Tronox LLC, Columbus

General Information

ID	Branch	SIC	County	Basin	Start	End
1696	Chemical	2491	Lowndes	Tombigbee River	10/27/1992	

Address

Physical Address (Primary)	Mailing Address
2300 14th Avenue North Columbus, MS 39701	PO Box 268859 Oklahoma City, OK 731268859

Telecommunications

Type	Address or Phone
Work phone number	(405) 775-5129

Alternate / Historic AI Identifiers

Alt ID	Alt Name	Alt Type	Start Date	End Date
2808700020	Tronox LLC, Columbus	Air-AIRS AFS	10/12/2000	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Construction	06/12/1998	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/06/1997	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/12/1998	06/01/2002
MSR220010	Kerr McGee Chemical Corporation, Columbus	GP-Wood Treating	10/27/1992	07/13/1997
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-EPA ID	10/12/2000	
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-TSD	06/11/2001	04/12/2006
MSD990866329	Tronox LLC, Columbus	Hazardous Waste-TSD	04/13/2006	05/31/2011
1696	Kerr McGee Chemical Corporation	Historic Site Name	10/27/1992	04/10/2006
1696	Tronox, LLC	Official Site Name	04/10/2006	
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/11/1994	10/10/1999
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	08/23/2000	07/31/2005
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/31/2005	04/12/2006
MSP090021	Tronox LLC, Columbus	Water-Pretreatment	04/13/2006	09/30/2010

Regulatory Programs

Program	SubProgram	Start Date	End Date
Air	NSPS Subpart Dc	09/12/1990	06/01/2002
Air	SM	06/06/1997	06/01/2002
Hazardous Waste	Large Quantity Generator	04/01/1997	
Hazardous Waste	TSD - Not Classified	06/11/2001	
Water	PT CIU	10/11/1994	09/01/2003
Water	PT CIU - Timber Products	10/11/1994	09/01/2003

	Processing (Subpart 429)		
Water	PT NCS	09/01/2003	
Water	PT SIU	10/11/1994	

Locational Data

Latitude	Longitude	Metadata	S / T / R	Map Links
33 ° 30 ' 38 .51 (033.510697)	88 ° 24 ' 34 .02 (088.409450)	**Point Desc:** PG - Plant entrance (General) Data collected by Louis Crawford on 7/11/00. PG - Plant Entrance (General) Data collected by Clift Jeter on 6/13/02. LAT 33deg 30min 36.6sec LON 88deg 24min 35.1sec **Method:** GPS Code (Psuedo Range) Differential **Datum:** NAD83 **Type:** MDEQ	Section: Township: Range:	SWIMS TerraServer Map It

10/13/2006 10:29:50 AM

Kerr McGee Chemical Corporation, Columbus

General Information

ID	Branch	SIC	County	Basin	Start	End
1696	Chemical	2491	Lowndes	Tombigbee River	10/27/1992	

Address

Physical Address (Primary)	Mailing Address
2300 14th Avenue North Columbus, MS 39701	PO Box 268859 Oklahoma City, OK 731268859

Telecommunications

Type	Address or Phone
Work phone number	(405) 775-5110

Alternate / Historic AI Identifiers

Alt ID	Alt Name	Alt Type	Start Date	End Date
08700020	Kerr McGee Chemical Corporation, Columbus	Air-AIRS AFS	10/12/2000	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Construction	06/12/1998	
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/06/1997	06/01/2002
168000020	Kerr McGee Chemical Corporation, Columbus	Air-Synthetic Minor Operating	06/12/1998	06/01/2002
MSR220010	Kerr McGee Chemical Corporation, Columbus	GP-Wood Treating	10/27/1992	07/13/1997
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-EPA ID	10/12/2000	
MSD990866329	Kerr McGee Chemical Corporation, Columbus	Hazardous Waste-TSD	06/11/2001	05/31/2011
1696	Kerr McGee Chemical Corporation	Official Site Name	10/27/1992	
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/11/1994	10/10/1999
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	08/23/2000	07/31/2005
MSP090021	Kerr McGee Chemical Corporation, Columbus	Water-Pretreatment	10/31/2005	09/30/2010

Regulatory Programs

Program	SubProgram	Start Date	End Date

Air	NSPS Subpart Dc	09/12/1990	
Air	SM	06/06/1997	
Hazardous Waste	TSD - Not Classified	06/11/2001	
Water	PT CIU	10/11/1994	09/01/2003
Water	PT CIU - Timber Products Processing (Subpart 429)	10/11/1994	09/01/2003
Water	PT NCS	09/01/2003	
Water	PT SIU	10/11/1994	

Locational Data

Latitude	Longitude	Metadata	S / T / R	Map Links
33 ° 30 ' 38 .51 (033.510697)	88 ° 24 ' 34 .2 (088.409450)	**Point Desc:** PG - Plant entrance (General) Data collected by Louis Crawford on 7/11/00. PG - Plant Entrance (General) Data collected by Clift Jeter on 6/13/02. LAT 33deg 30min 36.6sec LON 88deg 24min 35.1sec **Method:** GPS Code (Psuedo Range) Differential **Datum:** NAD83 **Type:** MDEQ	Section: Township: Range:	SWIMS TerraServer Map It

Report Date: 12/15/2005 9:06:32 AM

Link a Person | Add Permit | Add Compliance | Add Enforcement | Change Request | PRINT | EXIT

Kerr McGee Chemical Corporation, Columbus

OFFICIAL SITE NAME: Kerr McGee Chemical Corporation

PHYSICAL ADDRESS

LINE 1: 2300 14th Avenue and 20th Street
LINE 2:
LINE 3:
MUNICIPALITY: Columbus
STATE CODE: MS
ZIP CODE: 39703-

MAILING ADDRESS

LINE 1: PO Box 906
LINE 2:
LINE 3:
MUNICIPALITY: Columbus
STATE CODE: MS
ZIP CODE: 39703-

COUNTY NAME: Lowndes
REGION: NRO
SAROAD CODE: 1680
FIPS CODE: 087

001696

Link a Person | Add Permit | Add Compliance | Add Enforcement | Change Request | PRINT | EXIT

PROGRAM	PERMIT TYPE	PERMIT #	MDEQ PERMIT CONTACT	ACTIVE
AIR	SMOP	168000020	Hall, Bobby	YES
AIR	SMOP	168000020	Shanks, Brad	YES
WATER	PRE-TREATMENT	MSP090021	Brumfield, Milton	YES
HAZ. WASTE	EPA ID	MSD990866329	Ferguson, Bruce	YES
GENERAL	WOOD TREATING	MSR22010	LaFleur, Kenny	YES
HAZ. WASTE	TSD		Ferguson, Bruce	YES
WATER	PRE-TREATMENT	MSP090021	Shanks, Brad	NO
AIR	SMOP	168000020	Shanks, Brad	NO
AIR	CONSTRUCTION	168000020	Shanks, Brad	NO

State of Mississippi

Hazardous Waste Management

PERMIT

THIS CERTIFIES THAT

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
MSD990866329

is hereby authorized to conduct post-closure and groundwater corrective action activities at their site in Columbus, Mississippi.

This permit is issued under the authority of the Mississippi Solid Waste Disposal Law, and particularly Section 17-17-27 thereof, and rules adopted and promulgated thereunder, all of which authorize the Department of Environmental Quality to enforce all applicable requirements under the Mississippi Hazardous Waste Regulations, and associated conditions included therein.

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

HEAD, OFFICE OF POLLUTION CONTROL
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Issued: September 11, 1990
Expires: September 11, 2000

Permit No.: HW-90-329-01

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II-1	Personnel Training
II-2	Contingency Plan
II-3	Closure Report and Certification
III-1	Post-Closure Care Plan
IV-1	Site Geology and Hydrology
IV-2	Well Construction Diagrams
IV-3	Sampling and Analysis Plan
IV-4	Engineering Feasibility Plan for Corrective Action
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MODULE I - GENERAL PERMIT CONDITIONS

I.A. REGULATIONS

All references to the Mississippi Hazardous Waste Management Regulations (MHWMR) contained herein are considered to be those regulations adopted by the Commission on Environmental Quality and in effect on the effective date of the permit.

I.A.1. EFFECT OF PERMIT

The Permittee is allowed to conduct post-closure care of the closed surface impoundments and perform groundwater corrective action activities in accordance with the conditions of this Permit. Any storage, treatment, and/or disposal of hazardous waste not authorized in this Permit is prohibited. Subject to MHWMR 270.4, compliance with this Permit generally constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA; Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment. [MHWMR 270.4, 270.30(g)]

I.B. PERMIT ACTIONS

I.B.1. Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, revoked and reissued, or terminated for cause, as specified in MHWMR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit condition. [MHWMR 270.4(a) and 270.30(f)]

I.B.2. Permit Renewal

This Permit may be renewed as specified in MHWMR 270.30(b) and Permit Condition I.E.2. Review of any application for a Permit renewal shall consider improvements in the state of

control and measurement technology, as well as changes in applicable regulations. [MHWMR 270.30(b)]

I.C. 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. [MHWMR 124.16(a)]

I.D. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in MHWMR Parts 124, 260, 264, 266, 268, and 270, unless this Permit specifically provides otherwise; where terms are not defined in the regulations or the Permit, or State Guidances or Publications, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term. "Executive Director" means the Executive Director of the Mississippi Department of Environmental Quality or his designee or authorized representative.

I.D.1. Hazardous constituents for purposes of this permit are those substances listed in MHWMR 261, Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.D.2. Release for purposes of this permit includes spilling, leaking,, pumping, pouring, emitting, emptying, discharging, injection, escaping, leaching, pumping, or disposing into the environment of any hazardous waste or hazardous constituents, but excludes those otherwise authorized under law.

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency Permit. Any Permit noncompliance, other than noncompliance authorized by an emergency Permit, constitutes a violation of RCRA and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application. [MHWMR 270.30(a)]

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the

Permittee shall submit a complete application for a new Permit at least 180 days prior to Permit expiration. [MHWMR 270.10(h), 270.30(b)]

I.E.3. Permit Expiration

This permit shall be reviewed by the Executive Director five (5) years after the date of issuance and shall be modified as necessary [MHWMR 270.50(d)]. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application and through no fault of the permittee the Executive Director has not issued a new permit, as set forth in MHWMR 270.51.

I.E.4. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee, in an enforcement action that it would have been necessary, to halt or reduce the Permitted activity in order to maintain compliance with the conditions of this Permit. [MHWMR 270.30(c)]

I.E.5. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures, as are reasonable, to prevent significant adverse impacts on human health or the environment. [MHWMR 270.30(d)]

I.E.6. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilties and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/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 conditions of this Permit. [MHWMR 270.30(e)]

I.E.7. Duty to Provide Information

The Permittee shall furnish to the Executive Director within a reasonable time, any relevant information which the Executive Director may request to determine whether cause

exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by this Permit. [MHWMR 264.74(a), 270.30(h)]

I.E.8. Inspection and Entry

Pursuant to MHWMR 270.30(i), the Permittee shall allow the Executive Director, or an authorized representative, upon the presentation of credentials and other documents, as may be required by law, to:

I.E.8.a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

I.E.8.b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

I.E.8.c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

I.E.8.d. Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

I.E.9. Monitoring and Records

I.E.9.a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of MHWMR Part 261 or an equivalent method approved by the Executive Director. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, Standard Methods of Wastewater Analysis, or an equivalent method, as specified in the Groundwater Monitoring Plan. [MHWMR 270.30(j)(1)]

I.E.9.b. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring

instrumentation, copies of all reports and records required by this Permit, the certification required by MHWMR 264.73(b)(9), and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These periods may be extended by request of the Executive Director at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility. [MHWMR 264.74(b) and 270.30(j)(2)]

I.E.9.c. Pursuant to MHWMR 270.30(j)(3), records of monitoring information shall specify:

i. The dates, exact place, and times of sampling or measurements;

ii. The individuals who performed the sampling or measurements;

iii. The dates analyses were performed;

iv. The individuals who performed the analyses;

v. The analytical techniques or methods used;

vi. The results of such analyses; and

vii. The method detection limit for each analysis.

I.E.10. Reporting Planned Changes

The Permittee shall give notice to the Executive Director, as soon as possible, of any planned physical alterations or additions to the Permitted facility. [MHWMR 270.30(1)(1)]

I.E.11. Reporting Anticipated Noncompliance

The Permittee shall give advance notice to the Executive Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. [MHWMR 270.30(1)(2)]

I.E.12. Transfer of Permits

This Permit is not transferable to any person, except after notice to the Executive Director. The Executive Director may require modification or revocation and reissuance of the Permit pursuant to MHWMR 270.40. Before transferring ownership or operation of the facility during its operating

life, the Permittee shall notify the new owner or operator in writing of the requirements of MHWMR Parts 264 and 270 and this Permit. [MHWMR 270.30(1)(3), 264.12(c)]

I.E.13. Twenty-Four Hour Reporting

I.E.13.a. The Permittee shall report to the Executive Director any noncompliance which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:

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

ii. Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste management facility which could threaten the environment or human health outside the facility.

I.E.13.b. The description of the occurrence and its cause shall include:

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

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

iii. Date, time, and type of incident;

iv. Name and quantity of materials 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.

I.E.13.c. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the

noncompliance and its cause; the period(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 reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Director may waive the five-day written notice requirement in favor of a written report within 15 days. [MHWMR 270.30(1)(6)]

I.E.14. Other Noncompliance

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, Permit Conditions I.E.10 - 14., at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition I.E.13. [MHWMR 270.30(1)(10)]

I.E.15. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application or in any report to the Executive Director, the Permittee shall promptly submit such facts or information. [MHWMR 270.30(1)(11)]

I.F. SIGNATORY REQUIREMENT

All applications, reports, or information submitted to or requested by the Executive Director, his designee, or authorized representative, shall be signed and certified in accordance with MHWMR 270.11 and 270.30(k).

I.G. REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE REGIONAL ADMINISTRATOR

All reports, notifications, or other submissions which are required by this Permit to be sent or given to the Executive Director should be sent by certified mail or given to:

Mississippi Department of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385
Telelphone No.: (601) 961-5171

I.H. CONFIDENTIAL INFORMATION

In accordance with MHWMR 270.12, the Permittee may claim confidential any information required to be submitted by this Permit.

I.I. DOCUMENTS TO BE MAINTAINED AT THE FACILITY

The Permittee shall maintain at the facility, for a period of three (3) years, the following documents and all amendments, revisions and modifications to these documents:

1. Inspection schedules, as required by MHWMR 264.15(b)(2) and this Permit.

2. Personnel training documents and records, as required by MHWMR Part 264.16(d) and this Permit.

3. Contingency Plan, as required by MHWMR 264.53(a) and this Permit.

4. Operating record, as required by MHWMR 264.73 and this Permit.

5. Closure Plan, as required by MHWMR 264.112(a) and this Permit.

6. Post-closure Plan as required by MHWMR 264.118(a) and this Permit.

7. Annually-adjusted cost-estimate for facility post-closure as required by MHWMR 264.144(d) and this Permit.

8. All other documents required by Module I, Condition E.9.

I.J. SPECIAL CONDITIONS

Where a discrepancy exists between the wording of an item in the permit application or an attachment to this permit and the wording in Modules I through IV of this Permit, the requirements of Modules I through IV take precedence.

MODULE II - GENERAL FACILITY CONDITIONS

II.A. Authorized Activities

The Permittee is authorized to conduct post-closure care of the closed hazardous waste surface impoundments (Attachment III-1, Figure 3-1) and perform on site and offsite corrective action activities for contamination resulting from wastes generated by wastewater treatment and processing of wood products, in accordance with the conditions of this permit.

II.B. Hazardous Waste Imported or Received from Off-site Sources

The Permittee may not receive hazardous waste from a foreign source or from an off-site source.

II.C. Security

The Permittee shall comply with the security provisions of Attachment III-1 and in accordance with MHWMR 264.14.

