Permittee: BP Products North America, Inc. and Lima Refining Company

Mailing Address: BP Products North America, Inc.
Remediation Management
150 W. Warrenville Road
Naperville, IL 60563

Owner: BP Products North America, Inc.
150 W. Warrenville Road
Naperville, IL 60563
Lima Refining Company
1150 South Metcalf Street
Lima, Ohio 45804-1199

Operator: BP Products North America, Inc.
150 W. Warrenville Road
Naperville, IL 60563
Lima Refining Company
1150 South Metcalf Street
Lima, Ohio 45804-1199

Location: Lima Refinery
1150 South Metcalf Street
Lima, Ohio 45804-1199

AUTHORIZED ACTIVITIES

In reference to the application of BP Products North America, Inc. and Lima Refining Company for an Ohio Hazardous Waste Facility Installation and Operation Renewal Permit under Ohio Revised Code (ORC) Chapter 3734 and the record in this matter, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

- Post-Closure and Corrective Action

PERMIT APPROVAL

Craig W. Butler, Director
Ohio Environmental Protection Agency

This permit approval is based upon the record in this matter which is maintained at the offices of the Ohio Environmental Protection Agency. The Director has considered the application, accompanying information, inspection reports of the facility, a report regarding the facility's compliance or noncompliance with the terms and conditions of its permit and rules adopted by the Director under this chapter, and such other information as is relevant to the operation of the facility. The Director has determined that the facility under the existing permit has a history of compliance with ORC Chapter 3734, rules adopted under it, the existing permit, or orders entered to enforce such requirements that demonstrate sufficient reliability, expertise, and competency to operate the facility henceforth under this chapter, rules adopted under it, and the renewal permit.

Entered into the Journal of the Director this 13th day of March, 2015.

By Amy L. Zsidi of the Ohio Environmental Protection Agency.
A. GENERAL PERMIT CONDITIONS

A.1 Effect of Permit

(a) The Permittee is authorized to conduct post-closure and corrective action activities in accordance with the terms and conditions of this Ohio hazardous waste permit (hereinafter “permit”), ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the permit application. The renewal of the primary pond unit is for the purpose of accomplishing post-closure activities. This unit is currently inactive and has undergone closure. This unit shall not be reactivated for management of hazardous waste. The permit application, as submitted to Ohio EPA on December 19, 2012 and last updated on March 24, 2014, is hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.

(b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee’s obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right to Know law under ORC Chapter 3750.

(c) For the purpose of this permit, the facility owners are BP Products North America and Lima Refining Company. The owners are not responsible, for acts or omissions concerning new or newly created RCRA responsibilities under the terms of the facility permit that occur on a parcel owned by another facility parcel owner unless the owner meets the definition of an operator for that new or newly created RCRA responsibility. New or newly created responsibilities are those that occur on or after the effective date of this permit.

A.2 Permit Actions

This permit may be modified or revoked as specified by Ohio law. The filing of a request by the Permittee for a permit modification, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay any permit term or condition.
A.3 Permit Effective/Expiration Date
OAC Rule 3745-50-54

The effective date of this permit is the date the permit is entered into the Director's Journal. The permit expiration date is ten years after the date of journalization of this permit.

A.4 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.

A.5 Duty to Comply
OAC Rule 3745-50-58(A)

The Permittee must comply with all applicable provisions of ORC Chapter 3734, all applicable Ohio hazardous waste rules, and all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of ORC Chapter 3734 and is grounds for enforcement action, revocation, modification, denial of a permit renewal application or other appropriate action.

A.6 Duty to Reapply and Permit Expiration
OAC Rules 3745-50-40(D), 3745-50-58(B), 3745-50-56 and ORC Section 3734.05(H)

(a) If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed permit application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the Director may require, to the Director no later than one hundred eighty (180) days prior to the expiration date of this permit, unless a later submittal date has been authorized by the Director upon a showing of good cause.

(b) The Permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:

(i) the Permittee has submitted a timely and complete permit application for a renewal permit under OAC Rule 3745-50-40; and
(ii) through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.

(c) The Corrective Action obligations contained in this permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide Corrective Action under the conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit renewal at least 180 days before the expiration date of this permit pursuant to OAC Rule 3745-50-40(D) unless a) the permit has been modified to terminate the Corrective Action schedule of compliance and the Permittee has been released from the requirements for financial assurance for Corrective Action; or b) a later submittal date has been authorized by the Director.

A.7 Need to Halt or Reduce Activity Not a Defense
OAC Rule 3745-50-58(C)

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with the conditions of this permit.

A.8 Duty to Mitigate
OAC Rule 3745-50-58(D)

The Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impact on human health or the environment resulting from noncompliance with this permit.

A.9 Proper Operation and Maintenance
OAC Rule 3745-50-58(E)

The Permittee must at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.
A.10 Duty to Provide Information  
OAC Rule 3745-50-58(H)  

The Permittee must furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying or revoking, or to determine compliance with, this permit. The Permittee must also furnish to the Director, upon request, copies of records required to be kept by this permit.

A.11 Inspection and Entry  
OAC Rules 3745-50-58(I), 3745-49-03 and 3745-50-30, and ORC Section 3734.07  

(a) The Permittee must allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification, to:

(i) 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 terms and conditions of this permit;

(ii) have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

(iii) inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and

(iv) sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.

(b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the public upon the Permittee's satisfactory showing to Ohio EPA that all or part of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rules 3745-49-03 and 3745-50-30.
A.12 Monitoring and Records
OAC Rule 3745-50-58(J)

(a) Any sample and measurement taken for the purpose of monitoring must be representative of the monitored activity. Further, a sample must be a representative sample, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of OAC Rule 3745-51-20, Laboratory Methods. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, Third Edition, as amended by Updates I, II, IIA, IIB, III and IIIA, and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Twentieth Edition, 1999; or an equivalent method as specified in the approved waste analysis plan, or as this term is defined and used in the Ohio hazardous waste rules.

(b) Records of monitoring information must specify the:

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

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

(iii) date(s) analyses were performed;

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

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

(vi) results of such analyses.

A.13 Signatory Requirement and Certification of Records
OAC Rules 3745-50-58(K) and 3745-50-42

All applications, reports or information must be properly signed and certified in accordance with OAC Rule 3745-50-58(K).

A.14 Retention of Records and Information Repository
OAC Rules 3745-50-40(G), 3745-50-58(J), 3745-50-58(M) and 3745-50-58(N)

(a) The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3)
years from the date of the sample, measurement, report, certification, or application.

(b) The record retention period may be extended by request of the Director at any time and is automatically extended during the course of any unresolved enforcement action regarding the facility.

(c) The Permittee must maintain, in accordance with the Ohio hazardous waste rules, records of all data used to complete the permit application and any amendments, supplements or modifications of such application. The Permittee must retain a complete copy of the current application for the effective life of the permit as indicated in Permit Condition A.3.

(d) The Permittee must maintain records from all ground water monitoring wells and associated ground water surface elevations for the active life of the facility, and for disposal facilities for the post-closure care period as well.

(e) The director may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in OAC Rule 3745-50-39(C)(2).

(f) Corrective Action records must be maintained at least three (3) years after all Corrective Action activities have been completed.

A.15 Planned Changes
OAC Rules 3745-50-51 and 3745-50-58(L)(1)

The Permittee must give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

A.16 Waste Shipments
OAC Rules 3745-52-12(C) and 3745-53-11, ORC Section 3734.15(C)

The Permittee must only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with all applicable laws and rules.

A.17 Anticipated Noncompliance
OAC Rule 3745-50-58(L)(2)

The Permittee must give advance notice to the Director of any planned changes in the permitted facility or operations which may result in noncompliance with the
A.18 Transfer of Permits
OAC Rules 3745-50-52, 3745-50-58(L)(3) and 3745-54-12

(a) The permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with ORC Chapter 3734 and the rules adopted thereunder. This permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified under OAC Rule 3745-50-51. Before transferring ownership or operation of the facility, the Permittee must notify the new owner or operator in writing of the requirements of ORC Chapter 3734 and the rules adopted thereunder (including all applicable Corrective Action requirements).

(b) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio law or hazardous waste rules does not relieve the new owner or operator of its obligation to comply with all applicable requirements.

A.19 Compliance Reports
OAC Rules 3745-50-58(L)(5) and 3745-50-50

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule (developed in accordance with OAC Rule 3745-50-50) of this permit must be submitted to the Director no later than fourteen (14) days following each scheduled date.

A.20 Immediate Reporting of Noncompliance
OAC Rule 3745-50-58(L)(6)

(a) The Permittee must report orally to Ohio EPA's Division of Environmental Response and Revitalization within twenty-four (24) hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which may endanger human health or the environment, including:

(i) information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and

(ii) any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.
(b) The report must consist of the following information (if such information is available at the time of the oral report):

(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 this is applicable; and
(vii) estimated quantity and disposition of recovered material that resulted from the incident.

A.21 Follow-Up Written Report of Noncompliance
OAC Rule 3745-50-58(L)(6)(c)

(a) A written report must also be provided to Ohio EPA's Division of Environmental Response and Revitalization and the Division of Materials and Waste Management, Northwest District Office, within five (5) days of the time the Permittee becomes aware of the circumstances reported in Permit Condition A.20.

(b) The written report must address the items in Permit Condition A.20 and must contain a description of such noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance.

(c) The Permittee need not comply with the five (5) day written report requirement if the Director, upon good cause shown by the Permittee, waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.
A.22 Other Noncompliance
OAC Rules 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee must report to the Director all other instances of noncompliance not provided for in Permit Conditions A.19 and A.20. These reports must be submitted within thirty (30) days of the time at which the Permittee is aware of such noncompliance. Such reports must contain all information set forth within Permit Condition A.20.

A.24 Other Information
OAC Rule 3745-50-58(L)(11)

If at any time the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect information to the Director, the Permittee must promptly submit such facts, information or corrected information to the Director.

A.25 Confidential Information
OAC Rules 3745-49-03 and 3745-50-30

In accordance with ORC Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality for any information required to be submitted by the terms and conditions of this permit, or any information obtained by the Director, or an authorized representative, pursuant to the authority provided under Permit Condition A.11.

A.27 Compliance Schedule - Documents
OAC Rules 3745-50-50 and 3745-50-51

(a) Unless specified otherwise, Permittee must submit the documents listed below to:

Ohio EPA, Director
c/o DMWM, Engineering, Remediation, and Authorizations Section
P.O. Box 1049
Columbus, Ohio 43216-1049

and
(b) The Permittee must submit to the Ohio EPA within sixty (60) days after permit journalization, in accordance with Ohio’s hazardous waste rules, the following information to be incorporated in the permit application:

(i) **Updated Post-Closure and Corrective Action Cost Estimate**
OAC Rules 3745-55-44 and 3745-54-101(B) and (C)

Section I, Appendix I-1 of the permit application containing the financial assurance mechanism for post-closure care and corrective action must be updated to include a copy of the current post-closure care and corrective action cost estimates as set forth in OAC Rules 3745-55-44 and 3745-54-101(B) and (C).

(ii) **Updated Financial Assurance Mechanism for Post-Closure Care and Corrective Action**
OAC Rules 3745-55-45 and 3745-54-101(B) and (C)

Section I, Appendix I-1 of the permit application containing the financial assurance mechanism for post-closure care and corrective action must be updated to include a copy of the current financial assurance mechanism, as set forth in OAC Rules 3745-55-45 and 3745-55-101(B) and (C), and as specified by the wording requirements of OAC Rule 3745-55-51. The value of the financial assurance mechanism must reflect at least the current amount of the post-closure and corrective action cost estimates.

During the life of the permit the facility may change the financial assurance mechanism as stated in OAC Rules 3745-55-45. The facility must submit the financial assurance mechanism documentation to the Director of Ohio EPA in accordance with the parameters set forth in OAC Rule 3745-55-45.

This information must be submitted in accordance with OAC Rule 3745-50-51.

(c) Within sixty (60) days of permit journalization the Permittee must submit to Ohio EPA in accordance with Ohio’s hazardous waste rules, in the form of an administrative Class 1 permit modification request without prior Director’s approval, all the permit modification requests which it submitted after December 19, 2012 and which Ohio EPA has approved or
acknowledged but not incorporated in the renewal permit and/or permit application, so that the submitted information can be incorporated in the renewal permit and/or permit application. For each permit modification request submitted prior to the date of journalization and for which Ohio EPA approval or acknowledgement occurs after the date of permit journalization, the Permittee must submit the approved or acknowledged permit modification request to Ohio EPA within 60 days of such approval or acknowledgement in accordance with Ohio's hazardous waste rules, in the form of an administrative Class 1 permit modification request without prior Director's approval, so that the submitted information can be incorporated in the renewal permit and/or permit application.

This information must be submitted in accordance with OAC Rule 3745-50-51.

A.28 Information to be Maintained at the Facility
OAC Rule 3745-54-74

(a) Unless otherwise specified by the hazardous waste rules, the Permittee must furnish upon request and make available at all reasonable times for inspection by an employee of Ohio EPA, until post-closure is completed and certified by an independent, registered professional engineer, pursuant to OAC Rule 3745-55-20, and until the Director releases the Permittee from financial assurance requirements pursuant to OAC Rule 3745-55-45, the following documents (including amendments, revisions and modifications):

(i) operating record, required by OAC Rule 3745-54-73 and the terms and conditions of this permit; and

(ii) inspection schedules, developed in accordance with the post-closure and Corrective Action operation and maintenance plans, which are incorporated into the Permit by reference.

(iii) post-closure plan, as required by OAC Rule 3745-55-18(A) and the terms and conditions of this permit.

(iv) annually-adjusted cost estimate for facility post-closure, as required by OAC Rule 3745-55-44 and the terms and conditions of this permit.

(v) all other documents required by Module A, Permit Condition A.12.

(b) The Permittee must maintain copies of all inspection logs at the facility for a period not less than three (3) years from the date of inspection.
A.29 Reserved.
MODULE B - GENERAL FACILITY CONDITIONS

B. GENERAL FACILITY CONDITIONS

B.1 Design, Maintenance and Operation of Facility
OAC Rule 3745-54-31

(a) The Permittee must design, construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, ground water or surface waters which could threaten human health or the environment.

(b) Reserved

B.2 Reserved

B.3 Reserved

B.4 Security
OAC Rule 3745-54-14

The Permittee must comply with the security provisions of OAC Rule 3745-54-14(B)(1) and (C) and Section F of the permit application.

B.5 General Inspection Requirements
OAC Rules 3745-54-15 and 3745-54-73

The Permittee must inspect the facility in accordance with OAC Rule 3745-54-15 and the inspection schedules set forth in Section F of the permit application and the SWMU CCRs. The Permittee shall follow the inspection schedule set out in Appendix G of the Closure Plan of Primary and "C" Ponds, September 2001. The Permittee must remedy any deterioration or malfunction discovered by an inspection, as required by OAC Rule 3745-54-15(C). Records of inspection must be kept for a minimum of three years from the date of inspection. These records must be a part of the facility's operating record as required by OAC Rule 3745-54-73.

B.6 Reserved

B.7 Reserved

B.8 Reserved
All records shall be furnished by the Permittee upon request to, and made available at all reasonable times for inspection by, Ohio EPA, in accordance with OAC Rule 3745-54-74.

