendix K-1 |

Texaco and Illinois EPA have worked together this last year to initiate corrective action activities at this facility as part of the RCRA permit application process. Documents which have been submitted by Texaco regarding corrective action activities and Illinois EPA's response to these submittals are discussed below and comprise part of the approved permit application (these submittals and actions constitute part of the RCRA permit application process):

1. Current Conditions Report and Workplan for Environmental Site Assessment and Remediation, Proposed Redevelopment Area 3A, dated February 28, 2000
 - a. This workplan contained background information regarding Area 3A of the facility (as defined in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in the area.
 - b. The non-groundwater related aspects of this workplan were approved with conditions and modifications in an Illinois EPA letter dated May 17, 2000
 - c. The groundwater related aspects of this workplan were approved with conditions and modifications by Illinois EPA on August 8, 2000.
2. Workplan, Leaded Gasoline Tank Bottom Disposal Pit Assessment and Interim Stabilization Measures, dated March 21, 2000.
 - a. This workplan contains information about each of the leaded gasoline tank bottom disposal pits present at the facility and describes the procedures which will be followed to remediate the contamination present at each of these units.
 - b. This workplan was approved with conditions and modifications by Illinois EPA on May 8, 2000.
3. Current Conditions Report and Workplan for Environmental Site Assessment and Remediation, Proposed Land Use Area 1 (Alternate Bike Trail Corridor), dated April 6, 2000.

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

- a. This workplan contained background information regarding Area 1 of the facility (as identified in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in the area.
 - b. The non-groundwater related aspects of this workplan was approved with conditions and modifications in an Illinois EPA letter dated August 15, 2000.
4. Workplan, Dismantling and Interim Stabilization Measures, dated April 14, 2000.
- a. This workplan described the procedures which will be used to dismantle, remove, and remediate soil contamination associated with the underground piping and concrete structures present with the refinery.
 - b. Illinois EPA approved this workplan with conditions and modifications on May 11, 2000.
5. A June 27, 2000 letter from Texaco.
- a. This letter indicated that Texaco planned to deviate from the investigation plan for Area 3A approved by Illinois EPA on May 17, 2000 and August 8, 2000. Specifically, this submittal: (1) indicated that Texaco planned to initially focus remedial efforts on a 10-acre parcel within Area 3A; and (2) requested that the Synthetic Precipitation Leaching Procedure (SPLP) replace the Toxicity Characteristic Leaching Procedure (TCLP) when conducting the remediation verification sampling/analysis efforts for metals in soil, as allowed by 35 Ill. Adm. Code 742.
 - b. Illinois EPA approved the contents of this letter with conditions and modifications on August 21, 2000.
6. Environmental Assessment and Remediation Completion Report, 10-Acre Parcel within Redevelopment Area 3A, dated July 18, 2000.
- a. This report documented the results of a soil remediation effort conducted within a 10-acre portion of Area 3A. This work was conducted in accordance with Illinois EPA's May 17, 2000 letter, as slightly modified by a June 27, 2000 submittal from Texaco.

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

- b. Illinois EPA approved this submittal with conditions and modifications on August 21, 2000 as a “No Further Action Letter” (NFAL).
 - c. Texaco requested corrections and clarifications regarding the August 21, 2000 Illinois EPA NFAL in correspondence dated September 18, 2000.
 - d. Illinois EPA approved the September 18, 2000 submittal with conditions and modifications on December 27, 2000 as a revised NFAL.
 - e. Texaco submitted a corrected legal description and survey plat for the 10-Acre Parcel within Area 3A in correspondence dated January 18, 2001. The corrected legal description did not materially change the boundaries of the 10-acre parcel, but had different survey calls due to an ALTA/ACSM survey that commenced from a different starting point.
 - f. Illinois EPA approved the January 18, 2001 submittal with conditions and modifications on July 16, 2001 as a revised NFAL.
7. Assessment and Remediation Completion Report, Leaded Gasoline Tank Disposal Pits, dated August 22, 2000.
- a. This report documents the efforts carried out in remediating contamination at the leaded gasoline tank disposal pits (see Item 2 above).
 - b. This document is currently under review by Illinois EPA.
8. A November 27, 2000 Submittal.
- a. This submittal was made as an addendum to the “Assessment and Remediation Completion Report, Leaded Gasoline Tank Disposal Pits” (see Item 7 above). This submittal clarifies the procedures undertaken and data collected following removal of the two leaded gasoline tank bottom pits adjacent to the locations of Tank 3727 and Tank 19572.
 - b. This submittal is currently under review by Illinois EPA.
9. A November 27, 2000 Submittal.

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

- a. This submittal was made as an addendum to the Area 1 Work Plan approved by Illinois EPA on August 15, 2000 (see Item 3 above). This submittal contains responses to the conditions in the Illinois EPA letter and also includes updated descriptions of the Area 1 boundaries and the wetland areas within Area 1.
 - b. This submittal is currently under review by Illinois EPA.
10. Work Plan, Decontamination of Wastewater Tanks Associated with Wastewater Treatment Unit No. 1, dated November 28, 2000.
- a. This work plan contained proposed procedures for decontaminating five wastewater tanks (Tanks T-3, T-5 East, T-6, T-9, and Poly Tank) and the interconnecting piping associated with the Wastewater Treatment Unit (WTU) #1.
 - b. This work plan was approved with conditions and modifications by Illinois EPA on April 10, 2001.
 - c. Texaco submitted May 10, 2001 letter requesting modification of the schedule for submitting the completion report as a result of WTU #1 operational considerations relative to the timing of approval of the Workplan.
 - d. The May 10, 2001 submittal is currently under review by Illinois EPA.
11. Current Conditions Report and Work Plan for Environmental Site Assessment and Remediation, Land Use Area 5, dated December 28, 2000.
- a. This work plan contains background information regarding Area 5 of the facility (as defined in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in the area.
 - b. This submittal is currently under review by Illinois EPA.
12. Proposal for Use of Area Background Concentration of Total Arsenic and Total Beryllium, dated June 1, 2001
- a. This report contains proposed site-specific background values for arsenic and beryllium to be used as soil remediation objectives at the facility.

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

- b. This submittal is currently under review by Illinois EPA.
13. Current Conditions Report and Work Plan for Environmental Site Assessment and Remediation, Land Use Areas 4C and 7B, dated June 18, 2001.
- a. This work plan contains background information regarding Areas 4C and 7B of the facility (as defined in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in these areas.
 - b. This submittal is currently under review by Illinois EPA.
14. Current Conditions Report and Work Plan for Environmental Site Assessment and Remediation, Land Use Area 8B, dated June 18, 2001.
- a. This work plan contains background information regarding Area 8B of the facility (as defined in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in this area.
 - b. This submittal is currently under review by Illinois EPA.
15. A September 7, 2001 Submittal.
- a. This submittal contained proposed revisions to the constituent list for corrective action assessment and remediation activities. This submittal contains proposed remediation objectives for parameters without 35 Ill. Adm. Code 742 Tier 1 remediation objectives and requested removal of parameters that have never been or were seldom detected in up to 640 soil and 675 groundwater samples.
 - b. This submittal is currently under Illinois EPA review.

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LIST OF PLANS AND DOCUMENTS CONTAINED IN THE
PERMIT APPLICATION (cont.)

16. A September 20, 2001 Submittal.

- a. This submittal was made as an addendum to the Area 1 Workplan approved by Illinois EPA on August 15, 2000 (see Item 3 above). This submittal divides Area 1 into two subareas, proposes continued industrial use of Area 1 as a corridor for easements and utilities, relocation of the bike trail to a different portion of the site, and includes other addenda.
- b. This submittal is currently under Illinois EPA.

17. A September 25, 2001 Submittal.

- a. The submittal notifies Illinois EPA of Recordation of the July 16, 2001 NFAL for the 10-Acre Parcel within Area 3A (see Item 6.f above).
- b. This submittal is currently under Illinois EPA review.

18. A September 26, 2001 Submittal.

- a. This submittal was made as a modification of the Area 3A Workplan approved by Illinois EPA on May 17, 2000, August 8, 2000, and August 21, 2000 (see Items 1 and 5). This submittal redefines the Area 3A boundary to include minor additional acreage including two new road corridors and a portion of an existing City of Lockport street (Second Street) that passes through the site, and addresses the remediation approach for that additional acreage.
- b. This submittal is currently under Illinois EPA review.

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SECTION I

POST-CLOSURE

A. SUMMARY

The permitted units that consist of the closed hazardous waste management unit where waste is left in-place (LF-2) and closed hazardous waste land treatment units (closed by removal) that have not been certified clean closed in accordance with 35 Ill. Adm. Code 703.159 (LF-1, LLF, LAA and CT) must receive post-closure care for at least 30 years after the date of closure is approved in writing by the Illinois EPA's Division of Land Pollution Control (DLPC). The Post-Closure care period began on October 5, 1988, the date Illinois EPA approved closure certification for the subject units. Reduction or extension of the post-closure care period will be by rulemaking pursuant to 35 Ill. Adm. Code 102 - (35 Ill. Adm. Code 724.217 (a)(2)(C)). Activities required during post-closure care include, but are not limited to, 1) maintenance of the LF-2 final cover, 2) management of LF-2 leachate, 3) groundwater monitoring, and 4) providing financial assurance for post-closure activities pursuant to 35 Ill. Adm. Code Part 724. If it is determined that any other regulated units besides LF-1, LLF, LAA and CT cannot be clean closed, this permit shall be modified to incorporate post-closure care for those units. For the purposes of this permit, the terms Lockport facility, facility, site, Lockport Plant, former refinery, and plant are used interchangeably.

B. UNIT IDENTIFICATION

The Permittee shall provide post-closure care for the following hazardous waste management units, subject to the terms and conditions of this permit:

<u>Unit Type</u>	<u>Unit No.</u>	<u>Capacity (Yds³)</u>	<u>Wastes Contained</u>
Hazardous Waste Land Treatment Unit (D-81) Closed	LF-1	121,000*	Oily wastes and contaminated soils from refinery operations
Hazardous Waste Land Treatment Unit (D-81) Closed	LLF	4,700*	Leaded gasoline tank bottoms

<u>Unit Type</u>	<u>Unit No.</u>	<u>Capacity (Yds³)</u>	<u>Wastes Contained</u>
Hazardous Waste Land Treatment Unit (D-81) Closed	LAA	2,200*	Wastewater treatment residues
Hazardous Waste Land Treatment Unit (D-81) Closed	CT	5,700*	Cooling tower sediments including chromium precipitates
Hazardous Waste Landfill (D80) Closed	LF-2	428,800 (Approx.)	Oily wastes, contaminated soils, incinerator ash and miscellaneous sludges from refinery operations

*Volume excavated and placed in LF-2.

The history of the above-referenced hazardous waste management units (HWMUs) can be summarized as follows:

LF-1 - This HWMU was an 9.2 acre landfarm used for disposal of oily waste and contaminated soils from refinery operations. This area was excavated down to bedrock and later backfilled with clean soil to control runoff. The backfilled surface drains to the north storm water ponds. The excavated soil was placed in LF-2. This unit has been closed as a land treatment unit (35 Ill. Adm. Code 725).

LLF - This HWMU was a 2.2 acre landfarm used for disposal of leaded gasoline tank bottoms from refinery operations. This unit was also excavated down to bedrock, but the area was not backfilled. The bedrock surface drains naturally to the north storm water ponds. The unit has been closed as a land treatment unit (35 Ill. Adm. Code 725).

LAA - This HWMU was a 1.6 acre land spreading area used for disposal of wastewater treatment residues. This area was excavated down to bedrock and later backfilled with clean soil to control runoff. The backfilled surface drains to the north storm

water ponds. The excavated soil was placed in LF-2. This HWMU has been closed as a land treatment unit.

- CT - This HWMU was a 0.8 acre spreading area used for dewatering and disposal of cooling tower sediments including chromium precipitates. This area was excavated down to bedrock and later backfilled with clean soil to control runoff. The backfilled surface runoff is routed to the South Stormwater Ponds. The excavated soil was placed in LF-2. This unit has been closed as a land treatment unit (35 Ill. Adm. Code 725).
- LF-2 - This HWMU is a 25 acre landfarm that was used for disposal of oily wastes, contaminated soils, incinerator ash, and miscellaneous sludges from refinery operations. Soil removed from the preceding four (4) HWMUs were placed in this HWMU prior to closure. It has been closed as a landfill.

Prior to placing wastes into LF-2, a grout curtain was installed around the perimeter of the unit and a leachate collection system was installed beneath the unit. The grout curtain was installed to a depth of approximately 46 feet below ground surface and had a tested permeability of approximately 10^{-5} cm/sec. The grout curtain acts as a physical barrier to groundwater migration. Leachate collection consists of 4,965 linear feet of trench, cut two to three feet into bedrock beneath the unit, and associated perforated high-density polyethylene piping and gravel pack. The leachate collection system includes five lateral segments which slope to the west (down-gradient) beneath the unit and a south-sloping trunk line along the west side of the unit. Three sumps, referred to as the North Sump, Middle Sump and South Sump, were installed along the trunk line. The leachate collection system is also intended to act as a hydraulic barrier to groundwater migration. Leachate is collected and removed from the South Sump. The leachate is considered to be a combination of landfill leachate and underlying groundwater. The leachate is piped to the facility's wastewater treatment unit, treated and discharged under NPDES Permit No. IL0002305. The piping, wastewater treatment unit and discharge are regulated under the Clean Water Act.

LF-2 wastes were stabilized with fly ash, clay, and/or cement kiln dust and compacted into place. A two-foot clay cap was placed and compacted atop the waste. A clay lateral containment dike and subsurface clay cutoff wall were constructed around the perimeter of the unit and keyed into the overlying clay cap and underlying grout curtain. A 40-mil high-density polyethylene liner, drainage grid fabric and 18-inch layer of top soil was installed above the clay cap in ascending order. The top soil was seeded with local grasses. Five gas vents were installed in the crown of the unit.

C. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee shall continue to conduct post-closure care for each hazardous waste management unit listed in Section B above which began after completion of closure of the unit and will continue for thirty (30) years after that date. The Post-Closure care period began on October 5, 1988, which was the date Illinois EPA approved closure certification for the subject units. Reduction or extension of the post-closure care period will be by rulemaking pursuant to 35 Ill. Adm. Code 102 - (35 Ill. Adm. Code 724.217 (a)(2)(C)). In addition, should Texaco pursue the "clean closure equivalency" demonstration for any/all of the units closed by removal (LF-1, LLF, LAA and CT), the applicable sections of 35 Ill. Adm. Code 703.159 and 703.160 shall govern.
2. The Agency may include restrictions upon the future use of portions 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 Agency 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. The Permittee shall not allow any use of the units designated in Section B which will disturb the integrity of the final cover, liners, any components of the containment system, or the function of the facility's monitoring systems during the post-closure care period unless such use is necessary to protect public health or the environment.
4. The Permittee shall implement the approved Post-Closure Plan contained in the Approved Permit Application. All post-closure care activities must be conducted in accordance with the provisions of the approved Post-Closure Plan as modified by the conditions of this permit.
5. The Permittee must request a permit modification to authorize a change in the approved Post-Closure Plan. This request must be in accordance with applicable requirements of Parts 702, 703 and 724, except as otherwise authorized by law or regulation, and must include a copy of the amended Post-Closure Plan for approval by the Agency.
6. The Agency may require, at partial and final closure, continuation of any of the security requirements during part or all of the post-closure period.

7. The Permittee shall comply with the requirements for land treatment units as follows:
 - a. Maintain a vegetative cover over closed portions of the facility.
 - b. Maintain the run-on control system.
 - c. Maintain the run-off management system.
 - d. Continue to comply with any prohibitions or conditions concerning growth of food-chain crops.

8. The Permittee shall comply with the requirements for landfills as follows:
 - a. 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, cracking or other events. If any of these events occur, then corrective action shall be taken in accordance with Appendix I-2 of the Approved Permit Application and approved conditions of this permit.
 - b. Continue to operate the leachate collection and removal system until leachate is no longer detected.
 - c. Prevent run-on and run-off from eroding or otherwise damaging the final cover.
 - d. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of 35 Ill. Adm. Code 724 Subpart F (Groundwater Protection) during the post-closure period.
 - e. Protect and maintain surveyed benchmarks used in complying with surveying and recordkeeping requirements.

D. INSPECTIONS

The Permittee shall inspect the components, structures, and equipment at the site in accordance with the inspection schedule contained in Volume I, Sections F and I of the approved permit application.

E. NOTICES AND CERTIFICATION

1. After final closure has been certified, the person or office specified in the approved Post-Closure Plan must keep a written copy of the plan during the remainder of the post-closure period.
2. If the Permittee or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, then he must request a modification to this post-closure permit in accordance with the applicable requirements in 35 Ill. Adm. Code Parts 703, 705 and 724. The owner or operator must at a minimum demonstrate that the removal of hazardous wastes will satisfy the criteria of 35 Ill. Adm. Code 724.217(c) except as otherwise authorized by law or regulations.
3. No later than sixty (60) days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee shall submit to the Agency, by registered mail, a certification that the post-closure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Agency upon request until the Agency releases the Permittee from the financial assurance requirements for post-closure care.

F. LEACHATE AND SUBSURFACE GAS MANAGEMENT

1. Leachate Management

The Leachate Collection and Removal Systems shall be inspected on a weekly basis and maintained in operating condition for the duration of this RCRA Post-Closure Permit. In addition, the Permittee shall:

- a. Collect semi-annual leachate samples and analyze for Oil and Grease (O&G) and Total Organic Carbon (TOC).
- b. Collect semi-annual leachate samples and analyze for the following constituents:

Acenaphthene	Chrysene	Benzene
Acenanaphthylene	Dibenzo (a,h) anthracene	Ethylbenzene
Anthracene	Fluoranthene	Toluene

Benzo (a) anthracene	Flourene	Xylene
Benzo (a) pyrene	Indeno (1,2,3-cd) pyrene	Chromium (total)
3,4 Benzofluoranthene	Napthalene	Lead
Benzo (ghi) perylene	Phenanthrene	
Benzo (k) fluoranthene	Pyrene	

- c. Record daily flow of leachate produced by landfill as required in Condition II-A-E.8.c.
- d. Submit semi-annual reports summarizing the results of the activities required by conditions I.F.1.a - c above. The subject reports shall be submitted to the Illinois EPA on January 15 and July 15 of each year for the duration of this permit.

2. Subsurface Gas Management

- a. The Permittee shall inspect and sample each of the five (5) gas collection system vents associated with LF-2 on a quarterly basis. Sampling is to be conducted for total organic vapors by use of a portable photo ionization detector (PID).

In the event of any of the occurrences listed below, the permittee shall, within 30 days of the occurrence, submit to the Illinois EPA a corrective action plan to modify the facility's existing gas collection system for LF-2 or demonstrate that the facility is not the cause of the occurrence.

- (1). Total organic vapor concentration in the pipe outlet(s) at any of the five (5) LF-2 vents exceeds 100 ppm.
- (2). Malodors attributed to LF-2 are detected beyond the property boundary.
- b. The results from gas monitoring for each calendar year shall be submitted to the Illinois EPA. The subject reports shall be submitted to the Illinois EPA on July 15 of each year for the duration of this permit.

SECTION II

GROUNDWATER DETECTION MONITORING PROGRAM

A. SUMMARY

Texaco Refining and Marketing Inc, (TRMI), Lockport Plant has ten (10) existing groundwater monitoring wells utilized in the groundwater monitoring program for its four (4) closed land treatment units (LTUs) designated as LF-1, LLF, LAA, and CT. These wells, consisting of eight (8) downgradient and two (2) upgradient, are located in such a manner as to provide independent monitoring at each of the LTU locations.

Parameters monitored during interim status in the uppermost aquifer below the LTUs indicate that, at the present time, no groundwater impacts have occurred. Therefore, a detection monitoring program meeting the requirements of 35 Ill. Adm. Code 724.198 shall be implemented at the LTUs.

TRMI is also conducting a Corrective Action Program for the closed landfill (LF-2). As with the LTUs there is an independent groundwater monitoring system associated with the unit. The Corrective Action Program is described in Section II-A of this permit.

B. IMPLEMENTATION

1. The Permittee shall begin implementation of the groundwater detection monitoring program upon the effective date of this permit. On that date, the groundwater monitoring requirements set forth in this permit shall supersede those established in the Illinois EPA approved 35 Ill. Adm. Code Part 725 interim status Post-Closure and Groundwater Quality Assessment Program Plans.
2. The uppermost aquifer at this facility consists of unconsolidated alluvial and colluvial material, weathered dolomite, and unweathered dolomite in descending order, as described in Section E-3 of the permit application. For the purposes of this permit and in accordance with 35 Ill. Adm. Code Part 620 regulations, the uppermost aquifer has been designated Class I: Potable Resource Groundwater, unless the Permittee can demonstrate that another groundwater classification is appropriate.
3. For the purposes of this permit the points of compliance are the vertical surfaces located at the hydraulically downgradient limits of the waste management areas (LF-1, LLF, LAA, and CT) extending down into the uppermost aquifer underlying the

regulated units, as depicted in Figure E-4-2 of the permit application. The points of compliance for the regulated units are as follows:

LF-1: PM-1RR, PM-26R, and PM-29R
 LLF and LAA: PM-3RR, PM-27R, and PM-28R
 CT: PM-4RR and PM-30R

C. WELL AND PIEZOMETER LOCATIONS AND CONSTRUCTION

- The Permittee shall maintain the groundwater monitoring 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 Plate 5 of the approved permit application.