II.D. PERSONNEL TRAINING

The Permittee shall conduct personnel training, as required by MHWMR 264.16. This training program shall follow the attached outline, Permit Attachment II-1. The Permittee shall maintain training documents and records, as required by MHWMR 264.16(d) and (e).

II.E. PREPAREDNESS AND PREVENTION

II.E.1. Required Equipment

At a minimum, the Permittee shall maintain at the facility the equipment set forth in the Contingency Plan, Permit Attachment II-2, as required by MHWMR 264.32.

II.E.2. Testing and Maintenance of Equipment

The Permittee shall test and maintain the equipment specified in Permit Condition II-2, as necessary, to assure its proper operation in time of emergency, as required by MHWMR 264.33.

II.F. CONTINGENCY PLAN

II.F.1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan, Permit Attachment

II-2, whenever there is a fire, explosion, or release of hazardous waste or constituents which could threaten human health or the environment.

II.F.2. Copies of Plan

The Permittee shall comply with the requirements of MHWMR 264.53.

II.F.3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan, as required by MHWMR 264.54.

II.F.4. Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency, as required by MHWMR 264.55.

II.G. RECORDKEEPING AND REPORTING

In addition to the recordkeeping and reporting requirements specified elsewhere in this Permit, the Permittee shall do the following:

II.G.1. Operating Record

The Permittee shall maintain a written operating record at the facility, in accordance with MHWMR 264.73.

II.G.2. Annual Report

The Permittee shall report by March 1 of each calendar year to the Executive Director, on forms provided by the MSDEQ, the types and amounts of hazardous waste treated, stored, recycled and/or disposed during the preceeding calendar year. (MHWMR 264.S1)

II.G.3. Biennial Report

The Permittee shall comply with the biennial reporting requirements of MHWMR 264.75.

II.H. GENERAL CLOSURE REQUIREMENTS

The Permittee certified closure of the surface impoundments on July 7, 1986, (Attachment II-3). A copy of the Closure Plan report is in Attachment II-3.

MODULE III - POST-CLOSURE CARE

III.A. UNIT IDENTIFICATION

The Permittee shall provide post-closure care for the following hazardous waste management units (see Attachment III-1, Figure 1-2), subject to the terms and conditions of this permit, and described as follows:

Type of Waste Unit	Unit No. or Other Designation	Maximum Waste Inventory	Description of Wastes Contained	Hazardous Waste No.
Closed Surface Impoundments	Lagoon Nos. 1-2	708,400 gals. (prior to closure)	Sludge from treatment of wood preserving process waste-water	K001

III.B. POST-CLOSURE PROCEDURES AND USE OF PROPERTY

III.B.1. The Permittee shall conduct post-closure care specified in Attachment III-1, for each hazardous waste management unit listed in Permit Condition III.A. above to continue for 30 years following Certification of Closure of the hazardous waste unit, except that the 30-year post-closure care period may be shortened upon application and demonstration approved by the Executive Director that the facility is secure, or may be extended by the Executive Director if he finds this is necessary to protect human health and the environment. Post-Closure Care shall be in accordance with MHWMR Part 264.117 and the Post-Closure Plan, Permit Attachment III-1.

III.B.2. The Permittee shall maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of MHWMR Part 264, Subpart F during the post-closure period. [MHWMR 264.117(a)(1)]

III.B.3. The Permittee shall comply with the requirements for surface impoundments as follows: [MHWMR 264.228(b)(1) and (3)]

III.B.3.a. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap, as necessary, to correct the effects of settling, subsidence, erosion, and other events; and

III.B.3.b. Prevent run-on and run-off from eroding or otherwise damaging the final cover.

III.B.4. The Permittee shall comply with all security requirements, as specified in Permit Attachment III-1. [MHWMR 264.117(b)]

III.B.5. The Permittee shall not allow any use of the unit designated in Permit Condition III.A. 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. [MHWMR 264.117(c)]

III.B.6. The Permittee shall implement the Post-Closure Plan, Permit Attachment III-1. All post-closure care activities must be conducted in accordance with the provisions of the Post-Closure Plan. [MHWMR 264.117(d) and 264.118(b)]

III.C. INSPECTIONS

The Permittee shall inspect the components, structures, and equipment at the site in accordance with the Inspection Schedule, Permit Attachment III-1. [MHWMR 264.117(a)(1)(ii)]

III.D. NOTICES AND CERTIFICATION

III.D.1. 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 waste and hazardous waste residues, the liner, if any; or contaminated soils, then he shall request a modification to this post closure permit in accordance with the applicable requirements in MHWMR Parts 124 and 270. The Permittee or any subsequent owner or operator of the land shall demonstrate that the removal of hazardous wastes will satisfy the criteria of MHWMR 264.117(c). [MHWMR 264.119(c)]

III.D.2. No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the Permittee shall submit to the Executive Director, by registered mail, a certification that the post-closure care for the hazardous waste disposal unit was performed in accordance with the specifications in the approved Post-Closure Plan. The certification must be signed by the Permittee and an independent, registered professional engineer. Documentation supporting the independent, registered professional engineer's certification must be furnished

to the Executive Director upon request until the Executive Director releases the Permittee from the financial assurance requirements for post-closure care under MHWMR 264.145(1). [MHWMR 264.120]

III.E. COST ESTIMATE FOR FACILITY POST-CLOSURE

III.E.1. The Permittee's most recent post-closure cost estimate, prepared in accordance with MHWMR 264.144 shall be submitted to the Executive Director as required by MHWMR 264.144(b).

III.E.2. The Permittee must revise the post-closure cost estimate whenever there is a change in the facility's Post-Closure Plan, as required by MHWMR 264.144(c).

III.E.3. The Permittee must keep at the facility the latest post-closure cost estimate as required by MHWMR 264.142(d) and 264.144(d).

III.F. FINANCIAL ASSURANCE

III.F.1. The Permittee shall maintain financial assurance during the post-closure period and comply with all applicable requirements of MHWMR Part 264 Subpart H. [MHWMR 264.145]

III.F.2. During the period of post-closure care, the Executive Director may approve a decrease in the letter of credit if the Permittee demonstrates that the amount exceeds the remaining cost of post-closure care [MHWMR 264.145(d)(8)]

III.G. POST-CLOSURE PERMIT MODIFICATIONS

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 MHWMR Parts 124 and 270, and must include a copy of the proposed amended Post-Closure Plan for approval by the Executive Director. The Permittee shall request a permit modification whenever changes in operating plans or facility design affect the approved Post-Closure Plan or other events occur during the active life of the facility that affect the approved Post-Closure Plan. The Permittee 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. [MHWMR 264.118(d)]

III.H. INCAPACITY OF OWNERS OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with MHWMR 264.148, whenever necessary.

MODULE IV - GROUNDWATER MONITORING AND CORRECTIVE ACTION

IV.A. MODULE HIGHLIGHTS

The facility is underlain by 18 to 26 feet of interbedded alluvial clays, sands, and gravel lenses. The alluvium is unconformably underlain by the upper most member of the Cretaceous-Age Eutaw formation consisting of fine grained, glauconitic sands and silts of fluvial and deltaic origins. Attachment IV-1 gives a detailed discussion of site geology and hydrology.

Groundwater monitoring has detected the presence of dissolved hazardous constituents, and free product (creosote) has been detected in the production area. Data indicate that contamination is greatest in the alluvial aquifer, and that in some areas, free creosote migrates along a permeability boundary at the alluvial Eutaw contact. Dissolved constituents have been detected in the Eutaw. Volatile compounds, used in the production drying process, have also been detected at levels slightly above detection limits in the alluvial aquifer. Attachment IV-1, Tables 5-8 and 5-9 give monitoring information for hazardous constituents detected in fourth quarter, 1989.

Two separate contaminant plumes have been differentiated (Attachment IV-1, Figure 5-18). One is associated with the production process and possibly the former surface impoundments. The second is in an area that was the site of a former below-ground level railroad tie loading dock.

This module addresses on-site contamination from the production area and former surface impoundments and provides a mechanism to address the second area, as information concerning the extent of contamination is provided. Definition of offsite contamination (from both source areas of contamination) and onsite contamination from the loading dock will be reported November 1, 1990, pursuant to Administrative Order Number 1636-89, Attachment IV-5. The report is to include a corrective action plan for on-site and offsite contamination associated with the below-ground loading dock.

IV.B. MONITORING AND CORRECTIVE ACTION PROGRAM

The Permittee shall conduct corrective action and corrective action groundwater monitoring as required by MHWMR 264.91(a)(3). When concentrations of hazardous constituents under Module IV Condition E have not exceeded the groundwater protection standards in compliance or effectiveness monitoring wells for a period of three (3) consecutive years then the Permittee may petition the Executive Director for a permit modification to

revert to a groundwater detection program as specified in MHWMR 264.100(f).

IV.B.1. Point of Compliance

The point of compliance shall be the hydraulically downgradient limits of the waste management area as specified by MHWMR 264.95 and bound by monitoring wells CMW-6, CMW-7, and CMW-8, as indicated in Attachment III-1, Figure 1-2.

IV.B.2. Compliance Period

The compliance period shall be defined to begin on the effective date of this permit and to continue until the groundwater protection standard for all constituents in Module IV, Condition E has not been exceeded in any compliance or "effectiveness" monitoring wells specified in Module IV, Conditions C.3 through C.8 for a period of three consecutive years.

IV.C. GROUNDWATER MONITORING SYSTEM

IV.C.1. Well Location

The Permittee shall maintain a groundwater monitoring system at locations specified on the map in Attachment III-1, Figure 1-2. [MHWMR 264.100(d)]

IV.C.2. Well Construction

The Permittee shall maintain the monitoring wells identified in Permit Condition IV.C.1. in accordance with the plans and specifications presented in Permit Attachment IV-2. [MHWMR 264.100(d)]

IV.C.3. Compliance Monitoring Wells

For the purpose of this permit wells CMW-6, CMW-7, CMW-8, and/or other wells required under Condition IV.C.8. shall be designated as the compliance monitoring wells.

IV.C.4. Corrective Action "Effectiveness" Monitoring Wells

Monitoring wells CMW-3, CMW-4, CMW-9, CMW-10, CMW-11, and/or other wells required under Condition IV.C.8 shall be used to monitor the effectiveness of the corrective action program and shall be designated the effectiveness control wells.

IV.C.5. Upgradient Monitoring Well

Monitoring well CMW-1AR, and/or other wells required by Condition IV.C.8 shall be designated the upgradient well(s).

IV.C.6. Boundary Control Monitoring Wells

Monitoring wells CMW-16, CMW-14, CMW-22, and other wells required by Condition IV.C.8, shall be used to monitor the possibility of plume migration in the early years of the corrective action program. At such time that the Permittee can prove the corrective action is effectively containing and removing the plume, the Permittee may request in writing that these monitoring wells be deleted from the system, under Module IV, Condition C.8 of this permit.

IV.C.7. Deep Monitoring Wells

Monitoring wells CME-3, CME-4, CME-5, CME-6 and/or other wells required under Condition IV.C.8 shall be used to monitor the Eutaw formation. Well construction and locations for CME-5 and CME-6 shall be proposed by November 1, 1990.

IV.C.8. Additional Monitoring Wells

Any proposed addition, deletion, or change in designation of corrective action/compliance monitoring wells shall be made by modification of the Permit in accordance with MHWMR 270.41 and 270.42. The Executive director or the Permittee may request such modification to monitor changes in plume extent, groundwater flow rate, groundwater flow direction, and to replace damaged or improperly constructed wells.

IV.C.9. Abandonment of Monitoring Wells and Borings

All groundwater monitoring wells and/or geotechnical borings deleted from the monitoring or corrective action program shall be plugged and abandoned in accordance with Mississippi Office of Land and Water Regulations. Certification of abandonment shall be submitted within thirty (30) days from the date the wells are removed from the monitoring program.

IV.D. GROUNDWATER PROTECTION STANDARD

The Groundwater Protection Standard (GWPS) is the concentration limit above which hazardous constituents entering the groundwater cannot be exceeded. The GWPS shall be equal to the concentration limit in Module IV, Condition E. of this permit, for the period of the corrective action monitoring program. The Permittee may petition the Executive Director for a permit modification during the compliance period to establish alternate concentration limits for the GWPS under MHWMR 264.94(b).

IV.E. GWPS CONCENTRATION LIMITS

The following hazardous constituents and their concentration limits comprise the Groundwater Protection Standard:

Hazardous Constituents	Concentration Limits	Approved Method of Sample Preparation/Analysis
A. K001 Appendix VII MHWMR Part 261		
1. Acid Compounds		
2-Chlorophenol	MDL[1]	3520/8270
2,4-Dimethylphenol	MDL	3520/8270
2,4-Dinitrophenol	MDL	3520/8270
p-Chloro-m-cresol	MDL	3520/8270
Pentachlorphenol	MDL	3520/8270
Phenol	MDL	3520/8270
2,4,6-Trichlorphenol	MDL	3520/8270
2,3,4,6-Tetrachlorophenol	MDL	3520/8270
2. Base/Neutral Compounds		
Acenaphthylene	MDL	3520/8270; 3510/610[2]
Benzo(a)pyrene	MDL	3520/8270
Fluoranthene	MDL	3520/8270
Naphthalene	MDL	3520/8270; 3510/610[2]
Carbozole	MDL	3520/8270
Benzo(a)anthracene	MDL	3520/8270
Benzo(b)flouranthene	MDL	3520/8270
Indeno (1,2,3-c,d)pyrene	MDL	3520/8270
Phenanthrene	MDL	3520/8270
Dibenzo (a,h) anthracene	MDL	3520/8270
B. Solvents		
Benzene	MDL	602/8020
Total xylene	MDL	602/8020

Solvents	Concentration Limits	Approved Method of Sample Preparation/ Analysis
C. Total Phenols	MDL	EPA Method 420.2

[1] MDL is defined as the Method Detection Limit.

[2] Used for phase 1 sampling of effectiveness wells only. (See Table IV-1).

IV.F. MONITORING PROGRAM AND DATA EVALUATION

The Permittee shall determine the groundwater quality at each monitoring well specified in Permit Module IV, Condition C.3. through C.8. at the frequency and for the parameters specified in Table IV-1.

IV.F.1. Sample Collection and Analytical Procedures

The Permittee shall collect, preserve and analyze samples as described in Attachment IV-3 and in accordance with MHWMR 264.97(d) and (e). Where free product is present, only an estimated product thickness is required.

IV.F.2. Groundwater Surface Elevation

The Permittee shall determine the groundwater surface elevation at each well each time groundwater is sampled [MHWMR 264.97(f)].

IV.F.3. Surveyed Elevations

The Permittee shall report surveyed elevations of the monitoring well(s) when the well(s) is (are) installed. The following elevation data should be reported: top of casing, ground surface and/or apron elevation.

IV.F.4. Groundwater Flow Rate and Direction

The Permittee shall determine the groundwater flow rate and direction in the uppermost aquifer and the Eutaw aquifer at least annually. This information shall be submitted by March 1 annually for data collected the previous year.

IV.F.5. Other Data

The presence of immiscible liquids shall be determined in all compliance, effectiveness, and deep wells. In wells in which free product is not detected, field measurement of groundwater sample pH, specific conductance, and temperature shall be performed.

IV.G. RECORDKEEPING AND REPORTING

IV.G.1. The Permittee shall enter all monitoring testing and analytical data obtained according to Permit Condition IV.D.2. in the operating record. The data must include all computations and results of any statistical tests specified by the Executive Director or his representative [MHWMR 264.73(b)(6)].

IV.G.2. The Permittee shall report, in writing, semi-annually to the Regional Administrator on the effectiveness of the corrective action program as required by Module IV, Condition H.12 of this permit.