The Permittee must comply with the requirements set forth in OAC Rule 3745-54-73 regarding an operating record, including information to be recorded and the maintenance thereof.
B.23 Reserved

B.24 Manifest System
OAC Rules 3745-52-20, 3745-52-21, 3745-52-22 and 3745-52-23

(a) In managing waste generated at the facility, the Permittee must comply with OAC Chapter 3745-52 with regard to the manifest system.

B.25 Biennial Reports and Additional Reports
OAC Rules 3745-54-75 and 3745-54-77

The Permittee must comply with the report requirements set forth in OAC Rule 3745-54-75 and the additional report requirements set forth in OAC Rule 3745-54-77.

B.26 Reserved

B.27 Reserved

B.28 Reserved

B.29 Reserved

B.30 Reserved

B.31 Reserved

B.32 Reserved

B.33 Reserved

B.34 Reserved
B.35 General Post-Closure Requirements
OAC Rules 3745-55-17, 3745-55-18, 3745-55-19 and 3745-55-20

(a) Post-Closure Care Period

The Permittee began post-closure care for Primary Pond after completion of closure of the unit and must continue for 30 years after that date. Post-closure care must be in accordance with OAC Rule 3745-55-17 and the post-closure plan.

(b) Post-Closure Security

The Permittee must maintain security at the facility during the post-closure care period, in accordance with the post-closure plan and OAC Rule 3745-55-17(B).

(c) Amendment to Post-Closure Plan

The Permittee must amend the post-closure plan, when necessary, in accordance with OAC Rule 3745-55-18(D).

(d) Certification of Completion of Post-Closure Care

No later than sixty days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must certify that the post-closure care period was performed in accordance with the specifications in the post-closure plan and the terms and conditions of this permit, as required by OAC Rule 3745-55-20. The Permittee must furnish to the Director, upon request, documentation supporting the certification.

B.36 Cost Estimate for Facility Post-Closure
OAC Rule 3745-55-44

(a) The Permittee's most recent post-closure cost estimate, prepared in accordance with OAC Rule 3745-55-44 is specified in Appendix I-1 of the permit application.
(b) The Permittee must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with OAC Rule 3745-55-45.

(c) The Permittee must revise the post-closure cost estimate whenever there is a change in the facility's post-closure plan that increases the cost of post-closure care, as required by OAC Rule 3745-55-44(C).

(d) The Permittee must submit to Ohio EPA and keep at the facility the latest post-closure cost estimate as required by OAC Rule 3745-55-44(D) and (E).

B.37 Financial Assurance for Facility Post-Closure

The Permittee must maintain continuous compliance with OAC Rules 3745-55-45 and 3745-55-46 and provide documentation of financial assurance, which meets the requirements of OAC Rule 3745-55-51, in at least the amount of the cost estimates required by Permit Condition B.36.

B.38 Reserved

B.39 Incapacity of Owners or Operators, Guarantors, or Financial Institutions

OAC Rule 3745-55-48

The Permittee must comply with requirements set forth in OAC Rule 3745-55-48 regarding the incapacity of owners, operators, guarantors or financial institutions.

B.40 Reserved
MODULE E – CORRECTIVE ACTION REQUIREMENTS

E. Corrective Action Summary

The United States Environmental Protection Agency (U.S. EPA) issued BP Oil Company (BP) a hazardous waste permit for the Lima Refinery on June 28, 1989. As a condition of this permit, U.S. EPA required completion of corrective action for the release of hazardous waste and hazardous waste constituents from solid waste management units (SWMUs) and SWMU groups identified in the permit.

The Permittee submitted a draft RCRA Facility Investigation (RFI) Workplan to U.S. EPA during March 1990 and the final approval for the RFI Workplan was granted on August 7, 1997.


As part of the Corrective Measures, BP implemented deed restrictions on June 7, 2002, and submitted the documents to U.S. EPA. U.S. EPA approved the final CMICWP/PBGWMP on August 16, 2002. A table listing all of the SWMUs, Areas of Concern (AOCs), remedies and dates approved can be found in Attachment 1.

The transition of the corrective action program from the U.S. EPA to Ohio EPA occurred on June 20, 2003. Ohio EPA has assumed the oversight role for Corrective Action at the facility. Corrective action is complete at the site except for some on-going operations and maintenance activities. In addition, Area 3 maintains a Technical Impracticability Demonstration that must be updated every five years for its corrective measures.
BP entered into Director’s Final Findings and Orders with Ohio EPA on December 12, 2012, to remove three SWMUs and two AOCs from the hazardous waste permit that was issued to both BP Products North America and Lima Refining Company. The three SWMUs that were removed from the hazardous waste permit are SWMU 1 (Land Treatment Unit), SWMU 7 (L-5 Landfill), SWMU 62 (E-Pond) and the two AOCs are Ottawa River and Zurmehly Creek. The orders require BP to maintain the operations and maintenance plans for the units identified that were approved under the hazardous waste permit.

E.1. Corrective Action at the Facility
OAC Rules 3745-50-10 and 3745-54-101

In accordance with OAC Rule 3745-50-10, “waste management unit” means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), construction and demolition debris (as defined in ORC Chapter 3714), industrial waste, or other waste (as those terms are defined in ORC Chapter 6111) has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a Facility at which wastes have been routinely and systematically released. As used in this permit, the term “waste management unit” shall be consistent with and equivalent to the term “solid waste management unit” as that term is defined in Section 3004(u) of RCRA. For the purpose of Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA’s Corrective Action Plan (CAP) (OSWER Directive 9902.3-2A, May 1994.)

The Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous waste(s) or hazardous constituent(s) from any solid waste management units (SWMUs) at the Facility, regardless of the time at which waste was placed in such units.

E.2. Corrective Action Beyond the Facility Boundary
OAC Rule 3745-54-101

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee’s best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of any responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such
releases will be addressed under the RFI, CMS, and CMI phases, as determined to be necessary on a case-by-case basis.

E.3. Identification of SWMUs
OAC Rules 3745-50-44(D) and 3745-54-101

(a) The units or groups of units which were investigated during the Phase 1 RFI are listed in Attachment 2.

(b) The units or groups of units which were identified during the course of Corrective Action are listed in Attachment 1. The following units from Attachment 1 have completed their corrective measures remedy and require on-going/future operations and maintenance activities:

SWMU 8 - L-6 Landfill
SWMU 46 - Old Primary Pond
SWMU 47 - Primary Pond
SWMU 57 - North Ditch
SWMU 58 - Tank 231
SWMU 67 - Former Coke Pile
SWMU Group A - Old Drum Storage Area (SWMU 3) and L-3 Waste Pile (SWMU 5)
Area 3 - SWMU Groups B, E, and F

E.4. Reserved

E.5. RCRA Facility Investigation (RFI)
OAC Rule 3745-54-101

The Permittee conducted an RFI to thoroughly evaluate the nature and extent of the release of hazardous wastes and hazardous constituents from all applicable WMUs identified in Condition E.3.

(a) RFI Workplan

In case of a newly discovered waste management unit, the Permittee shall submit a written RFI Workplan to Ohio EPA on a time frame established by Ohio EPA.

(i) If necessary, Ohio EPA shall provide written comments on the RFI Workplan to the Permittee.

(ii) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFI Workplan that incorporates Ohio EPA's comments.
(iii) Ohio EPA shall approve or modify and approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) RFI Implementation

The Permittee shall implement the RFI Workplan according to the terms and schedule in the approved RFI Workplan.

(c) RFI Final Report

Within sixty (60) days after the completion of the RFI, the Permittee shall submit an RFI Final Report to Ohio EPA. The RFI Final Report shall describe the procedures, methods, and results of the RFI. The Final Report must contain adequate information to support further decisions concerning corrective action at the Facility.

(i) If necessary, Ohio EPA shall provide written comments on the RFI Report to the Permittee.

(ii) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new RFI Report that incorporates Ohio EPA's comments.

(iii) Ohio EPA shall approve or modify and approve, in writing, the amended or new RFI Report. The RFI Report, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Report must be authorized by Ohio EPA.

E.6. Interim Measures (IM)

Based on the RFI Final Report or other information documenting a release of hazardous waste or constituents to the environment, Ohio EPA may require or the Permittee may propose the development and implementation of an interim measure (this may include an IM Workplan) at any time during the life of the permit to mitigate or eliminate a threat to human health or the environment.
E.7. Determination of No Further Action

(a) Permit Modification

Based on the results of the completed RFI or other relevant information, the Permittee may submit an application to Ohio EPA for a Class 3 permit modification under OAC Rule 3745-50-51 to terminate specific Corrective Action tasks which are enumerated throughout Section E of the permit. Other Corrective Action tasks identified in Section E will remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from SWMUs at the Facility that pose an unacceptable risk to human health and the environment.

If, based upon review of the Permittee’s request for a permit modification, the results of the completed RFI, and other information, including comments received during the initial sixty (60) day public comment period required for Class 3 permit modifications, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, Ohio EPA will approve the requested modification.

(b) Periodic Monitoring

A determination of no further action shall not preclude Ohio EPA from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect human health and the environment, when site-specific circumstances indicate that a potential or an actual release of hazardous waste or constituents exists.

(c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a modification to the terms of the permit to rescind the determination made in accordance with Attachment 1. Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work Plan and, upon Ohio EPA approval of that Work Plan, perform additional investigations as needed.
E.8. Corrective Measures Study (CMS)

In the case of a newly discovered waste management unit, if Ohio EPA determines, based on the results of the RFI and any other relevant information, that corrective measures are necessary, Ohio EPA will notify the Permittee in writing that the Permittee shall conduct a CMS either as described below or as described in Ohio EPA's notification to the Permittee. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) that will satisfy the performance objectives specified in Permit Condition E.9.

(a) CMS Workplan

In the case of a newly discovered waste management unit, the Permittee must submit a written CMS Workplan to Ohio EPA within ninety (90) days from the notification by Ohio EPA of the requirement to conduct a CMS.

(i) If necessary, Ohio EPA shall provide written comments on the CMS Workplan to the Permittee.

(ii) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new CMS Workplan that incorporates Ohio EPA's comments.

(iii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Workplan. The CMS Workplan, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit.

(iv) Subsequent changes to the approved CMS Workplan must be authorized by Ohio EPA.

(b) CMS Workplan Implementation

The Permittee must implement the CMS Workplan according to the terms and schedule in the approved CMS Workplan.

(c) CMS Final Report

Within sixty (60) days after the completion of the CMS, the Permittee must submit a CMS Final Report to Ohio EPA. The CMS Final report must
summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

(i) If necessary, Ohio EPA shall provide written comments on the CMS Report to the Permittee.

(ii) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee must submit either an amended or new CMS Report that incorporates Ohio EPA's comments.

(iii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

E.9. Corrective Measures Implementation (CMI)

Based on the results of the CMS for a newly discovered waste management unit, the Permittee must implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will authorize one or more of the Corrective Measures in the CMS, and will notify the Permittee in writing of the decision. Ohio EPA will select a Corrective Measure for implementation based on the following factors. The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media cleanup standards; (3) control the source(s) of releases so as to reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent(s)); and (4) comply with all applicable standards for management of wastes.

If two or more of the Corrective Measures studied meet the threshold criteria set out above, Ohio EPA will authorize the Corrective Measures Implementation by considering remedy selection factors including: (1) long-term reliability and effectiveness; (2) the degree to which the Corrective Measure will reduce the toxicity, mobility or volume of contamination; (3) the Corrective Measure's short-term effectiveness; (4) the Corrective Measure's implementability; and (5) the relative cost associated with the alternative.

In authorizing the proposed Corrective Measure(s), Ohio EPA may also consider such other factors as may be presented by site-specific conditions. The
Corrective Measure(s) described below are for the SWMUs identified in Condition E.3.

(a) **Corrective Action Objectives**

The Corrective Action objectives the Permittee is required to meet are based on information gathered during previous investigations and are intended to protect human health and the environment. These objectives focus on Upper and Middle Sand ground water, surface soil and subsurface soil contamination identified at the facility. The general objectives are as follows:

**Establish Media Cleanup Standards for Points of Compliance**

The first general corrective action objective involves establishing Media Cleanup Standards (MCSs) for the Point of Compliance (POC) specified for the contaminated media. MCSs were established for the media exhibiting exceedances of action levels. The MCSs and POCs for these media are described below.

(i) **Media Cleanup Standards**

(1) Based on the results from the Phase II RCRA Facility Investigation (RFI), Human Health Risk Assessment (HHRA), and Detailed Ecological Risk Assessment (DERA) completed in 2001, action levels were developed during the CMS to help determine the specific areas of the facility that require corrective measures. For a CMS, an action level is defined as a medium-specific, health- and environment-based contaminant concentration determined to be protective of human health and the environment. Table 1 presents the criteria upon which the action levels for each medium were based. Tables 2 and 3 present the MCSs for soil and ground water, that were used for corrective action investigations completed prior to the January 24, 2013, Director Initiated Permit Modification.
Table 1 – Action Level Criteria for Each Medium

<table>
<thead>
<tr>
<th>Medium</th>
<th>Action Level Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Water</td>
<td>• U.S. EPA MCLs&lt;br&gt;• Risk-based action levels developed based on HHRA results</td>
</tr>
<tr>
<td>Soil</td>
<td>• U.S. EPA Region 9 industrial Preliminary Remediation Goals (PRGs)&lt;br&gt;• Risk-based action levels developed based on HHRA results</td>
</tr>
</tbody>
</table>

Table 2 – MCSs for Soil

<table>
<thead>
<tr>
<th>COC</th>
<th>MCS (milligram per kilogram)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>1.5</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>230</td>
</tr>
<tr>
<td>Toluene</td>
<td>520</td>
</tr>
<tr>
<td>Xylene</td>
<td>210</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>0.29</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
<td>2.9</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>2.9</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>2.9</td>
</tr>
<tr>
<td>Lead</td>
<td>750</td>
</tr>
</tbody>
</table>
Table 3 – MCSs for Ground Water

<table>
<thead>
<tr>
<th>COC</th>
<th>MCS (milligram per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Volatile Organic Compounds</strong></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>0.005</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>1.0</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>0.1</td>
</tr>
<tr>
<td>Chloroethane&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.0046</td>
</tr>
<tr>
<td>Chloroform</td>
<td>0.16</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>0.005</td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>0.007</td>
</tr>
<tr>
<td>1,2-Dichloropropane&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.005</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>0.0061</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>0.7</td>
</tr>
<tr>
<td>Methyl ethyl ketone</td>
<td>1.9</td>
</tr>
<tr>
<td>Styrene</td>
<td>0.1</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.0</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>0.2</td>
</tr>
<tr>
<td>Trichloroethene</td>
<td>0.005</td>
</tr>
<tr>
<td>Tetrachloroethene</td>
<td>0.005</td>
</tr>
<tr>
<td>Vinyl chloride&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.002</td>
</tr>
<tr>
<td>Xylenes (total)</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Semivolatile Organic Compounds</strong></td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>0.37</td>
</tr>
<tr>
<td>Anthracene</td>
<td>1.8</td>
</tr>
<tr>
<td>Benzo(a)anthracene</td>
<td>0.0000092</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene</td>
<td>0.0000095</td>
</tr>
</tbody>
</table>
### Table 3 – MCSs for Ground Water