<u>IEPA Well No.</u>	<u>TRMI Well No.</u>	<u>Well Depth (ft-bgs)</u>	<u>Well Depth Elevation (ft MSL)</u>	<u>Well Screen Interval (ft MSL)</u>
<u>LTU Upgradient Wells</u>				
G11A	PM-11RR	15.0	569.8	579.8-569.8
G108	B-8	18.0	568.3	578.3-568.3
<u>LTU Point of Compliance Wells</u>				
<u>LF-1</u>				
A101	PM-1RR	16.0	571.5	583.3-573.3
R26S	PM-26R	15.0	567.4	577.9-567.9
R129	PM-29R	8.0	575.9	581.4-576.4
<u>LLF and LAA</u>				
A103	PM-3RR	11.0	571.5	577.5-572.5
R27S	PM-27R	11.0	573.2	579.2-574.2
R28S	PM-28R	11.0	570.9	576.9-571.9
<u>CT</u>				
A104	PM-4RR	11.9	570.07	576.3-571.3
R30S	PM-30R	13.2	566.8	572.3-567.3

Monitoring Wells/Piezometers for Groundwater Elevations

G104	B-4	21.0	588.1	573.1-558.1
G109	B-9	20.0	562.1	574.2-562.1
P111	PM-1	20.0	561.4	577.4-561.4
P113	PM-3	20.0	562.7	577.7-562.7
G105	PM-5	20.0	553.5	563.2-553.5
G112	PM-12	19.5	554.5	562.7-554.7
R001	R-1	20.1	553.3	563.8-554.9

2. Construction of each monitoring well/piezometer must be in accordance with the diagram contained in Attachment B to this Permit or details and diagrams approved by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs as shown in Attachment B 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 II.C.1 are damaged or the structural integrity has been compromised. A proposal for the replacement of the subject well shall accompany this 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 monitor well construction standards at the time that the well is replaced. A replacement 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 data sheets 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 the 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 information should be submitted to the appropriate State Agencies.

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Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

- 6. All wells/piezometers shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.
- 7. Volclay as an alternative to the 2 foot bentonite seal above the sand pack is unacceptable. However, it is acceptable as a replacement for the cement/bentonite grout above the seal. Future well installations must include the two (2) foot bentonite seal between the well screen sand pack and the annulus seal. The wells that contain Volclay seals are not required to be replaced at this time. However, the Illinois EPA reserves the right to require that they be replaced if at any time the wells in question affect the quality of the groundwater samples.
- 8. 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 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition II.C.3.

D. MONITORING PARAMETERS

- 1. The Permittee shall determine groundwater quality at each of the LTU groundwater monitoring wells identified in Condition II.C.1, at both the upgradient and point of compliance locations, semi-annually during the active life (including closure and post-closure care period) of LF-1, LLF, LAA, and CT. Samples collected during the semi-annual sampling events of each year shall be analyzed for the field parameters and hazardous waste constituents below, and a direct comparison to the interim groundwater standard must then take place.

<u>Field Parameters</u>	<u>Storet</u>	<u>Units</u>
pH	00400	
Specific Conductance	00094	micromhos/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 second sampling event each year

Shall be survey once every five (5) years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition II.H.5.

<u>Hazardous Waste Constituents</u>	<u>Storet Number</u>	<u>Interim Groundwater Standards (mg/L)</u>
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Volatile Organic Compounds

Benzene	34030	0.009
Ethylbenzene	78113	0.7
Toluene	34010	1.0
Xylenes (total)	81551	10.0

Semivolatile Base/Neutral Extractable Organics

Acenaphthene	34205	0.42
Anthracene	34220	2.1
Benzo(a)anthracene	34526	0.077
Benzo(a)pyrene	34247	0.028
Chrysene	34320	0.107
Fluoranthene	34376	0.28
Fluorene	34381	0.28
2-Methyl Naphthalene	34581	0.293
Pyrene	34469	0.221
Phenanthrene	34461	1.073

Inorganics (total)

Arsenic	01002	0.053
Barium	01007	2.0
Chromium	01034	1.442
Lead	01051	0.131

NOTE: Interim groundwater quality standards, as found above, shall remain in effect until the RCRA Facility Investigation (RFI) and site specific risk assessment have been completed. At that time, the Permittee shall propose final risk-based groundwater cleanup objectives (e.g. alternate concentration limits (ACLs)) for the Illinois EPA's review and approval in accordance with Condition II.D.2.

2. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194(b) or 35 Ill. Adm. Code 620.450(a) where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment. The alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

E. MONITORING PROGRAM AND DATA EVALUATION

1. The Permittee shall collect, preserve, and analyze groundwater samples pursuant to Condition II.G.
2. The Permittee shall determine groundwater quality at each of the LTU monitoring wells identified in Condition II.C.1 semi-annually during the active life (including closure and post-closure care period). The Permittee may resample a well within thirty (30) days for constituents whose concentrations exceed the PQLs listed in the approved analytical method(s) specified in USEPA's SW-846 (latest version). The results of the second round of analyses will be used to make the determinations required by Condition II.E.5, unless resampling is not conducted. If resampling is not conducted, the first round analytical data will be used for the determinations required by Condition II.E.5.
3. Samples collected during the first and second semi-annual sampling events shall be analyzed for the constituents identified in Condition II.D.1.
4. The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer at least annually from the monitoring wells listed in Condition II.C.1.
5. An exceedence of an interim groundwater quality standard shall be determined to have occurred when the concentration of any organic and/or inorganic constituent detected is above the appropriate interim groundwater quality standard listed in Condition II.D.1. The Permittee shall evaluate the results of the analyses required by Condition II. E.2 above and identify:

- a. The concentration of any organic constituent detected which is above the appropriate interim groundwater standard listed in Condition II.D.1.
- b. The concentration of any total (unfiltered) inorganic constituent detected which is above the appropriate interim groundwater standard listed in Condition II.D.1.
- c. The concentration of any constituent detected which was not detected during the previous sampling event.
- d. The concentration of any constituent that exhibits a progressive increase over two (2) consecutive sampling events.

NOTE: The term detected as used in this condition and elsewhere in the Permit is defined as a concentration equal to or above the PQL listed in USEPA's SW-846 (latest version) for the methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition II.G. of the Permit.

6. The Permittee shall, at the Permittee's request, delete from the list of hazardous waste constituents listed in Condition II.D.1 any constituent which has not been detected above the PQL within a 12 month period (two consecutive semi-annual sampling events). The request must be in the form of a Class 2 permit modification in accordance with 35 Ill. Adm. Code 703, Appendix A, (C)(5)(b).

F. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to mean sea level (MSL) at each well each time groundwater is sampled in accordance with Condition II.H.3.
2. The Permittee shall determine the surveyed evaluation of the "stick-up" 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 II.H.5.
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 use the techniques and procedures described in Section E of the approved permit application, except as modified below, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition II.C.1 above:

1. Samples shall be removed from each well at a rate that minimizes the potential for volatilization of any organic compounds present in the groundwater. At each well, where possible, samples to be analyzed for volatile organic compounds shall be collected first. Samples to be analyzed for other organic compounds shall be collected next, followed by the collection of samples which will be analyzed for inorganic constituents.
2. In groundwater monitoring wells with large amounts of suspended solids, the facility should delay collection of a sample for inorganic analysis from a properly purged well by no more than 24 hours so as to allow settling of particulates prior to sample collection.
3. Bladder pumps should be operated in a continuous manner so that they do not produce pulsating samples that are aerated in the return tube upon discharge.
4. During collection of volatile samples bladder pump pumping rates should not exceed 100 milliliters/minute.
5. Inert material such as stainless steel or Teflon should be used for sampling equipment even if current well casing is constructed of PVC.
6. The field log utilized to record information about each sample collection should include:
 - a. Date
 - b. Sample Point
 - c. Field Procedure
 - (1) purge date
 - (2) elapsed hours
 - (3) volume purged
 - (4) sampling method
 - (5) sampler type
 - (6) sampler material
 - (7) tubing material

- d. Field Measurements
 - (1) pH
 - (2) temperature
 - (3) specific conductance
 - (4) turbidity

- e. Field Comments
 - (1) sample appearance
 - (2) weather conditions

- f. Signature of Sampler

- 7. Preservation and analytical methods utilized for the analysis of groundwater samples must be in accordance with the techniques and procedures found in the latest version of USEPA's SW-846 Methods.

H. REPORTING AND RECORD KEEPING

- 1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions II.D, II.E, and II.F in the operating record.
- 2. Samples collected to meet the requirements of the groundwater monitoring program described in Condition, II.D and II.E shall be collected and reported, as identified in the table below. The result of the analyses conducted on the groundwater quality samples shall be submitted in accordance with this schedule to the Illinois EPA at the address found in Condition II.C.5. All additional data collected for the groundwater monitoring program (as specified in Conditions II.D, II.E, and II.F) shall also be submitted to the Illinois EPA in accordance with this schedule.

<u>Samples to be Collected During the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>	<u>Constituents</u>
April, May, or June	July 15	II.D.1
October, November, or December	January 15	II.D.1

3. Groundwater surface elevation data, measured pursuant to Condition II.F.1 shall be collected at least semi-annually and submitted to the Illinois EPA as identified in the table above.
4. The Permittee shall report the groundwater flow rate and direction in the uppermost aquifer, as required by Condition II.E.4 during the second semi-annual sampling event of each year.
5. The Permittee shall report the surveyed elevation, as required by Condition II.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 II.C.1 above, every five years (during the second semi-annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes. The initial “re-survey” of these wells shall be conducted during the second semi-annual sampling event following the effective date of the Permit.
 - b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements shall be made every five years (during the second semi-annual sampling event) or whenever the elevation changes.
6. Elevation of the bottom of each monitoring well identified in Condition II.C.1, referenced to MSL, is to be reported annually. This measurement shall be taken during the second semi-annual sampling event. (Storet 72020)
7. Information required by Conditions II.H.2, II.H.3, II.H.5, and II.H.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment B, in accordance with the schedule found in Condition II.H.2. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/regulatory-programs/permits-and-management/index.html.
8. 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.
9. If the Permittee determines pursuant to Condition II.E.5.a or II.E.5.b that there is an exceedence of the interim groundwater standard for any of the constituents specified in Condition II.D.1 at any monitoring well at any point of compliance, the Permittee shall:

- a. Notify the Bureau of Land of the Illinois EPA in writing indicating what LTU location, what parameters, and what wells have shown exceedences of the interim groundwater standard. This notification shall be submitted to the Illinois EPA within seven (7) days of the date that the increase is discovered.
- b. Sample the groundwater in the upgradient and point of compliance wells listed for the particular LTU in Condition II.C.1 and determine the concentration of all constituents identified in Appendix I of 35 Ill. Adm. Code 724 such that the results will accompany the permit modification required by Condition II.H.9.d below.
- c. For any Appendix I compounds found in the analysis pursuant to this condition, the Permittee may resample within one month and repeat the analysis for those constituents detected. The hazardous constituents detected during the second round of analysis will form the basis for compliance monitoring, unless resampling is not conducted. If the Permittee does not resample for the constituents pursuant to this condition, the hazardous constituents found during the initial Appendix I analysis will form the basis for compliance monitoring.
- d. Submit to the Bureau of Land of the Illinois EPA an application for a permit modification to establish a compliance monitoring program meeting the requirements of 35 Ill. Adm. Code 724.199. The application shall be submitted to the Illinois EPA within ninety (90) days of the date that the increase is discovered. Furthermore, the application must include the following information:
 - (1) An identification of the concentration of any 35 Ill. Adm. Code 724, Appendix I constituents found in the groundwater at each monitoring well at the compliance point;
 - (2) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of Section 724.199;
 - (3) Any proposed changes to the monitoring frequency sampling and analysis procedures, or methods or statistical procedures used at the facility necessary to meet the requirements of Section 724.199; and
 - (4) For each hazardous constituent found at the compliance point, a proposed concentration limit under 35 Ill. Adm. Code 724.194(a)(1) or 724.194(a)(2), or a notice of intent to seek an alternative concentration limit for a hazardous constituent under 35 Ill. Adm. Code 724.194(b).

- e. Submit to the Bureau of Land of the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 Ill. Adm. Code 724.200 unless the concentration of all hazardous constituents identified under Condition II.H.9.b above do not exceed the appropriate interim groundwater quality standards found in Condition II.D.1 or the Permittee has sought an alternative concentration limit under II.H.9.d.4 above for every hazardous constituent identified under Condition II.H.9.b. above. This plan must be submitted to the Illinois EPA within 180 days of the date that the increase is discovered.
 - f. Submit to the Bureau of Land of the Illinois EPA all data necessary to justify any alternative concentration limit for a hazardous constituent sought under Condition II.H.9.d.4 above. This data shall be submitted to the Illinois EPA within 180 days of the date that the increase is discovered.
10. If the Permittee determines, pursuant to Conditions II.E.5.a or II.E.5.b that there is an exceedence of the interim groundwater standard for the parameters specified in Condition II.D.1 above, the Permittee may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. The Permittee shall submit a permit modification application in accordance with Condition II.H.9.d unless the demonstration successfully shows that a source other than the regulated unit caused the increase or that the increase resulted from errors in sampling, analysis, or evaluation and the Illinois EPA concurs.

To make this demonstration the Permittee shall:

- a. Notify the Bureau of Land of the Illinois EPA in writing that they intend to make this demonstration. This notification must be submitted to the Illinois EPA within seven (7) days of the date that the increase is discovered.
- b. Submit a report to the Bureau of Land of the Illinois EPA which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis or evaluation. This report must be submitted within ninety (90) days of the date that the increase is discovered.
- c. Submit to the Bureau of Land of the Illinois EPA an application to make any appropriate changes to the detection monitoring program. This application must be submitted within ninety (90) days of the date that the increase is discovered.
- d. Continue to monitor in accordance with the detection monitoring program in place at the facility.

September 2001

Texaco/Lockport
LPC No. 1970500012
RCRA Log No. B-38RI
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I. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the detection monitoring program no longer satisfies the requirements of 35 Ill. Adm. Code 724.198, then within ninety (90) days, the Permittee must submit an application for a permit modification to the Bureau of Land of 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 in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section 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 issuance, and new regulations.

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SECTION II-A

GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Hazardous waste constituents have been detected in groundwater monitoring wells at LF-2 at concentrations above the interim status assessment monitoring groundwater quality objectives. Therefore, a corrective action program meeting the requirements of 35 Ill. Adm. Code 724.200 shall be implemented at LF-2.

At this time, the groundwater impacts that have been detected in the LF-2 monitoring wells are considered to represent residual impacts due to releases prior to closure and encapsulation of LF-2 in 1987. Analysis of LF-2 groundwater monitoring data since closure and encapsulation of the unit has indicated a decrease in hazardous waste constituent concentrations.

The groundwater corrective action program required by this permit includes:

1. Hydraulic control of the flow in the uppermost aquifer beneath and around LF-2 such that groundwater flow is adequately controlled. This control will be accomplished by the presence of the grout curtain surrounding the unit and by withdrawing sufficient quantities of leachate/groundwater from the LF-2 leachate Collection System to maintain a water level in the Leachate Collection System which is lower than the groundwater elevation in the LF-2 monitoring wells.
2. Verification that the flow of groundwater is adequately controlled as required by Condition II-A.A.1 above.
3. Monitoring the quality of groundwater in the uppermost aquifer at the LF-2 compliance point as defined by Condition II-A.B.3 below to determine the effectiveness of the corrective action program.

B. IMPLEMENTATION

- 1 The Permittee shall begin implementation of the correction action program 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 established in the 35

Ill. Adm. Code Part 725 interim status Post-Closure and Groundwater Quality Assessment Program Plans previously approved by the Illinois EPA.

2. The uppermost aquifer at this facility consists of unconsolidated alluvial and colluvial material, weathered dolomite, and unweathered dolomite in descending order, as described in Section E-3 of the permit application. For the purposes of this permit and in accordance with 35 Ill. Adm. Code Part 620 regulations, the uppermost aquifer has been designated Class I: Potable Resource Groundwater, unless the Permittee can demonstrate that another groundwater classification is appropriate.
3. For the purposes of this permit the point of compliance is the vertical surface located at the hydraulically downgradient limits of the waste management area (LF-2) extending down into the uppermost aquifer underlying the regulated unit, as depicted in Figure E-4-2 of the permit application. The point of compliance for the regulated unit is as follows:

LF-2:
 Shallow PM-9R, PM-13, PM-15, and PM-21
 Deep PM-14R, PM-17, and PM-22R

C. WELL AND SUMP LOCATIONS AND CONSTRUCTION

1. The Permittee shall maintain the groundwater monitoring 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 Plate 5 of the approved permit application.

<u>IEPA</u> <u>Well</u> <u>No.</u>	<u>TRMI</u> <u>Well</u> <u>No.</u>	<u>Well</u> <u>Depth</u> <u>(ft-bgs)</u>	<u>Well Depth</u> <u>Elevation</u> <u>(ft MSL)</u>	<u>Well Screen</u> <u>Interval</u> <u>(ft MSL)</u>
---------------------------------------------------------------	---------------------------------------------------------------	---------------------------------------------------------------------	-------------------------------------------------------------------------------	-------------------------------------------------------------------------------

LF-2 Point of Compliance Wells

Shallow

R109	PM-9R*	13.1	564.2	577.1-567.1
G113	PM-13*	7.5	572.9	578.3-573.3
G15S	PM-15*	8.7	572.3	577.7-572.2
GA1S	PM-21*	8.6	571.6	577.7-572.7

Deep

G114	PM-14R*	25.0	556.0	562.5-557.5
G17D	PM-17*	29.5	551.4	557.9-552.9
RA2M	PM-22R*	18.5	561.9	568.1-563.1

* Denotes Groundwater Management Zone (GMZ) wells

- The Permittee shall maintain the LF-2 Leachate Collection Sumps identified in the table below to allow for the withdrawal of leachate/groundwater from the LF-2 Leachate Collection System, as well as, the measurement of water levels to verify the flow of groundwater is adequately controlled as required by Condition II-A.A.2 above.

<u>TRMI Sump Name</u>	<u>Sump Depth (ft- bgs)</u>	<u>Sump Depth Elevation (ft MSL)</u>
North Sump	10.3	573.3
Middle Sump	11.2	571.9
South Sump	12.1	570.7

Note: All leachate/groundwater is routed to the South Sump for withdrawal; the North and Middle Sumps are used to measure water levels and clean out (if and as necessary).

- Construction of each monitoring well/piezometer must be in accordance with the diagram contained in Attachment B to this Permit or details and diagrams approved by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs as shown in Attachment B unless otherwise approved by the Illinois EPA.
- The Permittee shall notify the Illinois EPA within thirty (30) days in writing if any of the wells identified in Condition II-A.C.1 are damaged or the structural integrity has been compromised. A proposal for the replacement of the subject well shall accompany this 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.

5. 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 monitor well construction standards at the time that the well is replaced. A replacement 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.
6. 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 the 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 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

7. All wells/piezometers shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.
8. Volclay as an alternative to the 2 foot bentonite seal above the sand pack is unacceptable. However, it is acceptable as a replacement for the cement/bentonite grout above the seal. Future well installations must include the two (2) foot bentonite seal between the well screen sand pack and the annulus seal. The wells that contain Volclay seals are not required to be replaced at this time. However, the Illinois EPA reserves the right to require that they be replaced if at any time the wells in question affect the quality of the groundwater samples.
9. 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 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition II-A.C.4.

D. GROUNDWATER PROTECTION STANDARD

1. The Permittee shall determine the concentration of constituents identified in Appendix I of 35 Ill. Adm. Code 724, (excluding herbicides, pesticides, PCBs, and dioxins). This determination shall be performed within 120 days of the effective date of this Permit. For the Appendix I constituents detected at concentrations above the practical quantitation limit (PQL) in the analysis, the Permittee may resample within thirty (30) days. If the results of the second analysis confirm the initial results, then the constituents will be used to update the list of hazardous waste constituents found in Condition II-A.D.2. If the Permittee does not resample for the constituents pursuant to this condition, the hazardous constituents found in the initial Appendix I analysis will be used to update the list of hazardous waste constituents. The update to the hazardous constituent list, along with the April/May 1997 LF-2 leachate analysis results, must be submitted to the Illinois EPA within sixty (60) days of the date the Permittee receives the sample results. The update shall be in the form of a Class 1 Permit modification in accordance with 35 Ill. Adm. Code 703.281.

2. The following hazardous constituents and their concentration limits (35 Ill. Adm. Code 620 Class I Groundwater Quality Standards or 35 Ill. Adm. Code 742, Tier 1, Class I Groundwater Remediation Objectives) comprise the groundwater protection standards at the point of compliance. (Total (unfiltered) values will be used for comparison with the interim groundwater standards)

<u>Field Parameters</u>	<u>Storet</u>	<u>Units</u>
pH	00400	
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 second sampling event each year
- ## Shall be survey once every five (5) years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition II-A.I.5.

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<u>Hazardous Waste Constituents</u>	<u>Storet Number</u>	<u>Concentration Limits (mg/L)</u>
<u>Volatile Organic Compounds</u>		
Benzene	34030	0.005
Ethylbenzene	78113	0.7
Toluene	34010	1.0
Xylenes (total)	81551	10.0
<u>Semivolatile Base/Neutral Extractable Organics</u>		
Acenaphthene*	34205	0.42
Anthracene*	34220	2.1
Benzo(a)anthracene*	34526	0.00013
Benzo(a)pyrene*	34247	0.0002
Chrysene*	34320	0.0015
Fluoranthene*	34376	0.28
Fluorene*	34381	0.28
2-Methyl Naphthalene	34581	ND
Pyrene*	34469	0.21
Phenanthrene	34461	ND
<u>Inorganics (Totals)</u>		
Arsenic	01002	0.05
Barium	01007	2.0
Chromium	01034	0.1
Lead	01051	0.0075

* No promulgated 35 Ill. Adm. Code Part 620 Class I Groundwater Quality Standard exists for these constituents. Therefore, 35 Ill. Adm. Code Part 742, Tier 1, Class I, Groundwater Remediation Objectives were utilized.