IV.G.3. The Permittee shall submit the analytical results required by Permit Condition IV.F. and Table IV-1 according to the following schedule:

Quarterly Samples to be Collected During the Months of	Results due to Executive Director by
January - March	July 1
April - June	October 1
July - September	December 31
October - December	March 1
Sampling performed semi-annually	March 1 and October 1
Sampling performed annually	March 1
Sampling performed biennially	March 1 of even numbered years

IV.H. CORRECTIVE ACTION

IV.H.1. Applicability

The requirements of this subpart apply to on-site and offsite contamination as identified by assessment performed under Mississippi Department of Environmental Quality Consent Order No. 1636-89 (Attachment IV-5) and in accordance with MHWMR 264.100(a).

IV.H.2. Corrective Action Period

IV.H.2.a. The Permittee shall conduct the corrective action measures specified in this permit until the groundwater protection standard for each underlined constituent in Module IV, Condition D and E has not been exceeded at the point of compliance or any compliance

"effectiveness" or deep monitoring wells for three (3) consecutive years.

IV.H.2.b. Upon termination of corrective action measures, the Permittee shall perform a complete MHWMR 264 Appendix IX analysis on groundwater samples from all compliance, boundary control, "effectiveness", and deep monitoring wells deemed necessary by the Executive Director to confirm that no MHWMR 264 Appendix IX hazardous constituents are present in the groundwater above detection levels, or for those constituents specified in Module IV, Condition D and E, above the concentration limit comprising the GWPS. If hazardous constituents are found to be present, their concentrations shall be reported to the Executive Director within seven days from completion of analysis.

IV.H.2.c. If corrective action measures are terminated in accordance with Condition H.2.a. of Module IV, they shall be reinitiated any time during the post-closure period that the groundwater protection standard has been exceeded at the point of compliance or in any compliance or "effectiveness" monitoring wells.

IV.H.3. List of Hazardous Constituents

The Permittee shall conduct corrective action to reduce all constituents specified in Condition E of Module IV, to specified levels, in accordance with Permit Condition H.2.a. Module IV, and MHWMR 264.100(a)(1).

IV.H.4. Concentration Limits

The concentration of hazardous waste constituents in the groundwater must not exceed the groundwater protection standards as specified in Condition E of Module IV, as required by MHWMR 264.94 and 264.100(a)(2).

IV.H.5. Corrective Action Measures

IV.H.5.a. Within forty-five (45) days of the effective date of this permit, the Permittee shall begin construction of the corrective action system for the plume associated with the surface impoundment and the production area. Construction shall follow the conceptual approach outlined in the engineering feasibility plan, Attachment IV-5.

IV.H.6. Within ninety days from the effective date of this permit operation of the corrective action system identified in Module IV, Condition H.5. shall begin.

IV.H.7. As required by MSDEQ Consent Order 1636-89 (Attachment IV-5), by November 1, 1990, the Permittee shall submit an addendum to this permit to incorporate off-site groundwater quality assessment and a plan for off-site corrective action. A corrective action plan for on-site contamination associated with the below ground loading dock is also required. This permit will be modified to incorporate offsite corrective action and remediation of the below ground loading dock contaminant plume following approval of the November 1, 1990, assessment and corrective action plan addendum submittal to the Executive Director.

IV.H.8. Within 180 days from approval of the groundwater corrective action plan, by the Executive Director, the Permittee shall submit cost estimates and assurances of financial responsibility for such corrective action, as specified in MHWMR 264.101(c).

IV.H.9. Within 180 days of the effective date of the permit, the Permittee shall submit a corrective action plan to address contamination in the Eutaw aquifer.

IV.H.10. Corrective Action to Property Boundary

The Permittee shall pump, treat, and monitor contaminated groundwater from: (1) the point of compliance to the property boundary; and (2) beyond the facility boundary, where necessary to protect human health and the environment, as required under MHWMR 264.100(e).

IV.H.11. Reports

The Permittee shall report the effectiveness of corrective action semi-annually is, as required under MHWMR 264.100(g). These reports shall contain at least the following: (1) measured groundwater elevations, (2) potentiometric maps showing groundwater flow direction, (3) groundwater analyses, (4) at least annually a determination of flow rate, (5) a description of progress made in remediation and corrective action, and (6) at least annually isoconcentration maps showing plumes for each major constituent in Module IV, Condition E. These reports shall be submitted in triplicate on March 1 and October 1 of each year.

IV.J. MODIFICATIONS

IV.J.1. If the Permittee determines that corrective action measures are no longer effective, an application for a permit modification must be submitted within ninety (90) days of such a determination, as required under MHWMR 264.100(h).

IV.J.2. If the groundwater protection standard has not been exceeded for a period of three (3) consecutive years in all of the compliance monitoring wells and "effectiveness" monitoring wells the permittee may petition the Executive Director to modify the groundwater monitoring program as appropriate.

TABLE IV-1

Wells	Parameters	Frequency
Upgradient Well CMW-1AR, as specified in Module IV, Condition C.5	a) K001 Appendix VII Acid and Base Neutral Compounds and solvents specified in Module IV, Condition E.	Annually
	b) All Appendix IX Parameters as specified by MHWMR 264.99(g)	Within 90 days of meeting the GWPS
All compliance monitoring wells (CMW-6, CMW-7, and CMW-8) as specified in Module IV, Condition C.3.	K001 Appendix VII Acid and Base Neutral Compounds and solvents specified in Module IV, Condition E.	Quarterly
All effectiveness monitoring wells (CMW-3, CMW-4, CM-9, CMW-10, and CMW-11) as specified by Module IV, Condition C.4.	Phase I = a) Total phenol Napthalene, and Acenapthylene	Semi-annually
	b) K001 Appendix VII Acid and Base Neutral Compounds and solvents specified in Module IV, Condition E.	Biennially

When analyses from a sampling event indicate that total phenol, napthalene, and acenapthylene have reached the concentration limits specified in Module IV, Condition E, the Permittee shall notify the Executive Director that Phase II sampling of effectiveness wells will be initiated during the next scheduled sampling event.

Effectiveness Wells	Phase II = a) All Appendix VII Acid and Base Neutral compounds and solvents specified in Module IV, Condition E.	Semi-annually
	b) All Appendix IX MHWMR Part 264 parameters.	Within 90 days of meeting the GWPS.
Boundary Control Wells (CMW-16, CMW-14, and CMW-22) as specified by Module IV, Condition C.6.	All Appendix VII Acid and Base Neutral Compounds and solvents specified in Module IV, Condition E.	Semi-annually

Table IV-1 (Cont.)

Wells	Parameters	Frequency
Deep Monitoring Wells (CME-3, CME-4, CME-5, and CME-6) as specified by Module IV, Condition C.7.	a) All Appendix VII Acid and Base Neutral compounds and solvents specified in Module IV, Condition E.	Semi-annually
Deep Well CME-1	b) All Appendix IX MHWMR Part 264 parameters	Within 90 days of meeting the GWPS.

APPENDIX A
DOCUMENT SUBMISSION SUMMARY

Document	Permit Reference	Page Number	Due Date
Annual Report	II.G.2.	10	March 1 annually
Biennial Report	II.G.3.	10	March 1 of even numbered years
Certification of Post-Closure Care	III.D.2.	12	Within 60 days of completion of Post-Closure Care
Annual Post-Closure Cost Estimate	III.E. and III.F.1.	13	March 30, annually
Determination of groundwater flow rate and direction	IV.F.4.	18	March 1, annually
Quarterly Sampling Results:	IV.G.3.	19	(Annually)
First			July 1
Second			October 1
Third			December 3
Fourth			March 1
Semi-annual Sampling	IV.G.3.	19	March 1 and October 1 (annually)
Annual Sampling	IV.G.3.	19	March 1 (annually)
Biennial Sampling	IV.G.3.	19	March 1 (of even numbered years)
Begin operation of Corrective Action System	IV.H.6.	21	Within 90 days of the effective date of the permit
Off-site and on-site (below ground loading dock plume) corrective action addendum	IV.H.7.	21	November 1, 1990
Cost estimate and assurance for corrective action	IV.H.10.	21	Within 180 days from approval of site wide corrective action plan (addendum)
Corrective Action effectiveness reports	IV.H.12.	21	March 1 and October 1 (semi-annually)

KERRMC:lr

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FACT SHEET

FOR PERMIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT
AT KERR-McGEE CHEMICAL LLC - FOREST PRODUCTS DIVISION
COLUMBUS FACILITY
LOWNDES COUNTY, MISSISSIPPI
EPA I.D. NUMBER MSD 990 866 329

This fact sheet is prepared pursuant to Mississippi Hazardous Waste Management Regulations (MHWMR) 124.8 for the draft Permit Number HW-990-866-329 developed by Mississippi Department of Environmental Quality (MDEQ) for Kerr-McGee Chemical LLC - Forest Products Division, Columbus, Mississippi Facility.

DESCRIPTION OF FACILITY

The Kerr-McGee Chemical, LLC, Columbus Facility (KMC) is a manufacturer of pressure-treated railroad products including wooden crossties, switch ties, and timbers. Wood treating activities at the site have occurred since 1928, although the property was not purchased by KMC until 1964. The site occupies approximately ninety (90) acres in Columbus, Lowndes County, Mississippi.

The process generated a wastewater that was treated in a surface impoundment system consisting of two surface impoundments (Surface Impoundments #1 and #2) and two Sand Filtration Beds. Following the adoption of the RCRA Regulations, KMC operated the surface impoundment system under Interim Status Standards until the unit could be closed and a wastewater treatment system discharging under a Pre-Treatment Permit installed.

On April 9, 1984, KMC submitted a Closure Plan for the impoundment system. Closure was completed June 18, 1986. Closure consisted of removal of all liquids, removal and recycling of any usable recovered product, removal and/or solidifying remaining sludges, backfilling with soil from the existing berms (adding clean soil as necessary), and the construction of a RCRA cap. The closed area covers approximately one acre.

Due to groundwater contamination resulting from the historic operations at this site, an extensive groundwater monitoring network and corrective action system are in place. Although it is believed that the majority of this contamination originated from Solid Waste Management Units (discussed below) and not the RCRA-Regulated Units, the site-wide system will generally be regulated under this permit; however, some off-site contamination is presently being addressed under separate actions.

Discussion of Solid Waste Management Units (SWMUs)

The following is a list of the SWMUs at Kerr-McGee Chemical, LLC - Columbus Facility as outlined during the RCRA Facility Assessment (RFA) conducted in August, 1988. There were forty-one (41) SWMUs outlined during this RFA and subsequent investigations. These SWMUs have been grouped into eight (8) Solid Waste Management Areas (SWMAs) for investigation and remediation purposes. The regulated unit accounts for four of these SWMUs (28-31). In addition, three units (34-36) are active and are regulated under MHWMR Part 265, Subpart W. SWMU locations are shown on Figure 4 and SWMAs on Figures 4a through 4e.

SWMU	Area	Description
1	I-Retort	Retort Area Front Door Pit
2	I-Retort	Retort Area Front Door Pit North Sump
3	I-Retort	Retort Area Front Door Pit South Sump
4	I-Retort	Retort Sump
5	I-Retort	Drip Collection Tank 1
6	I-Retort	Drip Collection Tank 2
7	I-Retort	Drip Collection Tank 3
8	I-Retort	Work Tank 1
9	I-Retort	Work Tank 2
10	III-Tank Farm	Work Tank 3
11	III-Tank Farm	Work Tank 4
12	III-Tank Farm	Work Tank 5
13	-----	Overhead Piping
14	III-Tank Farm	Sap Tank
15	III-Tank Farm	Sump for Tank Car Unloading
16	III-Tank Farm	Vapor Tank Sump
17	IV-WW Treatment	Wastewater Underground Pipes
18	III-Tank Farm	Truck Unloading Sump
19	-----	Wood Boiler
20	III-Tank Farm	Creosote Storage Sump
21	IV-WW Treatment	Primary Oil/Water Separator
22	IV-WW Treatment	Polymer Addition Area
23	IV-WW Treatment	Secondary Dual Compartment Oil/Water Separator
24	IV-WW Treatment	Holding Tank 1
25	IV-WW Treatment	Holding Tank 2
26	IV-WW Treatment	Holding Tank 3
27	IV-WW Treatment	Holding Tank 4
28	-----	Aeration Impoundment
29	-----	Sedimentation Impoundment
30	-----	Sand Filter Bed 1
31	-----	Sand Filter Bed 2
32	VI-Waste Piles	Waste Pile 1
33	VI-Waste Piles	Waste Pile 2
34	II-Drip Pad	Drip Track
35	II-Drip Pad	Drip Track Drain and Sump
36	VII-Black Tie Storage	Black Tie Storage Area
37	VIII-Drainage Ditches	Drainage Ditches
38	V-Cooling Tower Basin	Cooling Tower Surface Impoundment
39	-----	Two Cooling Tower Basins
40	III-Tank Farm	Rainwater Tank
41	-----	Cyclone Dumpster

Remediation activity for these units is regulated by EPA under the conditions of the Hazardous and Solid Waste Amendments of 1984 (commonly referred to as HSWA) and a Federal Permit issued August 8, 1988. This permit will be reissued concurrently with the State of Mississippi permit and is described in a separate Fact Sheet. The provisions of this Federal permit will be included in the State permit in anticipation of the State's receiving certification for the HSWA program.

PROCEDURES FOR PERMIT ISSUANCE

As described in the public notice, persons interested in commenting on this permit should submit written comments to:

Mississippi Environmental Quality Permit Board
P. O . Box 10385
Jackson, MS 39289-0385

This permit will be issued in conformance with Parts 124 and 270 of the Mississippi Hazardous Waste Management Regulations. The comment period for this permit begins April 16, 2001, and ends at 4:30 p.m. on June 1, 2001. All comments entered into the record, will be considered by the Permit Board before final disposition of the draft permit will be made. Public participation in the permit process is encouraged. For additional information, please contact Mr. Louis Crawford at (601) 961-5171.

PERMIT PROCESS

The purpose of the permitting process is to afford MDEQ and interested citizens the opportunity to evaluate the ability of the Permittee to comply with the applicable requirements promulgated under the Resource Conservation and Recovery Act (RCRA). The permit conditions are set forth in one concise permit document which describes all statutory requirements of RCRA with which this facility must comply during the duration of the permit.

PERMIT STRUCTURE

The permit is divided into ten parts: A cover sheet setting forth the basic legal authority for issuing the permit, a section on standard conditions applicable to all hazardous waste management permits (Module I), a section on standard conditions applicable to all hazardous waste management facilities (Module II), a section regulating post-closure care of the closed surface impoundment (Module III), a section establishing requirements for a groundwater monitoring program (Module IV), a section on the corrective action conditions applicable to the former surface impoundment area (Module V), a section on the corrective action conditions applicable to solid waste management units at this particular facility (Module VI), a section addressing applicable land disposal restrictions (Module VII), a section addressing applicable organic air emissions (Module VIII), and a section addressing waste minimization activities (Module IX). The permit also includes attachments incorporating information taken from the application which expand on permit requirements.

BASIS FOR DRAFT PERMIT CONDITIONS

The following section is a summary of the basis for the conditions in the permit. This discussion is organized such that the reviewer can cross-reference conditions of the permit to the section.

PERMIT CONDITIONS

COVER

Permit Authority Permit Duration	Part 124 Part 260 Part 261 Part 264 Part 268 Part 270	Cover Page

MODULE I

Module I of the permit sets forth standard administrative conditions applicable to all hazardous waste management permits. Unless otherwise specified, all citations refer to the regulations as codified in Mississippi Hazardous Waste Management Regulations (MHWMR).

Activity	Regulation (MHWMR)	Permit Condition
Effect of Permit	270.4 270.30(g)	I.A.
Permit Actions	270.30(f) 270.41 270.42 270.43	I.B.
Severability	124.16	I.C.
Definitions	Part 124 Part 260 Part 261 Part 264 Part 270 RCRA	I.D.
Duty to Comply	270.30(a)	I.E.1.
Duty to Reapply	270.10(h)	I.E.2.
Permit Expiration	270.50	I.E.3.
Permit Review Period	270.50(d)	I.E.4.