<table>
<thead>
<tr>
<th>COC</th>
<th>MCS (milligram per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzo(k)fluoranthene</td>
<td>0.000092</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>0.0002</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate</td>
<td>0.006</td>
</tr>
<tr>
<td>Chrysene</td>
<td>0.0092</td>
</tr>
<tr>
<td>Dibenzo(a,h)anthracene</td>
<td>0.000097</td>
</tr>
<tr>
<td>Di-n-butyl phthalate</td>
<td>3.6</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
<td>0.6</td>
</tr>
<tr>
<td>1,3-Dichlorobenzene</td>
<td>0.0055</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene</td>
<td>0.075</td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>29</td>
</tr>
<tr>
<td>2,4-Dimethylphenol</td>
<td>0.73</td>
</tr>
<tr>
<td>Dimethyl phthalate</td>
<td>360</td>
</tr>
<tr>
<td>2,4-Dinitrophenol</td>
<td>0.073</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>1.5</td>
</tr>
<tr>
<td>Fluorene</td>
<td>0.24</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>0.000092</td>
</tr>
<tr>
<td>Methyl tertiary butyl ether</td>
<td>0.02</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>0.0062</td>
</tr>
<tr>
<td>4-Nitrophenol</td>
<td>0.29</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>0.00075</td>
</tr>
<tr>
<td>Phenol</td>
<td>22.0</td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.18</td>
</tr>
<tr>
<td>Pyridine</td>
<td>0.036</td>
</tr>
<tr>
<td><strong>Metals</strong></td>
<td></td>
</tr>
<tr>
<td>Antimony</td>
<td>0.006</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.05</td>
</tr>
<tr>
<td>Barium</td>
<td>2.0</td>
</tr>
</tbody>
</table>
Table 3 – MCSs for Ground Water

<table>
<thead>
<tr>
<th>COC</th>
<th>MCS (milligram per liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beryllium</td>
<td>0.004</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.005</td>
</tr>
<tr>
<td>Chromium (total)</td>
<td>0.1</td>
</tr>
<tr>
<td>Cobalt</td>
<td>2.2</td>
</tr>
<tr>
<td>Cyanide</td>
<td>0.2</td>
</tr>
<tr>
<td>Lead</td>
<td>0.015</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.002</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.73</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.05</td>
</tr>
<tr>
<td>Silver</td>
<td>0.18</td>
</tr>
<tr>
<td>Thallium(^a)</td>
<td>0.002</td>
</tr>
<tr>
<td>Vanadium</td>
<td>0.26</td>
</tr>
<tr>
<td>Zinc</td>
<td>11.0</td>
</tr>
</tbody>
</table>

Notes: \(^a\) COC for SWMU 63 only

(2) In the case of a newly discovered waste management unit, the Permittee will develop action levels based upon the most recent U.S. EPA guidance on establishing MCSs and in consultation with Ohio EPA.

(ii) Points of Compliance (POC)

A POC is a location at which an MCS must be met. For soil, the POC is the lateral extent of the boundary of the SWMU, SWMU Group, Area of Concern, or SWMU Group Area and vertical extent where COCs are present at concentrations equal to or exceeding the MCSs or where post-remedial risk evaluations show that COCs pose a significant risk above Ohio EPA's acceptable risk goal of \(10^{-5}\) or a total hazard index greater than 1.
After implementing corrective measures for soils, samples will be collected to determine if Constituents of Concern (COCs) are present at levels above the MCSs. If COCs are present at levels above the MCSs, a post-remedial risk evaluation will be conducted. If the post-remedial risk evaluation shows that the COCs that are present at levels above the MCSs do not pose a significant risk above Ohio EPA's acceptable risk level of 10-5 or Hazard Index of less than 1, then no further corrective measures will be implemented. However, if the post-remedial risk evaluation shows that the COCs that are present at levels above the MCSs do pose a significant risk above Ohio EPA's acceptable risk level of 10-5 or Hazard Index greater than 1, then further corrective measures will be implemented.

(b) Specific Remedies

Specific remedies for individual SWMUs, SWMU groups, and areas at the facility are described in Attachment 1. These remedies were implemented in accordance with the CMICWP approved by U.S. EPA and the Terms and Conditions of this Permit. In the case of newly discovered waste management units, the remedy will be selected by Ohio EPA and the terms and conditions of this permit.

(c) Progress Reports

The Permittee must submit to Ohio EPA an annual cover inspection report for SWMU 46 (Old Primary Pond).

The Permittee must submit to Ohio EPA an annual "No Excavation" and "SWMU Location" inspection report for sign inspections at:

- SWMU 8 (L-6 Landfill)
- SWMU 46 (Old Primary Pond)
- SWMU 57 (North Ditch)
- SWMU 67 (Former Coke Pile)
- SWMU Group A (SWMU's 3 and 5)
- SWMU Group E
- SWMU Group F
- Area 3

The Permittee must submit inspection reports to Ohio EPA annually for SWMU Group F in accordance with the Operation and Maintenance (O&M) Plan in the approved Construction Completion Report.

The Permittee must reassess the technical impracticability (TI) of light non-aqueous phase liquid (LNAPL) remediation at Area 3 in five-year intervals to determine if advances in technology would allow removal of LNAPL, and report the reassessment results to Ohio EPA. The first report was submitted on October 30, 2007.

The Permittee must submit to Ohio EPA an annual report on Area 3 TI Zone monitoring to Ohio EPA in accordance with the Technical Impracticability Demonstration for the Area 3 LNAPL report.

(d) Corrective Measures Completion Report

Within forty-five (45) days of completion of corrective measures implementation, the Permittee shall submit to Ohio EPA a Corrective Measures (CM) Completion Report and Operation and Maintenance (O&M) Plan.
1) If necessary, Ohio EPA shall provide written comments on the CM Completion Report and O&M Plan to the Permittee.

2) Within forty-five (45) days of receipt of Ohio EPA's comments, the Permittee shall submit either an amended or new CM Completion Report and O&M Plan.

3) Ohio EPA shall approve or modify and approve, in writing, the amended or new CM Completion Report and O&M Plan. The CM Completion Report and O&M Plan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CM Completion Report and O&M Plan must be authorized by Ohio EPA.

(e) Permit Modification

In case of a newly discovered waste management unit that requires corrective measures, Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51, to require implementation of the corrective measure(s) authorized.

The Permittee must not implement the corrective measure until the permit is modified pursuant to OAC Rule 3745-50-51.

(f) Financial Assurance

OAC Rule 3745-54-101

Within 45 days after receiving approval of the CMI, the Permittee must provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-54-101 (B) and (C).

E.10. Newly Identified WMUs or Releases

OAC Rule 3745-54-101

(a) General Information

The Permittee must submit to Ohio EPA, within thirty (30) days of discovery, the following information regarding any new WMU identified at the Facility by Ohio EPA or the Permittee:

i) The location of the unit on the site topographic map;

ii) Designation of the type of unit;
iii) General dimensions and structural description (supply any available drawings);

iv) When the unit was operated; and

v) Specification of all waste(s) that have been managed at the unit.

(b) Release Information

The Permittee must submit to Ohio EPA, within thirty (30) days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

E.11. Corrective Action for Newly Identified WMUs and Releases
OAC Rule 3745-54-101

If Ohio EPA determines that an RFI is required for newly identified WMUs, the Permittee must submit a written RCRA Facility Investigation Workplan to Ohio EPA upon a time frame established in written notification by Ohio EPA in accordance with Permit Condition E.5. This determination will be made based on the information submitted in accordance with Permit Condition E.10.

Further investigations or corrective measures will be established by Ohio EPA. The Permittee must make such submittal in accordance with time frames established by Ohio EPA.

E.12 Completion of Corrective Action
OAC Rule 3745-54-101

After completing Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any WMUs at the Facility, the Permittee must submit a Corrective Measures Completion of Work (CMCW) Report. The CMCW Report must document that Corrective Action construction is complete, cleanup objectives and standards have been met, and any releases of hazardous waste or constituents no longer pose an unacceptable risk to human health and the environment. The CMCW Report may be submitted for any part of the Facility for which corrective measures are complete, or for the entire Facility. The CMCW Report must be submitted as a request for permit modification pursuant to OAC Rule 3745-50-51.
E.13 Documents Requiring Professional Engineer Stamp
ORC Section 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC Section 4733.01:

- Final Interim Measures Report
- Corrective Measures Final Design
- Corrective Measures Construction Completion Report
- Corrective Measures Attainment of Groundwater Performance Standards Report
- Corrective Measures Completion of Work Report

As such, the Permittee must ensure that these documents, as submitted to Ohio EPA, are stamped by a Professional Engineer licensed to practice in the State of Ohio.
This module addresses the ground water detection monitoring program associated with the Primary Pond Waste Consolidation Area (PPWCA) at the Lima Refinery. Certification of closure of the PPWCA was approved on December 12, 2002. The PPWCA is subject to 30 years of post-closure ground water monitoring. Upon the effective date of this Permit, the Permittee shall conduct ground water monitoring at all wells under OAC Rules 3745-54-90 through 3745-54-100.

The Permittee’s ground water monitoring system consists of three (3) monitoring wells and one piezometer which are screened in the Middle Sand. This zone is considered to be the uppermost aquifer. The Middle Sand is comprised primarily of sand and gravel, fine sand and considerable amounts of clay and thin lenses of silt and sand with considerable clay. The composition is typical of a unit deposited by a braided stream flowing before a glacial front and is Wisconsinan in age. The monitoring wells consist of one upgradient background well: FW-03S(a) screened in the interval from 20 to 28 feet below grade and two downgradient wells: FW-13S and FW-18S screened in the interval from 26 to 30.5 and 24.9 to 34.5 feet below grade, respectively. One piezometer, FW-15S, which is used for water level measurements only, is screened from 31 to 35.5 feet below grade. The locations of these wells, near the compliance boundary, are illustrated on Figure 2 of the Post Closure Ground-Water Detection Monitoring Plan for the PPWCA, Revision 4 (October 30, 2017), hereafter referred to as the PCGWDMP.

All of the monitoring wells listed in Permit Condition F.3. and the analytical compounds listed under Permit Condition F.9. are currently under the detection monitoring program. Compliance monitoring has not been initiated.

F.1. Applicability
OAC Rules 3745-50-44(B), 3745-54-90, and 3745-54-91

(a) The Permittee must comply with the applicable requirements in OAC Rules 3745-54-90 through 3745-54-100 for purposes of detecting, characterizing, and responding to releases to the uppermost aquifer for the following units:

Primary Pond Waste Consolidation Area

(b) OAC Rules 3745-54-90 through 3745-54-100 apply during the active life, which includes the closure period, of the above mentioned regulated units. After closure of each regulated unit, OAC Rules 3745-54-90 through 3745-54-100 apply during the post-closure care period under OAC Rule 3745-55-17 if the Permittee is conducting a detection monitoring program under OAC Rule 3745-54-98;
(c) The Permittee is subject to OAC Rules 3745-54-90 through 3745-54-100 and must conduct a monitoring and response program as follows:

The Permittee must institute a detection monitoring program under OAC Rule 3745-54-98.

F.2. Reserved

F.3. Well Location, Installation, Maintenance, and Removal

OAC Rules 3745-54-95, 3745-54-97(A) to (C), and 3745-54-100(D) and (E)

(a) The Permittee's ground water monitoring system must consist of a sufficient number of wells, installed and screened at appropriate locations and depths, to yield ground water samples from the Middle Sand zone which is considered to be the uppermost aquifer. The samples must:

(i) Represent the quality of background water that has not been affected by leakage from the regulated unit;

(ii) Represent the quality of ground water passing the point of compliance.

(iii) Allow for the detection and measurement of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer; and

(iv) If a facility contains more than one regulated unit, separate ground water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer.

(b) The monitoring system consists of the ground water wells as specified on Figure 2 of the PCGWDMP in conformance with the following list:

<table>
<thead>
<tr>
<th>Unit Name</th>
<th>Monitored Zone</th>
<th>Type of Well</th>
<th>Well ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Pond Waste</td>
<td>Middle Sand</td>
<td>Background/Upgradient</td>
<td>FW-03S(a)</td>
</tr>
<tr>
<td>Consolidation Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Point of Compliance</td>
<td></td>
<td></td>
<td>FW-13S, FW-18S,</td>
</tr>
<tr>
<td>(downgradient)</td>
<td></td>
<td></td>
<td>FW-15S</td>
</tr>
<tr>
<td>Piezometer (downgradient)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(c) Wells identified in Permit Condition F.3(b) must be cased in a manner that maintains the integrity of the monitoring well bore hole and complies with the detailed plans and specifications presented in Section 2.2 and Appendix A of the PCGWDMP. The casing must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space above the sampling depth must be sealed to prevent contamination of samples and the ground water. Appendix A of the PCGWDMP contains ground water monitoring well construction diagrams which illustrate compliance with OAC Rule 3745-54-97(A) to (C).

(d) The Permittee shall maintain the monitoring wells identified in Permit Condition F.3(b), in accordance with the detailed plans and specifications presented in Section 2.2 and Appendix A of the PCGWDMP.

(e) The Permittee must remove or replace any monitoring well in Permit Condition F.3(b) in accordance with the Appendix to OAC Rule 3745-50-51 permit modification process. Each change must be accompanied by a revised well location map to replace Figure 2 in the PCGWDMP referenced in Permit Condition F.3(b).

The Permittee must record in the facility operating record the total depth of any replacement wells installed in accordance with Permit Condition F.3(e) and the surveyed elevation of the top of casing, ground surface and/or apron elevation, and the protective casing of the monitoring well(s) within thirty (30) days of the date of installation (with as-built drawings).

(f) All wells removed or replaced in accordance with Permit Condition F.3(e) shall be plugged and abandoned in accordance with Chapter 9 of the Ohio EPA Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring (February 2009). Well plugging and abandonment methods, certification and justification shall be submitted to the Director within thirty (30) days from the date the well was removed from the monitoring program.

(g) Whenever any of the monitoring wells specified in Permit Condition F.3(b) are replaced, the Permittee must demonstrate to Ohio EPA that the ground water quality at the replacement monitoring well meets the criteria in Permit Condition F.3(a) within a two-year period of the date of replacement using means appropriate to the reason for replacement.

F.4. Sampling and Analysis Procedures
OAC Rule 3745-54-97 (D) and (E)

(a) The Permittee must implement a ground water monitoring program per Section E of the Permit Application. This program includes consistent
sampling and analysis procedures designed to ensure monitoring results that provide a reliable indication of ground water quality below the waste management area and are in compliance with OAC Rule 3745-54-97(D).

(b) The Permittee's ground water monitoring program per Section E of the Permit Application includes sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents in ground water samples in compliance with OAC Rule 3745-54-97(E). The Permittee must use the following techniques and procedures when obtaining and analyzing samples from the ground water monitoring wells described in Permit Condition F.3.:

(i) Samples must be collected and handled (including well evacuation, sample withdrawal, preservation, containerization, filtration, and shipment) to ensure representative samples are obtained using the techniques and equipment described in the PCGWDMP.

(ii) Field analyses must be performed using instruments, procedures, and forms described in the PCGWDMP of Section E of the Permit Application. Instruments must be calibrated as described in the PCGWDMP.