ND: Not Determined – If these constituents are present after other cleanup objectives have been achieved, the Illinois EPA will advise the Permittee on appropriate cleanup objectives at that time.

NOTE: 35 Ill. Adm. Code Part 620 Class I Groundwater Quality Standards or 35 Ill. Adm. Code Part 742, Tier 1, Class I, Groundwater Remediation Objectives as

found in Condition II-A.D.2 shall remain in effect until the RCRA Facility Investigation (RFI) and site specific risk assessment have been completed. At that time, the Permittee shall propose final risk-based groundwater cleanup objectives (e.g. alternate concentration limits (ACLs)) for the Illinois EPA's review and approval in accordance with Condition II-A.D.3.

3. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194(b) or 35 Ill. Adm. Code 620.450(a) where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment. The alternative concentration limits proposed by the facility must be approved by the Illinois EPA.
4. The compliance period during which the groundwater protection standard applies shall be extended until the Permittee demonstrates that the groundwater protection standard has not been exceeded for three consecutive years.

E. 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. Upon initiation of the Corrective Action Program for LF-2, a GMZ shall be established and maintained. The GMZ is delineated by the LF-2 Point of compliance wells found in Condition II-A.C.1.
2. The Permittee shall collect, preserve, analyze groundwater samples pursuant to Condition II-A.G.
3. The Permittee shall determine groundwater quality at each of the LF-2 monitoring wells identified in Condition II-A.C.1 semi-annually during the active life (including closure and post-closure care period). The Permittee may resample a well within thirty (30) days for constituents whose concentration exceed the PQLs listed in the approved analytical method(s) specified in USEPA's SW-846 (latest version). The results of the second round of analyses will be used to make the determinations required by Condition II-A.E.6, unless resampling is not conducted. If resampling is not conducted, the first round analytical data will be used for the determinations required by Condition II-A.E.6
4. Samples collected during the first and second semi-annual sampling events shall be analyzed for the constituents identified in Condition II-A.D.2.

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 II-A.C.1.
6. The Permittee shall evaluate the results of the analyses required by Condition II-A.E.3 above and identify:
 - a. The concentration of any organic constituent detected which is above the appropriate concentration limit listed in Condition II-A.D.2.
 - b. The concentration of any total (unfiltered) inorganic constituent detected in the compliance point monitoring wells which is above the appropriate concentration limit listed in Condition II-A.D.2.
 - c. The concentration of any constituent detected which was not detected during the previous sampling event.
 - d. The concentration of any constituent that exhibits a progressive increase over two (2) consecutive sampling events.

NOTE: The term detected as used in this condition and elsewhere in the Permit is defined as a concentration equal to or above the PQL listed in USEPA's SW-846 (latest version) for the methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition II-A.G of the Permit.

7. The Permittee shall, at the Permittee's request, delete from the list of hazardous waste constituents listed in Condition II-A.D.2 any constituent which has not been detected above the PQL within a 12 month period (two consecutive semi-annual sampling events). The request must be in the form of a Class 2 permit modification in accordance with 35 Ill. Adm. Code 703, Appendix A, (C)(5)(b).
8. The corrective action program shall maintain the hydraulic control of the flow of groundwater present in the uppermost aquifer and the Permittee shall determine the following:
 - a. Semi-annual monitoring of groundwater elevations in the wells and Leachate Collection System Sumps identified in Conditions II-A.C.1 and II-A.C.2, respectively, to verify that the flow of groundwater is adequately controlled throughout the contaminated area requiring corrective action in the uppermost aquifer as required by Conditions II-A.A.1 and II-A.A.2.

- b. The pumping rate for the Leachate Collection System in order to calculate monthly average of withdrawals of leachate/groundwater.
- c. The amount of leachate/groundwater withdrawn each day by the Leachate Collection System Sumps.
- d. The improvement in the quality of groundwater within the GMZ which has resulted from the corrective action.

F. GROUNDWATER ELEVATIONS

1. The Permittee shall determine the groundwater surface elevation referenced to mean seal level (MSL) at each well each time groundwater is sampled in accordance with Condition II-A.H.3.
2. The Permittee shall determine the surveyed evaluation of the “stick-up” 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 II-A.H.5.
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 use the techniques and procedures described in Section E of the approved permit application when obtaining and analyzing samples from the groundwater monitoring wells described in Condition II-A.C.1 above, with the conditions detailed in Condition II.G.

H. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing and analytical data obtained in accordance with Conditions II-A.D, II-A.E, and II-A.F in the operating record.
2. Samples collected to meet the requirements of the groundwater monitoring program described in Condition, II-A.D and II-A.E shall be collected and reported, as identified in the table below. The result of the analyses conducted on the groundwater quality

samples shall be submitted in accordance with this schedule to the Illinois EPA at the address found in Condition II-A.C.6. All additional data collected for the groundwater monitoring program (as specified in Conditions II-A.D, II-A.E, and II-A.F) shall also be submitted to the Illinois EPA in accordance with this schedule.

<u>Samples to be Collected During the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>	<u>Constituents</u>
April, May, or June	July 15	II-A.D.2
October, November, or December	January 15	II-A.D.2

3. Groundwater surface elevation data, measured pursuant to Condition II-A.F.1 shall be collected at least semi-annually and submitted to the Illinois EPA as identified in the table above.
4. The Permittee shall report the groundwater flow rate and direction in the uppermost aquifer, as required by Condition II-A.E.5 during the second semi-annual sampling event of each year.
5. The Permittee shall report the surveyed elevation, as required by Condition II-A.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 II-A.C.1 above, every five years (during the second semi-annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes. The initial ? re-survey? of these wells shall be conducted during the second semi-annual sampling event following the effective date of the Permit.
 - b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements shall be made every five years (during the second semi-annual sampling event) or whenever the elevation changes.
6. Elevation of the bottom of each monitoring well identified in Condition II-A.C.1, referenced to MSL, is to be reported annually. This measurement shall be taken during the second semi-annual sampling event. (Storet 72020)
7. Information required by Conditions II-A.H.2, II-A.H.3, II-A.H.5, and II-A.H.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment B, in accordance with the schedule found in

Condition II-A.H.2. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/regulatory-programs/permits-and-management/index.html.

8. 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.
9. The Permittee shall submit a written report to the Illinois EPA, in accordance with this schedule the schedule found in Condition II-A.H.2 above, which discusses the effectiveness of the corrective action program. The report must include, but need not be limited to the following information:
 - a. The ability of the program to control groundwater flow as required by Condition II-A.E.8 and;
 - b. The improvement in quality of groundwater quality within the GMZ established at LF-2.
10. If the Permittee determines that groundwater flow is not being adequately controlled, the Permittee shall:
 - a. Notify the Bureau of Land of 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 II-A.E.8.
 - c. Submit a written report to the Bureau of Land of the Illinois EPA within thirty (30) days describing the actions taken to regain control of groundwater flow. In addition, the notification must contain information that demonstrates that groundwater flow is being adequately controlled.
 - d. Submit a request for permit modification to the Bureau of Land of the Illinois EPA within ninety (90) days describing any changes which must be made to the corrective action program to insure that the groundwater flow is being adequately controlled.

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I. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee determines that the corrective action monitoring program no longer satisfies the requirements of 35 Ill. Adm. Code 724.200, then within ninety (90) days, the Permittee must submit an application for a permit modification to the Bureau of Land of 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 in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section 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 issuance, and new regulations.

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SECTION III

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 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 Section 702.186. The filing of a request by the Permittee for a permit modification or revocation, 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) However, any requirements imposed under Corrective Action in Section IV of the Part B Permit which are subject to administrative or judicial challenge shall be stayed until the appeals process is exhausted.
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 700.107)
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 Environmental Protection 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 Agency. (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 Agency 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 includes 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 Agency, within a reasonable time, any relevant information which the Agency 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 Agency, 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 Agency, 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 Appendix A of 35 Ill. Adm. Code 721. 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; laboratory methods approved in writing by IEPA; or an equivalent method as specified in the facility's 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 3 years from the date of the sample, measurement, report or application. These periods may be extended by request of the Agency 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 notice to the Agency as soon as possible of any planned physical alterations or additions to the permitted facility. For a new HWM facility, the permittee may not commence treatment, storage or disposal of hazardous waste; and for a facility being modified the permittee may not treat, store or dispose of hazardous waste in the modified portion of the facility, until:
- a. The permittee has submitted to the Agency 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 Agency has inspected the modified or newly constructed facility and finds it is in compliance with the condition of the permit; or
 - 2. If, within 15 days of the date of submission of the letter in paragraph (a), the permittee has not received notice from the Agency 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 703.244 and 702.152(a))
15. **ANTICIPATED NONCOMPLIANCE.** The Permittee shall give advance notice to the Agency of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee shall not treat, store or dispose 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, except as provided in Section 703.280, until:
- i. The permittee has submitted to the Agency 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
 - ii. Either:
 - a. The Agency has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

- b. Within 15 days after the date submission of the letter in section i above, the permittee has not received notice from the Agency of its intent to inspect, the permittee may commence treatment, storage or disposal of hazardous waste.

(35 Ill. Adm. Code 702.152(b) and 703.247)

- 16. **TRANSFER OF PERMITS.** This permit is not transferable to any person except after notice to the Agency. The Agency may require modification of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate Act. (See Sections 703.260 and 703.270, in some cases modification is mandatory.) (35 Ill. Adm. Code 702.152(c))
- 17. **MONITORING REPORTS.** Monitoring results shall be reported at the intervals specified in the permit. (35 Ill. Adm. Code 702.152(d))
- 18. **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))
- 19. **TWENTY-FOUR HOUR REPORTING.**
 - a. The Permittee shall report to the Agency any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 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 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 Agency may waive the five day written notice requirement in favor of a written report within fifteen days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))
20. **OTHER NONCOMPLIANCE.** The Permittee shall report all instances of noncompliance not otherwise required to be reported under Standard Conditions 17, 18, and 19, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in Standard Condition 19. (35 Ill. Adm. Code 702.152(g))
21. **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 Agency, the Permittee shall promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))
22. **REPORTING REQUIREMENTS.** The following reports required by 35 Ill. Adm. Code 724 shall be submitted in addition to those required by 35 Ill. Adm. Code 702.152 (reporting requirements):
- a. **Manifest discrepancy report:** if a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy with the waste generator or transporter. If the discrepancy is not resolved within 15 days after receiving the waste, the permittee must immediately submit to the Agency a letter describing the discrepancy and attempts to reconcile it and a copy of the manifest or shipping paper at issue. (35 Ill. Adm. Code 724.172(b))

- b. Unmanifested waste report: The permittee must submit to the Agency within 15 days of receipt of unmanifested waste an unmanifested waste report on EPA form 8700-13B. (35 Ill. Adm. Code 724.176)
 - c. Annual report: an annual report must be submitted covering facility activities during the previous calendar year. (35 Ill. Adm. Code 724.175)
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 -- #33
Permit Section
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 Agency 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 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. Waste analysis plan as required by 35 Ill. Adm. Code 724.113(b) and this permit.
 - b. Personnel training documents and records as required by 35 Ill. Adm. Code 724.116(d) and this permit.
 - c. Contingency plan as required by 35 Ill. Adm. Code 724.153(a) and this permit.
 - d. Post-closure plan as required by 35 Ill. Adm. Code 724.218 and this permit.
 - e. Cost estimate for facility post-closure care as required by 35 Ill. Adm. Code 724.242(d) and this permit.
 - f. Operating record as required by 35 Ill. Adm. Code 724.173 and this permit.

- g. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this permit.
27. **WASTE MINIMIZATION.** The Permittee shall certify at least annually that the Permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the Permittee to be economically practicable, and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment, in accordance with 35 Ill. Adm. Code 724.173(b)(9).

GENERAL FACILITY STANDARDS

28. **NOTICE OF WASTE FROM A FOREIGN SOURCE.** The permittee who has arranged to receive hazardous waste from a foreign source must notify the Agency in writing at least four weeks in advance of the date the waste is expected at the facility. (35 Ill. Adm. Code 724.112(a))
29. **NOTICE OF WASTE FROM OFF-SITE.** The Permittee who receives hazardous waste from an off-site source (except where the Permittee is also the generator), must inform the generator in writing that the permittee has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the facility operating record. (35 Ill. Adm. Code 724.112(b))
30. **GENERAL WASTE ANALYSIS.** The Permittee shall comply with the procedures described in the facility's waste analysis plan. (35 Ill. Adm. Code 724.113)
31. **SECURITY.** The Permittee shall comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).
32. **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).
33. **PERSONNEL TRAINING.** The Permittee shall conduct personnel training as required by 35 Ill. Adm. Code 724.116 and shall maintain training documents and records as required by 35 Ill. Adm. Code 724.116(d) and (e).
34. **GENERAL REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTE.** The Permittee shall comply with the requirements of 35 Ill. Adm. Code 724.117.

PREPAREDNESS AND PREVENTION

35. **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)
36. **REQUIRED EQUIPMENT.** The Permittee shall equip the facility with the equipment set forth in the facility's contingency plan, as required by 35 Ill. Adm. Code 724.132.
37. **TESTING AND MAINTENANCE OF EQUIPMENT.** The Permittee shall test and maintain the equipment specified in condition 36 as necessary to assure its proper operation in time of emergency. Such testing and maintenance activities are set forth in the approved inspection schedule. (35 Ill. Adm. Code 724.133)
38. **ACCESS TO COMMUNICATIONS OR ALARM SYSTEM.** The Permittee shall maintain access to the communications or alarm system as required by 35 Ill. Adm. Code 724.134.
39. **REQUIRED AISLE SPACE.** The Permittee shall maintain aisle space as required by 35 Ill. Adm. Code 724.135 and National Fire Protection Association (NFPA) requirements.
40. **ARRANGEMENTS WITH STATE AND LOCAL AUTHORITIES AND EMERGENCY RESPONSE CONTRACTORS.** The Permittee shall attempt to make emergency response arrangements with State and local authorities and agreements with State emergency response teams and emergency response contractors and equipment suppliers as required by 35 Ill. Adm. Code 724.137. If State or local officials refuse to enter in preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

CONTINGENCY PLAN

41. **IMPLEMENTATION OF PLAN.** The provisions of the contingency plan must be carried out by the Permittee immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment (35 Ill. Adm. Code 724.151(b)). At a minimum, this includes any fire or explosion which occurs in an area where hazardous waste is being managed (treated, stored or disposed) (35 Ill. Adm. Code 703.241). Within 15 days of any incident that requires implementation of the contingency plan, the owner or operator must submit a written report to the Agency as required by 35 Ill. Adm. Code 724.156(j).

42. **COPIES OF PLAN.** A copy of the contingency plan, including any revisions, must be maintained at the facility and submitted to all local police and fire departments, hospitals and state and local emergency response teams as required by 35 Ill. Adm. Code 724.153.
43. **AMENDMENTS TO PLAN.** The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 35 Ill. Adm. Code 724.154.
44. **EMERGENCY COORDINATOR.** A trained emergency coordinator shall be available at all times in case of an emergency as required by 35 Ill. Adm. Code 724.155 and 724.156.

MANIFEST SYSTEM RECORD KEEPING AND REPORTING

45. **MANIFEST SYSTEM.** The Permittee shall comply with the manifest requirements of 35 Ill. Adm. Code 724.171, 724.172 and 724.176.
46. **OPERATING RECORD.** The Permittee shall maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.
47. **ANNUAL REPORT.** The Permittee shall prepare and submit an annual report to the Agency prior to March 1st of each year in accordance with the requirements of 35 Ill. Adm. Code 724.175.

POST-CLOSURE

48. **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.
49. **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).
50. **COST ESTIMATE FOR FACILITY POST-CLOSURE CARE.** 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 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 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)
51. 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 the previous Permit Condition. Changes in financial assurance mechanisms must be approved by the Agency pursuant to 35 Ill. Adm. Code 724.245.
52. LIABILITY REQUIREMENTS. The Permittee shall demonstrate continuous compliance with the requirements of 35 Ill. Adm. Code 724.247 and the documentation requirements of 35 Ill. Adm. Code 724.251.
53. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS. The Permittee shall comply with 35 Ill. Adm. Code 724.248 whenever necessary.

LAND DISPOSAL RESTRICTIONS

54. DISPOSAL PROHIBITION. Any waste identified in 35 Ill. Adm. Code Part 728, Subpart C, or any mixture of such a waste with nonrestricted wastes, is prohibited from land disposal unless it meets the standards of 35 Ill. Adm. Code Part 728, Subpart D, or unless it meets the requirements for exemptions under Subpart C. "Land disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, or vault intended for disposal.
55. DILUTION PROHIBITION. The Permittee shall not in any way dilute a restricted waste or residual from treatment of a restricted waste as a substitute for adequate treatment in order to achieve compliance with 35 Ill. Adm. Code 728, Subpart D (35 Ill. Adm. Code 728.103).
56. WASTE ANALYSIS.
- 1. The Permittee must test his waste or extract developed, using the test method identified in Appendix I of 40 CFR Part 268, or use knowledge of the waste, to determine if the waste is restricted from land disposal.
 - 2. For any waste with treatment standards expressed as concentrations in the waste extract, the Permittee must test the treatment residues or an extract of such residues

developed using the test method described in Appendix I of 40 CFR Part 268, to assure that the treatment residues or extract meet the applicable treatment standard.

3. If the treatment residues do not meet the treatment standards, or if the Permittee ships any restricted wastes to a different facility, the Permittee shall comply with the requirements applicable to generators in 35 Ill. Adm. Code 728.107 and 728.150(a)(1).

57. STORAGE RESTRICTIONS

1. The Permittee shall not store hazardous wastes restricted from land disposal under 35 Ill. Adm. Code Part 728, Subpart C unless such wastes are stored only in containers or tanks, and are stored solely for the purpose of the accumulation of such quantities as is necessary to facilitate proper recovery, treatment, or disposal, and: (1) each container is clearly marked to identify its contents and the date each period of accumulation begins; (2) each tank is clearly marked to identify its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, as required by 35 Ill. Adm. Code 728.150.
2. The Permittee must comply with the operating record requirements of 35 Ill. Adm. Code 724.173.

58. NEW DETERMINATIONS OF PROHIBITED WASTES

Wastes which are prohibited from land disposal under 35 Ill. Adm. Code Part 728, Subpart C, or for which treatment standards have been established under 35 Ill. Adm. Code 728, Subpart D, subsequent to the date of issuance of this permit, shall be subject to the conditions number 54 through 57 above.

SECTION IV

CORRECTIVE ACTION

A. INTRODUCTION

The Permittee is implementing an ongoing demolition and cleanup project at its facility in Lockport, Illinois. The goal of this project is to leave the entire former refinery (a 580 acre parcel of ground) in a condition that will allow for possible future industrial, commercial, or recreational redevelopment. A map showing the boundaries of the facility is provided in Attachment D.

The corrective action program required in this section of the RCRA permit being issued for the former Texaco facility in Lockport, Illinois addresses releases from solid waste management units (as required by 35 Ill. Adm. Code 724.201) and all other "recognized environmental conditions" (RECs) at the former refinery (this latter effort is being conducted voluntarily by the Permittee; however, proper investigation and remediation of all RECs is an explicit requirement of this permit). As used in this permit, the term "recognized environmental condition" is used to identify areas of environmental interest that are not solid waste management units. The goal of this program is to investigate and remediate, as necessary, all areas at the subject facility where potential contamination may be present and obtain "No Further Action" (NFA) determinations from the Illinois EPA.

This permit requires the Permittee to implement a corrective action program by completing the following tasks:

1. Divide the facility up into several investigation areas (IAs) so that investigation/remediation of the facility can take place in a phased manner (implemented in series or in parallel). For example, one area could be undergoing remediation, while another area is under assessment, and a third is receiving an NFA determination. This approach will allow different areas to be at different stages in the corrective action process at the same time and will provide for an efficient and flexible implementation of the corrective action program.
2. Develop and submit a Current Conditions Report for each IA which addresses all the items contained in the RCRA Facility Assessment (RFA) prepared by Illinois EPA (including detailed site characteristics) for that IA, identifies all recognized environmental conditions in the IA and summarizes demolition/investigation/remediation activities completed to date in the IA. The Current

Conditions Report will supersede the RFA and form the foundation for all subsequent assessment and corrective measures activities for each IA.

3. Conduct comprehensive Environmental Investigations (EIs) to evaluate all solid waste management units and RECs at the former refinery. The EIs will be conducted on an area-specific or activity-specific basis, depending on environmental and land use priorities. The EIs will be conducted in a phased approach until all the areas at the former refinery have been investigated.
4. Develop and implement Interim Measure Programs or Corrective Measures Programs (CMPs) for each investigation area, as necessary to protect human health and the environment from contaminants detected above acceptable levels established in accordance with applicable regulations.

It must be noted that the terms and conditions of this section do not apply to the units referred to as LF-1, LLF, LAA, CT and LF-2. Activities at these units must meet the requirements of Sections I, II and III of this permit.