Obligation for Corrective Action	264.100(f)	I.E.5.
Need to Halt or Reduce Activity	270.30(c)	I.E.6.
Duty to Mitigate	270.30(d)	I.E.7.
Proper Operation and Maintenance	270.30(e)	I.E.8.
Duty to Provide Information	264.74(a) 270.30(h)	I.E.9.
Inspection and Entry	270.30(i)	I.E.10.
Monitoring and Records	264.74(b)	I.E.11.
Reporting Planned Changes	270.30(l)(1)&(2)	I.E.12.
Anticipated Noncompliance	270.30(1)(2)	I.E.13.
Transfer of Permit	264.12(c) 270.30(1)(3) 270.40	I.E.14.
Compliance Schedules	270.30(l)(5)	I.E.15
Twenty-four Hour Reporting	270.30(1)(6)	I.E.16.
Other Noncompliance	270.30(1)(10)	I.E.17.
Other Information	270.30(1)(11)	I.E.18.
Signatory Requirement	270.11 270.30(k)	I.F.
Information Submissions	Part 264 270.31	I.G.
Confidential Information	270.12	I.H.
Maintenance of Documents	Part 264	I.I.
Special Conditions	Guidance	I.J.

MODULE II

Module II of the permit sets forth the specific conditions for this facility with which the Permittee must comply.

Activity	Regulation (MHWMR)	Permit Condition
Facility Description	270.14(b)(1)	II.A. Attachment B
Design and Operation	264.31	II.B.
Required Notices	264.12	II.C.
Security	264.14	II.D. Attachment B
Inspections	264.15	II.E. Attachment C
Location Standards	264.18	II.F.
Recordkeeping	264.73	II.G.
Financial Requirements	264.140(c)	II.H.

MODULE III

Module III sets forth conditions for providing post-closure care for the closed units.

Activity	Regulation (MHWMR)	Permit Condition
Applicability	264.110	III.A.
Post-Closure Care Period	264.117	III.B.
Post-Closure Inspection	264.280(c)	III.C.
Post-Closure Groundwater Monitoring	264.117(a) 264.228(b)(3)	III.D.
Post-Closure Maintenance	264.228(b)	III.E.
Post-Closure Property Use	264.117	III.F.

Removal of Waste	264.117(c)	III.G.
Completion of Care Period	264.120	III.H.
Retention of Plan	264.118(b) and (c)	III.I.
Post-Closure Permit Modifications	264.118(d)	III.J.

MODULE IV

Module IV of the permit establishes specific requirements by which the Permittee must conduct monitoring of the groundwater under the plant site. The conditions in this module, as well as those in Attachment D, are written to ensure compliance with MHWMR Part 264, Subpart F.

Activity	Regulation (MHWMR)	Permit Condition
Applicability	Part 264, Subpart F	IV.A
Corrective Action Monitoring Program	264.91(a)(3)	IV.B.
Groundwater Monitoring System	Part 264, Subpart F	IV.C.
Groundwater Protection Standards	264.92	IV.D.
Concentration Limits	264.94	IV.E.
Point of Compliance	264.95	IV.F.
Compliance Period	264.96	IV.G.
Monitoring Requirements	264.99	IV.H.
Sampling and Analysis Procedures, Evaluation, and Reporting	264.97	IV.I IV.J. IV.K. IV.L. IV.M.

MODULE V

Module V established specific conditions as to how the Permittee will address releases from the former surface impoundment area.

Activity	Regulation (MHWMR)	Permit Condition
Applicability	264.100 264.101	V.A.
Corrective Action Plan	264.100	V.B. Attachment F
Corrective Action Period	264.100(f)	V.C.
List of Hazardous Constituents	264.100(a)(1)	V.D.
Concentration Limits	264.100(a)(2) 264.100(b)	V.E. IV.D.
Corrective Action to Property Boundary	264.100(e)	V.F.
Reporting	264.100(g)	V.G.
Modifications	264.100(h)	V.H.

MODULE VI

Module VI establishes specific conditions as to how the Permittee will address releases or potential releases from solid waste management units and areas of concern. This particular activity is currently regulated by U.S. EPA under the Hazardous and Solid Waste Amendments of 1984 (commonly referred to as HSWA). This permit duplicates the requirements contained in the Federal Permit which was issued by EPA. This module will not become effective until the State of Mississippi receives authorization for HSWA.

MODULE VII

Module VII of this permit outlines land disposal restrictions in accordance with MHWMR Part 268.

MODULE VIII

Module VIII outlines actions that must be taken should the Permittee construct any units regulated by MHWMR Part 264, Subparts AA, BB, and/or CC.

Module IX

Module IX outlines the requirements of Waste Minimization required of all RCRA facilities.

ATTACHMENT A
Attachment A to the permit consists of figures to clarify unit descriptions and/or permit conditions.

ATTACHMENT B
Attachment B to the permit describes the facility and the regulated units.

ATTACHMENT C
Attachment C to the permit outlines the schedule for inspecting the closed unit and corrective action system.

ATTACHMENT D
Attachment D to the permit duplicates the post-closure plan for the closed surface impoundment as submitted in the application.

ATTACHMENT E
Attachment E to the permit consists of the monitoring plans for groundwater and includes sampling and analysis protocol, statistical analysis methods, etc. as submitted by the applicant.

ATTACHMENT F
Attachment F to the permit consists of the corrective action plan for the surface impoundment area submitted as a part of the application.

ATTACHMENT G
Attachment G outlines the objectives of a Waste Minimization Plan.

ATTACHMENT H
Attachment H to the permit consists of a summary of descriptions of the Solid Waste Management Units and Areas of Concern.

ATTACHMENT I
Attachment I to the permit provides an outline for a RCRA Facility Investigation Work plan for the Permittee to follow in any submittal.

ATTACHMENT J
Attachment J to the permit provides an outline for a Corrective Measures Study for the Permittee to follow in any submittal.

ATTACHMENT K
Attachment K to the permit provides procedures to be utilized for calculating action levels to be used for remediations under HSWA.

ATTACHMENT L
Attachment L to the permit summarizes the schedule of compliance for various activities required by the permit.

VARIANCES

The regulations cited above do not provide for variances.

PROCEDURES

The Mississippi Hazardous Waste Management Permit will cover those portions of RCRA for which it has final authorization to administer. A separate Federal permit addresses the Hazardous and Solid Waste Amendments of 1984. Together, these permits constitute the RCRA permit for this facility. The State permit is written to facilitate inclusion of those conditions contained in the Federal permit should the State receive authorization for the appropriate sections of the Amendments.

The regulations under 40 CFR and MHWMR 124.10 require that a 45-day comment period be instituted for each draft permit under the Resource Conservation and Recovery Act. The comment period will begin on April 16, 2001, which is the date of publication of the public notice in major local newspapers of general circulation, and will end at 4:30 p.m. on June 1, 2001. The public notice will also be broadcast over a local radio station.

Persons wishing to require a public hearing or to comment on the permit application or the proposed permit conditions should submit such requests or comments in writing to the Permit Board at the address above.

When MDEQ makes a final permit decision to either reissue, deny or modify the permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. The final permit decision shall become effective thirty (30) days after the service of notice of the decision unless a later date is specified or review is requested under MHWMR 124.19. If no comments requested a substantial change in the draft permit, the final permit shall become effective immediately upon issuance.

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Ken McGee - Columbus
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990866329
Permit Review Team

Date Application Received
Date Review Completed

Module A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART A - APPLICATION	270.11 (a) & (d), 270.10(d), 270.13		
FORM 1			
A-1 Label Items		PA	ok
EPA ID number Facility name Facility mailing address Facility location			
A-2 Pollutant Characteristics			N/A
A-3 Name of Facility			ok
A-4 Facility Contacts			ok
Name and title Telephone			
A-5 Facility Mailing Address			check - letter returned
A-6 Facility Location			ok
A-7 SIC Code(s)			ok
Four digits			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
A-8 Operator Information		Pt A	
Name Address Ownership status Phone			ok
A-9 Indian Lands			N/A
A-10 Existing Environmental Permits			
NPDES UIC RCRA PSD Other			ok
A-11 Map			
One mile beyond property line Outline of facility Location of existing and proposed intake and discharge structures Hazardous waste treatment, storage, and disposal facilities Underground injection wells Springs, rivers, and other surface water bodies Drinking water wells			ok
A-12 Nature of the Business			ok
A-13 Certification			
Name, title, and date Acceptable signature			ok
FORM 3			ok
A-14 EPA ID Number			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
A-15 First or Revised Application Existing/New Interim/Permitted		pt A	ok
A-16 Process - Codes and Design Capacities Process codes Amount Unit of measure			ok wrong waste code
A-17 Description of Hazardous Wastes EPA hazardous waste number Estimated annual quantity Unit of measure Process code Process description			
A-18 Facility Drawing			ok
A-19 Facility Photograph			ok
A-20 Latitude and Longitude			ok
A-21 Facility Owner Name Address Telephone			ok
A-22 Owner Certification Name, signature, date			ok
A-23 Operator Certification Name, signature, date			n/a

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

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Module B

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART B - FACILITY DESCRIPTION			
B-1 General Description A general description of the facility. Include the nature of the business. Off-site facilities should identify the types of industry served; on-site facilities should briefly describe the process(es) involved in the generation of hazardous waste.	270.14 (b)(1) Guidance	Attachments 1 & 2	
B-2 Topographic Map	270.14(b)(19)		
B-2a General Requirements A topographic map showing the facility and a distance of 1000 feet around it. The following information is required:		Not provided	

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
Scale: 1 in. = 200 ft. Contours sufficient to show surface water flow Extend 1000 ft. beyond property Map scale Map date 100-yr floodplain Surface waters Surrounding land use Wind rose ok poor heading to section Map orientation Legal boundaries ok Location of access control Injection and withdrawal wells - on-site - off-site Buildings Structures			
B-2a (continued) Sewers Loading and unloading areas Fire control facilities Flood control or drainage barriers Run-off control systems Location of hazardous waste units Location of solid waste management units Access and internal roads For large facilities, the use of other scales may be acceptable on a case-by-case basis.			
B-2b Additional Topographic Requirements for Land Storage, Treatment and Disposal Facilities (See Section E-3 - Topographic Map Requirements.)	270.14(c)(3), & (c)(4)(i), 264.95 264.97		Point of compliance not shown Plume delineation, etc. should be a separate portion of Application - Inserting a copy of a semi-annual report not appropriate
B-3 Location Information	270.14(b)(11)	See 2	ok

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
B-3a Seismic Considerations For new faculties only, applicant must identify the political jurisdiction (county, township, or election district) in which facility will be located in any of the political jurisdictions specified in Part 264 Appendix VI, the applicant must prove that the facility is located at least 3000 ft. from any fault where movement has taken place in Holocene time or that no such faults pass within 200 ft. of the portions of the facility used for treatment, storage, or disposal of hazardous waste. Proof may come from geologic studies, aerial photographs, field observations, or subsurface investigations. All information gathered must be acceptable by a geologist experienced in evaluating seismic activity.	270.14(b)(11)(i) & (ii) 264.18(a) 264 Appendix VI		N/A
B-3b Floodplain Standard Documentation of whether or not the facility is located within a 100-yr floodplain including the source of date (Federal Insurance Administration Map or other maps and calculations). If map other than FIA map is used, demonstration of equivalent mapping technique should be provided. If located in 100-yr floodplain, include: 100-yr floodplain level Other special flooding factors (e.g., wave action) that must be considered to prevent washout	270.14(b)(11)(iii) 264.18(b)	Appendix C	OK

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
B-3b(1)	Demonstration of Compliance For facilities located within the 100-yr floodplain, a description of how the facility is designed, constructed, operated, and maintained to prevent washout of any hazardous waste during a flood. Either of the following may be used:	270.14(b)(11)(iv) 264.18(b)		N/A
B-3b(1)(a)	Flood Proofing and Flood Protection A structural or other engineering study showing how design of the tanks, containers, or waste piles and the flood proofing and protection devices a the facility will present washout including: Engineering analysis of hydrodynamic and hydrostatic forces Structural or other engineering studies of hazardous waste units and flood protection devices	270.14(b)(11)(iv) (A) & (B)		NA
B-3b(1)(b)	Flood Plan Description of the procedures to be followed to remove hazardous waste to safety before the facility is flooded. The plan must address the following: Timing related to flood	270.14(b)(11)(v)(C) 264.18(b)(1)(i)		NA

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
	Levels			
	Estimated time to move the waste			
	Description of the location to which the waste will be moved and proof of the receiving facility's eligibility to receive hazardous waste	264.18(b)(1)(i)		
	Procedures, equipment, and personnel to be used and the means to ensure that these resources will be available		N/A	
	Potential for accidental discharge of waste			
B-3b(2)	Plan for Future Compliance with Floodplain Standard	270.14(b)(11)(v)		
	For facilities located within the 100-yr floodplain that do not comply with the floodplain standard, a plan showing how and when the facility will be brought into compliance. A compliance schedule must be included.			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
B-3b(3)	Waiver for Land Storage and Disposal Facilities (Existing Facilities Only) If a waiver from the Floodplain Standard is requested, the owner or operator must demonstrate that there will be no adverse effects on human health or the environment if washout occurs. The following factors must be considered in this demonstration: Volume and physical and chemical characteristics of the waste Concentration of hazardous constituents that would potentially affect surface watersImpact of such concentration on the current or potential uses of and water quality standard established for the affected surface waters Impact of hazardous constituents on the sediments of affected surface waters or the soils or the 100-yr floodplain	264.18(b)(1)(ii)	N/A	
B-4	Traffic Information A description of the means of transporting hazardous wastes.	270.14(b)(10)	NA	

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
All facilities should describe movement of waste on the facility. Description must include: Estimated volume Traffic pattern Traffic control Access road(s) surfacing and load-bearing capacity		N/A	
Off-site facilities (only should also describe movement of waste to the facility from the point to where it leaves nearest major highway.	Guidance		

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

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Module C

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART C - WASTE CHARACTERISTICS	270.14(b)(2) 266.102(a)(2)(ii) and (b) 264.13(a) [11/7/86, 6/4/87]		N/A to facility for Post-Closure Permit - Does apply under generator standards but will not be reviewed
C-1 Chemical and Physical Analysis	Guidance		
For each hazardous waste treated, stored, or disposed at the facility, the following information should be provided:	Guidance		
General description of the waste;			
Hazardous characteristics;	Guidance		
Basis for hazard designation;	Guidance		
Laboratory report on analyses results; and			
Existing published or documented data on hazardous waste or hazardous waste from a similar program (new facilities only).			
At a minimum, the analyses should include all the information which must be known to treat, store, or dispose of the waste in accordance with Parts 264, 266, and 268 requirements or conditions of a permit issued under Part 270.			