(iii) Sampling equipment must be decontaminated using techniques described in the PCGWDMP.

(iv) Purge water must be disposed of in accordance with procedures described in the PCGWDMP.

(v) Laboratory analytical methods, detection limits and sample holding time must be in accordance with techniques described in the PCGWDMP.

(vi) Quality assurance, including field/lab/equipment blanks, duplicate samples and identification of potential interferences, must be in accordance with the methods described in the PCGWDMP.

(vii) Chain of custody procedures, including standardized field tracking reporting forms, and sample labels, must be in accordance with the PCGWDMP.

(c) Field and analytical data must be validated in accordance with the procedures specified in Section E of the Permit Application.
F.5. **Ground Water Surface Elevation**  
OAC Rule 3745-54-97(F)

(a) The Permittee must determine the ground water surface elevation at each well identified in the table in Permit Condition F.3(b) each time ground water is sampled using the methods in Section 3.2.1.1 of the PCGWDMP.

F.6. **Sampling Frequency**  
OAC Rule 3745-54-97(G)

Data on each hazardous constituent specified in Permit Condition F.9(b) will be collected from background wells and wells at the compliance point(s). The sampling procedure and interval for each constituent are described in Section 3 of the PCGWDMP.

(a) The number and kinds of samples collected to establish background must be appropriate for the form of statistical test employed, following generally accepted statistical principles.

(b) The sample size must be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected.

(c) Background data must be updated as necessary in accordance with Section 4.1 of the PCGWDMP to provide an accurate representation of background ground water quality. New or revised background values must be established in the permit through the permit modification process in OAC Rule 3745-50-51.

F.7. **Statistical Procedures**  
OAC Rule 3745-54-97 (H) and (I)

The Permittee must use the following statistical procedures in evaluating ground water monitoring results for each hazardous constituent in Permit Condition F.9(b) in each well in Permit Condition F.3(b) to identify statistically significant evidence of contamination, the exceedance of a concentration limit, and/or the effectiveness of corrective action:

(a) For those constituents for which background values have not been collected and established at the time of Permit Application, the Permittee must choose and submit to Ohio EPA the appropriate statistical method within 45 days after the receipt of the last background sampling event data through the permit modification process in OAC Rule 3745-50-51.
For those constituents for which background values have been collected, the Permittee must conduct statistical procedures as presented in Section 4.0 of the PCGWDMP.

(b) The Permittee's statistical procedures must be protective of human health and the environment, provide reasonable confidence that the migration of hazardous constituents from a regulated unit into and through the aquifer will be indicated, and be able to determine whether such leakage of hazardous constituents into the ground water exceeds specified concentration limits. If the Permittee decides in the future, based on data collected, that another statistical method would be more appropriate, the Permittee must submit to Ohio EPA the appropriate statistical method for approval. Compliance will be facilitated by referring to the most recently finalized U.S. EPA statistical guidance document (currently, USEPA Office of Solid Waste and Emergency Response, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance (Final), March 2009) The statistical procedures must comply with the following performance standards:

(i) The statistical evaluation of ground water monitoring data must be conducted separately for each hazardous constituent specified in Permit Condition F.9(b) in each well.

(ii) The statistical method must be appropriate for the distribution of the data used to establish background or concentration limits. If the distribution for the constituents differs, more than one statistical method may be needed.

(iii) The statistical method must provide a reasonable balance between the probability of falsely identifying a non-contaminating and/or exceeding unit and the probability of failing to identify a contaminating and/or exceeding regulated unit as detailed in OAC Rule 3745-54-97(1)(2).

(iv) If a control chart approach is used, the specific type of control chart and its associated parameter values must be proposed by the Permittee and approved in the permit.

(v) If a tolerance or prediction interval procedure is used, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be proposed by the Permittee and approved in the permit. These parameters must be determined after considering the number of samples in the background data base, the data distribution, and the range of concentration values for each constituent of concern.
(vi) The statistical method must account for data below the limit of
detection with one or more statistical procedures. Any practical
quantitation limit (PQL) approved in the permit that is used in the
statistical method must be the lowest concentration level that can
be reliably achieved within specified limits of precision and
accuracy during routine laboratory operating conditions that are
available to the Permittee.

(vii) If necessary, the statistical method must include procedures to
control or correct for seasonal and spatial variability as well as
temporal correlation in the data.

F.8. Operating Record and Reporting
OAC Rules 3745-54-73, 3745-54-75, 3745-54-77 and 3745-54-100(G)

(a) Operating Record

The Permittee must enter all of the following information obtained in
accordance with Permit Module F.9 in the operating record:

(i) Ground water monitoring data collected in accordance with this
permit, including actual levels of constituents.

(ii) The laboratory results from each of the wells and their associated
qualifiers, including the laboratory sheets for the full volatile and
semi-volatile analyses (must include method codes, method
detection limits, and units of measurement);

(iii) The date each well was sampled (tabulated);

(iv) The date, time, and identification of all blanks and duplicates;

(v) Any field log documentation of deviation from the procedures in the
PCGWDMP, including documentation of parameter omissions
during the sampling event;

(vi) The date the Permittee received the results from the laboratory;

(vii) The date the owner or operator completed their review of the
analytical laboratory’s verification of the accuracy and precision of
the analytical data and determined its quality. Compliance will be
facilitated by referring to the most recent versions of:

U.S. EPA Contract Laboratory Program National Functional
Guidelines for Inorganic Data Review

(viii) The results of the data validation review per Permit Condition F.8(a)(vii) including: report completeness, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the U.S. EPA and Ohio EPA guidelines for data review;

(ix) Results of all blanks and duplicates (trip, field, equipment, and method);

(x) Results of the field parameters;

(xi) All chains of custody;

(xii) The statistical evaluation of the data (must include all computations, results of statistical tests, and date the statistical evaluation was completed);

(xiii) Any change in well status (i.e., going from unaffected to affected status and vice versa);

(xiv) Ground water surface elevations taken at the time of sampling each well;

(xv) Data and results of the annual determination of the ground water flow rate and direction including potentiometric maps;

(xvi) The results of the last three years of all inspections required under OAC Rule 3745-54-15(D) related to ground water monitoring and equipment as required under OAC Rule 3745-54-73(B)(5).

(b) Annual, Semi-annual and Other Periodic Required Reporting

(i) Required Annual Reporting
The Permittee must submit an annual report to the Director by March 1st of the following year. The annual reports must reference the titles and dates of any other periodic reports required by the permit or any updates to those reports.

The annual reports must include, at a minimum, the analytical results required by Permit Conditions F.9, F.10, or F.11, the ground water elevation data required by Permit Condition F.5 and F.8(a)(xiv), and the results of any statistical analyses required by Permit Condition F.9, F.10, or F.11. In addition, all ground water and blank data must be submitted electronically in the format supplied by the Director, and any other information specified in the instructions for the annual report not addressed in this Permit Condition must be submitted in accordance with the most recent annual reporting form supplied by the Director and OAC Rule 3745-54-97(J).

(ii) Required Semi-Annual Reporting

The Permittee must submit a Data Report and Evaluation for each semi-annual sampling and analysis each year. The reports must be submitted in accordance with the schedule in the Table below.

<table>
<thead>
<tr>
<th>Samples to be Collected During the Preceding Months of:</th>
<th>Results Due to the Director By:</th>
</tr>
</thead>
<tbody>
<tr>
<td>April - May</td>
<td>90 days after completion of semi-annual ground water sampling event</td>
</tr>
<tr>
<td>October - November</td>
<td></td>
</tr>
</tbody>
</table>

The reports must include all of the following information obtained in accordance with Permit Module F:

(1) Ground water monitoring data collected in accordance with this permit including actual levels of constituents tabulated.

(2) The results of the laboratory review of the data, including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results;
their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results;

(3) The date, time, and identification of all blanks and duplicates;

(4) Field data sheets for monitoring well sampling and any field log documentation of deviation from the procedures in the PCGWDMP, including field/stabilization parameter results and documentation of parameter omissions during the sampling event;

(5) Results of all blanks and duplicates tabulated (trip, field, equipment, and method);

(6) Results of the statistical evaluation, identifying any hazardous constituents showing statistically significant evidence of contamination. This shall serve as the notification required by OAC Rule 3745-54-98 (G)(1);

(7) Any notification in accordance with OAC Rule 3745-54-98(G)(6)(a) that the permittee intends to make a demonstration of a false indication of a release under paragraphs (G) to (G)(6)(d) of OAC Rule 3745-54-98.

(8) Any change in well status (i.e., going from unaffected to affected status and vice versa);

(9) Ground water surface elevations taken at the time of sampling each well (tabulated);

(10) Results of the determination of the ground water flow rate and direction including potentiometric surface maps;

(11) The results of inspections conducted in accordance with the Ground-Water Monitoring Well Integrity Program, described in Section 3.2.2.3 and 3.2.2.8 of the PCGWDMP.
(12) Description of any well maintenance performed since the last semi-annual report and a schedule to perform any repairs not complete.

(13) Evaluation of the detection monitoring program including the determination of whether the ground water monitoring system still consists of a sufficient number of wells installed at appropriate locations and depths to meet the requirements of Permit Condition F.3.

(iii) Other Reports
OAC Rule 3745-54-77(C)

The Permittee must comply with any reporting requirements that become necessary under Permit Conditions F.9, F.10, or F.11 in accordance with the schedules covered by that permit condition and as required by OAC Rule 3745-54-77(C). Resampling reports must include the same types of information as the initial reports pertaining only to the resampled wells.

F.9. Detection Monitoring Program
OAC Rule 3745-54-98

(a) The Permittee must establish and implement a detection ground water monitoring program as required by OAC Rule 3745-54-98.

(b) The Permittee must determine concentrations of the parameters in the following table that provide a reliable indication of the presence of hazardous constituents in ground water at each monitoring well listed in Permit Condition F.3(b) semi-annually during the active life of the regulated unit(s) plus the closure period and post-closure care period. These concentrations will be compared to the background concentrations set forth below as per Permit Conditions F.6 and F.7.

<table>
<thead>
<tr>
<th>Parameter/Constituent</th>
<th>Established Background Concentrations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Milligrams per liter (mg/l)</td>
</tr>
<tr>
<td>Antimony</td>
<td>SL</td>
</tr>
<tr>
<td>Arsenic</td>
<td>SL</td>
</tr>
<tr>
<td>Barium</td>
<td>SL</td>
</tr>
<tr>
<td>Beryllium</td>
<td>SL</td>
</tr>
<tr>
<td>Cadmium</td>
<td>SL</td>
</tr>
<tr>
<td>Chromium</td>
<td>SL</td>
</tr>
<tr>
<td>Substance</td>
<td>Concentration</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Cobalt</td>
<td>SL</td>
</tr>
<tr>
<td>Lead</td>
<td>SL</td>
</tr>
<tr>
<td>Mercury</td>
<td>SL</td>
</tr>
<tr>
<td>Nickel</td>
<td>SL</td>
</tr>
<tr>
<td>Selenium</td>
<td>SL</td>
</tr>
<tr>
<td>Vanadium</td>
<td>SL</td>
</tr>
<tr>
<td>Benzene</td>
<td>0.001</td>
</tr>
<tr>
<td>Carbon disulfide</td>
<td>0.001</td>
</tr>
<tr>
<td>Chlorobenzene</td>
<td>0.001</td>
</tr>
<tr>
<td>Chloroform</td>
<td>0.001</td>
</tr>
<tr>
<td>1,2-Dichloroethane</td>
<td>0.001</td>
</tr>
<tr>
<td>Ethyl benzene</td>
<td>0.001</td>
</tr>
<tr>
<td>Ethylene dibromide</td>
<td>0.000003</td>
</tr>
<tr>
<td>Methyl ethyl ketone (2-butanone)</td>
<td>0.010</td>
</tr>
<tr>
<td>Styrene</td>
<td>0.001</td>
</tr>
<tr>
<td>Toluene</td>
<td>0.001</td>
</tr>
<tr>
<td>Xylene</td>
<td>0.002</td>
</tr>
<tr>
<td>Anthracene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Benzenethiol(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Benzo(a)anthracene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Benzo(a)pyrene(^1)</td>
<td>0.0002</td>
</tr>
<tr>
<td>Benzo(b)fluoranthrene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Benzo(k)fluoranthrene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Bis (2-ethylhexyl) phthalate(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Butyl benzyl phthalate(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Chrysene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Dibenz(a,j)acridine(^1)</td>
<td>0.050</td>
</tr>
<tr>
<td>Dibenz(a,h)anthracene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>1,3-Dichlorobenzene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>Diethyl phthalate(^1)</td>
<td>0.010</td>
</tr>
<tr>
<td>7,12-Dimethylbenz(a)anthracene(^1)</td>
<td>0.020</td>
</tr>
<tr>
<td>2,4-Dimethylphenol(^1)</td>
<td>0.010</td>
</tr>
</tbody>
</table>
Samples will only be collected and analyzed for these semi-volatile organic compounds (SVOCs) on an annual basis.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl phthalate</td>
<td>0.010</td>
</tr>
<tr>
<td>Di(n)butyl phthalate</td>
<td>0.010</td>
</tr>
<tr>
<td>2,4-Dinitrophenol</td>
<td>0.050</td>
</tr>
<tr>
<td>Di(n)octyl phthalate</td>
<td>0.010</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>0.010</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>0.010</td>
</tr>
<tr>
<td>Indene</td>
<td>0.020</td>
</tr>
<tr>
<td>1-Methyl naphthalene</td>
<td>0.010</td>
</tr>
<tr>
<td>2-Methylphenol</td>
<td>0.010</td>
</tr>
<tr>
<td>4-Methylphenol/3-Methylphenol</td>
<td>0.020</td>
</tr>
<tr>
<td>6-Methyl chrysene</td>
<td>0.020</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>0.010</td>
</tr>
<tr>
<td>4-Nitrophenol</td>
<td>0.050</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>0.010</td>
</tr>
<tr>
<td>Phenol</td>
<td>0.010</td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.010</td>
</tr>
<tr>
<td>Pyridine</td>
<td>0.020</td>
</tr>
<tr>
<td>Quinoline</td>
<td>0.010</td>
</tr>
</tbody>
</table>

(c) The Permittee's ground water monitoring program must include collection, preservation, and analysis of the above listed elements and compounds from samples pursuant to Permit Conditions F.4, F.5, and F.6. The Permittee must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under Permit Conditions F.7 and F.8.

(d) Statistical analyses shall be conducted semi-annually to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in Permit Condition F.9(b).

(e) The Permittee must determine the ground water flow rate and direction in the uppermost aquifer at least annually using the procedures specified in Section 3.2.1.1 of the PCGWDMP.

(f) The Permittee must determine whether there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition F.9(b) semi-annually and within ninety (90) days after completion of sampling. Results must be included in the semi-annual data report in accordance with permit condition F.8(b)(ii).
In determining whether statistically significant evidence of contamination exists, the Permittee must use the methods specified in Permit Condition F.7 to compare data collected at the compliance point(s) to the background ground water quality data.

(g) If the Permittee determines, pursuant to Permit Condition F.9(f), that there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition F.9(b), the Permittee, if desired, may resample the affected well(s) for any of the constituents listed in Permit Condition F.9(b) that were detected above corresponding PQLs. All resampling results, if collected, must be submitted within the same timeframe required by Permit Condition F.8(b)(ii).