B. GENERAL CORRECTIVE ACTION REQUIREMENTS

1. The applicable requirements of 35 Ill. Adm. Code 620, 724.201, and 742 and Section 3004(u) and (v) of RCRA must be met in implementing the corrective action program at this facility. In accordance with 35 Ill. Adm. Code 724.201(c), the Permittee must implement corrective action beyond the facility property boundary, where necessary to protect human health and the environment. The Permittee shall not be relieved of responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied.
2. Illinois EPA issued a No Further Action letter for the soils in Area 3A. A condition of this letter required Texaco to address any groundwater contamination beneath this area. Although this area is presently not a part of the permitted property, the groundwater beneath it must be properly addressed under the off-site corrective action provisions of this Permit, 35 Ill. Adm. Code 724.201 and Section 3004(v) of RCRA.
3. Contaminated soil and waste being transported off-site for treatment/storage/disposal must be properly covered as necessary to prevent the material from falling, sifting, blowing, dropping or in any way escaping from the vehicle, before the transport vehicle leaves the facility.

4. The Permittee shall provide two copies of plans and reports and other pertinent correspondence regarding corrective action activities to the Lockport Public Library so that they may be placed in the repository established there for information regarding RCRA activities at the facility, as follows:
 - a. Reports shall be submitted to the repository concurrent with submittal to the Agency.
 - b. Workplans required by the permit, and each workplan modification and/or response to an Agency approval letter to the public repository along with the Agency approval letter following receipt of that Agency approval letter.
5. The terms and conditions of this section do not apply to the units referred to as LF-1, LLF, LAA, CT and LF-2. Activities at these units must meet the requirements of Sections I, II and III of this permit.

C. INVESTIGATION AREAS

1. The former refinery has been divided into fourteen (14) investigation areas, based on environmental and land use considerations. These areas shall be investigated and remediated under the corrective action requirements of this permit in a phased approach (implemented in series or in parallel) until such time as the entire facility has been investigated and remediated. Execution of the corrective action program in this manner will provide for an efficient and flexible remediation program for this facility.
 - a. The investigation area boundaries are shown on the figure contained in Attachment D and are further discussed in Condition IV.C.2 below.
 - b. The investigation area boundaries may be modified if:
 - (1) It becomes necessary to carry investigation and/or remediation activities beyond the currently defined boundaries to delineate the extent of and/or clean up a potential release; and/or
 - (2) Redevelopment or lease issues necessitate changes to the boundaries.

Changes or modifications to investigation or land use area boundaries will not constitute formal permit modifications provided the entire facility as shown in Attachment D is eventually investigated in accordance with the provisions of this

permit. Such changes or modifications are however subject to Illinois EPA review and approval.

- c. Final investigation area boundaries will be specified in area-specific EI Workplans, submitted for Agency approval. Each area-specific workplan must contain an updated discussion of the Permittee's plan and schedule for ensuring the entire facility is eventually investigated.
2. The fourteen investigation areas (IAs) which comprise the former refinery are shown in Attachment D to this permit and are further discussed below:
 - a. Area 1. Area 1 consists of a strip of land, extending along the east and north perimeters of the facility, which is designated for a public use bike trail. The trail is part of the proposed Grand Illinois Trail System, which is scheduled to be completed and opened in July of 2000. The IDNR advised Texaco of its plans to construct a bike trail along the I&M Canal Reserve. Timing for trail construction through the Reserve is not compatible with planned refinery or IDNR property cleanup activities. Texaco agreed to provide the alternate bike trail corridor and construct the trail on Texaco property in time for opening, in exchange for lease renewal of five years to restore the leased land. The IDNR and Will County Forest Preserve District (WCFPD) have accepted this alternate route.
 - b. Area 2. Area 2 consists of the far southern portion of the facility, between the I&M Canal and the Santa Fe Railroad. Area 2 includes the main office and laboratory buildings. The City of Lockport has expressed desire to renovate these buildings and use them as part of an incubator program to stimulate economic redevelopment. The City has also expressed interest in pursuing economic redevelopment of the remainder of Area 2.
 - c. Area 3A. Area 3A is located in the southeastern portion of the facility. Area 3A consists of property bordered on the north by the CT (a closed Land Treatment Unit which is receiving post-closure care in accordance with other provisions set forth in this permit) and additional acreage designated to be retained by Texaco until site-wide remediation is complete, on the west by the I&M Canal Reserve, on the east by additional acreage planned for redevelopment (Area 3B), and on the south by the south bank of Fiddymont Creek. Area 3A also includes a north-south strip of land along its eastern border which has been designated as a future right-of-way for a public road. The northern 10 acres of this IA has been sold. Texaco is in negotiations with a developer that has expressed interest in acquiring a second parcel of land within this IA. From time to time, transfer of acreage within this IA to another owner may take place.

- d. Area 3B. Area 3B is located in the southeastern portion of the facility. Area 3B consists of property bordered on the north by the North Tank Farm, on the west by the Area 3A and the I&M Canal Reserve, on the east by the planned bike trail corridor (Area 1), and on the south by Second Street. Texaco is in final negotiations with a developer that has expressed interest in acquiring this parcel by July of 2001.
- e. Area 4A. Area 4A consists of a portion of a 35.98-acre parcel of property with numerous SWMUs. Area 4A may be considered for conditional redevelopment.
- f. Area 4B. Area 4B consists of the Canal dock/frontage and the top 10 feet of the adjoining slope toward Deep Run. Area 4B is not being considered for redevelopment at this time.
- g. Area 4C. Area 4C is part of the facility's South Stormwater Ponds and is being considered for continued stormwater management.
- h. Area 5. Area 5 consists of the 90-foot-wide strips of land on each side of the Canal (the 90-foot strips are collectively referred to as the I&M Canal Reserve).
- i. Area 6. Area 6 includes the North Tank Farm and surrounding property. Texaco currently leases the North Tank Farm to Equilon Enterprises, LLC, for operation as a petroleum pipeline breakout facility. Transfers of crude oil to and from the facility are made via offsite underground, third-party pipelines, which are brought above ground once they enter the facility. The lease area and facilities will be arranged to facilitate a possible property transfer to Equilon in the future should this option be desired.

Equilon shall continue to be responsible for its own operational activities and environmental compliance. As part of the RCRA Corrective Action Program, Texaco shall address investigation and remediation of SWMUs and other areas of environmental interest related to past Texaco activities in the Equilon area. Texaco will establish baseline environmental conditions to differentiate between its past operations and Equilon's ongoing activities and future responsibilities.

- j. Area 7A. Area 7A includes developed and undeveloped portions of the property for which no specific redevelopment interests have been identified to date. The acreage of Area 7A is planned to be retained by Texaco and includes the regulated units, new wastewater treatment facilities, adjacent shop building and contiguous areas. Texaco plans to evaluate establishment of a conservation easement in the undeveloped areas in the northern portion of the property.

- k. Area 7B. Area 7B is part of the facility’s South Stormwater Ponds and is being considered for continued stormwater management.
- l. Area 8A. Area 8A consists of property bordered on the north and east by the I&M Canal, on the west by the Burlington Northern and Santa Fe Railroad and on the south by Area 2. This area has been designated for possible future redevelopment.
- m. Area 8B. Area 8B consists of the former coke handling area and vicinity.
- n. Surface Water Within/Immediately Adjacent to Facility. This investigation area consists of Pellegrini Lake and all streams located within/adjacent to the facility. The streams of interest include: (1) from north to south, Long Run, North Gate Creek, Little Run, Big Run, and Fiddymment Creek; and (2) from east to west, the I & M Canal and Deep Run Creek.

D. SOLID WASTE MANAGEMENT UNITS

Based upon the results of the RCRA Facility Assessment which was conducted by the Agency for the former refinery, subsequent notification regarding newly identified SWMUs, and the updated information to be provided in the RCRA Current Conditions Report, the SWMUs identified in the table below must be evaluated in the EIs for potential releases to certain environmental media of concern also identified in the table.

<u>Unit</u>	<u>Environmental Media of Interest</u>
1. Incinerator Ash Disposal Area	Soil
2. Separator Sludge Pit	Soil
3. API Separator	Soil
4. South Lime Sludge Blowdown Pit	Soil
5. North Lime Sludge Blowdown Pit	Soil
6. North Stormwater Ponds	Surface water/sediment, groundwater soil
7. South Stormwater Ponds	Surface water/sediment, groundwater

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| 8. Sour Water Storage Tanks 19654 and 19655
(See Note 2 below) | Soil |
| 9. Leaded Gasoline Tank Bottom Disposal
Areas (including those at Tanks 2112, 3757,
19508, 19557 and 19560 discovered in
January 2000) | Soil, surface water/sediment |
| 10. Wastewater Treatment Unit | Soil |
| 11. Plant Sewer System | Soil, surface water/sediment |
| 12. Spent Acid/Caustic Tanks
3711, 3713, 3714, 3715, 3717,
19678, 3744, 3745, 30265, 32772
(see Note 2 below) | Soil |
| 13. Heat Exchanger Bundle Cleaning Area | Soil, surface water/ sediment |
| 14. Drum Washing Area | Soil |
| 15. Process and Product Tanks
2189, 2191, 3703, 4645, 11475, 11500,
19622, 19631, 19651, 19677, 19680,
19746, 19747, 11428 (See Note 2 below) | Soil |
| 16. Hazardous Waste Storage Tanks*
4646, 4647, 19630, 19656, 19745 (See Note 1 below) | Soil |
| 17. Former Coke Handling Area | Soil, Groundwater |

Notes:

1. The soil investigation for RCRA closure of these five (5) hazardous waste storage tanks will be conducted concurrently as a part of the EI required by this Post-Closure permit and consistent with the schedule provided in Attachment A - Guidance for Preparing the Environmental Investigation Workplans. Should any remediation be required as a result of this investigation, it shall also be carried out in accordance with the terms and conditions of this permit.

2. Sampling and analysis of soils underlying or surrounding the unit will not be required if the Permittee is able to demonstrate to the satisfaction of the Agency that the unit has not released hazardous waste and/or hazardous constituents to the soil. This can be demonstrated by providing a certification by an Illinois registered professional engineer that the integrity of the unit is acceptable to contain liquids, and that an inspection was carried out in accordance with the standards and recommendations of professional/technical entities such as the American Concrete Institute, the American Society of Mechanical Engineers, the American Petroleum Institute, the Portland Cement Association, the American Society of Civil Engineers, or others, which relate to the ability of a structure to contain liquids. The results of this inspection and certification by the registered professional engineer must be provided in the applicable EI report(s).

E. PREPARING THE RCRA CURRENT CONDITIONS REPORT

1. Illinois EPA conducted a RCRA Facility Assessment (RFA) at the former Texaco/Lockport refinery as part of its efforts to develop this permit. This RFA was developed in 1992 and identified the solid waste management units at the former refinery. This report was then used to identify which SWMUs needed to be addressed by the corrective action provisions of this permit.
2. The Permittee shall initiate corrective action activities at the former refinery by preparing a RCRA Current Conditions Report for each IA to update the RFA and provide more information about all possible sources of contamination (i.e., all SWMUs and RECs) at the facility. The Current Conditions Report for each IA will supersede the RFA and contain:
 - a. Information regarding the background and current status of the former refinery;
 - b. An identification of all possible sources/areas of contamination within the IA (i.e., all RECs present in the IA and all SWMUs present in the IA, including but not limited to, the SWMUs identified in the RFA in the IA); and
 - c. A description of all demolition/remedial/interim/stabilization measures completed to date within the IA.
 - d. An identification of those SWMUs and RECs which will be further investigated during the EI (including justification for eliminating any identified SWMUs or RECs from further investigation).

The Current Conditions Report will also confirm those SWMUs for which all environmental media are a low priority and for which no further action is required.

3. The Current Conditions Report will form the foundation for the development of EI and Corrective Measures workplans for each IA.
4. The Permittee shall submit the RCRA Current Conditions Report for each IA along with the Environmental Investigation workplan in accordance with the schedule set forth in Condition IV.E.4 below.
5. The RCRA Current Conditions Report for each IA shall be developed in accordance with Attachment C to this permit. The RCRA Current Conditions Report should be equivalent to a Phase I site investigation report as set forth in 35 Ill. Adm. Code 740.240(a).

F. CONDUCTING THE ENVIRONMENTAL INVESTIGATIONS

1. The Permittee must conduct fourteen Environmental Investigations (EIs) (one for each of the thirteen areas which comprise the former refinery identified in Condition IV.C and one for the “surface water within/immediately adjacent to facility” as required by Condition IV.G) in series or in parallel to determine the nature and extent of any release from the SWMUs and RECs identified in the Current Conditions Report as needing further investigation. At a minimum, each SWMU identified in Condition IV.D above must be investigated. Condition IV.G below contains the requirements for conducting the EI for the “Surface Water Within/Immediately Adjacent to Facility”.
2. The EIs shall be performed on an area-specific and/or activity-specific basis in a phased approach until all investigation areas identified in Condition IV.C have been investigated. A given EI may consist of several steps or phases to adequately characterize the contamination at the SWMUs and RECs of concern within a given area.
3. The EIs shall be conducted in accordance with guidelines established in Attachment A to this permit and may incorporate appropriate elements of 35 Ill. Adm. Code Parts 740. Workplans for each EI must be reviewed and approved by Illinois EPA prior to their implementation.
4. The Permittee has already submitted several area-specific current condition reports and environmental investigation workplans to the Illinois EPA for review and approval. A summary of the status of these documents, as well as a schedule for submitting current

condition reports and environmental investigation workplans for the rest of the IAs of concern at the former refinery, are set forth in the following table:

Area	Status of Current Conditions Report and Workplan for Environmental Investigation/Remediation
1	Non-groundwater related aspects approved August 15, 2000 (B-38-CA-3) Groundwater aspects still under review
2	To be submitted by February 1, 2002
3A	Non-groundwater related aspects approved May 17, 2000 (B-38-CA-1) Groundwater aspects approved August 8, 2000 (B-38-CA-1) No Further Action for soils within the northern 10 acres of area approved August 21, 2000 (B-38-CA-5) (subsequently revised on December 27, 2000 and July 16, 2001)
3B	To be submitted by December 1, 2001
4A	To be submitted by November 1, 2001
4B	To be submitted by November 1, 2001
4C	Received June 18, 2001 (B-38-CA-12)
5	Received December 28, 1999 (B-38-CA-10)
6	To be submitted by September 1, 2002
7A	To be submitted by December 1, 2002
7B	Received June 18, 2001 (B-38-CA-12)
8A	To be submitted May 1, 2002
8B	Received June 18, 2001 (B-38-CA-13)
Surface Water	To be submitted within 90 days of the effective date of the permit

5. The Permittee has submitted two activity specific workplans which describe investigative/remedial efforts which will be carried out throughout the entire facility regarding leaded tank bottom disposal areas and dismantling efforts. These workplans were approved by Illinois EPA on May 8, 2000 (Log No. B-38-CA-4) and May 11, 2000 (Log No. B-38-CA-2) respectively. The Permittee shall carry out these activities with plans and specifications approved by Illinois EPA. A report documenting completion of remedial activities completed at the leaded tank bottom disposal areas was submitted to Illinois EPA on August 22, 2000 (Log No. B-38-CA-6); an addendum to this report was submitted to Illinois EPA on November 27, 2000 (B-38-CA-7).
6. In general, the area-specific EI Workplans shall be brief and must contain the following:
 - a. Information regarding the specific area and/or activity of investigation at the former refinery.
 - b. Information, where it is available, regarding each SWMU and each REC of concern in that area identified in the Current Conditions Report as needing further investigation. This information should: (1) characterize the unit, (2) describe its history of operations, and (3) document the unit's integrity.
 - c. Proposed procedures, including field activities, to determine the absence or presence of releases of hazardous waste or hazardous constituents to the soil, and/or groundwater from each SWMU and each REC of concern which is determined, based on the unit and waste characterization in the Current Conditions Report, to have a potential to have released hazardous waste or hazardous constituents to the environmental media.

More specific guidelines regarding what must be contained in the comprehensive, area-specific or activity-specific Workplans are contained in Attachment A to this permit. The Permittee may also use the provisions of 35 Ill. Adm. Code Parts 740.415 and 740.420 as guidelines to prepare the comprehensive area-specific and/or activity-specific EI Workplans.

7. The Agency's DLPC will approve, approve with conditions or modification, or disapprove the area-specific and/or activity-specific EI Workplans in writing and provide comments regarding the necessary corrections or modifications:
 - a. Within sixty (60) days of receipt of any Agency letter disapproving the plan, the Permittee must modify the plans or submit new plans for the Agency's DLPC approval.

- b. Within thirty (30) days of the Agency's DLPC approval of the area-specific and/or activity-specific EI Workplans, the Permittee shall begin implementing the Workplans according to the terms and schedules in the Workplans.
 - c. Agency action on the area-specific and/or activity-specific Workplans will be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
8. The Permittee must submit reports documenting the efforts carried out as set forth in the approved, area-specific and/or activity-specific EI Workplans in accordance with the schedules established in the approved Workplans. The reports must:
 - a. Be organized so as to present comprehensive and coherent descriptions of the sources, if any, and the nature and extent of impacted environmental media, if any discovered at each SWMU and each REC during the area-specific and/or activity-specific EIs. These reports may also include discussions of contaminants arising from off-site, non-facility related sources, if applicable.
 - b. Discuss and evaluate the results of the area-specific and/or activity-specific EIs associated with each SWMU and each REC and include conclusions related to the need for: (1) additional investigation(s) at each SWMU and each REC as part of subsequent EI phases; and/or (2) interim measures at each.
 - c. Be prepared in accordance with any modifications to the Workplans imposed by the Agency as part of its approval of the Workplans. The Permittee may use provisions of 35 Ill. Adm. Code Part 740.425 as guidance for preparing the area-specific and/or activity-specific EI reports.
 - d. Contain an evaluation of risk and proposed action levels which will be used to make these determinations (since the reports must include conclusions related to the need for additional area-specific and/or activity-specific investigations and/or interim measures). Proposed action levels shall be developed in accordance with Section IV.H of this permit. Justification for these proposed values must also be included in the reports.
9. Following the submittal of each site-specific and/or activity-specific EI Report, the Agency's DLPC will review the submitted data and notify the Permittee in writing of the results of the review. This notification will discuss the status of each investigation, including the SWMUs and RECs evaluated as part of the area-specific EIs.

- a. The Agency shall issue a No Further Action letter for that investigation area in accordance with 35 Ill. Adm. Code 742 if it determines that (1) there is no potential for unacceptable release from that investigation area to the environmental media of interest and (2) there has been no unacceptable release of hazardous wastes or hazardous constituents to the environmental media of interest from or within that investigation area.
- b. The Permittee will be required to conduct additional area-specific investigation(s), interim measures and/or corrective measures (if no further investigation is needed) if the Agency determines, that: (1) there has been an unacceptable release to any environmental media of interest, (2) there currently is an unacceptable release to any environmental media of interest, or (3) the data associated with a given investigation area is inconclusive. The additional site-specific and/or activity-specific investigations shall address the environmental media of interest, including groundwater, if appropriate.
- c. The final letter sent to the Permittee conveying the results of the review will:
 - (1). Identify those areas for which no further investigation is needed;
 - (2). Identify which areas must be further investigated to determine the rate and extent of migration of hazardous waste or hazardous constituents and the concentrations of the hazardous waste or hazardous constituents in the environmental media potentially impacted within the investigation area;
 - (3). Identify, for each area requiring further investigation, the associated environmental media which must be further investigated;
 - (4). Indicate whether the facility must perform additional area-specific and/or activity-specific investigations for those SWMUs and RECs requiring further investigation. Unless sufficient information is provided to the Agency as a result of additional investigation(s), areas which have the possibility of releasing hazardous waste or hazardous constituents to groundwater must also be evaluated as part of the additional area-specific and/or activity-specific EI phases.
 - (5). Identify any SWMUs and any RECs where contamination has been fully characterized which need interim/corrective measures implemented to properly protect human health and the environment.

- d. Agency action on the final area-specific EI report(s) and proposed remediation objectives will be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
10. If the Permittee is notified in writing in accordance with Condition IV.F.9.c that any SWMU, including SWMUs identified in Condition IV.D above, or any REC must be evaluated in subsequent EI phases, then the Permittee must develop and submit additional area-specific and/or activity-specific EI Workplans. Subsequent phases of the EIs shall focus on determining the rate and extent of migration of hazardous waste or hazardous constituents and the concentrations of the hazardous waste or hazardous constituents in the soil and/or groundwater potentially impacted within the investigation area(s). Only the media potentially impacted within the investigation area(s) as identified in the Agency notification set forth in Condition IV.F.9.c above must be investigated. Such workplan(s) must be submitted no more than ninety (90) days after the facility is notified in writing in accordance with Condition IV.F.9.c above. Guidelines for subsequent EIs are contained in Attachment A to the permit. The Permittee may also use the provisions of 35 Ill. Adm. Code Parts 740.415 and 740.430 as guidelines to prepare subsequent focused area-specific and/or activity-specific EI Workplans.
11. The Agency's DLPC will approve, approve with conditions or modifications, or disapprove the additional area-specific and/or activity-specific Workplan(s) in writing and provide comments regarding the required corrections or modifications. Agency and Permittee actions for the additional area-specific Workplan(s) are specified in Condition IV.F.7.
12. The Permittee must submit report(s) documenting the efforts carried out in accordance with the approved additional area-specific and/or activity-specific EI Workplan(s) in accordance with the schedule(s) established within those Workplan(s). The report(s) must be prepared in a manner which is similar to that specified in Condition IV.F.8 above.
13. Following submittal of each additional area-specific and/or area-specific EI Report(s), the Agency's DLPC will review the data obtained from the additional area-specific and/or activity-specific EI(s) and notify the Permittee in writing of the results in a manner which is similar to that specified in Condition IV.F.9 above.
14. Within ninety (90) days of receipt of the Agency's response identified in Condition IV.F.9 or IV.F.13, the Permittee shall submit to the Agency's DLPC areas specific and/or activity-specific Corrective Measures Plans (CMPs), in accordance with the requirements outlined in Condition IV.J below, for those investigation areas identified in

the response as requiring corrective measures. The Permittee must perform corrective measures, as necessary, to protect human health and/or the environment.