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

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Container Storage Standards - Module D-1

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART D - PROCESS INFORMATION			
D-1 Container Design			
D-1a Containers with Free Liquids and/or F020, F021, F023, F026, and F027 Wastes			
Description of System A description of the containment system to demonstrate compliance with 264.175. Show at least the following:	270.15(a), 264.175(b), 264.175(d)		N/A
D-1a(1) Basic Design Parameters, Dimensions, and Materials of Construction Base must underlie containers which is capable of containing all liquids until the liquid is collected and removed. Information which should be provided to demonstrate this includes the following:	270.15(a)(1) 264.175(b)(1)		

other N/A sections skipped (Part D-*)

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

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Surface Impoundment Standards - Module D-4

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-4 Surface Impoundment Design			
D-4a List of Wastes	270.17(a)		Units closed as landfill — see Section D-6
The application must provide a list of all:			
Hazardous wastes in the impoundment			
Analytical and sampling techniques	Guidance		
Appendix VIII constituents	Guidance		
Ignitability, compatibility, reactivity and corrosivity	Guidance		
Compatibility of liner and wastes	264.221(a)(1)		
D-4b Liner System Exemption Requests			

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr - McGee
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Contact Phone Number

EPA I.D. Number MSD 990 866 329
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Landfill - Module D-6

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6 Landfill Design			
D-6a Wastes to be Landfilled	270.21(a)		surface impoundments closed as a landfill - operating requirements N/A
A list of all hazardous wastes to be placed in each landfill cell. Applicant should include:			
Quantity of each waste	Guidance		
Chemical and physical analysis and a Waste Analysis Plan as described in Items C-1 and C-2, respectively	Guidance		
Ignitability, reactivity, and incompatibility	Guidance		
Appendix VIII constituents	Guidance		
compatibility of liner and waste/leachate	264.301(a)(1)		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6b Surveying and Recordkeeping	264.309 264.73		
Description of surveying and recordkeeping procedures including a map to be used to show: Exact location and dimensions of each cell Surveyed benchmarks Contents of each cell Location of each waste type within the cell			NA

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6c Liner System Exemption Requests				
D-6c(1)	Exemption Based on Existing Portion Existing portions of landfills which have waste in place on November 8, 1984 and will have only vertical expansion are exempted from liner system requirements. New units, lateral expansion of existing units, and replacement (i.e., all waste removed from an area then replaced) units at existing facilities are not exempt. A plan showing the limits of the existing portion must be included in the application.	270.21(b)(1) 264.301(a) 264.301(c)		N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6c(2)	Exemption Based on Alternative Design and Location The applicant must demonstrate that alternate design and operating practices, together with location characteristics, will prevent groundwater and surface water contamination at least as effectively as a double liner with leachate collection/detection systems. Applicant should submit for consideration detailed information on: Nature and quantity of wastes Alternative design and operation Landfill location description - hydrogeologic setting - attenuative capacity and thickness of materials between landfill and ground and surface waters Other factors which would influence the quality and mobility of leachate produced	270.21(b)(1) 264.301(d)		N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6c(3)	Exemption for Monofills If a landfill is a monofill which receives only wastes from foundry furnace emission controls or metal casting molding sand that are hazardous wastes only based upon extraction procedure toxicity, an exemption from the double liner system may be obtained, if either of the following is demonstrated in the permit application: The design and operating practices will, in conjunction with local aspects, prevent the migration of hazardous constituents into ground or surface waters at any future time, or The site is located at least one-quarter mile from a source of drinking water, has at least one non-leaking liner, and meets the requirements of 40 CFR Part 264, Subpart F	270.21(b)(1) 264.301(e)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6d Subpart F Exemption	270.21(c) 264.90(b)(2)		
If an exemption from the Subpart F groundwater monitoring requirements is sought, demonstrate the following:			
The unit for which the exemption is sought is an engineer structure			
No liquid estates or waste containing free liquids will be received by or contained in the landfill			
Liquids, precipitation, and other run-on and run-off will be excluded from the landfill			
A containment system with both inner and outer layers will enclose the waste			
A leak detection system is built into each containment layer			
D-6d (continued)			
The means of ensuring continuing operation and maintenance of the leak detection systems during the active life of the unit and the closure and post-closure care periods			
The unit will not allow hazardous constituents to migrate beyond the outer layer of the containment system prior to the end of the post-closure care period (within a reasonable degree of certainty)			
D-6e Liner System			
D-6e(1) General Items			

N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(1)(a)	Liner System Description The application must provide a detailed description of the liner system, demonstrating (by description and drawings) that the liner system will prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at any time during the active life of the landfill. For each liner within the system (minimum one synthetic liner and one soil liner), describe the type of liner (i.e., its material and its thickness).			cap only — ok
D-6e(1)(b)	Liner System Location Relative to High Water Table Provide data showing seasonal fluctuations in the depth of the wastes table and the location of the seasonal high water table in relation to the base of the liner system (i.e., groundwater levels and liner foundation elevations should be shown on geological cross sections).	270.21(b)(1) 264.301(a)(1)(i) 264.301(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(1)(c)	Loads on Liner System The maximum loads or stresses which will be place on the liner system must be determined and reported in the application. Include all calculations, data, and assumptions for the following conditions: Both static and dynamic loads Stresses due to installation or construction operations Stresses from operating equipment Stresses due to the maximum quantity of waste, cover, and proposed post-closure land use, as applicable Stresses resulting from settlement, compression, subsidence, or uplift Internal and external pressure gradients	270.21(b)(1) 264.301(a)(1)(i) 264.301(c)		
D-6e(1)(d)	Liner System Coverage The liner system must be installed to cover all surrounding earth likely to be in contact with the waste or leachate. Submit information (i.e., construction, as built, or detailed drawings) which demonstrate this.	270.21(b)(1) 264.301(a)(1)(i) 264.301(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(1)(e)	Liner System Exposure Prevention Demonstrate in the application that the liner system will not be exposed to wind or sunlight, or if exposure to any part of the system is to be permitted, that such exposure will not result in unacceptable degradation of that portion of the system (i.e., drawings and/or liner specifications as appropriate). If the inner system will be exposed or located close enough to the surface to be affected by the changing temperatures, provide calculations defining the stresses on the liner system due to thermal expansion and contraction.	270.21(b)(1) 264.301(a)(1)(i)		NA
D-6e(2)	Foundation Upon Which Liner System Is Constructed	270.21(b)(1)		
D-6e(2)(a)	Foundation Description A description of the foundation for the liner system must be included in the application. The description should include the following: Type of foundation materials	264.301(a)(1)(ii) 264.301(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(2)(a)	(continued) Bearing elevations shown on geological and construction drawings Load bearing embankments placed to support the liner system, as applicable			N/A
D-6e(2)(b)	Subsurface Exploration Data The engineering characteristics of the inner system foundation materials, including subsurface soil, bedrock, and hydrogeologic conditions, should be verified through subsurface explorations. These efforts should be fully described by including location plans and cross sections for test borings, test pits, etc., and descriptions or references for the procedures used. Procedures may include the following: Collection of historical data Test borings Test pits Test trenches In situ tests Geophysical methods	270.21(b)(1) 264.301(a)(1)(ii) 264.301(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(2)(c)	Laboratory Testing Data Results from sufficient index testing should be provided to classify the site materials. Other lab test data should be provided to evaluate the engineering properties of the foundation materials, particularly for strength, hydraulic conductivity, compressibility, and other important design parameters. Provide copies of the test methods used to test the material or provide references, as appropriate and with any revisions, to standard test procedures.	270.21(b)(1) 264.301(a)(1)(ii) 264.301(c)		N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(2)(d)	Engineering Analyses Engineering analyses should be provided which are based on the data gathered through subsurface exploration and laboratory testing programs. With the analyses include a discussion of the methods used, assumptions, copies of calculations, and appropriate references. Include the following, as applicable: Settlement potential Bearing capacity Stability of the landfill (cut or constructed) slopes Potential for excess hydrostatic or gas pressure Seismic conditions Subsidence potential Sinkhole potential	270.21(b)(1) 264.301(a)(1)(ii) 264.301(c)		N/R

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(3) Synthetic Liners			
D-6e(3)(a) General Description For each synthetic liner under consideration for use in the system, provide the following general information: Thickness Type Material Brand name Manufacturer	270.21(b)(1) 264.301(a)(1) 264.301(c)		N/A
D-6e(3)(b) Strength Provide data showing the synthetic liners and all seams will have sufficient strength after exposure to the waste and wastes leachate to support all loads/stresses to which they will be subjected.	270.21(b)(1) 264.301(a)(1)(i) 264.301(c)		
D-6e(3)(c) Bedding Demonstrate that sufficient bedding will be provided above and below the synthetic liners to prevent rupture of the synthetic liner during installation and operation.	270.21(b)(1) 264.301(a)(1)(ii) 264.301(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(4)	Soil Liners A description of the soil liner must be presented in the application. Include the following information: Liner thickness Whether the liner will be in place material or borrow material (Note: If in-place material is to be used, describe how it will be reworked.)	270.21(b)(1) 264.301(a) 264.301(c)		N/A
D-6e(4)	(continued) Material testing data which includes: - index tests - hydraulic conductivity - strength - consolidation - shrink-swell Demonstration that the soil liner will wholly contain leachate throughout the operating life and post-closure period of the unit Demonstration that the liner has sufficient strength to support all loads/stresses to which it will be subjected			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(5)	Leachate Collection/Detection Systems Descriptions of the leachate collection and detection systems must be provided. Information to be submitted includes: Description of how the leachate collection system is designed and operated to remove collected leachate in a timely manner Description of any protective layer placed over the leachate collection system Description of how the leachate detection system will function to detect any leakage in a timely manner Description of how liquid can be removed from the systems Estimate of the drainage capacity (speed and volume) Contour plan for the systems which includes the layout and spacing of the piping system	270.21(b)(1) 264.301(a)(2) 264.301(c)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(5) (continued) Design details of pumps, sumps, etc., used in the system Description of handling procedures for any collected leachate (i.e., testing, disposal, etc.) Demonstration that the leachate detection system is appropriately graded to assure that leakage at any point in the liner system is detected in a timely manner Demonstration that the pipes and pipe perforations are sized sufficiently to handle the expected flow of leachate Demonstration that the leachate depth over the top of the primary liner will not exceed one foot Demonstration that all components of the systems have sufficient strength to support all loads/stresses to which the systems will be subject, without jeopardizing the effectiveness of the system by reducing its conductivity Demonstration that the systems are designed and operated to prevent clogging of the drainage layer material and the pipes throughout the active live of the landfill			N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(6)	Construction and Maintenance Both material and construction specifications must be provided for all liner system components. Construction specifications should include the following: Preparation of the liner system foundation Procedures for installing the soil liner which includes: - method of compaction - degree of compaction and percent moisture that must be achieved - lift thickness - methods to be used to alter the water content of the soil - scarification requirement between lifts - method of amending the soil, if applicable Procedures for installation of the synthetic liners which include: - inspection of the synthetic liner bed for material which could puncture the liner (and removal of that material) - placement procedures - techniques to be utilized to bond the liner seams - procedures for protection of the liner before and during placement of material on top of the liner	270.21(b)(1) 264.301(a) 264.301(c)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6e(6) (continued) Procedures for placement of all component of the leachate collection and detection systems including: - any protective layer - drainage layers - piping - sumps, pumps, etc. - filter layers Details of the quality control program Methods of repairing any damage to the liner which may occur during construction			N/A.
D-6f Run-on Control System Detailed plans and an engineering report describing: Run-on control system capable of preventing run-on to the active portion(s) of the landfill during peak discharge from a 25-year storm Sizing, design, and installation of system Maintenance procedures to ensure long-term structural integrity and timely repairs	270.21(b)(2) 264.301(f)		OK

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6g Run-off Control System Detailed plans and an engineering report describing: Run-off control system designed to collect and control water volume from a 24-hour, 25-year storm Sizing, design,a nd installation of system Maintenance procedures to ensure long-term structural integrity and timely repairs	270.21(b)(3) 264.301(g)		Ok
D-6h Units Associated with Run-on and Run-off Control Systems Detailed plans and an engineering report describing: Collection and holding facilities (e.g., tanks, basins) associated with run-on and run-off control systems How the holding facilities will be managed and operated to maintain design capacity after storms	270.21(b)(4) 264.301(h)		
D-6i Particulate Control If landfill contains particulate matter, plans describing how wind dispersal of particulates from a landfill will be controlled.	270.21(b)(5) 264.301(i)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6j Bulk or Non-containerized Free Liquids The placement of bulk or non-containerized liquid hazardous waste or waste containing free liquids (whether or not adsorbents have been added) in any landfill is prohibited. To ensure this, the following information must be included in the application: Description of methods used to prevent placement of bulk or non-containerized liquid hazardous waste or wastes containing free liquids in the landfill Description of how free liquids in containers to be landfilled will either be removed or stabilized before landfilling Demonstration that is small containers are to be disposed of in the landfill that the container will be very small (such as ampules) Description of non-storage containers to show that they are designed to hold free liquids for use other than storage (e.g., batteries, capacitors, etc.)	270.21(h) 264.314		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6k Disposal of Small Containers in Overpacked Drums (Lab Packs) Materials, design of inside container Compatibility of inside container with waste Tightly sealed DOT specifications for both inside container and overpack Absorbent material, type and quantity Compatibility of absorbent materials with waste Incompatible wastes not placed in same outside container Reactive wastes (other than cyanide-bearing and sulfide-bearing) treated or rendered non-reactive prior to packaging	270.21(h) 264.314(d)(4) 264.316(b)		N/A
D-6l Containerized Waste Containerized solid wastes must be at least 90 percent full or the container must be crushed, shredded, or similarly reduced in volume to the maximum practical extent before landfilling.	270.21(i) 264.315		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
D-6m Special Waste Management Plan for Landfills Containing Wastes F020, F021, F022, F023, F026, and F027	270.21(j) 264.317		
Applications for landfills containing hazardous wastes F020, F021, F022, F023, F026, and F027 must contain a plan which describes how the landfills are or will be designed, constructed, operated, and maintained in order to protect human health and the environment. The plan should include the following:			N/A
The volume and physical and chemical characteristics of the wastes including their potential to migrate through the soil or volatize or escape into the atmosphere			
D-6m (continued) Description of the attenuative properties of underlying and surrounding soils or other materials Description of the mobilizing properties of other materials co-disposed with these wastes Documentation on the effectiveness of additional treatment, design, operating or monitoring techniques			

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr McGee Columbus
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990 866 329
Permit Review Team

Date Application Received
Date Review Completed

Groundwater Monitoring - Module E

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART E - GROUNDWATER MONITORING			
E-1 Interim Status Monitoring Data Summary of groundwater monitoring data obtained during interim status period.	270.14(c)(1) 265.90-265.94		N/A
E-1a Description of Wells Number of wells Locations Depths and screened intervals Casing description Other well construction details Identifications of upgradient wells and downgradient wells Water levels at time of drilling and any changes within 24 hours	265.91		
E-1b Description of Sampling/Analysis Procedures Sample collection Sample preservation and shipment Analytical procedures Chain-of-custody control	265.92		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-1c Monitoring Data	265.92		
All interim status monitoring results must be provided, including the following:		N/P	
Copies of each quarterly (from first year) analytical results for each well	265.92(c)(1)		
E-1c (continued) Copies of subsequent (annual or semi-annual) analytical results for each well	265.92(d)		
Results of groundwater surface evaluation measurements for each sampling event	265.92(e)		
Initial background arithmetic mean and variance for each indicator parameter based on replicate measurements from upgradient wells during first year	265.92(c)		
E-1d Statistical Procedures	265.93		
Description of the statistical procedures employed to make the required statistical comparisons Results of statistical comparisons between upgradient and downgradient well sampling results and first year background values for each indicator parameter		Not provided	

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-1e	Groundwater Assessment Plan If required, based on statistical comparison results, the specific plan for a groundwater quality assessment program, along with the results obtained from implementation of the plan. Include results of the following determinations, considering (at a minimum) the hazardous constituents listed in Appendix VIII to 40 CFR Part 261. Whether hazardous waste or hazardous constituents have entered the groundwater The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater Concentrations of hazardous waters or hazardous waste constituents in the groundwater	265.93(d)(2)	N/P	
E-2	General Hydrogeologic Information Identification of uppermost aquifer and aquifers hydraulically interconnected beneath facility, including: Groundwater flow direction and rate Basis for identification	270.14(c)(2)	Plan	
E-3	Topographic Map Requirements Unless exempt from groundwater monitoring requirements, surface impoundments, waste piles, land treatment, and landfill facilities must include the following information on the topographic map:	270.14(c)(2)(3),(4),(i)	Needed	