(h) If the Permittee determines, pursuant to Permit Condition F.9(f), that statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition F.9(b) has been confirmed at any monitoring well at the compliance point, then the Permittee must:

(i) Notify the Director of this finding in writing within seven (7) days of that determination. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination, the corresponding analytical results, and the well(s) with the confirmed evidence;

(ii) Immediately sample the ground water in all wells listed in Permit Condition F.3(b) and determine whether constituents identified in Table 4 (Skinner List of Refinery Related Compounds) of the PCGWDMP are present, and if so, in what concentration.

(iii) For any compounds listed in Table 4 (Skinner List of Refinery Related Compounds) of the PCGWDMP found in the analysis pursuant to Permit Condition F.9(b), the Permittee may re-sample affected wells within one month or at an alternative site-specific schedule approved by the Director and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, or if the Permittee elects not to re-sample, then these constituents form the basis for compliance monitoring.

(iv) Within 90 days of determining a statistically significant increase, submit to the Director an application for a permit modification to establish a compliance monitoring program meeting the requirements of OAC Rule 3745-54-99. The application must include the following information:
(1) Identification of the concentration of any Table 4 (Skinner List of Refinery Related Compounds) of the PCGWDMP constituent detected in the ground water at each monitoring well at the point of compliance or between the compliance point and the downgradient facility boundary;

(2) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of compliance monitoring under OAC Rule 3745-54-99 including wells necessary to meet OAC Rule 3745-54-91(A)(3) with a visual representation of the point of compliance required by OAC Rule 3745-54-95;

(3) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of OAC Rule 3745-54-99.

(4) For each hazardous constituent detected at the compliance point or between the compliance point and the downgradient property boundary, a proposed concentration limit under OAC Rule 3745-54-94(A)(1) or (A)(2), or a notice of intent to seek an alternate concentration limit for a hazardous constituent under OAC Rule 3745-54-94(B).

(5) The compliance period as defined in OAC Rule 3745-54-96.

(6) A statement that the Permittee will begin sampling and analyzing for the new constituents at the next regularly scheduled sampling event following the event in which they were determined to be present.

(v) Within 180 days of determining a statistically significant increase submit to the Director:

(1) All data necessary to satisfactorily justify an alternate concentration limit under OAC Rule 3745-54-94(B); and

(2) An engineering feasibility plan (EFP) for a corrective action program necessary to meet the requirements of OAC Rule 3745-54-100.

(vi) If the Permittee determines, pursuant to Permit Condition F.9, that there is a statistically significant difference for chemical parameters
or hazardous constituents specified in Permit Condition F.9(b) at any monitoring well at the compliance point or between the compliance point and the downgradient property boundary, a demonstration may be submitted to the Agency that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, statistical evaluation, or natural variation in the ground water.

The Permittee may make this demonstration in addition to, or in lieu of, submitting a permit modification application for a compliance ground water monitoring program under OAC Rule 3745-54-99. However, the Permittee is not relieved of the requirement to submit a permit modification application within ninety (90) days unless the demonstration made under this Permit Condition is deemed successful by the Agency prior to the ninety (90) day time limit.

In such cases, the Permittee must:

1. Notify the Director in writing within seven (7) days of determining a statistically significant evidence of contamination at the compliance point or between the compliance point and the downgradient property boundary that such a demonstration will be made;

2. Within 90 days of determining a statistically significant increase, submit a report to the Director which successfully demonstrates that a source other than a regulated unit caused the contamination or that the increase resulted from error in sampling, analysis, or evaluation;

3. Within 90 days of determining a statistically significant increase, submit to the Director an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility; and

4. Continue to monitor in accordance with the approved detection monitoring program established under this permit.

(i) If the Permittee determines the detection monitoring program no longer satisfies the requirements of OAC Rule 3745-54-98, the Permittee must, within ninety (90) days of the determination, submit an application for a permit modification per OAC Rule 3745-50-51 to make any appropriate changes to the program.

F.10. Reserved
F.11. **Reserved.**
MODULE G - POST-CLOSURE CARE

G. POST-CLOSURE CARE
This section is applicable to units with in-place closure approval by Ohio EPA.

Primary and C Ponds (Surface Impoundment)

An above and below-grade surface impoundment used to store liquid wastes. Wastes disposed in the unit included storm and process water. The Primary Pond closed portion of this unit will require thirty (30) years of post-closure ground water monitoring. C Pond will not require post-closure ground water monitoring, as it has been clean closed.

G.1 Unit Identification

The Permittee must provide post-closure care for the following hazardous waste management unit as found in this Permit and OAC Chapter 3745-55, subject to the terms and conditions of this permit:

<table>
<thead>
<tr>
<th>Type of Waste Unit</th>
<th>Unit No. or Other Designation</th>
<th>Maximum Waste Inventory</th>
<th>Description of Wastes Contained</th>
<th>Hazardous Waste No.</th>
<th>Year Post-closure began</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Impoundment</td>
<td>Primary Pond (Unit 47)</td>
<td>10,539 yd.³ of contaminated sludge in Primary Pond were stabilized</td>
<td>Petroleum refinery primary oil/water/solids separation sludge (from WWTP) and benzene</td>
<td>F037, D018</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17,503 yd.³ of contaminated sludge were stabilized, removed from C-Pond and consolidated into Primary Pond</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A minimum of 1,280 yd.³ of contaminated soil from C-Pond were excavated and consolidated into Primary Pond</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
G.2 Post-closure Procedures and Use of Property
OAC Rule 3745-55-17

(a) The Permittee must conduct post-closure care for each hazardous waste management unit listed in Permit Condition G.1 above, to begin after completion of closure of the unit and continue for 30 years after that date. The 30-year post-closure care period may be shortened upon application and demonstration approved by Ohio EPA that the reduced period is sufficient to protect human health and the environment. The 30-year post-closure care period may be extended if the Director finds that the extended period is necessary to protect human health and the environment.

(b) The Permittee must maintain and monitor the ground water monitoring system and comply with all other applicable requirements of OAC Rules 3745-54-90 through 3745-54-101 during the post-closure period.

(c) The Permittee must comply with the requirements for surface impoundments as follows:

(i) Maintain the integrity and effectiveness of the final cover, including making repairs to the final cover, as necessary, to correct the effects of settling, subsidence, erosion, and other events; and

(ii) Prevent run-on and run-off from otherwise damaging the final cover.

(d) Reserved

(e) The Permittee must comply with all security requirements, as specified in the permit application.

(f) The Permittee must not allow any use of the units designated in Permit Condition G.1 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.

(g) The Permittee must implement the Post-Closure Monitoring Plan for each unit designated in Permit Condition G.1. All post-closure care activities must be conducted in accordance with the provisions of the Post-Closure Monitoring Plan.

G.3 Inspections
OAC Rule 3745-55-18(B)

The Permittee must inspect the components, structures, and equipment at the facility in accordance with the inspection schedule found in the Post-Closure Monitoring Plan.
G.4 Notices and Certification
OAC Rules 3745-55-19 and 3745-55-20

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the Permittee must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Director, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the Permittee must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days after certification of closure of the first and the last hazardous waste disposal unit, the Permittee must:

(i) Record, in accordance with Ohio law, a notation on the deed to the facility property, or on some other instrument that is normally examined during the title search, that will in perpetuity notify any potential purchaser of the property that:

1. The land has been used to manage hazardous wastes;
2. Its use is restricted under OAC Rules 3745-55-10 thru 3745-55-20; and
3. The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility have been filed with the Director and the Allen County zoning authority.

(ii) Submit a certification to the Director, signed by the Permittee, that he has recorded the notation specified in Permit Condition F.4(b)(i), including a copy of the document in which the notation has been placed.

(c) If the Permittee or any subsequent owner or operator of the land upon which the 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 permit in accordance with the applicable requirements in OAC Rules 3745-50-40 through 3745-50-66. The Permittee or any subsequent owner or operator of the land must demonstrate that the removal of hazardous wastes will satisfy the criteria of OAC Rule 3745-55-17(C).
By removing hazardous waste, the Permittee may become a generator of hazardous waste and must manage it in accordance with all applicable hazardous waste requirements.

If the Permittee is granted a permit modification or otherwise granted approval to conduct such removal activities, the Permittee may request that the Director approve either:

a) The removal of the notation on the deed to the facility property or other instrument normally examined during title search or,

b) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

(d) No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee must submit to the Director, by registered mail, a certification that the post-closure care period 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 Permittee and an independent, qualified, registered professional engineer. Documentation supporting the independent, qualified, registered professional engineer's certification must be furnished to the Director upon request until the Director releases the Permittee from the financial assurance requirements for post-closure care under OAC Rule 3745-55-45.

G.5 Financial Assurance

OAC Rule 3745-55-45

(a) The Permittee must maintain financial assurance during the post-closure period and comply with all applicable requirements of OAC Rules 3745-55-40 through 3745-55-51.

(b) The Permittee must demonstrate to the Director that the value of the financial assurance mechanism exceeds the remaining cost of post-closure care, in order for the Director to approve a release of funds.

(c) The Permittee (or any other person authorized to conduct post-closure care) must submit itemized bills to the Director when requesting reimbursement for post-closure care.
G.6 Post-closure Permit Modifications
OAC Rule 3745-55-18(D)

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 OAC Rules 3745-50-40 through 3745-50-66, and must include a copy of the proposed amended post-closure plan for approval by the Director. The Permittee must request a permit modification whenever changes in operating plans or facility design affect the approved post-closure plan, there is a change in the expected year of final closure, or other events occur during the active life of the facility that affect the approved post-closure plan. The Permittee must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan.

END OF PERMIT CONDITIONS
## ATTACHMENT-1

### Lima-Refinery

<table>
<thead>
<tr>
<th>SWMU or AOC</th>
<th>Unit Name</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy</th>
<th>Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWMU-2</td>
<td>Spent Lime Application Area</td>
<td>Area was never used</td>
<td>-</td>
<td>NFA</td>
<td></td>
</tr>
</tbody>
</table>

Old Drum Storage Area

| SWMU-3     | Old Drum Storage Area      | Unknown, area closed in 1990 | No records on the type of materials stored in area, not used on a routine basis to store wastes | Stored drums were tested and disposed, soil excavation and confirmatory soil sampling, IC and annual sign inspection. Submit annual inspection form to Ohio EPA. | CCR approved by U.S. EPA 12/30/2002 |

Tank 63

| SWMU-4     | Tank 63                    | Disassembled in 1991 | RFA recommended no further action | NFA    | RFI-DOCC Report (incorporated into the Phase I RFI Workplan) approved by U.S. EPA on 8/7/1997 |

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<thead>
<tr>
<th>Unit Name</th>
<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-3 Waste Pile</td>
<td>SWMU-5 &amp; (Part of SWMU Group A)</td>
<td>Unknown per Phase II RFI Page 4-71</td>
<td>Benzene, ethylbenzene, toluene, total xylenes, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene</td>
<td>CCR approved by U.S. EPA 12/30/2002</td>
</tr>
<tr>
<td>L-4 Landfill</td>
<td>SWMU-6</td>
<td>Not Described</td>
<td>benzo(a)pyrene, dibenz(a,h)anthracene</td>
<td>Phase II RFI Report approved by U.S. EPA on 10/24/2001</td>
</tr>
<tr>
<td>L-6 Landfill</td>
<td>SWMU-8 &amp; (Part of Area 1)</td>
<td>1939-1951 until 1954</td>
<td>lead-in-soil</td>
<td>Limited excavation of soil Institutional control, annual sign inspection Submit annual inspection form to Ohio EPA</td>
</tr>
<tr>
<td>Container Storage Building</td>
<td>SWMU-9</td>
<td>Container Storage Facility issued a RCRA hazardous waste permit in August 1989</td>
<td>RFA recommended no further action</td>
<td>NFA</td>
</tr>
<tr>
<td>Container Storage Pad</td>
<td>SWMU-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hazardous Container Storage Area</td>
<td>SWMU-11</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Old</td>
<td>SWMU-12</td>
<td>Closed</td>
<td>benzo(a)pyrene</td>
<td>SWMU Group B</td>
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</tbody>
</table>

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<tr>
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<th>Constituents of Concern</th>
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</thead>
<tbody>
<tr>
<td>Container Storage Area</td>
<td>SWMU 12 (Part of SWMU Group B and Area 3)</td>
<td>Closed (backfilled 1990)</td>
<td>benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene</td>
<td>SWMU Group B passed the U.S. EPA HHRA for industrial scenarios, IC, NFA.</td>
<td>Phase II RFI Report approved by U.S EPA on 10/24/2001</td>
</tr>
<tr>
<td>Old Container Storage Area</td>
<td>SWMU 13 (Part of SWMU Group C)</td>
<td>Not Described</td>
<td>arsenic</td>
<td>SWMU Group C passed U.S. EPA HHRA, NFA.</td>
<td>Phase II RFI Report approved by U.S EPA on 10/24/2001</td>
</tr>
<tr>
<td>C-3 Drum Collection Area</td>
<td>SWMU 14 Part of SWMU Group D</td>
<td>Constructed in the early 1950s</td>
<td>None</td>
<td>No visible signs of a release, NFA</td>
<td>Phase I RFI Report approved by U.S EPA on 11/24/1999</td>
</tr>
<tr>
<td>Influent Sump</td>
<td>SWMU 15 (Part of Area 4)</td>
<td>Taken out of service in 1986</td>
<td>Benzene, benzo(a)pyrene, benzo(a)anthracene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic and chromium</td>
<td>passed U.S. EPA HHRA, NFA</td>
<td>Phase II RFI Report approved by U.S EPA 10/24/2001</td>
</tr>
<tr>
<td>WP-1 Spent Catalyst Pile</td>
<td>SWMU 16</td>
<td>1985/1986</td>
<td>RFA recommended no further</td>
<td>NFA</td>
<td>RFI DOCC Report</td>
</tr>
</tbody>
</table>

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<th>SWMU or AOC</th>
<th>Dates of Operation</th>
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<th>Remedy</th>
<th>Approval Date</th>
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</table>