G. SURFACE WATER AND SEDIMENT MONITORING/INVESTIGATION

1. The Permittee shall implement a facility-wide surface water and sediment environmental investigation. The surface water/sediment EI shall evaluate all streams located within/immediately adjacent to the facility and Pellegrini Lake. These streams include: (1) from north to south, Log Run Creek, North Gate Creek, Little Run Creek, Big Run Creek, and Fiddymont Creek; and (2) from east to west, the I&M Canal and Deep Run. A map showing the location of these surface water bodies as provided in Attachment D to this permit. It must be noted that: (1) North Gate Creek is actually a man-made drainage ditch; and (2) Pellegrini Lake is actually a surge basin for Big Run Creek.

The purpose of this EI will be to determine whether a potential threat to human health and/or the environment exists as a result of a release to surface water within/immediately adjacent to and/or sediment from the former Texaco facility. Surface water monitoring shall continue beyond the initial investigation, to ensure that the surface waters are not being impacted as the rest of the investigation/remedial efforts at the overall facility are being carried out.

2. The Permittee shall submit to the Agency's DLPC Permit Section a written Surface Water EI Workplan within 90 days of the effective date of this permit. The surface water EI shall focus on facility-wide surface water and sediment quality. The investigation shall be comprehensive in nature and focus on surface water and sediment upstream of the facility, along the boundaries of the facility and within the facility itself. The investigation shall also focus on surface water and sediments at the downstream edges of the facility to detect potential off-site releases and to monitor surface water and sediments downstream of potential sources located at the Lockport facility. In general, the surface water EI Workplan must contain the following:
 - a. Background information about the surface waters of concern, based upon available information. This information includes: (1) location; (2) drainage areas; (3) inflows/outflows; (4) depth and direction of flow; (5) flow rate; (6) sediment thickness; (7) profile of the bottom of the surface waters bodies; and (8) sediment quality. The information presented in the CERCLA Expanded Site Investigation report for the I&M Canal issued by Illinois EPA on February 7, 2000 must be discussed.

- b. Information, where it is available, regarding potential sources at the Lockport facility of surface water and sediment quality degradation.
- c. Proposed procedures, including field activities, to determine the absence or presence of releases of hazardous waste or hazardous constituents to the surface water and sediment, and to differentiate potential releases from the Lockport facility and other potential offsite sources.

More specific guidelines regarding what must be contained in the surface water EI Workplan are contained in Attachment A to this permit. The Permittee may also use the provisions of 35 Ill. Adm. Code Parts 740.415 and 740.420 as guidelines to prepare the surface water EI Workplan.

- 3. The Agency's DLPC will approve, approve with conditions or modifications, or disapprove the surface water EI Workplan in writing and provide comments regarding the necessary corrections or modifications.
 - a. Within sixty (60) days of receipt of an Agency letter disapproving the plan, the Permittee must modify the plan or submit a new plan for the Agency's DLPC approval.
 - b. Within thirty (30) days of the Agency's DLPC approval of the surface water EI Workplan, the Permittee shall begin implementing the Workplan according to the terms and schedule in the Workplan.
 - c. Agency action on the surface water Workplan will be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
- 4. The Permittee must submit a report documenting the efforts carried out as set forth in the approved surface water EI Workplan in accordance with the schedule established in the approved Workplan.
 - a. This report must be organized so as to present a comprehensive and coherent description of the sources, and the nature and extent of surface water and sediment impacted by the Lockport facility, if any, discovered during the EI. This report may also include discussions of contaminants arising from off-site, non-facility related sources, if applicable.
 - b. The report must also discuss and evaluate the results of the EI and include conclusions related to the need to prioritize additional investigations and/or interim measures as necessary to protect human health and/or the environment. The

Permittee may use the provisions of 35 Ill. Adm. Code Part 740.425 as guidance for developing the Surface Water Report.

- c. Since the report must include conclusions related to the need for additional investigations and/or interim measures, it must contain an evaluation of risk, proposed action levels which will be used to make this determination. Proposed action levels shall be developed in accordance with Condition IV.H of this permit. Justification for these proposed values must also be included in the report.
5. Following the submittal of the surface water EI Report, the Agency's DLPC will review the submitted data and notify the Permittee in writing of the results of the review. This notification will discuss the status of surface water and sediment quality evaluated as part of the EI.
- a. If the Agency's DLPC determines, based upon the data provided within and obtained from the surface water EI Report, that (1) there is no potential for unacceptable release from the Lockport facility to surface water and/or sediments and (2) there has been no unacceptable release of hazardous wastes or hazardous constituents from the Lockport facility to surface water and/or sediments, then the Permittee shall continue to monitor surface water at the boundaries and downstream edge of the facility on a quarterly basis during the first year following completion of the surface water investigation. If no unacceptable releases are detected, then the monitoring frequency may be reduced to semi-annual while the rest of the investigative/remedial efforts at the overall facility are being carried out.
 - b. If the Agency's DLPC determines, based on the data from the EI for surface water and sediment, that (1) there has been an unacceptable release from the Lockport facility to surface water and/or sediment, (2) there currently is an unacceptable release to surface water and/or sediment, or (3) the data associated with surface water and sediment is inconclusive, then the Permittee will be required to conduct additional investigations, interim measures, and/or corrective measures for surface water and/or sediment (if no further investigation is needed), as appropriate, in accordance with the terms and conditions of this permit.
 - c. The final letter sent to the facility conveying the results of the review will:
 1. Identify those surface waters and/or sediments for which no further investigation is needed; and/or
 2. Identify which surface waters and/or sediment must be further investigated to determine the extent of migration of hazardous waste or hazardous

constituents from the Lockport facility and the associated concentrations of the hazardous waste or hazardous constituents in the surface waters and/or sediments;

- d. Agency action on the final surface water EI report and proposed cleanup objectives will be subject to the appeal provisions of Section 39(d) and 40(a) of the Illinois Environmental Protection Act.
6. If the Permittee is notified in writing in accordance with Condition IV.G.5.c that any surface waters and/or sediments must be included in subsequent EI phases, then the Permittee must develop and submit additional surface water EI Workplans. Subsequent phases of the EIs shall focus on determining the extent of migration of hazardous waste or hazardous constituents and the concentrations of the hazardous waste or hazardous constituents in the potentially impacted surface water and/or sediments. Such Workplan(s) must be submitted no more than ninety (90) days after the facility is notified in writing in accordance with Condition IV.G.5.c above. Guidelines for subsequent EIs are contained in Attachment A to this permit. The Permittee may also use the provisions of 35 Ill. Adm. Code Parts 740.415 and 740.430 as guidelines to prepare subsequent focused surface water EI Workplans.
7. The Agency's DLPC will approve, approve with conditions or modifications, or disapprove the additional surface water Workplan(s) in writing and provide comments regarding the required corrections or modifications. Agency actions for the additional surface water Workplan(s) are specified in Condition IV.G.3, including the fact that this action is subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
8. The Permittee must submit report(s) documenting the efforts carried out in accordance with the approved additional surface water EI Workplan(s) in accordance with the schedule(s) established within those Workplan(s). The report(s) must be prepared in a manner which is similar to that specified in Condition IV.G.4 above.
9. Following submittal of each additional surface water EI Report(s), the Agency's DLPC will review the data obtained from the additional surface water EI Investigation(s) and notify the Permittee in writing of the results in a manner which is similar to that specified in Condition IV.G.5 above.
10. Within ninety (90) days of receipt of the Agency's response identified in Condition IV.G.9, the Permittee shall submit to the Agency a Corrective Measures Plan (CMP), in accordance with the requirements outlined in Condition IV.J. below, for those surface waters and/or sediments identified in the response as requiring corrective measures. The

Permittee must perform corrective measures, as necessary, to protect human health and/or the environment.

H. TARGET REMEDIATION OBJECTIVES FOR CORRECTIVE MEASURES

1. Should the Permittee wish to propose target soil, groundwater, surface water and/or sediment remediation objectives for interim measures or corrective measures, such a proposal may be submitted at any time during the corrective action process. These objectives may be proposed on an area-specific basis or a facility-wide basis, provided they are developed in accordance with the applicable regulations. Such a request must:
 - a. Consider distance from the subject SWMU(s) and/or impacted media to potential receptors, 35 Ill. Adm. Code 620 groundwater quality standards, 35 Ill. Adm. Code 302 surface water quality standards, and 35 Ill. Adm. Code 742 remediation objectives requirements.
 - b. Provide a risk-based assessment of potential threats to human health and the environment in proposing soil, surface water, or groundwater target clean-up objectives (i.e., the proposal should include a site- and contaminant-specific risk assessment which ensures that alternative target clean-up objectives will not allow the groundwater quality or surface water quality standards to be exceeded, or pose a threat to human health and/or the environment).
 - c. Contain sufficient information demonstrating that the applicable regulations were met in the development of the remediation objectives (including all data and calculations).

Any proposed remediation objectives are subject to Illinois EPA review and approval.

2. The target remediation objectives for groundwater at the facility perimeter will be equivalent to the Groundwater Remediation Objectives listed in 35 Ill. Adm. Code 742 (Appendix B, Table E) for Class I groundwater, unless the Permittee can demonstrate that another groundwater classification is appropriate. The provisions of Conditions IV.I.1 and IV.I.3 through IV.I.6 apply to groundwater present at facility locations other than the facility perimeter.
3. Any institutional control proposed to be used in developing remediation objectives must meet the requirements of 35 Ill. Adm. Code 742, Subpart J. The only institutional control which can be used to restrict the future use of the portion of the facility to industrial/commercial is an environmental land use control (ELUC). ELUCs must be

developed in accordance with 35 Ill. Adm. Code 742.1010 and must be approved by Illinois EPA before they can be filed with the Will County Recorder. In accordance with 35 Ill. Adm. Code 742.1010, ELUCs submitted to Illinois EPA for review must be signed by the owner of the property on which a restriction is being placed before Illinois EPA can approve the ELUC.

4. If the Permittee wishes to propose cleanup objectives for an industrial/commercial/recreational scenario, then it may be necessary to place restrictions in the deeds conveying the property requiring that the property be used only for industrial/commercial/recreational activities in the future.
5. The Agency will establish cleanup objectives for corrective measures if no objectives are proposed by the Permittee.
6. All Illinois EPA actions regarding remediation objectives are subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
7. The Permittee must take appropriate action to ensure the approved remediation objectives are achieved within each investigation area at the facility for all contamination found to be resulting from previous/current activities at the facility.

I. INTERIM GROUNDWATER MEASURES

1. The Permittee shall continue groundwater related activities, associated with the southwest corner of the facility (Area 7B, Attachment D) and former coke handling area (Area 8B, Attachment D), as an interim measure until such time as EIs are completed for these areas and a final corrective measure is selected in accordance with the terms and conditions of the permit. Specifically, these activities shall include:
 - a. Quarterly groundwater monitoring events at groundwater monitoring wells PM-5, PM-12, R-1 and B-4, except as provided in Conditions IV.I.2 and IV.I.3 below; and
 - b. Maintenance and operation of the interim measure consisting of a trench and two sumps installed to intercept groundwater in the southwest corner of the facility and the treatment of the recovered groundwater in a permitted on-site wastewater treatment unit; and
2. The concentration limits, groundwater monitoring procedures (except monitoring frequencies), and reporting provisions of Section II of this Permit shall be followed for fulfilling the groundwater monitoring requirements of Condition IV.I.

3. The Permittee may reduce the groundwater monitoring frequency upon written Illinois EPA approval.
4. An evaluation of the effectiveness of the interim groundwater measure must be conducted on an annual basis and be submitted to the Illinois EPA by July 15th of each year. This evaluation may include consideration of the contribution of contaminants from off-site; non-facility related sources, if applicable. The evaluation must include, but not be limited to the following information:
 - a. Details associated with the maintenance and operation of the trench and two (2) sumps installed to intercept groundwater in the southwest corner of the facility and the treatment of the recovered groundwater in a permitted on-site wastewater treatment unit.
 - b. The pumping rate for the two (2) sumps in order to calculate monthly average of withdrawals of groundwater from the southwest corner of the facility.
 - c. The amount of groundwater withdrawn monthly from the two (2) sumps.
 - d. The ability of the interim groundwater measure to adequately intercept groundwater in the southwest corner of the facility and/or treat the recovered groundwater in a permitted on-site wastewater treatment unit.

Adequate treatment of the recovered groundwater shall consist of compliance with the facility's NPDES permit.
5. Samples collected to meet the groundwater monitoring requirements discussed in Condition IV.I.2 above, shall be collected and reported, as identified in the table below. The results of analyses conducted on the groundwater quality samples shall be submitted in accordance with this schedule along with all other data collected to meet the groundwater monitoring requirements for the southwest corner of the facility.

<u>Samples to be Collected During The Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>
January – February	April 15 th
April – May	July 15 th
July – August	October 15 th
October – November	January 15 th

6. If it is determined that the interim groundwater measure is not adequately intercepting groundwater in the southwest corner of the facility and/or the treatment of the recovered groundwater in a permitted on-site wastewater treatment unit is not adequate, the Permittee shall:
 - a. Notify the Illinois EPA within seven (7) days of the date that this determination is made.
 - b. Take actions as necessary to adequately intercept groundwater in the southwest corner of the facility and/or treat the recovered groundwater in a permitted on-site wastewater treatment unit (i.e., sump repair).
 - c. Submit a written report to the Illinois EPA within thirty (30) days describing the actions taken to adequately intercept groundwater in the southwest corner of the facility and/or treat the recovered groundwater in a permitted on-site wastewater treatment unit. The written report must contain information which demonstrates that the actions are adequately intercepting groundwater in the southwest corner of the facility and/or treating the recovered groundwater in a permitted on-site wastewater treatment unit.
 - d. If the action does not adequately intercept groundwater in the southwest corner of the facility and/or treat the recovered groundwater in a permitted on-site wastewater treatment unit, the Permittee shall submit to the Illinois EPA a Proposed Revised Interim Groundwater Measures Plan (Proposed Plan).
 - e. If the Proposed Plan is required pursuant to Section IV.I.6.d above, the Proposed Plan shall be sent to the Illinois EPA for review and approval within ninety (90) days of the date of the determination that the interim groundwater measure is not adequately intercepting groundwater in the southwest corner of the facility and/or treating the recovered groundwater in a permitted on-site wastewater treatment unit.
 - f. The Proposed Plan shall describe any changes that must be made to the interim groundwater measure to adequately intercept groundwater in the southwest corner of the facility and/or treat the recovered groundwater in a permitted on-site wastewater treatment unit. The Proposed Plan shall include, but need not be limited to the following information:
 - (1) A discussion of the current interim groundwater measure;
 - (2) Maps, tables, and/or graphs to present historical and current interim groundwater measure data;

- (3) An evaluation of alternative interim groundwater measure;
 - (4) A schedule of implementation associated with any proposed changes in regards to the interim groundwater measure.
- g. If the Illinois EPA determines that the Permittee's Proposed Plan is deficient, the Illinois may request that the Permittee submit a Revised Proposed Plan or approve the Proposed Plan with modifications or conditions. The Permittee shall comply with its approved Proposed Plan or Revised Proposed Plan and any modifications or conditions included by the Illinois EPA in the Proposed Plan or Revised Proposed Plan approval letter.
7. Illinois EPA action on the groundwater monitoring requirements of Condition IV.I will be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
 8. The treatment of recovered groundwater at a permitted on-site wastewater treatment system will be determined to be adequate based on compliance with the NPDES Permit effluent limits; the NPDES Permit governs the treatment of the recovered groundwater.

J. INTERIM/CORRECTIVE MEASURES REQUIREMENTS

1. The Permittee may, at any time during the required corrective action program initiate interim measures for the purpose of preventing/mitigating a release from a SWMU or REC or for the purpose of assessing the contribution from an off-site, non-facility related source to on-site conditions, prior to completing the formal EI/CMP program. Specifically, it may not be necessary to conduct all phases of the EI/CMP if Illinois EPA and the Permittee agree that a problem can be corrected, or a release remediated through an interim measure, without additional study and/or without a formal CMP.
2. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed action to Illinois EPA for review and approval. This information must include, but need not be limited to:
 - a. Background information about the SWMU or recognized environmental condition for which the interim measure is being proposed;
 - b. A brief overview of the proposed interim measure and a discussion of the objectives of the interim measures;

- c. A discussion of how the interim measure will prevent/mitigate the release of concern;
- d. Design, construction and maintenance requirements;
- e. Schedules for design and construction;
- f. Schedules for progress reports;
- g. A discussion of whether the proposed interim measure is the expected final corrective measure;
- h. A discussion of any further investigative efforts or remedial efforts necessary to achieve remediation objectives in accordance with Condition IV.G of this permit for the SWMU or recognized environmental condition being addressed in the interim measure; or (2) bring corrective measures to completion.

Guidance for the development of such a submittal can be found in Attachment A and E of this permit as well as 35 Ill. Adm. Code 740.

- 3. If, in accordance with the terms and conditions of this permit, it is determined that corrective measures must be taken in response to releases from a SWMU, REC or IA evaluated during the fourteen environmental investigations required by Condition IV.F and IV.G above, then the Permittee shall develop a Corrective Measures Plan (CMP) unless the Permittee and Agency otherwise agree as stated above. This plan must be submitted within ninety (90) days after receipt of the notification from the Agency that corrective measures are necessary to protect human health and the environment from observed releases from the SWMU, REC or IA of concern. The purpose of the CMP is to develop and evaluate corrective measures alternative(s) and evaluate corrective measure(s) which will satisfy the target cleanup objectives specified by the Agency's DLPC. The proposed corrective measures must be sufficient to protect human health and the environment from the observed release. The Permittee shall develop the Corrective Measures Plan in general accordance with the guidelines in Attachment E to this permit and may propose establishment of an area-specific or facility-wide Groundwater Management Zone in accordance with the provisions of 35 Ill. Adm. Code 620.250(a).
- 4. The Agency DLPC will approve, modify and approve, or disapprove and provide comments to the Permittee as to the corrections or modifications needed for the interim measure or CMP.

- a. Within sixty (60) days of receipt of an Agency disapproval letter, the Permittee must modify the interim measure/CMP or submit a new interim measure/CMP for the Agency's DLPC approval in accordance with the provisions of this condition.
 - b. The Agency's DLPC approval of one or more of the interim/corrective measure(s) will consider, but need not be limited to, performance, reliability, implementability, safety, human health and the environmental impact of the measure(s).
 - c. The Permittee shall implement the approved interim measure/CMP in accordance with the schedule included in the Agency's approval letter.
5. If the Agency's notification identified in Condition IV.F.9 or IV.F.13 above requires that a long term groundwater monitoring program be established for certain SWMUs, RECs, or IAs, then the Permittee must submit such an area-specific groundwater plan within ninety (90) days after receiving this notification. This plan may be developed in general accordance with the procedures set forth in Section IV.F.4 of Attachment A and may include a proposal for establishment of an area-specific or facility-wide Groundwater Management Zone as set forth in 35 Ill. Adm. Code 620.250(a). The Permittee may also use the provisions of 35 Ill. Adm. Code 740.415 and 740.435 to propose focused groundwater plans. The Agency's DLPC will approve, approve with conditions or modifications, or disapprove and provide comments to the Permittee as to corrections or modifications needed for the program.
- a. Within sixty (60) days of receipt of any Agency disapproval, the Permittee must modify the plan or submit a new plan for the Agency's approval.
 - b. Within thirty (30) days of the approval of the plan, the Permittee shall begin implementing the plan in accordance with the terms and schedule established in the plan.
 - c. Agency action on the groundwater monitoring plan will be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.
6. Within thirty (30) days of the effective date of this permit, the Permittee shall submit a plan for installation of four deeper groundwater monitoring wells at the facility. The purpose of the deeper wells will be to confirm groundwater flow direction and groundwater quality underlying the facility in the same portion of the hydrostratigraphic unit as is utilized by off-site private water supply wells in the immediate vicinity of the facility.
- a. The plan must include, but need not be limited to:

1. Background information about the hydrostratigraphic unit in which the deeper wells are proposed, including available well completion information for off-site private water supply wells in the immediate vicinity of the facility and hydrogeologic cross-sections through selected off-site private water supply wells and the proposed on-site wells;
 2. Proposed monitoring well location, design and depth information, including appropriate justification and rationale for location, design and depth selections; and
 3. Proposed groundwater monitoring procedures, groundwater quality evaluation procedures, and monitoring and reporting schedules.
- b. The Agency's DLPC will approve, approve with conditions or modifications, or disapprove and provide comments to the Permittee as to corrections or modifications needed for the program.
 - c. Within sixty (60) days of receipt of any Agency disapproval, the Permittee must modify the plan or submit a new plan for the Agency's approval.
 - d. Within thirty (30) days of approval of the plan or approval of the plan with conditions and/or modifications, the Permittee shall begin implementing the plan in accordance with the terms and schedule established in the plan.
7. Agency action and/or conclusions on corrective measures made in accordance with Section IV, Subsection J of this permit shall be subject to the appeal provisions of Sections 39(d) and 40(a) of the Illinois Environmental Protection Act.

K. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The Permittee shall prepare a cost estimate for the completion of any corrective action required under this permit, in order to provide financial assurance for completion of corrective measures, as required under 35 Ill. Adm. Code 724.201(b). Such a cost estimate will be based upon the cost of investigations and assessments for the SWMU(s), and design, construction, operation, inspection, monitoring, and maintenance of the corrective measure(s) to meet the requirements of 35 Ill. Adm. Code 724.201, and/or this permit. This cost estimate must be submitted to the Agency's DLPC and revised according to the following schedule:

Facility Submission

Due Date

Initial Cost Estimate
(with the first EI
Workplan)

90 days after the effective
date of this permit

Revised Cost Estimate (with
the initial submittal of
each EI Report)

Upon written Agency
request

2. The Permittee shall demonstrate continuous compliance with 35 Ill. Adm. Code 724.201 by providing documentation of financial assurance using a mechanism specified in 35 Ill. Adm. Code 724.243, in at least the amount of the cost estimate required under Condition IV.K.1. The words “completion of corrective measures” shall be substituted for “closure and/or post-closure”, as appropriate in the financial instrument specified in 35 IAC 724, Subpart H. The documentation shall be submitted to the Agency’s DLPC within sixty (60) days after the submittal of the initial or revised cost estimates required under Condition IV.K.1 are approved by Illinois EPA. The Agency’s DLPC may accept financial assurance for completion of corrective measures in combination with another financial mechanism that is acceptable under 35 Ill. Adm. Code 724.246 at its discretion.

L. FUTURE RELEASES FROM SWMUs

1. Whenever the Permittee becomes aware that any SWMU, not found to be releasing hazardous waste or hazardous constituents during the EIs, or was not addressed under the corrective action requirements of this permit, may have started to release hazardous waste or hazardous constituents, the Permittee shall report this information to the Agency’s DLPC in writing within thirty (30) days of discovery. This notification shall be developed in general accordance with Condition IV.M.1 below.
2. Upon the Agency’s written request and in general accordance with Condition IV.M below, Permittee shall: (1) determine the nature and extent of the contamination; and (2) conduct interim/corrective measures, as necessary.
3. The Permittee shall comply with the reporting and response requirements of CERCLA and the Clean Water Act, as appropriate whenever there is a release to the environment from the facility.

M. REQUIREMENTS FOR ADDRESSING NEWLY-IDENTIFIED SWMUs

1. The Permittee shall notify the Agency's DLPC in writing of any newly-identified SWMU(s) discovered during the course of groundwater monitoring, field investigations, environment audits, or other means, no later than sixty (60) calendar days after discovery. The notification shall provide the following information, if available and as applicable:
 - a. The location of the newly-identified SWMU in relation to other SWMUs on a scaled map 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, 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 constituents from the newly-identified SWMU, the Agency's DLPC may request, in writing, that the Permittee prepare a Solid Waste Management Unit (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.
3. Within ninety (90) calendar days after receipt of the Agency's DLPC request for a SWMU Assessment Plan, the Permittee shall prepare a SWMU Assessment Plan consistent with the requirements of IV.E and IV.F above. 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. The SWMU Assessment plant 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-discovered SWMU(s) to the environment.

4. After the Permittee submits the SWMU Assessment Plan, the Agency's DLPC shall either approve, approve with conditions, or disapprove the Plan in writing. If the plan is approved, the Permittee shall begin to implement the Plan within forty-five (45) calendar days of receiving such written notification. If the Plan is disapproved, the Agency's DLPC 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 implementation of the approved SWMU Assessment Plan to the Agency's DLPC 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. Based upon the results of the SWMU assessment, the Permittee may be required to carry out corrective measures in accordance with Condition IV.J of this permit.

N. COMPLETION OF CORRECTIVE MEASURES

1. The corrective action program being implemented by the Permittee addresses all potential sources of contamination throughout the facility (the boundaries of the facility are shown in Attachment D). This is being accomplished by investigating and remediating, as necessary, fourteen investigation areas ("IA") which, combined, make up the facility. Thus corrective measures must be completed in each of these investigation areas, as necessary, in accordance with Illinois EPA approved corrective measure plans. Such corrective measures may focus on certain SWMUs, RECs, or media within an IA, as appropriate, or it may focus on the entire IA.
2. The Permittee must continue to conduct Environmental Investigations and Corrective Measure Programs, in accordance with the terms and conditions of this permit and as approved by the Agency, until such time as they have been completed for all areas within all fourteen EIs which comprise the facility.
3. The Permittee may request that Illinois EPA consider corrective measures complete for any given SWMU, REC, media or IA at any time during the term of this permit. Further, the Permittee may request that Illinois EPA consider corrective measures complete for a given media within an IA only after soils with that IA have been investigated and/or remediated, as appropriate. Such a request must include:

- a. A demonstration that there have been no unacceptable releases of hazardous wastes or hazardous constituents to any media of interest from the SWMU, REC, media or IA of concern; or
- b. A demonstration that the releases of hazardous wastes/constituents attributed to facility-related releases of all media of interest targeted within the IAs have been remediated to the target cleanup objectives specified within the approved Corrective Measures Plan, and shall also describe how releases will be prevented in the future; or
- c. Some combination of the above demonstrations.

Appropriate documentation and certification must accompany this submittal. This submittal shall be referred to as a "Corrective Measures Completed Demonstration".

4. The Permittee will be notified in writing of the Agency's decision on a Corrective Measures Completed Demonstration. If the demonstration is approved, this notification will also include a release from the financial assurance requirements of Condition IV.K above for the SWMU, REC, or media or IA of concern.
5. Illinois EPA will issue a "No Further Action Letter" (NFAL) for any SWMU, REC media or IA for which it has approved a corrective action completion demonstration in accordance with the procedures set forth in Condition IV.N.3 and 4. This letter shall clearly identify the SWMU, REC, media or IA it pertains to as well as any requirements which must be met in support of the determination. The Illinois EPA's documentation of the no further action determination and the Permittee's proper recording of these decisions shall meet the requirements of 35 Ill. Adm. Code 742.
6. The issuance of an NFAL will prove that the SWMU, REC, media or IA addressed in the letter does not constitute a threat to human health or the environment and does not require further remediation under the Illinois Environmental Protection Act if the SWMU, REC, or IA is utilized in accordance with the NFAL.
7. Corrective measures must be conducted at the former refinery until such time as NFALs are issued by Illinois EPA for all areas and media within each of the fourteen IAs which comprise the former refinery.
8. A determination of no further action at a given SWMU, REC, media or IA shall not preclude the Illinois EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates a release or likelihood of a release from a SWMU, REC, media, or IA that is likely to pose a threat to human

health or the environment. In such a case, the Illinois EPA shall: (1) rescind the NFAL; or (2) add conditions to the FNAL necessary to reflect the new conditions at the SWMU, REC, media or IA.

9. Once an NFAL has been issued for a given SWMU, REC, media or IA, then the Permittee may submit a request to modify this permit to remove that given SWMU, REC, media or IA from the terms and conditions of this permit.. Any such modification of the permit will not relieve the Permittee of the responsibility to obtain a comprehensive NFAL for the area in question.
 - a. A permit modification request to exempt an owner other than the Permittee of the area from the requirements of this permit must contain the following information:
 - (1) All information required by 35 Ill. Adm. Code 703;
 - (2) A plat survey showing the legal boundaries of the area in question relative to the facility boundaries;
 - (3) A detailed legal description of the area in question;
 - (4) A copy of the Illinois EPA's NFAL for the area in question;
 - (5) Information demonstrating that the area in question is actually being transferred to another entity;
 - (6) Information demonstrating that the Permittee has the authority/right to undertake all investigations and remediation necessary to properly address all contamination present within the area, even after ownership of the property has been transferred to another entity.
 - (7) A statement that the Permittee understands that it: (1) must obtain a comprehensive NFAL for the area in question to ensure the requirement of 35 Ill. Adm. Code 724.201(c) are met for this area; and (2) cannot use an argument that it is unable to obtain access to the area as a defense for not completing corrective action in this area.

The information required by Conditions IV.N.9a(2)-(4) must be developed by an Illinois licensed professional land surveyor.

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- b. This type of permit modification request is not specifically listed in 35 Ill. Adm. Code 703, Appendix A. Thus, the Permittee shall submit this request as a Class 3 modification request, or it may request a determination by the Agency that the modification be reviewed as a Class 1 or Class 2 modification. If the Permittee requests that the modification be classified as a Class 1 or 2 modification then the Permittee shall provide the Agency with the necessary information to support the request classification.
10. Following issuance of an NFAL for a given SWMU, REC, media or IA and a permit modification removing that SWMU, REC, media or IA from the permit as provided for in Condition IV.N.9, the remaining SWMUs, RECs, media or IAs within the boundaries of the former refinery which have not been the subject of NFALs or permit modifications shall remain subject to the terms and conditions of this permit.

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SECTION V

REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this permit.

<u>Condition</u>	<u>Submittal</u>	<u>Due Date</u>
SECTION I:		
POST-CLOSURE		
E.2	Request permit modification to remove the liner or hazardous wastes.	Prior to removing the liner or wastes.
E.3	Certify to the Agency that post-closure care was performed in accordance with the specifications.	Within 60 days after completion of the post-closure care period.
F.1.d	LF-2 Leachate monitoring data.	Semi-annually.
F.2.b	LF-2 Gas management data.	Annually or within 30 days after occurrences identified in Conditions F.2.a.(1) and/or F.2.a.(2)
SECTION II:		
DETECTION MONITORING		
H.2	Groundwater monitoring data.	Semi-annually.
H.4	Groundwater flow rate and direction.	Annually.
H.9.a	Notify Illinois EPA of exceedence of interim groundwater standard.	Within 7 days of the date exceedence is discovered.

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H.9.d	Submit permit modification to establish a compliance monitoring program.	Within 90 days of the date exceedence is discovered.
H.10.a	Notify Illinois EPA of decision to make demonstration that another source caused the increase or that increase resulted from error in sampling analysis or evaluation.	Within 7 days of the date exceedence is discovered.
H.10.b	Submit report demonstrating that another source caused the increase or that the increase was the result of error in sampling or evaluation.	Within 90 days of the date exceedence is discovered.
I.1	Submit permit modification if determination is made that the monitoring program no longer satisfies the regulatory requirements.	Within 90 days of the date determination is made.

SECTION II-A:

CORRECTIVE ACTION PROGRAM

H.2	Groundwater monitoring data.	Semi-annually.
H.4	Groundwater flow rate and direction.	Annually.
H.10.a	Notify the Illinois EPA if determination is made that groundwater flow is not being adequately controlled.	Within 7 days of the date determination is made.
H.10.d	Submit permit modification describing changes that must be made to insure groundwater is being adequately controlled.	Within 90 days of the date determination is made.

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|-----|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| I.1 | Submit permit modification if determination is made that the monitoring program no longer satisfies the regulatory requirements. | Within 90 days of the date determination is made. |
|-----|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|

SECTION III:

STANDARD CONDITIONS

- | | | |
|----|-------------------------------------------------------------------------------------------|------------------------------------------------|
| 6 | Complete application for new permit. | At least 180 days prior to permit expiration. |
| 11 | Information requested by Agency and copies of records required to be kept by this permit. | Reasonable time. |
| 14 | Notify Agency of planned physical alterations or additions | At least 15 days prior to planned change. |
| 15 | Notify agency of changes which may result in permit noncompliance. | |
| 16 | Application for permit modification indicating permit noncompliance. | |
| 18 | Submission of any information required in a compliance schedule. | Within 14 days after each schedule date. |
| 19 | Report to Agency any non-compliance which may endanger health or environment. | |
| | telephone. | Within 24 hours after discovery. |
| | in writing | Within 5 days after discovery. |
| 20 | Report all other instances of noncompliance. | March 1 of each year along with Annual Report. |

28	Notify Agency in writing of expected receipt of hazardous waste from foreign source.	At least 4 weeks prior to receipt of waste.
41	Implementation of Contingency Plan. Notify appropriate state and local agencies with designated response roles.	As needed.
	Notify appropriate local officials.	Immediately, if emergency coordinator's assessment indicates evacuation of local area is advisable.
	Notify the Agency (217/782-3637) or Illinois EMA (217/782-7860) if emergency coordinator determines there has been a release, fire or explosion which could threaten human health or the environment, outside the facility.	Immediately after determination made.
	Notify Agency and appropriate state and local authorities, in writing that facility is in compliance with 35 Ill. Adm. Code 724.156(h).	Prior to resuming operation in affected areas.
	Report to Agency details regarding incident which required implementation of contingency plan.	Within 15 days after event.
47	Submit annual report required by 35 Ill. Adm. Code 724.175.	March 1 of each year
50(a)	Adjust post-closure care cost estimate for inflation.	Within 60 days before anniversary date, or within 30 days after the close of the firm's fiscal year.
50(b)	Revision of post-closure cost estimate.	As needed.
51	Change in financial assurance mechanism for post-closure care.	

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52 Change in coverage for sudden and non-sudden accidental occurrences.

53 Notify Agency of commencement of voluntary or involuntary bankruptcy proceedings.

Within 10 days after commencement proceeding.

SECTION IV:

CORRECTIVE ACTION

F.4 Area-Specific Current Conditions Report Environmental Investigation Workplan.

Areas 4A, 4B	Nov. 1, 2001
Area 3B	Dec. 1, 2001
Area 2	Feb. 1, 2002
Area 8A	May 1, 2002
Area 6	Sept. 1, 2002
Area 7A	Dec. 1, 2002

F.8 Area-Specific Environmental Investigation Reports.

In accordance with approved schedule.

F.10 Additional Investigation Workplans.

Within 90 days of Agency request.

F.12 Additional Investigation Reports.

In accordance with approved schedule.

F.14 Corrective Measures Plan.

Within 90 days of Agency request.

G.2 Submittal of Surface Water EI Workplan.

Within 90 days of effective date of permit

G.4 Surface Water EI Report.

In accordance with schedule in approved workplan.

G.6 Additional Surface Water EI Workplans.

Within 90 days of Agency request.

G.8 Additional Surface Water EI Reports.

In accordance with schedule in approved workplan.

G.10 Surface Water Corrective Measures Plan.

Within 90 days of Agency request.

I.4	Evaluation of Effectiveness of Interim Groundwater Measure.	July 15 of each year.
I.5	Reporting of Interim Groundwater Measures Monitoring Results.	April 15; July 15; October 15; January 15.
I.6.a	Notification that Interim Groundwater Measure not Adequately Intercepting Groundwater.	7 days after determination made.
I.6.c	Report Documenting Activities Completed to Ensure Interim Groundwater Measure is Adequately Intercepting Groundwater.	30 days after determination of inadequacy made.
I.6.e.	Proposed Revised Interim Groundwater Measures Plan.	90 days after determination of inadequacy made.
J.2	Submittal of Interim Measure Workplan.	When deemed necessary by Permittee
J.3	Submittal of Corrective Measures Plan.	Within 90 days of Agency request.
J.5	Long Term Groundwater Monitoring Program Plan.	Within 90 days of Agency request.
K.1	Initial Corrective Action Cost Estimate	Within 90 days of permit's effective date.
K.1	Revised Corrective Action Cost Estimates.	Upon written Agency request.
K.2	Corrective Action Financial Assurance.	Within 60 days after cost estimates approved by Agency.
L.1	Notification of release from a SWMU.	Within 30 days of discovery.
M.1	Notification of new SWMU.	Within 60 days of discovery.
M.3	Submittal of SWMU Assessment Plan.	Within 90 days of Agency request.

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M.5	Submittal of SWMU Assessment Report.	In accordance with schedule approved in plan.
N.3	Corrective Measures Completed Demonstration	Upon completion of required corrective measure.

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SECTION VI

SPECIAL CONDITIONS

1. This permit will become effective 35 days after issuance, or upon dismissal of the appeal in case number PCB 93-213, whichever is later.

2. This Condition supercedes Standard Condition III.12.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 subject to this permit.

3. This Condition supercedes Standard Condition III.37.

TESTING AND MAINTENANCE OF EQUIPMENT. The Permittee shall test and maintain the equipment specified in Condition III.36, as necessary, to assure its proper operation in time of emergency. Such testing and maintenance activities set forth in the facility's inspection schedule.

4. The Permittee shall provide two copies of plans and reports required by this permit and other pertinent and related correspondence to the Lockport Public Library so that they may be placed in the respiratory established there for information regarding RCRA activities at the facility, as follows:

- a. Reports shall be submitted to the repository concurrent with submittal to the Agency.
- b. Workplans required by the permit, and each workplan modification and/or response to an Agency approval letter to the public repository along with the Agency approval letter following receipt of that Agency approval letter.

ATTACHMENT A

Guidance for Preparing Environmental Investigation Workplans

LPC #1970500012

ILD041518861

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ATTACHMENT A

Guidance for Preparing Environmental Investigation Workplans

This Scope of Work relates specifically to the RCRA Facility Investigation (RFI) of the solid waste management units identified in Section IV of this RCRA Permit, which the Permittee is required to perform under the terms of this RCRA permit. In this Scope of Work, "Agency's DLPC" refers to the Illinois Environmental Protection Agency's Division of Land Pollution Control, "Permittee" refers to Texaco Refining and Marketing, Inc. and "SWMU" refers to Solid Waste Management Unit.

I. PURPOSE

The purpose of the RFI is to determine the nature and extent of releases of hazardous waste or hazardous constituents, if any, from SWMUs located at the facility and to gather data necessary to prepare a Corrective Action Plan (CAP). Specifically, the information gathered during the RFI will be used to help determine the need, scope and design of a corrective action program.

II. SCOPE OF WORK

The Scope of Work for the RFI is divided into three phases – Phases I, II and III.

1. The purpose of Phase I is to provide information on the characteristics and integrity of each unit and conduct field activities, as necessary, to determine if a SWMU has released, is currently releasing, or has the potential to release hazardous waste and/or hazardous constituents to the environmental media of concern for each SWMU listed in Section IV, Condition D.1 of this permit.

In addition, if it has been determined from prior monitoring data or from information obtained from the RCRA Facility Assessment that hazardous wastes or hazardous constituents may have migrated to the groundwater, a site-specific groundwater monitoring system and groundwater monitoring program, equivalent to the groundwater investigations required for an RFI Phase III Workplan, must be developed and implemented as part of Phase I of the RFI. SWMUs for which such investigations are required are those for which groundwater is listed as an environmental media of concern in Section IV, Condition D.1 of this permit.

2. Phase II of the RFI will be required if the Agency's DLPC determines from the data obtained in Phase I that, for any SWMU: (1) a release has occurred to an environmental media of concern for that unit, (2) a release is occurring to an environmental media of concern for that unit, or (3) the results of the Phase I investigation are inconclusive with respect to potential or actual releases from a unit. The purpose of the Phase II investigation is to define the extent of releases to the environmental media of concern from these SWMUs.

3. Phase III of the RFI will be required if the Agency's DLPC determines from the data obtained from Phase II investigations that hazardous wastes or hazardous constituents have migrated to the groundwater from SWMU(s) not initially thought to have potentially released hazardous waste or hazardous constituents to groundwater. The purpose of Phase III is to define the extent of releases both on-site and off-site to the groundwater from SWMUs identified in Phase II to have potentially released hazardous waste or hazardous constituents to the groundwater.

Each phase of the investigation is divided into three subparts. The first subpart deals with the development of a RFI Workplan by the Permittee. The second subpart is the implementation of the RFI. The final subpart covers the submission of reports of activities and results of the RFI.

III. RFI WORKPLANS

The Permittee shall prepare a detailed workplan for each phase of the RFI which contains detailed background information related to the facility and the SWMUs listed in Condition D.1 of Section IV of the permit and which describes procedures for each phase of the RFI in accordance with the schedule in Section IV of the permit. The RFI Workplan must contain, but need not be limited to, the information identified in III.A-III.G below. The information in the workplan must be presented in a manner which is similar to the format set forth in these sections. (If it is desired to develop a workplan using some other format, then a checklist must be developed identifying the exact location where each item below is addressed (page number and paragraph)). Information provided in each Phase of the RFI may be incorporated into the workplan for the subsequent Phase by reference. Information already submitted in the Part B permit application may also be incorporated by reference into the workplans when appropriate (any such reference must identify the page on which the information in question is located).

A. ADMINISTRATIVE OUTLINE

The Permittee shall submit as part of the workplan for each phase of the RFI a general outline defining the RFI objectives, technical approach, and scheduling of tasks during that phase of the RFI. The Permittee shall prepare a Project Management Plan as part of each Phase Workplan which will include a discussion of the technical approach, schedules, budget, and personnel. The Project Management Plan must also include a description of the qualifications of personnel performing or directing the RFI, including contractor personnel. This plan shall also document the overall management approach to the current Phase of the RFI.

B. SITE-SPECIFIC SAMPLING PLANS

The Permittee shall prepare detailed site-specific sampling plans to be submitted as part of the work for each phase of the RFI which address all field activities needed to obtain site-specific data. The plans must contain: a statement of sampling objectives, specifications of equipment, analyses of interest, sample types, sample locations and schedules for sampling. Wherever appropriate, sample collection, handling, preservation, preparation and analysis described in Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, latest version, (SW-846), shall be utilized. The plans must address all levels of the investigations, as well as types of investigations conducted on specific environmental media (i.e., soil, air, surface water, groundwater). The plan must describe in detail how each phase of the RFI will be implemented.

C. INFORMATION REQUIRED SPECIFICALLY IN THE RFI PHASE I WORKPLAN

The following information must be provided as part of the RFI Phase I Workplan.