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
Groundwater flow direction and rate (isometric graph) Point of compliance Groundwater monitoring wells The extent of any plume (horizontal and vertical) Hazardous waste management area Property boundary			
The following required information may be incorporated into the topographic map if possible, or at least should be discussed in the text: Groundwater flow rate Boundaries of uppermost aquifer Underlying interconnection between uppermost aquifer and lower aquifer Hydraulic downgradient Waste management area Uppermost aquifer (Although many of these items can be shown on a single map, it is allowable to use additional maps to display some of the information. Presentation of all of this information on a single map may sacrifice clarity.)		App F	

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-4	Contaminant Plume Description Description of any plume of contamination that has already entered groundwater from a regulated unit: Delineation of extent of the plume on the topographic map Identification and concentrations of Appendix VIII constituents throughout the plume or maximum concentrations of these constituents in the plume Delineation of the vertical extent of the plume in a cross-section	270.14(c)(4) 261, Appendix VIII 270.14(c)(2) 270.14(c)(7)(ii)		Needs work
E-5	General Monitoring Program Requirements Waiver request - applicant must certify that there will be no migration of liquid to uppermost aquifer during active life and post-closure. If waiver is not requested, applicant must provide detailed plans and an engineering report describing proposed groundwater monitoring program to meet general groundwater monitoring requirements. The following information is required:	270.14(c)(5) 264.97 264.90(b)(4)		well
E-5a	Description of Wells Number of wells Locations Depths Casing description Assurance of unaffected background water measurement Assurance of compliance point groundwater measurement	264.97(a),(b) 264.97(c)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-5b	Description of Sampling/Analysis Procedures Sample of collection methods Sample preservation/shipment Analytical procedures Chain-of-custody control Documentation of proper sampling and analysis procedures Procedure for determination of groundwater elevation with each sample	264.97(d) 264.97(e) 264.97(f)		
E-5c	Procedures for Establishing Background Quality Representative of background quality not affected by the unit Each hazardous constituent, or monitoring parameters and other constituents May include wells not hydraulically upgradient of the waste management area where: 1. upgradient cannot be determined due to hydrogeologic conditions 2. other wells provide background groundwater quality that is representative or more representative of background than upgradient wells	264.97(a)(1) 264.97(g) [10/11/88]		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-5d Statistical Procedures Use one of following statistical methods (E-5d(1)-(5)) to evaluate groundwater monitoring data for each hazardous constituent, consistent with the following: Conduct test separately for each hazardous constituent in each well Appropriate for distribution of chemical parameters or hazardous constituents. More than one method necessary if distributions differ	264.97(h) 264.97(i)(1),(5) & (6) [10/11/88]		
E-5d (continued) Account for data below the detection limit Any practical quantification limit (PQL) shall be lowest concentration level within levels of precision and accuracy for routine lab operations Procedure to control or correct for seasonal and spatial variability and temporal correlation in data			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-5d(1)	Parametric Analysis of Variance (ANOVA) ANOVA followed by multiple comparisons procedures: Include estimation and testing of contrasts between each compliance well's <u>mean</u> and the background <u>mean</u> levels for each constituent If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.	264.97(h)(1) 264.97(i)(2) [10/11/88]		No Stats
E-5d(2)	Non-parametric ANOVA (Based on Ranks) ANOVA based on Ranks followed by multiple comparisons procedures: Estimation and testing of each compliance well's <u>median</u> and background <u>median</u> levels for each constituent If using individual well comparison procedure, Type 1 error level of no less than 0.01 shall be maintained. If using multiple comparison procedure, Type 1 error level no less than 0.05 for each testing period must be used.	264.97(h)(2), 264.97(i)(2) [10/11/88]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-5d(3)	Tolerance or Prediction Interval Procedure Establish interval for each constituent based on distribution of background data Compare level of each constituent in each compliance well to the upper tolerance or prediction limit Prepare levels of confidence and/or percentage of the population that the interval must contain considering number of samples in the background data base, data distribution, and range of concentration values for each constituent of concern.	264.97(h)(3), 264.97(i)(4) [10/11/88]		
E-5d(4)	Control Chart Approach Control limits for each constituent Specify type of control chart and associated parameter values	264.97(h)(4), 254.97(i)(3) [10/11/88]		
E-5d(5)	Alternative Approach An alternative approach can be proposed which complies with all performance standards set in 264.97(i).	264.97(h)(5), 264.97(i)(3) [10/11/88]		
E-6	Description of Detection Monitoring Program for Facilities not Detecting the Presence of Hazardous Constituents, Including:	270.14(c)(6) 264.91(a)(4) 264.98		N/A - in Comp. Monitoring

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-6a List of Indicator Parameters, Waste Constituents, Reaction Products to be Monitored for, Including: Type, quantities, concentrations, expected wastes Mobility, stability, persistence in unsaturated zone Detectability in groundwater Concentrations or values and coefficients of variation of proposed parameters in the groundwater background	270.14(c)(6)(i) 264.93 264.98(a)		MP
E-6b Description of Groundwater Monitoring System Hydraulic downgradient limit Waste management area Uppermost aquifer	270.14(c)(6)(ii) 264.98(b) 264.95, 264.97(a)(2),(b), (c)		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-6c Background Groundwater Concentration Values for Proposed Parameters Use of an appropriate groundwater monitoring system, to establish background per E-5d specifying number and type of samples for each hazardous constituent appropriate to form of statistical test employed Sampling procedure shall be a sequence of at least four samples from each well in the entire system at an interval assuring an independent sample relative to the uppermost aquifer's effective porosity, hydraulic conductivity, hydraulic gradient and fate and transport characteristics of the potential contaminants but at least semi-annually; <u>or</u> Alternative sampling procedure to be approved	270.14(c)(6)(iii) 264.98(c) 264.97(g)(1),(2) [10/11/88]		N/A
E-6d Description of Proposed Sampling and Analysis Procedures Documentation of proper sampling and analysis procedures Procedures for determining groundwater elevation Procedures for determining statistically significant increase for any monitored parameter At least four samples from each compliance and background well semi-annually Procedure for annual determination of uppermost aquifer flow rate and direction	270.14(c)(6)(iv) 264.97(f) 264.98(f) 264.98(d) [10/11/88] 264.98(e)		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-6e Procedure to be Implemented if a Statistically Significant Increase in Any Constituent or Parameter is Identified at Any Compliance Point Monitoring Well Notify RA within seven days Sample all wells for Appendix IX list (Part 264) constituents Establish compliance monitoring program Submit engineering feasibility plan for a corrective action program or request RA approval to submit permit schedule for development of plan May demonstrate that a source other than the regulated unit caused the contamination	270.14(c)(7) 264.98(g) [10/11/88, 6/22/87]		N/D
E-7 Compliance Monitoring Program for Facilities Which Have Detected Presence of Hazardous Constituents	270.14(c)(7) 264.99		
E-7a Description of Monitoring Program			
E-7a(1) Description of Wastes Previously Handled at Facility	270.14(c)(7)(i)		
E-7a(2) Characterization of Contaminated Groundwater Hazardous constituents identified Hazardous constituents concentrations	270.14(c)(7)(ii)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-7a(3)	List of Hazardous Constituents to be Monitored in Compliance Program May resample within one month and repeat analysis for compounds detected. Constituents identified in both analyses will form basis for compliance monitoring plan.	270.114(c)(7)(iii) 264.99(a)(1) 264.98(g)(3) [10/11/88]		
E-7a(4)	Proposed Concentration Limits for Each Constituent	270.14(c)(7)(iv) 264.99(a)(2)		
	Justification for establishing alternative limits	264.94		
	Conditions warranting special sampling procedures			
	Importance of statistically significant values			
	Procedures for establishing background concentration values for constituents that are based on: - use of any appropriate groundwater monitoring system - data that is available prior to permit issuance - data that accounts for measurement errors in sampling analysis - data that accounts for seasonal groundwater quality fluctuations - data from a minimum of four samples per well collected at least semi-annually	264.99(c)(3) 264.97(g),(h)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-7a(5)	Detailed Plans of an Engineering Report Describing Groundwater Monitoring System	270.14(c)(7)(v) 264.99(b)		Need Better
	Represent quality of groundwater passing point of compliance	264.97(a)(2)		
	Proposed compliance point	264.95		
	Number of wells	264.97(a)(2)		
	Location and depths of wells	264.97(a)(2)		
	Casing and construction of wells	264.97(c)		
E-7a(6)	Description of Proposed Sampling and Statistical Analysis Procedures for Groundwater Data	270.14(c)(7)(vi) 264.99(c),(d),(e),(f),(g) [10/11/88]		Needed
	Compliance period			
	Sample collection methods	264.97(d)		
	Sample preservation/shipment	264.97(d)		
	Analytical procedures	264.97(d)		
	Chain-of-custody control	264.97(d)		
	Documentation of proper sampling and analysis procedures	264.97(e)		
	Procedures for determining groundwater elevation	264.97(f)		
	Procedures for annual determination of uppermost aquifer flow rate and direction	264.99(e)		
	Annual testing procedures for Appendix IX constituents	264.99(g) [10/11/88]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-7a(6)	(continued) Procedures for determining a statistically significant increase for any monitored parameters or hazardous constituent: Comparing compliance point using the procedure in 264.97(h) to the concentration limit developed in accordance with 264.94 At least four samples from each well (compliance and background) must be collected at least semi-annually	264.99(d) and (f) [10/11/88]		
E-7a(7)	Procedures to be Implemented if Groundwater Protection Standard is Exceeded at Compliance Point Monitoring Well Written notification to Regional Administrator An application for permit modification to establish a corrective action program, including details of the program to comply with groundwater protection standard and details of groundwater monitoring to demonstrate effectiveness of the corrective action program, or Submit demonstration that concentration limits were exceeded due to source other than regulated unit, or due to statistical error	264.99(i) 264.99(h) [10/11/88]		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-7b An Engineering Feasibility Plan for Corrective Action Program Engineering feasibility plan for a corrective action program to meet requirements of 264.100, or Request authorization from RA to submit schedule for a submittal plan	270.124(c)(7) 270.14(c)(8)(v) [6/22/87] 264.98(g)(5)(ii)		
E-8 Corrective Action Program	270.14(c)(8)(i)		
E-8a Characterization of Contamination Identification of hazardous constituents detected in groundwater Concentrations of hazardous constituents			
E-8b Concentration Limits	270.14(c)(8)(ii) 264.100(a)		
E-8b(1) Concentration Limits Established Under 264.94(a)	264.97(a)		
E-8b(2) Alternate Concentration Limits Proposed alternate concentration limits Justification for proposed alternate limits, including assessment of potential adverse effects on groundwater quality and on the quality of hydraulically connected surface waters, and assessment of the potential for health risks caused by human exposure to waste constituents	264.94(b)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-8c Corrective Action Plan A corrective action program must prevent hazardous constituents from exceeding their respective concentration limits at the compliance point, and between the compliance point and the downgradient facility property boundary. The corrective action plan must consist of detailed engineering plans and report, and must address the following:	270.14(c)(8)(iii) 264.100		
E-8c (continued) Identification of compliance point Plans for removing and handling of hazardous wastes (if proposed) Design and construction plans and specifications from any proposed features to contain groundwater or redirect its flow (e.g., drains, engineered barriers, wells) A description of the treatment technologies to be employed to remove hazardous constituents from contaminated groundwater Description of the operation and maintenance plans for the corrective action measures Description of any additional hydrogeologic data collected for use in designing the corrective action measures Schedule for implementation of the corrective action measures			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-8d Groundwater Monitoring Program In conjunction with a corrective action program, a groundwater monitoring program must be implemented to determine compliance with the concentration limits established under 264.94, and to determine the effectiveness of the corrective action program.	270.14(c)(8) 264.100(d)		
E-8d(1) Description of Monitoring System Number of wells Locations Depths and screened intervals Casing descriptions Other well construction details Description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action	270.14(c)(8) 270.14(c)(7)(v)		Need better
E-8d(2) Description of Sampling and Analysis Procedures Sampling frequency Sample collection Sample preservation and shipment Analytical procedures Chain-of-custody control Procedures for determining groundwater elevations Procedure for annual determination of groundwater flow rate and direction	270.14(c)(8) 270.14(c)(7)(vi)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
E-8d(3)	Monitoring Data and Statistical Analysis Procedures Procedure for establishing background concentration values Statistical procedures for comparing compliance point data to the concentration limits Statistical procedures for evaluating effectiveness of the corrective action program between the compliance point and the property boundary	270.14(c)(8) 270.14(c)(7)(vi)		None
E-8d(4)	Reporting Requirements Semi-annual report to Regional Administrator evaluating the effectiveness of the corrective action program	264.100(g)		

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr-McGee - Columbus
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990 866329
Permit Review Team

Date Application Received
Date Review Completed

Hazard Prevention - Module F

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART F - PROCEDURES TO PREVENT HAZARDS			Appendix A refers to Section 4 for security info - nothing found there
F-1 Security			
F-1a Security Procedures and Equipment Unless a waiver is granted, the Part B must include a description of the security procedures and equipment required by 264.14:	264.14 270.14(b)(4)		'Security' information in Section 3 (Post-Closure Care Plan) inadequate
F-1a(1) 24-Hour Surveillance Systems A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) that continuously monitors and controls entry onto the active portion of the facility:	264.14(b)(1)		
Procedures and personnel to be used	Guidance		
Location and description of equipment	Guidance		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-1a(2)	Barrier and Means to Control Entry (In lieu of a 24-hour surveillance system, the applicant may elect to use a barrier and other means to control entry.)	264.14(b)(2)(i)		
F-1a(2)(a)	Barrier An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff) that completely surrounds the active portion of the facility:	264.14(b)(2)(i)		Info Inadequate
	Height	Guidance		
	Material of construction	Guidance		
F-1a(2)(b)	Means to Control Entry A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility):	264.14(b)(2)(ii)		
	Procedure and personnel to be used	Guidance		
	Location and description of equipment	Guidance		
F-1a(3)	Warning Signs The facility must have a sign with the legend, "Danger - Unauthorized Personnel Keep Out," which must:	264.14(c)		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
Be posted at each entrance to the active portion of the facility Be in sufficient numbers be seen from any approach to the active portion of the facility Legend the be in English and any other language predominating in the area Be legible from a distance of at least 25 feet			Info Inadequate
F-1a(3) (continued) Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion and that entry onto the active portion can be dangerous.			
F-1b Waiver If a waiver of these requirements is requested, the owner or operator must demonstrate the following:	264.14(a)		NA
F-1b(1) Injury to Intruder Physical contact with the waste, structure, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock that may enter the active portion of a facility; <u>and</u>	264.14(a)(1)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-1b(2)	Violation Caused by Intruder	264.14(a)(2)		N/A
	Disturbance of the waste or equipment by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility will not cause a violation of the requirement of 40 CFR Part 264.			
	Note: To address F-1b(1) and F-1b(2), the applicant should include:			
	Nature and duration of hazardous potential from wastes	Guidance		
F-1b(2)	(continued)	Guidance		
	Equipment and structures to minimize potential for an intruder to 1) cause a spill; 2) mix incompatible wastes; 3) ignite ignitable or reactive wastes; 4) damage containment or monitoring systems			
	Features that prevent contact with waste	Guidance		
F-2	Inspection Schedule	270.14(b)(5) 264.15	See 3	Inspection ~~sched~~ checklist does not include time of inspection Does not require inspection after storms. Five days may be too long dependent on nature of problem
	A copy of the general inspection schedule required by 264.15(b) including, where applicable, specific requirements of 264.174, 264.194, 264.226, 264.254, 264.273, 264.303, and 264.347			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2a General Inspection Requirements	270.14(b)(5) 264.15(a) & (b)		
A description of the facility inspection schedule (schedule must be kept at the facility) for the following equipment:			
Monitoring equipment	264.15(a) & (b)		
Emergency and safety equipment			
Security devices			
Operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards			
Testing as necessary of communications or alarm systems, fire protection equipment, and decontamination equipment.	264.33		
F-2a (continued) Examples of monitoring equipment that should be inspected at treatment, storage, and disposal facilities are:	Guidance		
Scales Flow and liquid level monitors Hazardous gas detectors pH monitors Leachate monitors Pressure sensors Temperature gauges			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
Examples of monitoring equipment that should be inspected at facilities with incinerators are: Waste flow monitors and recorders Auxiliary fuel flow monitors Combustion air flow monitors Temperature monitors Flame sensors CO monitors and recorders Pressure differential indicators Pressure sensors pH monitors Ammeters for measuring blower current draw	Guidance		N/A
Examples of safety and emergency equipment to be inspected at TSD facilities are: Respirators Communication systems Alarm systems Emergency lighting and power systems Smoke detectors Fire protection equipment First aid equipment and supplies Decontamination equipment Protective clothing	Guidance		
Examples of security devices to be inspected at TSD facilities are: Surveillance system Barrier surrounding facility Locking devices	Guidance	See 3	