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<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU- or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum Filters</td>
<td>SWMU 20a</td>
<td>1968-1991a</td>
<td>RFA recommended no further action</td>
<td>NFA</td>
<td>11/24/1999</td>
</tr>
<tr>
<td>Equalization Tank</td>
<td>SWMU 22a</td>
<td>October 1983-present</td>
<td>RFA recommended no further action</td>
<td>NFA</td>
<td>RFI DOCC Report (incorporated into the Phase I RFI Workplan) approved by U.S. EPA on 8/7/1997.</td>
</tr>
<tr>
<td>Aeration Basins A &amp; B</td>
<td>SWMU 23a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clarifiers A &amp;</td>
<td>SWMU 24a</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, Waste</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planto</td>
<td>SWMU-30, SWMU-31, SWMU-35, SWMU-36, SWMU Group E (Part of Area 3)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Tank-77, Tank-77A, Tank-78, Tank-79</td>
<td>Part of Operation, Operating Refinery WWTP</td>
<td>Used to store slop-emulsion and WWTP sludges prior to dewatering, Benzo(a)pyrene</td>
<td>SWMU Group B, E and F combined into Area 3 for further evaluation: Poses a risk for high frequency workers. IC and annual sign inspections. Submit annual inspection form to Ohio EPA.</td>
<td>Phase II RFI Report approved by U.S. EPA on 10/24/2001</td>
</tr>
<tr>
<td>South Container Drying Pit</td>
<td>SWMU-32 (Part of SWMU Group B and Area 3)</td>
<td>Taken out of service in 1989</td>
<td>dibenz(a,h)anthracene</td>
<td>SWMU Group B passed the U.S. EPA HHRA for industrial scenarios, IC, NFA</td>
</tr>
<tr>
<td>New Lime Pito</td>
<td>SWMU-33</td>
<td>Closed in 1989</td>
<td>Stored boiler house waste lime sludge, RFA recommended no further action</td>
<td>During closure, pit area excavated, cleaned, regraded and seeded</td>
</tr>
<tr>
<td>North Container</td>
<td>SWMU-34 (Part of SWMU)</td>
<td>Taken out of service</td>
<td>benzo(a)pyrene</td>
<td>SWMU Group B passed the U.S. EPA HHRA for</td>
</tr>
<tr>
<td>Unit Name</td>
<td>SWMU or AOC</td>
<td>Dates of Operation</td>
<td>Constituents of Concern</td>
<td>Remedy</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------</td>
<td>-------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Tank 77, Tank 77A, Tank 78, Tank 79</td>
<td>SWMU 30 SWMU 31 SWMU 35 SWMU 36 SWMU Group E (Part of Area 3)</td>
<td>Part of Operating Refinery WWTP</td>
<td>Used to store slop emulsion and WWTP sludges prior to dewatering. Benzo(a)pyrene</td>
<td>SWMU Grps. B, E and F combined into Area 3 for further evaluation. Poses a risk for high frequency workers IC (annual sign inspections)</td>
</tr>
<tr>
<td>South Container Drying Pit</td>
<td>SWMU 32 (Part of SWMU Group B and Area 3)</td>
<td>Taken out of service in 1989</td>
<td>dibenz(a,h)anthracene,</td>
<td>SWMU Group B passed the U.S. EPA HHRA for industrial scenarios, IC, NFA.</td>
</tr>
<tr>
<td>New Lime Pit</td>
<td>SWMU 33</td>
<td>Closed in 1986</td>
<td>Stored boiler house waste lime sludge, RFA recommended no further action.</td>
<td>During closure, pit area excavated, cleaned, regraded and seeded. NFA</td>
</tr>
<tr>
<td>North Container</td>
<td>SWMU 34 (Part of SWMU Group B and</td>
<td>Taken out of service in</td>
<td>benzo(a)pyrene</td>
<td>SWMU Group B passed the U.S. EPA HHRA for industrial scenarios, IC,</td>
</tr>
</tbody>
</table>

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<tr>
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<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern</th>
<th>Remedy</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drying Pit</td>
<td>Area 3)</td>
<td>1989</td>
<td></td>
<td>NFA</td>
<td>U.S. EPA on 10/24/2001</td>
</tr>
<tr>
<td>Tank 84</td>
<td>SWMU 37</td>
<td>1951-present</td>
<td>Components of the refinery's slop oil emulsion treatment plant. RFA recommended no further action.</td>
<td>NFA</td>
<td>RFI DOCC Report (incorporated into the Phase I RFI Workplan) approved by U.S. EPA on 8/7/1997.</td>
</tr>
<tr>
<td>Tank 85</td>
<td>SWMU 38</td>
<td>1985-present</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sludge Storage Tank 72</td>
<td>SWMU 39</td>
<td>November</td>
<td>RFA recommended no further action.</td>
<td>NFA</td>
<td>RFI DOCC Report (incorporated into the Phase I RFI Workplan) approved by U.S. EPA on 8/7/1997.</td>
</tr>
<tr>
<td>API Bottoms Thickener</td>
<td>SWMU 40</td>
<td>1984-present</td>
<td>RFA recommended no further action.</td>
<td>NFA</td>
<td>RFI DOCC Report (incorporated into the Phase I RFI Workplan)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU, AOCS</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, Wastes</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old-Primary Pond</td>
<td>SWMU-48 (Part of Area 4)</td>
<td>1980s to 1984, closed in 1985</td>
<td>Ground water: lead, benzene and 1,4-Dioxane</td>
<td>CMI-CCR from U.S. EPA on Jan 4, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Soil: benzene, benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic and chromium</td>
<td></td>
</tr>
<tr>
<td><em>RCRA Closure</em></td>
<td></td>
<td></td>
<td>Addressed under RCRA Closure program: landfill closure, sludge stabilized and consolidated/RCRA cover, constructed over mass, void space clean closed and backfilled. Semi-annual post-closure GW monitoring.</td>
<td>Ohio EPA approved: RCRA Closure certification on 12/12/02</td>
</tr>
</tbody>
</table>

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<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedies Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Pond</td>
<td>SWMU-48</td>
<td>1970-until replaced by storm water impoundment tank (G-tank) by March 29, 1994a</td>
<td>No Phase II criteria exceedances: SWMU Group G eliminated during Phase I.</td>
<td>Addressed under RCRA Closure program: sludge stabilized/consolidated into Primary Pond along with contaminated soil. C-Pond was &quot;Clean Closed&quot;. No GW monitoring required.</td>
</tr>
<tr>
<td>New Secondary Pond</td>
<td>SWMU-48</td>
<td>1970-until replaced by storm water impoundment tank (G-tank) by March 29, 1994a</td>
<td>No Phase II criteria exceedances: SWMU Group G eliminated during Phase I.</td>
<td>Addressed under RCRA Closure program: sludge stabilized/consolidated into Primary Pond along with contaminated soil. C-Pond was &quot;Clean Closed&quot;. No GW monitoring required.</td>
</tr>
<tr>
<td><em>RCRA Closure</em></td>
<td>SWMU-48</td>
<td>1970-until replaced by storm water impoundment tank (G-tank) by March 29, 1994a</td>
<td>No Phase II criteria exceedances: SWMU Group G eliminated during Phase I.</td>
<td>Addressed under RCRA Closure program: sludge stabilized/consolidated into Primary Pond along with contaminated soil. C-Pond was &quot;Clean Closed&quot;. No GW monitoring required.</td>
</tr>
<tr>
<td>D-Pond</td>
<td>SWMU-49-50</td>
<td>1970-1983a</td>
<td>Biological wastewater treatment polishing pond, wastewater effluent</td>
<td>Pond drained in 1988, sludge dewatered and stabilized; some stabilized sludge disposed off-site; other sludge stayed on-site</td>
</tr>
<tr>
<td></td>
<td>Part of SWMU Group G</td>
<td></td>
<td></td>
<td>Phase I RFI Report approved by U.S. EPA on 11/24/1999a</td>
</tr>
<tr>
<td>A-Pond</td>
<td>SWMU-50</td>
<td>Still in servicea</td>
<td>Biological wastewater treatment polishing pond, wastewater effluent</td>
<td>NFAa</td>
</tr>
<tr>
<td></td>
<td>Part of SWMU Group G</td>
<td></td>
<td></td>
<td>Phase I RFI Report approved by U.S. EPA on 11/24/1999a</td>
</tr>
</tbody>
</table>

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<th>Dates of Operation</th>
<th>Constituents of Concern</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closure*</td>
<td></td>
<td>1984 to 1984 (primary containment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-Pond</td>
<td>SWMU 48 (Part of SWMU Group G)</td>
<td>1970 until replaced by storm water impoundment tank (G-tank) by March 29, 1994</td>
<td>No Phase II criteria exceedances - SWMU Group G eliminated during Phase I.</td>
<td>Addressed under RCRA Closure program: sludge stabilized/consolidated into Primary Pond along with contaminated soil. C Pond was &quot;Clean Closed&quot;. No GW monitoring required. NFA</td>
</tr>
<tr>
<td>D-Pond</td>
<td>SWMU 49 Part of SWMU Group G</td>
<td>1970-1983</td>
<td>Biological wastewater treatment polishing pond, wastewater effluent</td>
<td>Pond drained in 1988, sludge dewatered and stabilized, some stabilized sludge disposed off-site, other sludge stayed on-site NFA</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>SWMU or AOC</th>
<th>Unit Name</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWMU-Group-H · part of Area 1</td>
<td>1950a</td>
<td>dibenz(a,h)anthracene</td>
<td>w/tankage (AST-248 &amp; 249) SWMU-Group-H passed the HHRA-NFA</td>
<td>approved by U.S. EPA on 10/24/2001a</td>
</tr>
<tr>
<td>Oil Pond No. 2</td>
<td>SWMU-56</td>
<td>1930s or 1940s until 1966a</td>
<td>Stormwater run-off, benzo(a)pyrene</td>
<td>Drained, filled and replaced w/tankage (AST-248 &amp; 249) SWMU-Group-H passed the HHRA-NFA</td>
</tr>
<tr>
<td>North Ditch</td>
<td>SWMU-57</td>
<td>Replaced by plant sewer system, covered by rail road track embankment</td>
<td>Stormwater convergence structure, surface run-off, arsenic, benzo(a)pyrene</td>
<td>SWMU-57 passed the HHRA-IC, annual sign inspection. Submit annual inspection form to Ohio EPA</td>
</tr>
<tr>
<td>Tank 231</td>
<td>SWMU-58</td>
<td>1939 or 1951 until 1954a</td>
<td>Arsenic and benzene in Tank 231 soil</td>
<td>Limited excavation of soil Tank stored toluene (product), spill Tank 231 passed U.S. EPA risk assessment but benzene identified as a COC due to risk management decision Institutional control, annual sign inspection Submit annual</td>
</tr>
<tr>
<td>Unit Name</td>
<td>SWMU or AOC</td>
<td>Dates of Operation</td>
<td>Constituents of Concern</td>
<td>Remedy</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------------------------------</td>
<td>--------------------</td>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Oil Pond No. 1</td>
<td>SWMU 55</td>
<td>1930s or 1940s until 1956</td>
<td>Stormwater run-off, benzo(a)pyrene, dibenz(a,h)anthracene,</td>
<td>Drained, filled and replaced w/tankage (AST 248 &amp; 249) SWMU Group H passed the HHRA, NFA.</td>
</tr>
<tr>
<td></td>
<td>Part of SWMU Group H, part of Area 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Pond No. 2</td>
<td>SWMU 56</td>
<td>1930s or 1940s until 1956</td>
<td>Stormwater run-off benzo(a)pyrene,</td>
<td>Drained, filled and replaced w/tankage (AST 248 &amp; 249) SWMU Group H passed the HHRA, NFA.</td>
</tr>
<tr>
<td></td>
<td>Part of SWMU Group H, part of Area 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Ditch</td>
<td>SWMU 57</td>
<td>Replaced by plant sewer system, covered by RR track embankment</td>
<td>Stormwater convergence structure, surface run-off arsenic, benzo(a)pyrene</td>
<td>SWMU 57 passed the HHRA, IC, annual sign inspection,</td>
</tr>
</tbody>
</table>

1 COCs listed are constituents that exceed the Phase II Comparison Criteria. This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.
<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU- or AOC-</th>
<th>Dates-of Operation</th>
<th>Constituents-of Concern 1, wastes</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Sludge Pond</td>
<td>SWMU 65‡</td>
<td>Unknown AST-214 (SWMU-70)</td>
<td>Benzene, total xylenes ‡</td>
<td>SWMU-65 passed the Phase II RFI HHRA, NFA, approved by U.S. EPA on 10/24/2001‡</td>
</tr>
<tr>
<td></td>
<td>(Part of Area 2)</td>
<td>was/is currently at the location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaded Waste Area</td>
<td>SWMU 66‡</td>
<td>Spill in Feb 1982‡</td>
<td>Tetraethyl lead spill, benzo(a)pyrene in soil</td>
<td>Passed Phase II HHRA and Eco Risk, NFA, approved by U.S. EPA on 10/24/2001‡</td>
</tr>
<tr>
<td>Former Coke Pile</td>
<td>SWMU 67‡</td>
<td>?-summer 1989‡</td>
<td>Arsenic, benzo(a)pyrene &amp; dibenz(a,h)anthracene in soil</td>
<td>Coke fines shipped to customers, upper soils removed, area regraded and fill layer added over footprint of area</td>
</tr>
<tr>
<td></td>
<td>‡</td>
<td></td>
<td></td>
<td>Passed U.S. EPA's HHRA, IC, annual sign inspection. Submit annual inspection form to Ohio EPA.</td>
</tr>
<tr>
<td>Former Lube Plant</td>
<td>SWMU 68‡</td>
<td>Unknown‡</td>
<td>Lubricating oils for industrial and mechanical applications, ‡</td>
<td></td>
</tr>
<tr>
<td></td>
<td>‡</td>
<td></td>
<td>No Phase II criteria exceedances - SWMU-68 eliminated during Phase I.</td>
<td>NFA, approved by U.S. EPA on 11/24/1999‡</td>
</tr>
</tbody>
</table>

- COCs listed are constituents that exceed the Phase II Comparison Criteria.
- This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.
<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU-or- AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy Document Approval Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>AST-209</td>
<td>SWMU-72</td>
<td>Several holes discovered in the floor of the tank on 7/18/97</td>
<td>Used to store gasoline. No Phase II criteria exceedances, eliminated during Phase I</td>
<td>NFA</td>
</tr>
<tr>
<td>Area 2</td>
<td>SWMU Group A (Old Drum Storage Area) (SWMU-3) and L-3 Waste Pile (SWMU-5)</td>
<td>Old Drum Storage area closed in 1990</td>
<td>Benzene, ethylbenzene, toluene, xylenes, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene &amp; indeno(1,2,3-cd)pyrene in soil</td>
<td>limited soil excavation activities and backfilling with clean soil, IC, annual sign inspection, Submit annual inspection report to Ohio EPA</td>
</tr>
</tbody>
</table>

---

COCs listed are constituents that exceed the Phase II Comparison Criteria. This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.
<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedies Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 3o</td>
<td>SWMU Groups B, E and F</td>
<td>See: individual SWMU Groups</td>
<td>Benzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene &amp; indeno(1,2,3-cd)pyrene in soil</td>
<td>Area-covered with asphalt and gravel, therefore no exposed surface soils. Semi-annual performance-based GW monitoring until 8/12/08 permit modification. Annual technical impracticability (TI) monitoring. Look for sheen on GW to determine if contamination migrating from soil to GW. If ground water monitoring indicates migration or unacceptable risk, implement remediation at the downgradient perimeter of the LNAPL as recommended in the October 2002 report titled &quot;Technical Impracticability Area 3-LNAPL.&quot; Reassess technical impracticability. CMI: Conceptual Work Plan (7/2002) approved by U.S. EPA 8/16/02. Technical Impracticability Demonstration (TID): (10/2002) approved by U.S. EPA 5/13/03. Addendum to TID (10/07) approved by Ohio EPA 3/6/08.</td>
</tr>
</tbody>
</table>

*COCs listed are constituents that exceed the Phase II Comparison Criteria. This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.*
<table>
<thead>
<tr>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWMU-15-</td>
<td>Benzene, benzo(a)anthracene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic, chromium-in-soil</td>
<td>SWMUs-15 &amp; 73: Phase II RFI Report, U.S. EPA HHRA, IC, NFA</td>
</tr>
<tr>
<td>SWMU-46-</td>
<td>Benzene, 1,4-dioxane and lead in GW</td>
<td>SWMUs-15 &amp; 73: Permit 10/24/2001</td>
</tr>
<tr>
<td>SWMUs-15-98</td>
<td>Benzene, benzo(a)anthracene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic, chromium-in-soil</td>
<td>SWMUs-15 &amp; 73: Permit 10/24/2001</td>
</tr>
</tbody>
</table>

**Area 4**

- SWMU-15: Storage of spent catalyst material until 1986
- SWMU-46: See "Old Primary Pond"
- SWMU-73: Jan 6, 1995: 8,200 barrel Jet A spill

- COCs listed are constituents that exceed the Phase II Comparison Criteria.