1. General Facility Information

The following information must be provided (to the extent known) in the Phase I RFI Workplan regarding the facility overall:

- a. A description of the facility, including the nature of its business, both past and present. This description should identify (1) the size and location of the facility, (2) the raw materials used and products

manufactured at the facility and (3) the Standard Industrial Code which describes the type of activities carried out at the facility;

- b. Identification of past and present owners;
- c. A discussion of the facility's past and present operations, including solid and hazardous waste generation, storage, treatment and disposal activities;
- d. A brief discussion of each of the SWMUs identified in Condition D.1 of Section IV of this permit;
- e. A description of all significant surface features (ponds, streams, depressions, etc.) and wells within 1,000 feet of the facility;
- f. A description of all land usage within 1,000 feet of the facility, including all known SWMUs;
- g. Identification of all human population and environmental systems susceptible to contaminant exposure from releases from the SWMUs within a distance of at least 1,000 feet of the facility;
- h. A description of any interim corrective action measures which were or are being planned or undertaken at the facility;
- i. Approximate dates or periods of past spills or releases, identification of material spilled, amount spilled, location, and a description of the response actions, including any inspection reports or technical reports generated as a results of the spill or release.
- j. A current topographic map(s) showing a distance of at least 1,000 feet around the facility and other information described below, and at a scale of one inch equal to not more than 200 feet. Contours shall be shown on the map, with the contour interval being sufficient to clearly show the pattern of surface water flow. If such a map is not available, the workplan shall describe the method for generating the map for inclusion in the Phase I Report. The map shall clearly show the following:

1. Map scale, North arrow, date, and location of facility with respect to Township, Range and Section;
2. Topography and surface drainage depicting all waterways, wetlands, 100-year floodplain, drainage patterns, and surface water areas;
3. Property lines, with the owners of all adjacent property clearly indicated;
4. Surrounding land use;
5. Locations and boundaries of (1) all solid waste, including hazardous waste, management units, both past and present, (2) spill areas and (3) other suspected areas of contamination;
6. All injection and withdrawal wells, and
7. All buildings, tanks, piles, utilities, paved areas, easements, rights-of-way, and other features including all known past and present product and waste underground tanks or piping.

The map(s) shall be of sufficient detail and accuracy to locate and report all current and future RFI work performed at the site. The base maps) shall be submitted in the Phase I Report and modified in subsequent reports and workplans as appropriate.

2. Nature and Extent of Contamination

The Phase I Workplan must contain the following information, to the extent known, for each of the SWMUs identified in Condition D.1 of Section IV of the permit:

- a. Location of unit/area;
- b. The horizontal and vertical boundaries of each unit/area;
- c. Details regarding the construction, operation and structural integrity of each unit/area;

- d. A description of all materials managed and/or disposed at each SWMU including, but not limited to, solid waste, hazardous wastes, and hazardous constituents to the extent they are known or suspected over the facility including:
 - (1) Type of waste or hazardous constituents placed in the units, including source, hazardous classification, quantity and chemical composition;
 - (2) Physical and chemical characteristics, including physical form, physical description, general chemical class, cohesiveness of the waste;
- e. Quantities of solid and hazardous wastes managed by the unit;
- f. The history of the utilization of each SWMU and the surrounding areas, including the period of operation and age of the unit;
- g. Methods used to close the unit, if applicable;
- h. All available data and qualitative information on the level of contamination present at the SWMU;
- i. A description of the existing degree and extent of contamination at each unit area;
- j. Identification of additional information which must be gathered regarding 2.a through 2.i above.

3. Sampling and Analysis Plan

The Sampling and Analysis Plan in the Phase I Workplan must describe methods to determine whether any of the SWMUs to be investigated have released or are currently releasing hazardous waste or hazardous constituents into the environment. This plan must contain procedures for a:

a. Soils Investigation

The Phase I Workplan must provide for a determination of the presence or absence of releases of hazardous waste and hazardous

constituents into the soil around and under each SWMU or AOC for which soil was listed as an environmental media of concern in Section IV, Condition D.1 of this permit, based upon the information present in the Phase I Workplan. To meet this requirement, the plan must identify:

- (1) The procedures which will be used to describe and characterize the soils in and around the subject SWMU(s) down to the water table, including, but not limited to, the following:
 - (a) Unified Soil Classification;
 - (b) Soil profile; and
 - (c) Elevation of water table;
- (2) The parameters and hazardous constituents to be used to establish the presence or absence of contamination. These must include, but are not limited to, specific hazardous constituents of wastes known or suspected to have been managed by the SWMU(s) as identified and determined by the unit characterization information presented in the workplan.
- (3) The basis for selecting the parameters and constituents in (2) above.
- (4) The methodology for choosing sampling locations, depths, and numbers of samples.
- (5) Sampling procedures for each parameter or constituent to be analyzed. All soil samples taken must be handled in accordance with 40 CFR 261, Appendix III and the Agency's DLPC soil volatile sampling procedure if volatiles are to be analyzed. All other environmental media samples must be collected and handled in accordance with EPA approved and standardized methods for evaluation of solid wastes.

- (6) Analytical methods to be used in the analysis of the samples. If any of these methods are not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, latest version, (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods must be provided.
- (7) Procedures and criteria for evaluating analytical results to establish the presence or absence of any contamination.

b. Hydrogeologic and Hydrologic Investigation

1. The potential for release to groundwater from a given SWMU must be investigated as part of Phase I of the RFI if prior environmental media investigations or information obtained from the RFA indicate releases from a SWMU may have migrated to the groundwater below the site. The Phase I hydrogeologic and geologic investigation plans must provide descriptions of groundwater monitoring systems which will provide adequate data on the detection, nature, extent and rate, and concentration of any release to the groundwater from each of these units.

Groundwater monitoring will not be required for a given SWMU during the RFI Phase I investigation if the Permittee can demonstrate, based upon data obtained from prior site-specific environmental media investigations, that no releases have occurred from the SWMU(s), or, based upon such environmental media investigations, that contaminants from the subject SWMU(s) have not entered the groundwater. Those units in Section IV, Condition D.1 of this permit which have "groundwater" as an environmental media of concern are the units for which a Phase I hydrogeologic and hydrologic investigation must be conducted.

The information which must be provided regarding the Phase I investigation of hydrogeology and hydrology at each SWMU identified above includes:

- a. Information, as it is available, regarding:
- (1) The regional geologic and hydrogeologic characteristics in the vicinity of the facility, including stratigraphy, hydrogeologic flow and the areas of recharge and discharge;
 - (2) Any topographic or geomorphic features that might influence the groundwater flow system;
 - (3) The hydrogeologic properties of all of the hydrogeologic units found at the site down to the first bedrock aquitard, including: hydraulic conductivity and porosity, texture, uniformity and lithology; an interpretation of hydraulic interconnections between saturated zones, and zones of significant fracturing or channeling in the unconsolidated and consolidated deposits;
 - (4) Using the facility map as a base, isopach and structural contour maps, and at least two (2) geologic cross sections showing the extent (depth, thickness, lateral extent) of all hydrogeologic units within the facility boundary, down to the first bedrock aquitard, identifying: all units in the unconsolidated and consolidated deposits; zones of higher permeability or lower permeability that might direct or restrict the flow of contaminants; perched aquifers, and the first saturated zone that may have a potential for migration of contaminants;
 - (5) The water level or fluid pressure monitoring, including: water level contour maps and vertical gradient sections, well or piezometer hydrographs and interpretation of the flow system, interpretation of any changes in

hydraulic gradients, and seasonal fluctuation;
and

- (6) Any man-made influences that may affect the hydrogeology of the site, identifying local water supply and production wells and other man-made hydraulic structures within 1,000 feet of the facility boundary.
- b. Procedures for obtaining information identified in III.C.3.b above which was not obtained during preparation of the workplan.
 - c. Documentation that sampling and analysis of groundwater monitoring wells will be carried out in accordance with the approved Data Collection Quality Assurance Plan as required in III.F below. The Plan shall provide information on the design and installation of all groundwater monitoring wells. The designs shall be in accordance with the latest version of the Technical Enforcement Guidance Document (TEGD), where appropriate, and the latest version of the Agency's DLPC design criteria. The design must include, but not be limited to the following:
 - (1) The groundwater monitoring wells must consist of monitoring wells installed in the uppermost aquifer and in each underlying aquifer (e.g., sand units) which are hydraulically interconnected;
 - (2) At least one background monitoring well in each aquifer shall be installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the SWMUs, except to the extent that SWMUs in close proximity can be investigated with the same background well system. The number, locations, and depths must be sufficient to

yield groundwater samples that are: (a) representative of background quality in the uppermost aquifer and units hydraulically interconnected beneath the facility and (b) not affected by SWMUs at the subject facility; and

- (3) Monitoring wells in each appropriate aquifer shall be installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the SWMU or at the limit of each group of proximate SWMUs. Their number, locations and depths must ensure that they allow for detection of releases of hazardous waste or hazardous constituents from the SWMU(s).

d. A sampling plan which specifies:

- (1) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. These must include, but need not be limited to, specific hazardous constituents of wastes determined to have been placed in or released from the SWMUs (including any possible degradation products);
- (2) The basis for selecting the parameters and constituents in (1) above;
- (3) The methodology for investigating the hydrostratigraphic units at the site, and the locations, depth, and concentration specifications for each monitoring well;
- (4) Sampling procedures for each parameter or constituent to be analyzed, including sampling frequency;

- (5) Analytical methods to be used in the analysis of the samples. If any of these methods are not consistent with those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, latest version, (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the appropriate SW-846 methods will be provided; and
- (6) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

c. Surface Water and Sediment

1. The Phase I Workplan must provide for a determination of the presence or absence of releases of hazardous wastes and hazardous constituents into all surface waters or their sediments potentially affected by certain SWMUs. Surface water and sediment investigation must be conducted for those SWMUs or AOCs in Section IV, Condition D.1 of this permit which have surface water and/or sediments listed as environmental media of concern. A determination of “no impact” must be justified and documented to the satisfaction of the Agency’s DLPC. The plan must include, but is not limited to:
 - (a) Description and characterization of all potentially affected surface waters, including locations, areas, depths, inflows and outflows, volumes of water, seasonal fluctuations, flooding tendencies, drainage patterns, on-site and off-site affected populations and activities;

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- (b) Descriptions and characterizations of sediments associated with all surface waters, including deposition areas, thickness profiles, and physical and chemical parameters;
- (c) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. This must include, but need not be limited to, specific hazardous constituents of wastes known or suspected to have been placed in the SWMUs or AOCs;
- (d) The basis for selecting the parameters and constituents in (c) above;
- (e) The methodology for choosing sampling locations, depths, and number of samples;
- (f) Analytical methods to be used in the analysis of the samples. If any of these methods are not identical to those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, latest edition, (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the SW-846 methods must be provided; and
- (g) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

4. Potential Receptors

Since a release to groundwater has been detected beneath the former land treatment units and surrounding areas, information describing the human populations and environmental systems within a radius of 1,000 feet of the facility boundary must be provided to the Agency. This information must be included in the RFI Phase I Workplan. The following characteristics shall be identified:

- a. Local uses and possible future uses of groundwater:
 - (1) Type of use (e.g., municipal or residential drinking water source, industrial, etc.); and
 - (2) Location of groundwater users, including wells and discharge areas.
- b. Local uses and possible future uses of surface waters draining the facility;
 - (1) Domestic and municipal
 - (2) Recreational;
 - (3) Agricultural;
 - (4) Industrial; and
 - (5) Environmental.
- c. Human use of, or access to, the facility and adjacent lands, including, but not limited to:
 - (1) Recreation;
 - (2) Agriculture;
 - (3) Residential;
 - (4) Commercial;

- (5) Zoning; and
 - (6) Location between population locations and prevailing wind direction.
- d. A description of the biota in surface water bodies on, adjacent to, or affected by the facility.
 - e. A description of ecology of and adjacent to the facility.
 - f. A demographic profile of the people who use or have access to the facility and adjacent land, including, but not limited to: age, sex, and sensitive subgroups.
 - g. A description of any endangered or threatened species near the facility.

D. INFORMATION REQUIRED SPECIFICALLY IN THE RFE PHASE II WORKPLAN

The following information must be provided as part of the RFI Phase II investigation:

1. Phase II Sampling and Analysis Plan

a. Soils Investigation

A Phase II Sampling and Analysis plan, if necessary, must describe procedures to determine the nature and extent of hazardous waste and/or hazardous constituents released to the soil. This plan shall address and/or include, but need not be limited to:

- (1) A description of what is known about the horizontal and vertical extent of contamination;
- (2) A description of relevant contaminant and environmental chemical properties within the affected source area and plume, including solubility, specification absorption, leachability, exchange capacity biodegradability, hydrolysis,

photolysis, oxidation and other factors that might affect contaminant migration and transformation (if known);

- (3) Specific contaminant concentrations, if known;
- (4) The horizontal and vertical velocity and direction of contaminant movement (if known);
- (5) An extrapolation of future contaminant movement (if known);
- (6) The methods and criteria to be used to define the boundaries of the plume(s) of contamination;
- (7) The parameters and constituents to be used to establish the presence or absence of a plume of contamination. This must include, but need not be limited to, specific hazardous constituents of wastes known or suspected to have been placed in the SWMUs;
- (8) The basis for selecting the parameters and constituents in (7) above;
- (9) The methodology for choosing sampling locations, depths, and numbers of samples;
- (10) Sampling procedures for each parameter or constituent to be analyzed;
- (11) Analytical methods to be used in the analysis of the samples. If any of these methods are not identified to those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, latest version, (U.S. EPA SW-846), a complete description of the methods to be used and the justification for not using the SW-846 methods shall be provided; and
- (12) Procedures and criteria for evaluating analytical results to establish the presence or absence of any plume of contamination.

b. Sediment and Surface Water

If the Agency's DLPC determines from the data obtained during the Phase I investigation that release of hazardous waste or hazardous constituents have occurred or that the data is inconclusive, the Permittee shall submit a Phase II Workplan to characterize the contamination of the surface waters and sediments. The workplan shall include, but need not be limited to:

1. A description of the horizontal and vertical extent of any plumes and the extent of contamination in the underlying sediments (if known);
2. Specific contaminant concentrations (if known);
3. The horizontal and vertical direction and velocity of contaminant movement (if known);
4. An evaluation of the physical, biological and chemical factors influencing contaminant movement (if known);
5. An extrapolation of future contaminant movement (if known); and
6. The criteria used to define the boundaries of the plume.

E. INFORMATION REQUIRED SPECIFICALLY IN THE RFI PHASE III WORKPLAN

The following information must be provided as part of the Phase III investigation.

1. Hydrogeologic and Hydrologic Investigation

The potential for releases to groundwater from a given SWMU which was not evaluated during the Phase I investigation must be investigated as part of Phase III of the RFI if the Agency's DLPC determines from the data obtained during the RFI Phase II investigation that releases to soil from a given SWMU may have migrated to the groundwater below the site, or the data is inconclusive. The RFI Phase III hydrogeologic and geologic investigation plan must provide descriptions of groundwater monitoring

systems which will provide adequate data on the detection, nature, extent and rate, and concentration of any releases to groundwater or surface water.

Groundwater monitoring will not be required for a SWMU during the RFI Phase III investigation if the Permittee can demonstrate, based upon the data obtained from the soils investigation under the RFI Phase I environmental media investigation, that no releases have occurred from the SWMU(s), or, based upon the data obtained from the rate and extent evaluation under the RFI Phase II investigation, that contaminants from the subject SWMU(s) have not entered the groundwater. The Agency reserves the right to require a groundwater monitoring program for SWMUs based upon interim or final corrective measures chosen, provided that the corrective measures call for on-site final disposition of contamination or long-term remedial activities.

If the Agency notifies the Permittee that a RFI Phase III Workplan is required, then a plan must be developed to investigate the hydrogeology and hydrology which includes all site- and unit-specific information required under Condition C.3.b above.

F. GROUNDWATER MONITORING PLAN

If the Agency's DLPC determines during the Phase I or Phase III investigation that releases of hazardous waste or hazardous constituents have occurred to the groundwater, or that the data are inconclusive, the Permittee will be required to submit a Groundwater Monitoring Plan to determine the vertical and horizontal distribution of the contaminants identified and to predict the long-term disposition of the contaminants. This groundwater monitoring program will require proposals for establishing the locations, depths and construction specifications for additional monitoring wells necessary to delineate the extent of any plume. The methodology of the investigation, the sampling procedures, analytical methods, and procedures for evaluating analytical results to establish the extent of the plume shall be the same as above, unless otherwise specifically identified by the Agency in writing. The Groundwater Monitoring Plan must also specify the criteria which will be used to determine the limits of the plume.

G. DATA COLLECTION QUALITY ASSURANCE

The Permittee shall prepare a plan to document all monitoring procedures, sampling, field measurements, and sample analysis performed during the

investigation so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented. This information shall be submitted with the Workplan for each Phase of the RFI.

Quality Assurance. Procedures used to collect, handle, preserve, prepare and chemically analyze all required samples shall follow guidance in U.S. EPA's SW-846, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (latest version." In addition, quality assurance/quality control procedures meeting the requirements of SW-846 must be implemented for all sampling/analysis efforts. All field sampling methods not included in SW-846 must be approved by the Agency's DLPC before they are used in the RFI. This includes methods such as drilling, borings, etc. When applicable, standard procedures, as defined by U.S. EPA, Illinois EPA or ASTM, should be followed. All soil samples which are to be taken must be handled in accordance with 40 CFR, Part 261, Appendix III and the Agency's soil volatile sampling procedures (Attachment 7) if volatile sampling is required. The analytical methods which will be used must be specified and must be approved by the Agency before they are implemented.

H. DATA MANAGEMENT PLAN

The Permittee shall develop and initiate a Data Management plan to document and track investigation data and results. This Plan shall identify and set up data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The Plan shall also provide the format to be used to present the raw data and conclusions of the investigation(s). This plan shall be submitted with the Workplan for each Phase of the RFI.

I. IMPLEMENTATION OF INTERIM MEASURES

At any time during the RFI 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 the RFI investigation if the Agency's DLPC and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal CMS.

The Permittee shall submit information on any past or ongoing interim measures which have been or are to be undertaken to abate threats to human health and the

environment to the Agency's DLPC for approval. This information shall include, but need not be limited to:

1. 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;
2. Design, construction, and maintenance requirements;
3. Schedules for design and construction; and
4. Schedules for progress reports.

If the Agency's DLPC determines that a release cannot be addressed without additional study and/or a formal CMS, then the Agency's DLPC 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 RFI or of any other portion of the permit.

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

J. HEALTH AND SAFETY PLAN

Under the provisions of 29 CFR 1910 (54 FR 9,925, March 16, 1989), cleanup operations must meet the applicable requirements of OSHA's Hazardous Waste Operations and Emergency Response standard. These requirements include hazard communication, medical surveillance, health and safety programs, air monitoring, decontamination and training. General site workers engaged in activities that expose or potentially expose them to hazardous substances must receive a minimum of 40 hours of safety and health training off site plus a minimum of three days of actual field experience under the direct supervision of a trained experienced supervisor. Managers and supervisors at the cleanup site must have at least an additional eight hours of specialized training on managing hazardous waste operations. As such, a Health and Safety Plan must be contained in the Workplan for each pahse of the RFI.

IV. IMPLEMENTATION OF RFI

The Permittee shall conduct those investigations necessary to characterize the site and to determine the nature, rate and extent of migration, and concentrations of hazardous waste and hazardous constituents, if any, related from the SWMU's into the surface water and sediments, groundwater, air, and soil. The investigations must be of adequate technical content to support the development and evaluation of a corrective action program, if one is deemed necessary by the Agency's DLPC.

The investigation activities shall follow the plans and procedures set forth in the Workplan(s) and the RFI schedule. Any actual or anticipated deviations from the Workplans) or the RFI schedule shall be reported no later than the time of submission of the next quarterly report required by Section V, subsequent to the determination of need or actual deviation from the Workplan.

V. SUBMISSION OF REPORTS AND RESULTS OF RFI ACTIVITIES

The Permittee must prepare and submit quarterly progress reports and a final report on the activities and results of each Phase of the RFI activities as appropriate. The progress reports shall contain, but need not be limited to:

1. An estimate of the percentage of the investigation completed;
2. Summary of activities completed during the reporting period;
3. Summaries of all actual or proposed changes to the Workplan or its implementation;
4. Summaries of all actual or potential problems encountered during the reporting period;
5. Proposal for correcting any problems;
6. Projected work for the next reporting period; and
7. Other information or data as requested in writing by the Agency's DLPC.

VI. SCHEDULE FOR CONDUCTING THE RFI

Submissions of the required workplans and reports which must be submitted to the Agency for review and approval shall be carried out in accordance with the schedule set forth in the following table:

<u>Facility Action</u>	<u>Due Date</u>
Submission of RFI Phase I Workplan	Within 90 days after effective date of the permit
Completion of RFI Phase I Investigation and submission of Phase I Report and Summary	To be specified in the Phase I Workplan
Submission of RFI Phase II Workplan	Within 90 days after notification of the need of Phase II by Agency's DLPC
Completion of RFI Phase II Investigation and submission of Phase II Report and Summary	To be specified in the Phase II Workplan
Submission of RFI Phase III Workplan	Within 90 days after notification of the need for Phase III
Completion of RFI Phase III Investigation and submission of Phase III Report and Summary	To be specified in the Phase III Workplan
Periodic Progress Reports	To be specified in Workplans
Submission of Interim Measures Plan	Within 45 days from the date interim measures determined to be necessary.