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2a (continued) Examples of operating and structural equipment at TSD facilities are: Spill detection devices Spill control and collection equipment Fire and explosion barriers Ventilation equipment Sump pumps Dikes, bases, and foundations In addition, areas such as waste storage, mixing, loading, and unloading areas, which are subject to spills, must be inspected.	Guidance		NA
F-2a(1) Types of Problems The schedule must identify the types of problems to look for during the inspection (e.g., leaks, deterioration, readings out of specified range, missing items or materials, inoperative equipment, etc.)	264.15(b)(3)	Sec 3	ok

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2a(2)	Frequency of Inspection	264.15(b)(4)		
	A description of the inspection frequency must be provided for items on the schedule. The frequency of inspection should be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use.		Sec 3	Not after storms — 5 day repair period may be too long, depending on nature of problem
	All emergency waste feed cut-off valves must be inspected at least prior to operation. All system alarms must also be tested weekly.	264.347(c) (incinerators only)		
F-2b	Specific Process Inspection Requirements	270.14(b)(5) 264.15(b)(4)		
	At a minimum, the inspection schedule must include the terms and frequencies called for in 264.174, 264.194, 264.226, 264.253, 264.254, 264.303, and 264.347, where applicable.		Sec 3	ok
F-2b(1)	Container Inspection	264.174		
	A description of the <u>weekly</u> inspection of containers and container storage areas for leaks in containers or deterioration of containers and the containment system caused by corrosion or other factors.			N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2b(2) Tank System Inspection	264.195 [7/14/86]		N/A
A description of the inspection each operating day of overfilling control equipment, monitoring equipment and levels of waste in uncovered tanks.			
A description of the daily inspection of tank construction materials and the area surrounding the tank including secondary containment system (e.g., dikes)			
A schedule describing the monitoring of each operating day of monitoring equipment (e.g., pressure and temperature gauges) where present to ensure that the tank is operated according to design specifications			
A schedule showing the level of waste in uncovered tanks is inspected each operating day			
F-2b(2) (continued) A schedule and procedure for assessing the condition of the tank, including detection of leaks, cracks, or wall thinning to less than minimal shell thickness			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
	A procedure for emptying a tank to allow entry and inspection when necessary to detect corrosion or erosion of the tank sides and bottom			N/A
	Confirm proper operation of cathodic protection system (if present) within six months after installation and at least annually thereafter			
	Schedule showing all sources of impressed current are inspected and/or tested at least bimonthly.			
F-2b(3)	Waste Pile Inspection	270.14(b)(5) 270.18(d) 264.254		
	The application must provide a description of the procedures to:			N/A
	Inspect liners and covers during construction and immediately after installation for: - uniformity, damage, and imperfections, holes, cracks, thin spots, bulges, root holes, tight seams and joints, permeability,and compaction			
	Remove the waste pile and periodically inspect liners for deterioration, cracks, and other imperfections			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2b(3) (continued) Perform <u>weekly</u> inspections and <u>after storms</u> to detect: - deterioration, malfunctions, or improper operation of run-on and run-off control systems - the presence of liquids in leak detection systems, where installed - proper functioning of wind dispersal control systems, where present - the presence of leachate in and proper functioning of leachate collection and removal systems, where present			N/A

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2b(4)	Surface Impoundment Inspection The application must provide a description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected <u>weekly</u> and <u>after storms</u> to detect evidence of any of the following: Deterioration, malfunctions, or improper operation of overtopping topping control systems Sudden drops in the level of the impoundment's contents The presence of liquids in leak detection systems, where installed Severe erosion or other signs of deterioration in dikes or other containment devices	270.24(b)(5) 270.17(c) 264.226(b)		N/A
F-2b(4) (continued)	For new facilities, a description of how the liners will be inspected during construction and immediately after installation to detect nonuniformity, damages, and imperfections (holes, cracks, thin spots, bulges, root holes, tight seams and joints, permeability, and compaction). See Item D-4b(2) concerning inspection of dikes for structural integrity.	264.226(a)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2b(5)	Incinerator Inspection Incinerator and associated equipment must be inspected visually at least <u>daily</u> for leaks, spills, fugitive emissions and signs of tampering. Emergency waste feed, cut-off system and associated alarms must be tested <u>weekly</u> unless the applicant demonstrates that weekly frequency is unduly restrictive and that less frequent inspection will be adequate. At minimum, operational testing must be conducted <u>monthly</u>.	264.347		N/A
F-2b(6)	Landfill Inspection Landfill owners or operators must provide a description of procedures for: For new facilities, inspection of liners/covers during and immediately after installation F-2b(6) (continued) Inspections <u>weekly</u> and <u>after storms</u> for: - operation of run-on/run-off controls - liquids in leak detection system - proper functioning of wind dispersal controls - leachate in and proper operation of leachate collection/removal system	270.21(d) 264.15(a) 264.303	Sec 3	Surface impoundment closed as a landfill ok

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-2b(7)	Land Treatment Inspection A description of the inspection procedures. Specifically the unit must be inspected <u>weekly</u> and <u>after storms</u> for: Deterioration, malfunctions, or improper operation of run-on and run-off control systems Improper functioning of wind dispersal control measures	270.20(c)(5) 264.273(g)	Sec 3	ok
F-2b(8)	Miscellaneous Unit Inspections Provide an inspection program which ensures compliance with the standards specified in F-2b(1) through F-2b(7), where applicable.	270.14(b)(5) [11/7/86] 264.602		N/O
F-2c	Remedial Action A description of procedures for taking remedial actions when inspections reveal problems or when problems are imminent. These may alternately be described in the contingency plan (see 264.194(c), 264.227, 264.171).	264.15(c)	Sec 3	Time frame (5 days) may be too long
F-2d	Inspection Log A copy or description of the inspection log or summary form including the following: Dates and times of inspections Name(s) and inspector(s) Observations made Date and nature of repairs or remedial actions taken	264.73(b)(5) 264.15(d)	Sec	Does not have time benchmark integrity

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-3 Waiver of Preparedness and Prevention Requirements A justification of any request for a waiver of preparedness and prevention requirements of Part 264, Subpart C	270.14(b)(6)		NA
F-3a Equipment Requirements Unless it can be demonstrated that none of the hazards posed by waste handled at the facility would require a particular kind of equipment specified below, the facility must have the following equipment: (These requirements are not specifically listed in 270.14-270.29 for inclusion in a Part B).	264.32		N/A
F-3a(1) Internal Communications An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.	264.32(2)		
F-3a(2) External Communications A device such as telephone (immediately available at the scene of operations) or a handheld two-way radio, for summoning emergency assistance from local police departments, or state or local emergency response teams.	264.32(b)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-3a(3)	Emergency Equipment Fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, and portable fire extinguishers) Spill control equipment Decontamination equipment	264.32(c)		N/A
F-3a(4)	Water for Fire Control One of the following: Water at adequate volume and pressure to supply water hose streams, or Foam-producing equipment, or Automatic sprinklers or water spray systems	264.32(d)		
F-3b	Aisle Space Requirements Requests for a waiver of the aisle space requirement must be accompanied by a demonstration that aisle space is not needed to allow the unobstructed movement of personnel, fire protection equipment, or spill control equipment to any area of facility operation in an emergency.	264.35		N/A
F-4	Preventive Procedures, Structures, and Equipment A description of procedures, structures, or equipment used at the facility for the following must be included:	270.14(b)(8)		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-4a Unloading Operations Prevention of hazardous in unloading operation (e.g., use of ramps or special forklifts).	270.14(b)(8)(i)		N/A
F-4b Run-Off Prevention of runoff from hazardous waste handling areas to other areas of the facility or environment, or prevention of flooding (e.g., berms, dikes, trenches).	270.14(b)(8)(ii)		ok
F-4c Water Supplies Prevention of contamination of water supplies.	270.14(b)(8)(iii)		N/A
F-4d Equipment and Power Failure Mitigation of effects of equipment failure and power outages.	270.14(b)(8)(iv)		
F-4e Personal Protection Equipment Prevention of undue exposure of personnel to hazardous waste (e.g., protective clothing).	270.14(b)(8)(v)		
F-5 Prevention of Reaction of Ignitable, Reactive and incompatible Wastes			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes	270.14(b)(9) 264.17(a) & (c)		
A description of the precautions taken by a facility that handles ignitable, reactive, or incompatible waste to demonstrate compliance with 264.17 including documentation demonstrating compliance with 264.17(c). Precautions to prevent actual ignition, including separation from sources of ignition such as: Open flames Smoking Cutting and welding Hot surface Frictional heat Sparks (static, electrical, or mechanical) Spontaneous ignition (heat producing chemical reactions) Radiant heat			N/A
F-5a (continued) Demonstrations that when ignitable or reactive waste is being handled, the owner or operator confines smoking and open flames to specifically designated locations. "No Smoking" signs must be conspicuously placed wherever a hazard exists for ignitable or reactive waste.			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5b	General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste			N/A
	A description of the precautions taken by a facility that treats, stores, or disposes of ignitable or reactive waste, or accidentally mixes incompatible waste or incompatible wastes or other materials, to prevent reactions which: (1) generate extreme heat or pressure, fire or explosions, or violent reactions; (2) produce uncontrolled flammable fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; (3) produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions; (4) damage the structural integrity of the device or facility; (5) by similar means threaten human health or the environment.			
	Documentation to meet requirements of 264.17(a) or (b) may be based on references to published scientific or engineering literature, data from trial tests, waste analyses, or results of treatment of similar wastes by similar treatment processes and under similar operating conditions.	264.17(c)		
F-5c	Management of Ignitable or Reactive Wastes in Containers	270.15(c) 264.176		
	Sketches, drawings, or data demonstrating that containers of ignitable or reactive wastes are located at least 15 meters (50 feet) from the facility's property line.			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5d Management of Incompatible Wastes in Containers	270.15(d) 264.177		N/A
A description of procedures to demonstrate compliance with 264.177(a) and (b) and 264.17(b) and (c):			
The procedures used to ensure that incompatible wastes and materials are not placed in the same container (unless 264.17(b) is complied with) or in an unwashed container that previously held compatible waste	264.177(a) 264.177(b)		
Dikes, berms, walls, or other devices used to separate containers, holding wastes which are incompatible with wastes or materials stored nearby.	264.177(c)		
F-5e Management of Ignitable or Reactive Wastes in Tanks	270.16(f) 264.198		
A description of the procedures for handling compatible, ignitable, or reactive wastes, including the use of buffer zones. 264 requirements include:			
Waste must be created, rendered, or mixed before or immediately after placement in the tank so that it is no longer considered ignitable and complies with 264.17(b); or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; or the tank is used solely for emergencies			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
	Facilities that treat or store ignitable or reactive waste in covered tanks must comply with the National Fire Protection Association's buffer zone requirements for tanks			N/A
F-5f	Incompatible Wastes in Tanks A statement that incompatible wastes and materials are not stored in the same tank or in an unwashed tank that previously held an incompatible waste or material (unless 264.17(b) is complied with).	270.16(f) 264.199		
F-5g	Ignitable or Reactive Wastes in Waste Piles The application must include a description of the procedure for handling ignitable or reactive wastes, including the use of buffer zones. Waste must be treated, rendered, or mixed before or immediately after placement int eh wastes pile so that it is no longer considered ignitable and complies with 264.17(b); or the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite.	270.18(f) 264.256		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5h Incompatible Waste in Waste Piles The applicant must include: A statement that compatible wastes and materials are not stored in the same waste pile or on the same base that previously held an incompatible waste or material unless 264.17(b) is complied with A description of the procedures (dikes, beams, walls, distances) utilized to separate a waste pile of hazardous waste that is incompatible with any waste or other material stored nearby.	270.18(g) 264.257		N/A
F-5i Ignitable or Reactive Wastes in Surface Impoundments The application must include a description of the procedures for handling ignitable or reactive wastes, including the use of buffer zones. Waste must be treated, rendered, or mixed before or immediately after placement in the waste pile so that it is no longer considered ignitable and complies with 264.17(b); or The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to react or ignite; The impoundment is used only for emergencies	270.17(g)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5j	Incompatible Wastes in Surface Impoundments The application must include: A statement that incompatible wastes and materials are not stored in the same surface impoundments or in the impoundments that previously held an incompatible waste or material unless 264.17(b) is complied with.	270.17(h) 264.230		N/A
F-5k	Ignitable or Reactive Wastes in Landfills Documentation of procedures for: Rendering wastes nonreactive or prior to or immediately after placement in the landfill Preventing reactions Protecting ignitable wastes in containers from materials or conditions that may cause them to ignite	270.21(f) 264.312		
F-5l	Incompatible Wastes in Landfills Applicant must provide procedures for insuring that incompatible wastes will not be disposed of in the same landfill cell, unless 264.17(b) is complied with.			