This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.
<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern, wastes</th>
<th>Remedy</th>
<th>Approval Date</th>
</tr>
</thead>
</table>
| Area 4                          | SWMUs 15 (WP-1 Spent Catalyst Pile), 46 (Old Primary Pond) & 73 (Intermediate Tank Area) | SWMU 15 - Storage of spent catalyst material until 1986 
SWMU 46 - see "Old Primary Pond" 
SWMU 73 - Jan 6, 1995: 8,200 barrel Jet A spill, | SWMU 15 - Benzene, benzo(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene & indeno(1,2,3-cd)pyrene, arsenic & chromium in soil 
SWMU 46 - Benzene, 1,4-dioxane and lead in GW 
| C-3 Drum Collection Area and WP-2 Spent Catalyst Pile | SWMU 13 & SWMU 59 SWMU Group C | SWMU was used in the 1980's | Arsenic in soil | Passed U.S. EPA HHRA, IC, NFA | |

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<table>
<thead>
<tr>
<th>Unit Name</th>
<th>SWMU or AOC</th>
<th>Dates of Operation</th>
<th>Constituents of Concern(^1)</th>
<th>Remedy</th>
<th>Document Approval Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SWMU Group B consists of: Old Container Storage Area (SWMU 12), South Container Drying Pit (SWMU 32), North Container Drying Pit (SWMU 34), North Impounding Pond (SWMU 45)

SWMU Group E consists of: Tank 77 (SWMU 30), Tank 77A (SWMU 31), Tank 78 (SWMU 35), Tank 79 (SWMU 36)

SWMU Group F consists of: Air Flotation Unit (AFU) Pond (SWMU 42), Oily Sludge Pond (SWMU 43), Sludge Drying Pit (SWMU 60)

\(^1\) COCs listed are constituents that exceed the Phase II Comparison Criteria. This table is for summary purposes. For detailed information refer to the remedy document for each SWMU, SWMU Group or Area.
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOC</td>
<td>Area of Concern</td>
</tr>
<tr>
<td>AST</td>
<td>Aboveground Storage Tank</td>
</tr>
<tr>
<td>BEHP</td>
<td>Bis(2-ethylhexyl)phthalate</td>
</tr>
<tr>
<td>COC</td>
<td>Constituent of Concern</td>
</tr>
<tr>
<td>CCR</td>
<td>Construction Completion Report</td>
</tr>
<tr>
<td>CMI</td>
<td>Corrective Measures Implementation</td>
</tr>
<tr>
<td>CMS</td>
<td>Corrective Measures Study</td>
</tr>
<tr>
<td>DOCC</td>
<td>Description of Current Conditions</td>
</tr>
<tr>
<td>ERA</td>
<td>Ecological Risk Assessment</td>
</tr>
<tr>
<td>GW</td>
<td>Ground Water</td>
</tr>
<tr>
<td>HHRA</td>
<td>Human Health Risk Assessment</td>
</tr>
<tr>
<td>IC</td>
<td>Institutional Control</td>
</tr>
<tr>
<td>LNAPL</td>
<td>Light non-aqueous phase liquid</td>
</tr>
<tr>
<td>NA</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>NFA</td>
<td>No Further Action</td>
</tr>
<tr>
<td>PBGMP</td>
<td>Performance Based Groundwater Monitoring Plan</td>
</tr>
<tr>
<td>SWMU</td>
<td>Solid Waste Management Unit</td>
</tr>
<tr>
<td>TI</td>
<td>Technical Impracticability</td>
</tr>
<tr>
<td>VC</td>
<td>Vinyl Chloride</td>
</tr>
</tbody>
</table>

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ATTACHMENT 2

Identification of SWMUS
OAC Rules 3745-50-44(d) & 3745-55-011

U.S. EPA and the Permittee have identified the following SWMUs for investigation during the RFI (as submitted in the Part A permit renewal, Volume 1, Section A, Figures 2 and 3):

Land Treatment Unit:

(f) L-4 Dump
(g) L-5 Landfill
(h) L-6 Dump
(q) WP-1 Spent Catalyst Pile
41. Miscellaneous Sump
44. Acid Pond/Impounding Pound
46. Old Primary Pond
57. North Ditch
58. Tank 271
61. Trolumen Pile
62. E-Pond
63. Buckeye Road Landfill
64. Old Fire Training Area
65. Sludge Pond
66. Lead Waste Area
67. Former Coke Pile
68. Former Lube Plant
69. Aromatics Closed Drain System
70. Tank 214
71. Tank 207
72. Tank 209
73. Intermediate Tank Area

SWMU Group A:

3  Old Drum Storage Area
5  L-3 Waste Pile

The units were combined into one group due to indistinct and possibly overlapping boundaries.

These units were located in the current vicinity of an above ground storage tank.
SWMU Group B:
12  Old Container Storage Area
32  South Drying Pit
34  Drying Pit
45  North Impounding Pond

These four units were combined into one group due to indistinct and potentially overlapping boundaries. These SWMUs are located in the current vicinity of the benzene NESHAPs unit.

SWMU Group C:
13  C-3 Drum Collection Area
59  WP-2 Spent Catalyst Pile

These two units were combined into one group due to indistinct and potentially overlapping boundaries.

SWMU Group D:
14  Influent Sump
17  API Separator
19  AFU Charge Sump
52  South Plant Sewer System
53  North Plant Sewer System

This group consists of units that were recommended for inspection only by the U.S. EPA. Since the wastes received by these units originate as part of the refinery waste water treatment facility, the waste material contained in these SWMUs is the same. However, each unit was evaluated discretely and not as a group during the Phase 1 RFI.

SWMU Group E:
30  Tank 77
31  Tank 77A
35  Tank 78
36  Tank 79

These four units were combined into one group because they used to manage similar wastes (wastewater treatment plant sludges) and are located in close proximity to one another. The Phase 1 RFI activities addressed each unit discretely and not as a group.
SWMU Group F:
42 AFU Oily Sludge Pond
43 Oily Sludge Pond
60 Sludge Drying Pit

These units were combined into one group because groundwater contamination has been observed in this area. Identification of one SWMU responsible for this contamination is not possible.

SWMU Group G:
47 Primary Pond
48 C-Pond
49 D-Pond
50 A-Pond
51 B-Pond

These five units were combined into one group for groundwater sampling purposes. In addition, three of these units were used to manage wastes of a similar composition. The SWMUs were investigated discretely during soil/sediment sampling.

SWMU Group H:
54 Slop Pond
55 Oil Pond No. 1
56 Oil Pond No. 2

These units were combined into one group because they used to manage similar wastes and because of their close geographical proximity. However, these units were investigated discretely during the Phase 1 RFI.

Section 1 of the Phase 1 RFI Report (dated January 12, 1999, received by Ohio EPA on January 21, 1999) lists all the SWMUs presently evaluated. Figures 1-2 and 1-3 in Section 1 of the Phase 1 RFI Report shows the locations of the SWMUs.
Ohio EPA

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Re: Lima Refinery
   Permit – Intermediate
   Public Response
   RCRA C – Hazardous Waste
   Allen County
   OHD005051826

Division of Materials and Waste Management (DMWM)

Response to Comments

Project: Lima Refinery, Ohio Hazardous Waste Facility Installation and Operation Permit Renewal
Ohio EPA ID #: OHD005051826

Agency Contacts for this Project

Division Contact: John Nyers, DMWM, 614-644-2822, john.nyers@epa.ohio.gov
Public Involvement Coordinator: Darla Peelle, 614-644-2160, darla.peelle@epa.ohio.gov

Ohio EPA held a public comment period from July 15, 2014 through August 30, 2014 regarding the Hazardous Waste Draft Renewal Permit. This document summarizes the comments and questions received during the comment period, which ended on August 30, 2014.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.
Permit Cover Page

Comment 1: BP Products North America (BP) requested that the address line include “Remediation Management”.

Response 1: The cover page has been revised to include “Remediation Management”.

Module A – General Permit Conditions

Comment 2: BP requests that Permit condition A.1(c) be restored. Permit condition A.1(c) simply clarifies that BP has no responsibility for the new hazardous waste management activities that Lima Refining Company (LRC) has conducted and may choose to conduct in the future on refinery property that LRC owns.

Response 2: Permit Conditions E.10. and E.11. address Permittee responsibilities for evaluating newly identified waste management units or releases, including providing information, and Corrective Action. Permit Condition A.1(c) has not been restored.

Comment 3: BP comments that Permit condition A.12(a) is no longer necessary since no further waste samples will be taken for RCRA permitted activities.

Response 3: BP still operates a post-closure care unit and conducts operation and maintenance activities at corrective action units, therefore, this condition is needed.

Comment 4: BP requested that reference to OAC rule 3745-54-73(B)(9) be removed from Permit condition A.14(a), since this rule requires an annual certification of a program in place by the generator to minimize the volume of hazardous waste generated and this permit does not authorize treatment, storage, or disposal of hazardous waste.

Response 4: The reference to OAC Rule 3745-54-73(B)(9) has been removed from the permit since this permit does not authorize treatment, storage, or disposal of hazardous waste.
Comment 5: BP requested that Permit condition A.15 be revised to indicate that the Permittee shall give notice to the director of any planned physical alterations or additions to the WMUs at the facility.

Response 5: The language in this Permit condition is specified by OAC Rule 3745-50-58(L)(1) and cannot change.

Comment 6: BP requested that Permit condition A.16 be designated “Reserved”, since this permit does not authorize treatment, storage, or disposal of hazardous waste; therefore, the Permittee will not have to arrange for the removal of hazardous waste from the facility.

Response 6: BP still operates a post-closure care unit and conducts operation and maintenance activities at corrective action units. These activities could potentially generate hazardous waste, therefore, this condition is needed. Ohio EPA agrees that OAC Rule 3745-52-12(C) would be a better citation and has made this change to the condition.

Comment 7: BP requested that Permit condition A.27 be designated “Reserved”, and that the information regarding cost estimates and financial assurance be requested instead in a letter from Ohio EPA.

Response 7: The provision of adequate financial assurance for post-closure care and Corrective Action is required by the hazardous waste rules and is a Permit requirement. Adjustments are required for inflation and changes to the post-closure plan or Corrective Action that increase cost. There were no changes made to Permit Condition A.27 as a result of this comment.

Comment 8: BP requested that Permit condition A.28(a) be revised to reflect that closure has been completed and that the Permittee is responsible for post-closure and maintenance of corrective action units. BP also requested that the records required to be maintained by this condition be “furnished upon request and made available at all reasonable times for inspection...”

Response 8: The description in this Permit condition has been changed to post-closure and the citations in this Permit condition have been changed from OAC Rule 3745-55-15 to 3745-55-20 and also from 3745-55-43 to 3745-55-45. Also the language has been changed
to reflect that the documents required by this Permit condition must be furnished upon request and made available at all reasonable times for inspection by an employee of Ohio EPA.

Comment 9: BP requested that the language of Permit condition A.28(a)(ii) be changed to reflect that the inspections will be conducted in accordance with the Post-Closure and Corrective Action Operation and Maintenance plans, which are incorporated into the Permit by reference.

Response 9: This Permit condition has been revised in this manner and the request is also reflected in the language of Section F of the Permit Application.

Module B – General Facility Conditions

Comment 10: BP requested that Permit condition B.24 be designated “Reserved”, since it refers to hazardous waste that is generated at the facility and this Permit is only for post-closure and corrective action and the Permittee should not generate hazardous waste in the course of these activities.

Response 10: BP still operates a post-closure care unit and conducts operation and maintenance activities at corrective action units. These activities could potentially generate hazardous wastes, therefore, this condition is needed.

Comment 11: BP requested that Permit condition B.25 be removed since “Post-Closure and Corrective Action activities, which includes operation and maintenance at select units, do not result in the generation of hazardous waste.”

Response 11: BP still operates a post-closure care unit and continues operation and maintenance activities at corrective action units. These activities could potentially generate hazardous wastes. Additionally, the biennial report must include other information, e.g. the most recent post-closure cost estimate required under OAC Rule 3745-55-44. Permit Condition B.25 has not been changed.

Comment 12: BP stated that Permit condition B.36(b) is confusing and requested clarification.

Response 12: Each year, the Permittee must adjust the post-closure cost estimate for inflation within the 60-day period immediately prior to the date
that the financial assurance documents are due (anniversary date), according to OAC Rule 3745-55-54. The cost estimates will be necessary in creating the financial assurance documents.

Module E – Corrective Action Requirements

Comment 13: BP requests that Permit condition E.2 be designated as "Reserved". Corrective Action is complete for all SWMUs except the Area 3 TID and operation and maintenance at select units. "No Further Action" status has been issued by Ohio EPA. There are no off-site units that were not addressed.

Response 13: As long as the technical impracticability demonstration (TID) remains for Area 3 and select operations and maintenance (O&M) activities remain at certain units, corrective action is not complete for all units. Due to geographical proximity and overlapping SWMU boundaries, SWMU Groups B, E, and F were joined into Area 3 during Phase II RFI sampling and delineation. A section of the light non-aqueous phase liquid (LNAPL) area, which encompasses Area 3, continues to be monitored for LNAPL presence and its potential migration from Area 3. Three off-site wells, located near the perimeter of Area 3 and downgradient of the LNAPL area, are monitored semi-annually for LNAPL presence. If the LNAPL area is found to have moved off-site at some time in the future, it must be addressed. The Permit condition provides part of the framework in the event that corrective measures are needed if potential contamination goes off-site. The permit language has not been changed.

Comment 14: BP requests that the listing for Area 3 in Permit condition E.3(b) be separated into three units: Group F (Former AFU/Oily Sludge Pond/Sludge Drying Pit - SWMUs 42, 43 and 60, respectively), Area 3 (TID) and Group E (Tanks 77, 77A, 78 & 79 - SWMUs 30, 31, 35 & 36, respectively). Each unit was addressed separately under Corrective Action and has distinct operation and maintenance requirements.

Response 14: Ohio EPA does not agree with BP’s request to separately list the individual SWMU groups that make up Area 3. All of the units requiring some type of O&M under corrective action are listed in Permit Condition E.3(b) to concisely group the units that have O&M. Table B-1 in the permit application matches how Area 3 is listed in the Permit condition. Attachment 1 already lists each individual SWMU or AOC and the distinct remedy and operation
and maintenance requirements (if necessary). The permit language has not been changed.

**Comment 15:** BP requests confirmation that the requirements of Permit Condition E.5(a) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

**Response 15:** Permit Condition E.1., Corrective Action at the Facility, states that “the Permittee must institute Corrective Action...for all releases of hazardous waste(s) or constituent(s)” from any SWMU at the Facility regardless of when the releases occurred.