ATTACHMENT B

Groundwater Monitoring Program Attachments

1. Illinois EPA Monitoring Well Diagram
2. Illinois EPA Field Boring Log
3. Illinois EPA Well Completion Report
4. Illinois EPA Monitor Well Plugging Procedures
5. Illinois EPA Groundwater Formatting Requirements

(These documents available from the Illinois EPA or can be viewed in the information repository copy of this permit.)

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ATTACHMENT C

Guidance for Developing a RCRA Current Conditions Report

LPC #1970500012

ILD041518861

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ATTACHMENT C

Guidance for Developing a RCRA Current Conditions Report

1.0 Introduction

35 Ill. Adm. Code 724.201 requires facilities obtaining RCRA permits to conduct corrective action, as necessary, on the solid waste management units (SWMUs) at the facility. The actual requirements for conducting this corrective action are set forth in the RCRA permit and are based upon the results of a RCRA Facility Assessment conducted by the Illinois EPA. In general, this is accomplished by first conducting a RCRA Facility Investigation (RFI) to characterize any contamination present at the SWMU and then conduct a corrective measures program to appropriately address any contamination encountered during the RFI.

In certain circumstances, however, the RFA may not provide an accurate current assessment of the facility. In such cases, it may be appropriate to initiate corrective actions activities in a RCRA permit by requiring a facility to develop a RCRA Current Conditions Report. The Current Conditions Report would be a supplement to the RFA and contain additional information regarding: (1) the background of the facility; (2) any known contamination at this facility; and (3) any remediation/interim measures taken at the facility. This report would be developed prior to the development of any investigation workplans and would actually form the foundation for the development of such workplans.

The purpose of this document is to provide guidance regarding the contents of a RCRA Current Conditions Report.

2.0 Recommended Outline for a RCRA Current Conditions Report

As its name implies, a RCRA Current Conditions Report should document the current conditions at the facility. In documenting these current conditions, it is also necessary to document past activities at the facility, as past activities have a direct impact on the current conditions of a facility. As indicated above, this report should contain: (1) background information about the facility; (2) a description of any potential/known contamination at the facility; and (3) a description of any remediation/interim measures taken response to contamination detected in the future (includes past, present of anticipated activities). A more detailed outline of the recommended contents of a RCRA Current Conditions Report follows.

- A. Facility Background. The report should contain a summary of: (1) the historical and current use of the facility; (2) past waste management activities; (3) regional and site-specific geology and hydrogeology; and (4) information regarding the area around the facility. Specifically, the report should include:
1. Identification of past and present owners of the facility.
 2. A general description of the facility, including the nature of its business (both past and present). This should include: (1) the size and location of the facility; (2) the raw materials used at the facility, and products manufactured at the facility; (3) a description of activities carried out at the facility in general and within the various portions of the facility.
 3. A history and description of solid and hazardous waste generation, treatment, storage and disposal activities at the facility.
 4. Approximate dates or periods of past product and waste spills, identification of the materials spilled, the amount spilled, the location where spilled, and a description of the response actions conducted (local, state, or federal response units or private parties), including any inspection reports or technical reports generated as a result of the response.
 5. A summary of past permits applied for and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility. This may include information from previous owner/operations, if available.
 6. A description of regional and site-specific geology and hydrogeology.
 7. A summary of the groundwater monitoring system which has been implemented at the facility and a summary/discussion of the results (include well construction and location drawings, geologic cross-sections, etc.).
 8. Maps consistent with the requirements set forth in 35 Ill. Adm. Code 703 which are of sufficient detail and accuracy to locate and report all current and future work performed at the site (Aerial photographs should be included with SWMUs and AOCs superimposed on them.). These maps should depict the following:

- a. General geographic location;
 - b. Property lines, with the owners of all adjacent property clearly indicated;
 - c. Topography and surface drainage (with a contour interval of [number] feet and a scale of 1 inch = 100 feet) depicting all waterways, wetlands, flood plains, water features, drainage patterns, and surface-water containment areas;
 - d. All tanks, buildings, utilities, paved areas, easements, rights-of-way, and other features;
 - e. All solid or hazardous waste treatment, storage, or disposal areas active after November 19, 1980;
 - f. All known past solid or hazardous waste treatment; storage or disposal areas regardless of whether they were active on or after November 19, 1980;
 - g. All known past and present product and waste underground tanks or piping;
 - h. Surrounding land uses (residential, commercial, industrial, agricultural, recreational);
 - i. The location of all production and groundwater monitoring wells on the facility and within 2-mile radius of the facility boundary. These wells shall be clearly labeled and ground and top of casing elevations and construction details included (these elevations and details may be included as an attachment); and
 - j. Wind rose and meteorology.
- B. Possible Sources/Areas of Contamination. The report should contain information regarding the nature and extent of contamination suspected to be present at the facility (based upon a review of available information). Specifically, the report should contain:

1. A summary of all possible source areas of contamination. This, at a minimum should include all RCRA-regulated units, solid waste management units, spill areas, and other suspected source areas of contamination identified in the RFA. For each area, the report should identify the following:
 - a. Location of unit/area (depicted on facility map described in A.8 above);
 - b. The horizontal and vertical boundaries of the unit/area;
 - c. Details regarding the construction, operation and structural integrity of the unit/area;
 - d. A description of the materials managed in each unit, including the general impaction of the materials;
 - e. Quantities of solid and hazardous wastes managed in the area (both managed and spilled or released);
 - f. The history of the use of the unit/area and the surrounding area, including the period of operation and age of unit;
 - g. Methods used to close the unit, if applicable;
 - h. All available data and qualitative information on the level of contamination at the unit/area;
 - i. The results of both the RCRA Facility Assessment (RFA) and a summary of suggested further actions for all SWMUs and Areas of Concern (AOCs) and the release assessment (if performed).
2. A list and brief description of all previous investigations that have occurred at the facility, who they were conducted for (i.e., agency) and agency contacts.
3. A preliminary assessment and description of potential migration pathways. This also includes:

- a. All potential migration pathways including information on geology, pedology, hydrogeology, physiography, hydrology, water quality, foodwebs, meteorology, and air quality;
 - b. Physical properties of contaminants; and
 - c. An assessment of whether off-site migration of contaminants has occurred; (may include a conceptual model of contaminant migration).
4. The potential impact(s) on human health and the environment, including demography, identification of possible sensitive subpopulations (e.g., schools, homes for the elderly, hospitals and ecosystems), ground water and surface water use, and land use.
- C. Description of Remedial/Interim Stabilization Measures. The report should document all past, present, or proposed remedial/interim/stabilization measures conducted at the facility. For each measure, the report should identify:
1. A brief description of the measure;
 2. The objectives of the measure (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);
 3. A detailed description of the design, construction, operation, and maintenance of the measure;
 4. Schedules for design, construction and monitoring of any current or future measures;
 5. Schedule for progress reports; and
 6. Data in support of the potential need for future interim measures or related to any assessment undertaken to determine the need for future interim/stabilization.

ATTACHMENT D

Facility and Investigation Area Boundaries

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(Map of facility and investigation areas available from the Illinois EPA or can be viewed in the information repository copy of this permit.)

ATTACHMENT E

RCRA Corrective Measures Overview

LPC #1970500012

ILD041518861

RCRA Log No. B-38RI

ATTACHMENT E

RCRA Corrective Measures Overview

I. INTRODUCTION

The purpose of this document is to describe the procedure which should be followed in developing and implementing a Corrective Measures Program (CMP) at a facility with a RCRA Permit (hereafter referred to as the "Permittee") to ensure the requirements of Section 3004(u) and (v) of RCRA and 35 Ill. Adm. Code 724.201 are met. The overall goal of such a program is to take those steps necessary to adequately protect human health and the environment from releases from solid waste management units (SWMUs) at the facility. The foundation for developing this program are the results of the RCRA Facility Investigation also completed as part of the corrective action requirements imposed by a RCRA permit in which the nature and extent of contamination at the SWMUs of concern at the facility are determined.

To allow for a logical and orderly progression in developing and implementing necessary corrective measures, the CMP should be carried out in five phases. It must be noted that it is not necessary for a corrective measures program at a given SWMU to follow these five phases step-by-step. Rather, phases can be combined and/or skipped, depending on the actual corrective measure selected. The overall corrective measures program implemented at a given SWMU must set forth a logical path for its implementation and allow for the Illinois EPA oversight and approval throughout the entire process.

A brief discussion of the five recommended phases of a CMP is as follows:

1. Phase I is the: (1) development of final corrective measures objectives; (2) identification of those SWMUs requiring corrective measures; and (3) preliminary evaluation of the corrective measures alternatives available for each SWMU requiring corrective measures.
2. Phase II is the development of a conceptual design of the corrective measure chosen for each SWMU remedial system(s) and/or institutional controls.
3. Phase III is the development and submission of the final design plans for the corrective measure, including operation/maintenance plans and plans for the actual installation of the desired correction measure.

4. Phase IV is the actual construction/installation of the selected corrective measure.
5. Phase V is the operation, maintenance, and monitoring of the selected corrective measure to ensure it is properly protecting human health and the environment.

Sections 2 through 6 which follow provide a more detailed discussion of each of these five phases. Section 7 has been developed to describe corrective measures programs where soil removal is the selected remedy. This latter section should then be used in developing work plans, reports, etc. when soil removal is the selected remedy.

Work plans, reports, etc. must be developed to document how the Permittee carries out the required corrective measures program at each SWMU of concern. All such documents must be reviewed and approved by Illinois EPA.

2.0 PHASE I OF THE CMP

In the initial phase of the Corrective Measures Program, the Permittee should: (1) develop remediation objectives for the SWMUs being investigated; and then (2) identify those SWMUs requiring corrective action. If it should be determined that a specific SWMU, or group of SWMUs, require corrective action, then the Permittee should identify, in general, types of remedial technologies or institutional controls which may be instituted to address and/or stabilize residual contamination, and identify the goals of the corrective measures. All of these efforts should be documented in the form of a Determination of Corrective Measures Report, which includes the following:

1. Proposed Final Soil Remediation Objectives. Final soil corrective measures objectives will determine the need for an extent of soil remediation (soil corrective measures) at each SWMU investigated.
 - a. 35 Ill. Adm. Code 742 should be followed to develop soil remediation objectives;
 - b. The Permittee and the Illinois EPA should have a meeting prior to the time that the Permittee begins developing these objectives. The goal of this meeting will be to provide the Permittee with guidance regarding the procedure which should be followed in developing and proposing these final target levels.

- c. The Illinois EPA will establish final soil remediation objectives if more are proposed by the Permittee.
 - d. Final Illinois EPA action taken on the development of and establishment of these final target levels will be subject to the appeal provisions of Section 39(a) of the Illinois Environmental Protection Act.
 - e. For certain SWMUs, it may not be appropriate to establish final target soil levels. This will be the case for those SWMUs where the selected corrective action is capping of the area followed by long-term monitoring.
2. Final Groundwater Remediation Objectives. Final corrective measures groundwater remediation objectives will determine the need for and extent of groundwater remediation (groundwater corrective measures). The procedures used in the developing of these objectives must be in general accordance with the procedures set forth in 35 Ill. Adm. Code 620 and 742.
- a. The Permittee and the Illinois EPA should have a meeting prior to the time that the Permittee begins developing these target levels. The goal of this meeting will be to provide the Permittee with guidance regarding the procedure which should be followed in developing and proposing these final groundwater target levels;
 - b. The Illinois EPA will establish final target levels if none are proposed by the Permittee.
 - c. Final Illinois EPA action taken on the development of an establishment of these final objectives will be subject to the appeal provisions of Section 39(a) of the Illinois Environmental Protection Act.
3. Ecological Assessment. A review of the ecological receptors and the exposure pathways should be included in the Phase I CMP for each unit of concern. A more detailed ecological assessment may be required as part of the Phase I CMP if: (1) ecological receptors are identified that would be impacted by the release from the unit; and (2) the proposed measures do not address the exposure pathway. The objective of any such assessment is to determine if there will be any adverse impact on the ecology resulting from the proposed clean-up objectives. Ecological assessments may also be required if an engineered barrier is the selected corrective measure and the site has a release affecting ecological receipts which will not be

addressed by the barrier. This assessment should be developed in accordance with Illinois EPA and U.S. EPA guidance.

4. Evaluation of Need for Corrective Action. The need for corrective measure at each SWMU should be evaluated, based upon a comparison of the proposed remediation objectives to the results of the investigation conducted at that unit.
5. Potential Corrective Measures. The report should contain a general discussion of the possible corrective measures which may be taken at SWMUs where it is determine that some type of corrective measure is necessary. More detailed information of such measures should be provided if the selected corrective measure has an impact on the development of the remediation objectives. Also, there must be a discussion of whether the various measures will actually remove the contamination from the environmental media of concern or whether it is some type of institutional control to minimize the potential for future releases from the SWMU. Typically, some type of long term monitoring is required for corrective measures which employ institutional control.

3.0 PHASE II OF THE CMP

Phase II of the CMP includes selection of corrective measure to be taken and developing a basis for completing the final design of the measures. This effort should be documented in a Conceptual Design Report which describes the proposed corrective measure for each SWMU and provide a conceptual design for these measures. The main criteria for Illinois EPA review is whether the proposed corrective measures are able to achieve the final clean-up objectives established by the Permittee and the Illinois EPA in Phase I of the CMP and/or provide the institutional controls to prevent the migration of contaminants from the SWMU of concern necessary. 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 totally new corrective measures proposal e submitted to the Illinois EPA.

The Conceptual Design Report should contain the following sections:

1. Introduction/Purpose. The report should include an introductory section which contains: (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. The report should contain a summary of the investigative activities conducted for each of the units of concern and the results of Phase I of the CMP for each unit. 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 report. 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. The report should discuss the general objectives of the proposed corrective measures to be constructed/installed for each unit at the subject facility, and the ability of the proposed corrective measures to achieve the established Corrective Measures Target Levels.
5. Identification of Options Available. The report should contain a brief discussion of the various options available to achieve the corrective measures objectives for each SWMU. 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. The report 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 correction measure will be effective.
7. Identification of Design Criteria. The report should identify what information must be available to design the selected corrective measure.

8. Review of Available Information. The report 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. The report 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 to complete the design of the 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.

The information presented herein will form the continuing technical basis for the detailed design of the system and the preparation of construction plans and specifications.

10. Identification of Required Permits. The report 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. The report 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 term; (2) the length of time necessary for procurement; and (3) recognized sources of such items.
12. Project Management. The report 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 III OF THE CMP

Once the Illinois EPA approves the Conceptual Design Report, the facility should complete the design of the approved corrective action (Phase III 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. Typically, the Illinois EPA requires that these documents be submitted to the Illinois EPA within 120 days after the Conceptual Design Report has been approved.

Several documents must be submitted to the Illinois EPA as part of Phase III 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 III 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 a 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, include the following:
 1. Plan views;
 2. Section and supplemental 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. The specifications accompanying construction drawings should include, 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, operating characteristics and rating 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 of 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. This portion of the report should contain copies of permit applications submitted to other Bureaus of the Illinois EPA for the selected corrective measure. 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. Where appropriate, requirements under 35 Ill. Adm. Code 742 shall be followed to ensure that the corrective measures have achieved the target levels or to demonstrate that any residuals will reach the target levels by natural attenuation.

2. Operation and Maintenance Plan. An Operation and Maintenance Plan must be developed and submitted as part of Phase III 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 operation of the corrective measures, and the appropriate procedures for proper characterization and management of these wastes.
 1. System breakdowns and operational problems including a list of redundant and emergency backup equipment and procedures;

2. 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.
3. 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 IV 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 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 specifications. This report should contain

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 III.
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 by an independent qualified, licensed professional engineer and by an authorized representative of the owner/operator (the authorized representative must meet the requirements of 35 Ill. Adm. Code 702.126). The wording for this certification must also meet the requirements of 35 Ill. Adm. Code 702.126.

6.0 PHASE V 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 V 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. 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.
2. System Description. This portion of the document should provide a description of the corrective measures constructed/installed at the site, and identify significant equipment. Describe the corrective measure and identify significant equipment.
3. Monitoring Results. This portion of the permit should provide 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. This portion of the document should provide 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 4 above, this portion of the document should provide a recommendation on continuance of the corrective measure. 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. Additionally, based upon the monitoring results, a schedule for achieving the cleanup standards would be included with each determination.

Eventually, the Permittee must submit a final report documenting that the required corrective measures have achieved the established remediation objectives.

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

Sections 3 through 6 above describe the procedures which should be followed when it is necessary to design some type of physical corrective measure (e.g., a final cover system, some 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 for at this site. In general, a work plan should be developed for this effort (for Illinois EPA review and approval) which fully described 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 clean-up objectives for the project. Soil excavation must extend to sample locations where soil test results indicate that the clean-up objectives are met. Closure verification sampling is not necessary in such cases, if a required professional engineer oversees the soil removal effort and certifies that the certification limits extends 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 clean-up 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"-12" 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) should be collected suing Attachment A of the Illinois EPA RCRA closure plan guidance (November 1994). In addition, such samples must be collected 6"-12" 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.
7. 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 clean-up objectives. Additional samples must be collected and analyzed in accordance with the procedures described above from areas where additional soil has been removed.

Workplans proposing the proposed activities and reports documenting the results of the activities must be developed and submitted to the Illinois EPA for review and approval.

ATTACHMENT F

Approved Permit Application Identification

LPC #1970500012

ILD041518861

RCRA Log No. B-38I

ATTACHMENT F

Approved Permit Application Identification

1. RCRA Part B Post-Closure Permit Application, Volume 1 and Volume 2, dated January 12, 2000 and received by the Illinois Environmental Protection Agency (Illinois EPA) January 13, 2000.
2. Revised language to the permit application in submittals dated September 11, 2000 and October 10, 2000 and received by the Illinois EPA on September 15, 2000 and October 16, 2000 respectively.
3. Current Conditions Report and Workplan for Environmental Site Assessment and Remediation, Proposed Redevelopment Area 3A, dated February 28, 2000.
 - a. This workplan contained background information regarding Area 3A of the facility (as defined in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in the area.
 - b. The non-groundwater related aspects of this workplan were approved with conditions and modifications in an Illinois EPA letter dated May 17, 2000.
 - c. The groundwater related aspects of this workplan were approved with conditions and modifications by Illinois EPA on August 8, 2000.
4. Workplan, Leaded Gasoline Tank Bottom Disposal Pit Assessment and Interim Stabilization Measures, dated March 21, 2000.
 - a. This workplan contains information about each of the leaded gasoline tank bottom disposal pits presents at the facility and describes the procedures which will be followed to remediate the contamination present at each of these units.
 - b. This workplan was approved with conditions and modifications by Illinois EPA on May 8, 2000.
5. Current Conditions Report and Workplan for Environmental Site Assessment and Remediation, Proposed Land Use Area 1 (Alternate Bike Trail Corridor), dated April 6, 2000.

- a. This workplan contained background information regarding Area 1 of the facility (as identified in Section IV of the permit) and proposed procedures for investigating/remediating contamination which may be present in the area.
 - b. The non-groundwater related aspects of this workplan was approved with conditions and modifications in an Illinois EPA letter dated August 15, 2000.
6. Workplan, Dismanting and Interim Stabilization Measures, dated April 14, 2000.
- a. This workplan described the procedures which will be used to dismantle, remove, and remediate soil contamination associated with the underground piping and concrete structures present with the refinery.
 - b. Illinois EPA approved this workplan with conditions and modification on May 11, 2000.
7. A June 27, 2000 letter from Texaco.
- a. This letter indicated that Texaco planned to deviate from the investigation plan for Area 3A approved by Illinois EPA on May 17, 2000 and August 8, 2000. Specifically, this submittal: (1) indicated that Texaco planned to initially focus remedial efforts on a 10-acre parcel within Area 3A; and (2) requested that the Synthetic Precipitation Leaching Procedure (SPLP) replace the Toxicity Characteristic Leaching Procedure (TCLP) when conducting the remediation verification sampling/analysis efforts for metals in soil, as allowed by 35 Ill. Adm. Code 742.
 - b. Illinois EPA approved the contents of this letter with conditions and modifications on August 21, 2000.
8. Environmental Assessment and Remediation Completion Report, 10-Acre Parcel within Redevelopment Area 3A, dated July 18, 2000.
- a. This report documented the results of a soil remediation effort conducted within a 10-acre portion of Area 3A. This work was conducted in accordance with Illinois EPA's May 17, 2000 letter, as slightly modified by a June 27, 2000 submittal from Texaco.
 - b. Illinois EPA approved this submittal with conditions modifications on August 21, 2000.

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9. Assessment and Remediation Completion Report, Leaded Gasoline Tank Disposal Pits, dated August 22, 2000.
 - a. This report documents the efforts carried out in remediating contamination at the leaded gasoline tank disposal pits (see Item 2 above).
 - b. This document is currently under review by Illinois EPA.

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ATTACHMENT G

Financial Assurance Requirements

LPC #197050001

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ATTACHMENT G

Financial Assurance Requirements

POST-CLOSURE

The Permittee shall maintain financial assurance under the requirements of 35 Ill. Adm. Code, Part 724, Subpart H, for post-closure care and monitoring of the closed landfill (LF-2) along with the four (4) closed land treatment units (LTUs) designated as LF-1, LLF, LAA and CT. The cost estimate upon which the financial assurance is to be based is contained on Table I-6-1 of the approved post-closure permit application and is summarized below:

Post-closure Care for LF-2, LF-1, LLF, LAA and CT	<u>\$3,601.945</u> (1999 Estimate)
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