Ohio EPA interprets “newly discovered” to mean a release that has occurred or been discovered since the date of this draft renewal permit issuance. Permit Conditions E.10. and E.11. discuss Newly Identified WMUs or Releases and Corrective Action for these units. Permit Condition E.10.(b), Release Information, states that “the Permittee must submit to Ohio EPA...all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.”

Currently all closure and corrective action units have been addressed or have on-going O&M. If there is evidence to indicate a WMU area where a remedy has been implemented but where contamination has re-occurred, then BP would meet with Ohio EPA to determine the appropriate path forward depending upon the circumstances, such as handling it under the permit or a spill response plan versus another RFI. However, if a unit or area that has not been addressed by a remedy selection process is created or discovered after the issuance of this permit, that would be considered a newly discovered unit.

With this clarification, the permit language has not been changed.

**Comment 16:** BP requests confirmation that the requirements of Permit Condition E.8(a) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

**Response 16:** See Ohio EPA’s response to Comment 15.
Comment 17: BP requests confirmation that the requirements of Permit Condition E.9(a), E.9(d), E.9(e), E.9(f), E.9(g) and E.9(h) apply only to newly discovered WMUs and do not apply to the units listed in Attachment 1.

Response 17: In the event of a newly discovered WMU, Permit Conditions E.9.(e), Permit Modification, and E.10., Newly Identified WMUs or Releases, would apply. Permit Condition E.9.(e) states that "Ohio EPA will initiate a permit modification,... to require implementation of the corrective measure(s) authorized". Until Ohio EPA selects the corrective measure(s) for the unit, the Permittee cannot implement the remedy. The permit would be modified to address all of the steps in the Corrective Action process. Therefore, all of Module E might need to be modified to some degree if a new WMU is discovered.

The last sentence of the introduction in Permit Condition E.9. states: "The Corrective Measure(s) described below are for the SWMUs identified in Condition E.3." Therefore, Permit Conditions E.9.(a) through E.9.(f) apply to the units currently listed in Permit Condition E.3.

Additional clarification is provided in Permit Condition E.9.(a)(i)(2) of the draft permit's Terms and Conditions as follows: "In the case of a newly discovered waste management unit, the Permittee will develop action levels based upon the most recent U.S. EPA guidance on establishing MCSs and in consultation with Ohio EPA."

Ohio EPA is unsure why reference is made to Permit Conditions E.9.(g) and E.9.(h) since those are not in the draft permit. Permit Conditions E.9.(g) and E.9.(h) from the current permit, Permit Modification and Financial Assurance, were renumbered in the draft permit to become Permit Conditions E.9.(e) and E.9.(f).

Comment 18: BP requests confirmation that the requirements of Permit Condition E.9(a) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1. The MCSs developed as part of the 2001 RFI are considered protective of human health and the environment. In the case of a newly discovered WMU, development of new MCSs would be an inefficient use of available resources, both for Ohio EPA and for the Permittees. BP requests that the MCSs listed in the permit be retained for any newly identified WMU.
Response 18: The WMUs listed in Attachment 1 have been addressed or are being addressed to the satisfaction of Ohio EPA. See Response to Comment 15.

In regard to media cleanup standards (MCS), Ohio EPA does not share BP's perspective. The MCS developed (at the time) for the existing WMUs were tied to those units when Ohio EPA formally selected the remedies and that information was journalized through the permit's Terms and Conditions. Any new MCS must be attained only when it is determined to be applicable and/or relevant and appropriate and necessary to ensure protectiveness. Remedial decisions made for newly discovered unit(s) must attain requirements that are applicable and/or relevant and appropriate at the time the decision is made. Remedial decisions and MCS are formalized through a director-initiated permit modification. The over-arching goal of any remedy is the protection of human health and the environment. To use potentially outdated clean-up standards would not be protective of human health and the environment. If any units are identified in the future, new clean-up standards will be determined based on current science and practice. That is the reason why Permit Condition E.9.(a)(i)(2) was added to the draft permit.

Comment 19: BP requests confirmation that the requirements of Permit Condition E.9(a) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

Response 19: See response to Comment 18.

Comment 20: With the noted exceptions, BP has completed Corrective Action and requests that the requirement for monthly progress reports in permit condition E.9(c) be removed from the permit. A letter report documenting the annual inspection of the signs warning of excavation hazards will be submitted to Ohio EPA in place of documenting the inspection in the monthly progress reports, as has been done in the past.

Response 20: Ohio EPA agrees that the monthly progress reports documenting corrective action activities are no longer necessary. Permit Condition E.9.(c) only discusses inspection reports for SWMU Grp. F and the technical impracticability demonstration for Area 3.

In addition, BP performs:
an annual cover inspection of SWMU 46 (Old Primary Pond)
- an annual cover system inspection at SWMU Grp. F
- a "No Excavation" and "SWMU Location" signage inspections at:
  - SWMU 8 (L-6 Landfill)
  - SWMU 46 (Old Primary Pond)
  - SWMU 57 (North Ditch)
  - SWMU 58 (Tank 231)
  - SWMU 67 (Former Coke Pile)
  - SWMU Grp. A (Tank 208)
  - SWMU Group E
  - SWMU Group F
  - Area 3

Language concerning the TI demonstration for Area 3 in Permit Condition E.9.(c) has not been changed.

BP and Ohio EPA have been communicating on how to resolve this issue. BP has offered to update the O&M plans for each of the affected units via a permit modification and add language to the Terms and Conditions explaining which units have O&M inspections and when they will be submitted to Ohio EPA to verify that O&M is continuing in accordance with the approved O&M plans. BP and Ohio EPA will work together to make these changes and a permit modification request will be initiated after the Lima permit is finalized.

**Comment 21:** BP requests confirmation that the requirements of Permit Condition E.9(d) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

**Response 21:** See response to Comment 17.

**Comment 22:** BP requests confirmation that the requirements of Permit Condition E.9(e) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

**Response 22:** See response to Comment 17.
Comment 23: BP requests confirmation that the requirements of Permit Condition E.9(f) apply only to newly discovered WMUs and does not apply to the units listed in Attachment 1.

Response 23: Financial assurance is necessary if a unit has corrective action obligations. If a new unit is implementing corrective measures, or if an old/ existing unit has operations and maintenance (O&M) obligations under corrective action, the Permittee is required to secure and maintain financial assurance. If any units in Attachment 1 have O&M obligations, financial assurance must still be maintained for those units. Therefore, financial assurance must be maintained for the units with on-going O&M such as: SWMUs 8, 46, 57, 58, 67, Grp. A (Tank 208), Grp. E, SWMU Grp. F and Area 3.

SWMUs 1, 7, 62, Ottawa River and Zurmehly Creek still require financial assurance. Financial assurance is being submitted to Ohio EPA under their new EPA identification number since those units are under separate Director’s Finding and Orders.

Module F – Ground Water Monitoring

Comment 24: BP requests, in order to clarify that permit condition F.3(g) applies to monitoring wells only and not piezometers, that the word “wells” be changed to “monitoring wells.”

Response 24: Ohio EPA concurs with BP and has changed the wording in Permit Condition F.3.(g) from “wells” to “monitoring wells”.

Comment 25: To be consistent with OAC Rule 3745-54-97(J), BP requests that the phrase “(including estimated data)” in permit condition F.8(a)(i) be deleted.

Response 25: Ohio EPA concurs with BP and has deleted the wording “(including estimated data)” from Permit Condition F.8.(a)(i).

Comment 26: Permit condition F.8(a)(xv) reflects the requirements of OAC Rule 3745-54-98(E) (annual determination of groundwater flow rate and direction) and conflicts with Permit Condition F.8(b)(ii)(13), which requires completion of a semi-annual evaluation of the adequacy of the ground-water monitoring system. BP requests that permit condition F.8(a)(xv) be stricken and the requirements of F.8(b)(ii)(13) be incorporated here. Please see the BP comment for F.8(b)(ii)(13) below.
Response 26: Ohio EPA does not agree with BP that Permit Condition F.8.(a)(xv) be stricken from Permit Condition F.8. Since BP submits an annual ground water report, that is included in the operating record, and cites the semi-annual reports which include the ground water flow direction, rate, and potentiometric maps, the requirements of this permit condition are met.

Comment 27: The referenced table in permit condition F.8(b)(ii) indicates that samples must now be collected in March-April and September-October. Samples have historically been collected during the months of April-May and October-November. Therefore, the April- May and October-November timeframes should be kept.

Response 27: Ohio EPA concurs with BP and has changed the wording in Permit Condition F.8.(b)(ii) to indicate that the April – May and October – November timeframes will be kept.

Comment 28: As previously noted, this permit condition (F.8.(b)(ii)(13)) is inconsistent with permit condition F.8(a)(xv), which is required by rule, and this condition (F.8(b)(ii)(13)) should be removed. BP requests that the language in F.8(b)(ii)(13) be incorporated into Permit Condition F.8(a)(xv).

Response 28: Ohio EPA does not agree with BP that Permit Condition F.8.(b)(ii)(13) be removed from Permit Condition F.8. Since BP submits a semi-annual ground water report that includes the information required in Permit Condition F.8. (b)(ii)(13), the requirements of this permit condition are met.

Comment 29: The requirement that any resampling be performed "within one month" is not required by rule except in regard to the Appendix to OAC Rule 3745-54-98 sampling, which is not applicable to this section of the permit conditions. The resampling timeline is dictated by the 90-day reporting schedule for routine semiannual monitoring events; i.e., it must be completed and reported within the 90-day window following completion of the routine event. Therefore, BP requests that permit condition F.9(g) be revised as follows:

"If the Permittee determines, pursuant to Permit Condition F.9(f), that there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent
specified in Permit Condition F.9(b), the Permittee, if desired, may resample the affected well(s) within one month for any of the constituents listed in Permit Condition F.9(b) that were detected above corresponding PQLs. All resampling results, if collected, must be submitted within the same timeframe required by Permit Condition F.8(b)(ii)."

Response 29: Ohio EPA concurs with BP and has changed the wording in Permit Condition F.9.(g) to read thus:

"If the Permittee determines, pursuant to Permit Condition F.9(f), that there is statistically significant evidence of contamination for any chemical parameter or hazardous constituent specified in Permit Condition F.9(b), the Permittee, if desired, may resample the affected well(s) for any of the constituents listed in Permit Condition F.9(b) that were detected above corresponding PQLs. All resampling results, if collected, must be submitted within the same timeframe required by Permit Condition F.8(b)(ii)."

Comment 30: Permit Conditions F.9(h)(ii & iii) refer to sampling for the constituents in the Appendix to OAC Rule 3745-54-98; however, in accordance with OAC Rule 3745-54-98(G)(2), the Director previously approved a subset (the Skinner List) of the OAC Rule 3745-54-98 Appendix to be used in its place when a statistical exceedance is determined. That approach is included in the facility's existing permit. BP requests that this be corrected prior to issuing the final permit.

Response 30: In Permit Condition F.9.(h), the reference to "the Appendix to OAC Rule 3745-54-98" has been changed to "Table 4 (Skinner List of Refinery Related Compounds) of the PCGWDMP".
Module G – Post-Closure Care

Comment 31: BP requests that all references to C Pond be removed from the draft permit. This unit was risk based clean closed and is no longer subject to the conditions of this permit. Furthermore, this information is provided in Attachment 1.

Response 31: Ohio EPA does not see the harm in keeping references to C Pond in the permit. Section G.1. of Ohio EPA’s RCRA permit template details the inventory of waste at each closure unit and where the waste came from. Contaminated soil and sludge were removed from C Pond and added to Primary Pond. At the Lima Refinery, the Permittee has only one closure unit, Primary Pond. The introduction to Module G clearly states that “C Pond will not require post-closure ground water monitoring, as it has been clean closed.” Section I-2, Post-Closure Plans, of the permit application, also states that “Primary Pond is the only HWMU that requires post-closure care.”

Primary Pond’s “Remedy” column under Attachment 1 of the Terms and Conditions, SWMU and AOC Table, should include a reference to C Pond and that waste from C Pond was consolidated into Primary Pond. C Pond’s “Remedy” column already contains this information. Ohio EPA regrets the omission. The SWMU and AOC Table will be revised to include a reference to C Pond under the Primary Pond description.

All documents relating to the closure of the Primary Pond include a reference to C Pond in the titles. For consistency purposes, references to C Pond have not been changed.

Comment 32: The table included in permit condition G.1 provides the units of sludge stabilized in Primary Pond as “tons”. The correct units are cubic yards. BP requests that this correction be made to the table.

In addition, BP is unsure as to the source of the information as to the minimum volume of contaminated soil that was removed from C Pond and consolidated in Primary Pond. Section 3.4 of the Closure Documentation and Certification Report (URS, 2002) describes that a minimum of 6-inches of underlying soil was excavated but does not provide a volume. BP requests that a reference for this information be provided.
Response 32: Ohio EPA regrets the error. The information was taken from an inter-office communication in Ohio EPA's files. The amount of sludge stabilized in Primary Pond and C Pond and soil excavated and consolidated into Primary Pond was verified in the Closure Documentation and Certification Primary and "C" Ponds report. The word "tons" will be replaced with "yd.³" (cubic yards) when identifying the volume of contaminated sludge in Primary Pond that was stabilized. In addition, Ohio EPA will add the unit number, Unit 47, to the "Unit No. or Other Designation" column for Primary Pond since the unit number and unit name are used interchangeably.

Ohio EPA obtained the information on the volume of contaminated soil from C-Pond that was excavated and consolidated into Primary Pond in Section 3.5, "Clean" Closure Sampling and Analysis. During closure verification sampling, two sample locations were found to have barium and benzene concentrations above background levels. Removal of 1,280 cubic yards of soil occurred during the October 18 and 19, 2001, "hot spot" soil removal activities. Ohio EPA was not referencing the "6-inches of soil beneath the sludge" that were excavated in September 2001.

Comment 33: BP requests that permit condition G.4(a) be designated as "Reserved". Closure has been completed for all units and notifications have been made. Please note that the permit authorizes Post-Closure and Corrective Activities only.

Response 33: Permit condition G.4(a) must remain in the permit in the event that a new unit must go through closure in the future. In addition, this condition explains to the public where additional information can be obtained if the public wants to know more about the type(s) of waste disposed, the location(s) where the waste was disposed, and the quantity of waste disposed at the facility. The permit language has not been changed.

Comment 34: BP requests that permit condition G.4(b) be designated as "Reserved". Closure has been completed for all units and notifications have been made. Please note that the permit authorizes Post-Closure and Corrective Activities only.

Response 34: Ohio EPA uses the term "Reserved" in permit conditions when the standard EPA permit language does not apply to the facility. For example, Section E.4. of the Terms and Conditions is titled "No Corrective Action Required at this Time." That condition was
marked "Reserved" in this permit because releases of hazardous waste or hazardous constituents were known to have occurred at this site. This fact cannot change. Therefore that condition was "Reserved."

Permit condition G.4(b) must remain in the permit in the event that a new unit must go through closure in the future. In addition, this condition explains to the public where additional information can be obtained if the public wants to know more about the type(s) of waste disposed, the location(s) where the waste was disposed and the quantity of waste disposed at the facility.

End of Response to Comments