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
F-5m	Ignitable or Reactive Wastes in Land Treatment A description of the management of ignitable or reactive wastes which will be placed in or on the treatment zone, if applicable, and an explanation of how the following requirements will be complied with: The waste is immediately incorporated into the soil so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste and the requirements of 264.17(b) and complied with, or The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.	270.20(g)		N/A
F-5n	Incompatible Wastes in Land Treatment A description of the management of incompatible wastes must be submitted if incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, including an explanation of how the requirements of 264.17(b) are complied with.	270.20(h) 264.282		

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr - McGee
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990866329
Permit Review Team

Date Application Received
Date Review Completed

Contingency Plan - Module G

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART G - CONTINGENCY PLAN	270.14(b)(7)		Not required as a part of a post-closure permit. A Cont. Plan is required for generator status activities and it is recommended that it cover the limited Post Closure activities
A copy of the contingency plan required in Part 264, Subpart D. Include, where applicable, specific requirements in 264.227 and 264.225.	264.50 through 264.56		
An existing spill prevention control plan can be amended to incorporate hazardous waste management provisions sufficient to comply with 264, Subpart D requirements.	264.52(b)		
G-1 General Information	264.52 264.53 265.37		
Facility name and location and owner or operator name Site plan Description of facility operations			
G-2 Emergency Coordinators	264.52(d) 264.55		
Names, addresses, office and home phone numbers, and duties of primary and alternate coordinators in sequences as alternates A statement authorizing designated coordinators to commit the necessary resources to implement the contingency plan Can reach facility in short period of time			

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr McGee
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD990866329
Permit Review Team

Date Application Received
Date Review Completed

Personnel Training - Module H

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART H - PERSONNEL TRAINING	270.14(b)(12), 264.16		Not required as a part of the Post-Closure Permit. Personnel Training is necessary under Generator Regs - Section will not be reviewed
H-1 Outline of Training Program An outline of both the introductory and continuing training programs by owners or operators to prepare the personnel to operate and maintain the facility in a safe manner as required to demonstrate compliance with 264.16. Include a brief description of how training will be designed to meet actual job tasks in accordance with requirements in 264.16(a)(3). (Note: On-the-job training may be used to comply with these requirements).			
H-1a Job Titles and Duties For each employee whose position at the facility is related to hazardous waste management, the following must be maintained at the facility: Job title Job duties Job description	264.16(d)(1), 264.16(d)(2)		

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr McGee Columbus
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990 866 329
Permit Review Team

Date Application Received
Date Review Completed

Closure/Post-Closure and Financial Requirements - Module I

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART I - CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS	270.14(b)(13) [12/10/87] 270.14(b)(15) [5/02/86] 270.14(b)(16), [5/02/86] 270.14(b)(17) 270.14(b)(18), 264.110-264.151, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351		
I-1 Closure Plans			
A copy of the written closure plan required by 264.112 and consistent with Items I-1a through I-1e.	270.14(b)(13), 264.112 [5/02/86]		N/A - Site in Post-Closure

Skip to I-2

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-2	Post-Closure Plan An owner /operator of a disposal facility must have a written post-closure plan, or, of applicable, a contingent post-closure plan. A copy of the approved plan and all revisions to the plan must be kept at the facility until the post-closure care begins. Landfill, surface impoundment, waste pile, and tank post-closure plans should address items I-2a, b, c, f, g, h; land treatment unit post-closure plan, items I-2d, f, g, and h; miscellaneous units should address items I-2a, b, c, e, f, g, and h.	270.14(b)(13), 270.17(f), 270.18(h), 270.20(f), 270.21(e), 270.23(a)(3), 264.118 [5/02/86], 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.280(c), 264.310(b), 264.603	Sec 3	

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-2a Inspection Plan A description of the inspections to be conducted during the post-closure care period, their frequency, the inspection procedures, and the logs to be kept. The following items, as applicable, should be included in the inspection plan: Security control devices Erosion damage Cover settlement, subsidence, and displacement Vegetative cover condition Integrity of run-on and run-off control measures Cover drainage system function Leachate collection/detection and removal system maintenance Gas venting system Well condition Benchmark integrity The rationale to be used to determine the need for corrective maintenance activities.	264.118(a), [5/12/86] 264.197(b), 264.197(c)(2), 264.228(b), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.310(b)	Sec. 3	not included
I-2b Monitoring Plan A description of the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting the following operations an evaluating the data gathered should include: Groundwater monitoring Leachate collection/detection and removal — N/A	264.118(b)(1) [5/02/86] 264.228(b), 264.197(b), 264.197(c)(2), 264.228(c)(1)(ii), 264.258(b), 264.258(c)(1)(ii), 264.310(b)		See Part E

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-2c Maintenance Plan A description of preventative and corrective maintenance procedures, equipment procedures, equipment requirements, and material needs. Include the following items in the maintenance plan, as applicable: Repair of security control devices Erosion damage repair Correction of settlement, subsidence, and displacement Mowing, fertilization, and other vegetative cover maintenance Repair of run-on and run-off control structures Leachate collection/detection system maintenance Well replacement The rationale to be used to determine the need for corrective maintenance activities	264.118(b)(2), [5/02/86] 264.197(b), 264.197(c)(2), 264.228(b), 274.228(c)(1)(ii), 264.258(b) 264.258(c)(1)(ii), 264.310(b)	Sec 3	See earlier comments

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-2d	Land Treatment A description of the operation, inspection, and maintenance programs to be used at the closed facility. Include descriptions of the procedures for conducting the following activities and identify frequencies at which they are to be conducted: Continuance of land treatment Vegetative cover maintenance Maintenance of run-on control system and run-off management systems Wind dispersal control Control of food chain crops Unsaturated zone monitoring	264.280(c)		Need prohibition on food chain crops N/D
I-2e	Post-Closure Care for Miscellaneous Units A detailed description of the plans to ensure protection of human health and the environment. Include the prevention of any releases to groundwater or subsurface environment; surface water or wetlands or on the soil surface; or to air. This will include providing related information from [D-8].	270.23(a)(3), 264.603 [12/10/87]		N/A
I-2f	Post-Closure Security Indicate which security provisions will continue during closure when hazardous wastes will remain exposed after completion of partial or final closure or access by the public or domestic livestock may pose a hazard to human health.	264.117(b) [5/02/86]		more details in PC Plan, please

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-2g Post-Closure Contact Provide the name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.	264.118(b)(3) [5/02/86]		Not provided in any detail
I-3 Notices Required for Disposal Facilities			
I-3a Certification of Closure A statement by the applicant which indicates that within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit,a nd within 60 days of the completion of final closure, closure certification will be submitted to the Regional Administrator. The certification must certify that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications of the approved closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer (or by independent qualified soil scientist in the case of a land treatment closure).	264.115 [5/02/86], 264.280(b)		No certificate No deed notice

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-3b	Survey Plat A statement by the applicant which indicates that no later than the submission of certification of closure of each hazardous waste disposal unit, a survey plat indicating the location and dimensions of landfill cells or other disposal units with respect to permanently surveyed benchmarks, will be submitted to the local zoning authority (or authority with jurisdiction over local land use) and to the Regional Administrator. The plat must be prepared and certified by a professional land surveyor and must contain a note, prominently displayed, which states the owner-operator's obligation to restrict disturbance of the disposal unit in accordance with applicable 40 CFR 264 Subpart G regulations.	264.116 [5/02/86]		Documentation Not provided
I-3c	Notice to Local Land Authority Documentation by applicant that within 60 days after closure, a record of the type, location, and quantity of hazardous waste within each cell or disposal area will be submitted to the appropriate local land use authority and to the Regional Administrator.	264.119 [5/02/86]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-3d	Post-Closure Certification Provide a statement which indicates that within 60 days of completion of the post-closure care period for each hazardous waste disposal unit, certification will be submitted to the Regional Administrator. The certification must certify that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications of the approved post-closure plan. The certification must be signed by the owner/operator and by an independent registered professional engineer.	264.120 [5/02/86]		Not provided
I-3e	Notice in Deed to Property Documentation by applicant that she/he has or will record a notation on the facility deed, or other instrument examined during a title search, that notifies any potential purchase of the property that: The property has been used to manage hazardous wastes Use of the land is restricted to activities that will not disturb integrity of final cover system, or monitoring system during post-closure care period Requirements stated under I-3a above have been complied with	270.14(b)(14), 264.119 [5/02/86]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-4	Closure Cost Estimate	270.14(b)(15) [5/02/86]		
	A copy of the most recent closure or contingent closure cost estimate, prepared in accordance with 264.142.			
	Cost estimate based on third party costs	264.142(a)(2)		
	Fully loaded (most costly)	Guidance		
	No salvage credits	274.142(a)(3),(4)		
	Current year costs	264.142(a)		
	Cost adjusted annually from anniversary date of first cost estimate	264.142(b)		
	Based on point in operating life when extent and manner of operation would make closure most expensive.	264.142(a) [5/02/86]		
I-5	Financial Assurance Mechanism for Closure	270.14(b)(15) 264.143 264.151 [5/02/86]		
	A copy of the established financial assurance mechanism for facility closure adopted in compliance with 264.143. The mechanism must be one of the following [I-5(a) through I-5(f)] and include due dates and use standard wording.			

Cost estimate needs to include CA costs

NA closed - skip to I-6

NA Not provided

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
	Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to sum of closure and post-closure costs for all facilities.	264.143(h)		
I-6	Post-Closure Cost Estimate	270.144(b)(16), 264.144 [5/02/86]		
	If landfill, land treatment, surface impoundments, or waste piles are utilized, the application must include a post-closure or a contingent post-closure cost estimate prepared in accordance with 264.144:		Sec 3	- ok for PC - need costs for CA
	Fully loaded labor rate (third party)	Guidance		
	No salvage values	Guidance		
	No operation credits (gas, crops, livestock)	Guidance		
	Current year	Guidance		
	Based on the extent of operation most likely to make post-closure most expensive	Guidance		
	Inspection costs	Guidance		
	Administration	Guidance		
	Transportation	Guidance		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-7	Financial Assurance Mechanism for Post-Closure A copy of the established financial assurance mechanism for post-closure care adopted in compliance with 264.145. the mechanism must be one of the following: [I-7(a) through I-7(f)] and include due dates and use standard wording	270.14(b)(16) 264.145 264.151 [5/02/86]		Not provided
I-7a	Post-Closure Trust Fund A copy of the post-closure trust fund agreement with the wording required in 264.151(a)(1) and a formal certification of acknowledgement: Bank or approval institution Mechanics - pay-in period, life of permit or remaining life of facility, whichever is shorter - annual payment; unfunded liability divided by years left in pay-in period	264.145(a), 264.151(a)(1)		
I-7b	Surety Bond A surety bond from a federally acceptable surety company meeting one of the following requirements: Surety bond guaranteeing payment into a post-closure trust fund. A copy of the surety bond with the wording required in 264.151(b), a copy of the standby trust fund agreement.	264.145(b) & (c), 264.151(b) & (c) [5/02/86] 264.145(b), 264.151(b) [5/02/86]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
	Surety bond guaranteeing performance of post-closure activities. A copy of the surety bond with the wording required in Part 264.151(c), guaranteeing that the owner/operator will perform post-closure plan and the requirements of Subpart H.	264.145(c), 264.151(c)		
I-7c	Post-Closure Letter of Credit A copy of post-closure letter of credit with the wording required in 264.151(d): Irrevocable letter of credit At least one year period, automatic renewal Standby trust fund Amount reflects current cost estimate	264.145(d), 264.151(d)		
I-7d	Post-Closure Insurance To demonstrate that the owner/operator has post-closure insurance, she/he must submit to the Regional Administrator 60 days before hazardous waste is received a certificate of insurance worded as specified in 264.151(e): Noncancellable policy, automatic renewal Insurer licensed or eligible surplus lines carrier Certificate of insurance Funds available whenever final post-closure occurs	264.145(e), 264.151(e)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-7e	Financial Test and Corporate Guarantee for Post-Closure To demonstrate that this test is met, an owner/operator must submit a letter signed by the company's chief financial officer that his worded as specified in 264.151(f) and meets the following criteria: Tangible net worth $10 million Tangible net worth six times all closure and post-closure costs U.S. assets at least 90 percent of total assets or at least six times all closure and post-closure costs Bond rating requirements or alternative Application must include: - copy of a report on the company's latest financial statements drafted by an independent certified public accountant (CPA)	264.145(f) [5/02/86] 264.151(f) 264.151(h) [11/18/87]		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-7e (continued) - copy of a report from the owner's/operator's independent CPA to the owner/operator stating that she/he has examined the data in the letter from the chief financial officer and that it is consistent with the amounts in the independently-audited year-end financial statements for the latest fiscal year and that no matters came to attention to cause him to believe that the data should be adjusted			
In lieu of the above items, the owner/operator may submit a corporate guarantee worded as required by 264.151(h). This guarantee provides that the guarantor, which must be the parent company of the owner/operator, will perform post-closure activities in accordance with the post-closure plan if the owner/operator fails to do so or will establish a post-closure trust fund for the owner/operator. A copy of these items should be submitted with the Part B for review by the permit writer.	264.145(f)(10)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-7f Combinations				
I-7f(1)	Use of Multiple Financial Mechanisms A copy of a combination of trust fund agreements, surety bond guaranteeing payment into a post-closure trust fund or letters of credit, insurance, and state assumption of responsibility, which provide financial assurance for the amount of post-closure. Combined financial assurance must be at least equal to the adjusted post-closure cost estimate. Financial assurance instruments must meet the requirements of 264.143(a),(b),(d), or (e) which include post-closure trust fund, surety bond guaranteeing payment into a post-closure trust fund, post-closure letter of credit, and post-closure insurance, respectively.	264.145(g)		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-7f(2)	Use of Financial Mechanism for Multiple Facilities A copy of a financial assurance mechanism for more than one facility showing, for each facility, the EPA ID number, name, address, and amount of closure funds assured by the mechanism. Total funding must be no less than the sum required for each facility considered separately. Documents must be submitted to each Region where facilities are located. Financial test applies to the sum of closure and post-closure costs for all facilities.	264.145(h)		
I-8	Liability Requirements Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 264.147. (Coverage is for all facilities owned and operated and applies until certification for closure and post-closure is completed. For facilities in Phase I authorized states, originally signed duplicates of executed instruments or certificates of insurance are not required until the time of permit issuance, except as required by state law.)	270.147(b)(17), 264.147(a) & (b)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-8a Sudden Insurance Hazardous waste treatment, storage, or disposal facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences. Amount of at least $1 million per occurrence An annual total of at least $2 million, exclusive of legal costs A signed duplicate original of the Hazardous Waste Facility Liability Endorsement worded as specified in ???? A Certificate of Liability Insurance worded as specified in 264.151(j), or	264.147(a), 264.147(g), 264.151(g),(i),(j) [5/02/86]		N/A
I-8a (continued) Financial test - letter from CFO - auditor report - auditor opinion - other information requested by R.A. - acceptable ratios - notification to EPA by Attorneys General or insurance commissioner of guarantors state and facility state that corporate guarantee is legally valid and enforceable			

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
A combination of endorsement of certification and financial test or a combination of endorsement or certification and corporate guarantee. Amounts of coverage must total at least the minimum amounts required by 264.147(a).			N/A
I-8b Nonsudden Insurance	264.147(b) & (d) 264.151(i) & (j) 264.147(f)		N/A
This applies to high-risk storage facilities (designated by Regional Administrator), surface impoundments, land disposal and land treatment.			
At least $3 million per occurrence			
An annual total of at least $6 million is required, exclusive of legal costs			
Same endorsement or certification requirements as for sudden insurance coverage, or			
Financial test - letter from CFO (264.151(g)) - auditor's report - auditor's opinion - other information requested by R.A.			
I-8b (continued) Corporate guarantee - guarantor must be parent corporation - certified copy of corporate guarantee with wording as specified in 264.151(h)(2) - financial test for guarantor	264.147(b)(2) 264.147(g)(2)(i), 264.151(h)(2) [11/18/87]		

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-8c Variance Procedures and R.A. Adjustments Evaluation of degree and duration of risk sufficient to allow R.A. to make a judgement on reduction of required liability. The financial responsibility levels specified above for liability insurance for sudden accidental occurrences may be adjusted downward if the owner/operator can prove to the Regional Administrator that these levels are not consistent with the degree and duration of risk at the owner's/operator's facility. Conversely, the Regional Administrator may adjust the levels of financial responsibility up or down, based on the administrator's assessment of the degree and duration of risk associated with the facility.	264.174(c) & (d)		N/A
I-9 State Financial Mechanism Where appropriate, proof of coverage by a state financial mechanism in compliance with 264.149 or 264.150.	270.14(b)(18)		N/A

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
I-9a Use of State-Required Mechanisms Where a state has hazardous waste regulations with equivalent or greater liability requirements for financial assurance for closure and post-closure care, evidence of establishment of the state-required financial mechanisms, including the facility EPA ID number, name, address, and required mechanisms do not satisfy amount of funds required, funds may be made available through the state-required mechanisms or by using additional mechanisms specified in 264.143.	264.149(a) 264.149(b)		N/A
I-9b State Assumption of Responsibility If a state assumes legal responsibility for compliance with closure, post-closure, or liability requirements or the state assures that state funds are available to cover those requirements, then facility is in compliance and must include a copy of a letter from the state describing the state assumption of responsibility and a letter from the owner/operator requesting that the state's assumption of responsibility be considered acceptable in meeting the financial coverage requirements, and including the facility EPA ID number, name, address, and amounts of liability coverage or funds for closure or post-closure care that are assured by the state.	264.150		N/A

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr McGee
EPA I.D. Number MSD 990 866 329
Address
Permit Review Team

Contact Name
Date Application Received
Contact Phone Number
Date Review Completed

Other Federal Laws - Module J

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART J - OTHER FEDERAL LAWS	270.14(b)(20) 270.3		
Demonstration of compliance with the requirements of other applicable federal laws such as the Wild and Scenic rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, Fish and Wildlife Coordination Act.			Not provided

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr Mc Gee
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990 866 329
Permit Review Team

Date Application Received
Date Review Completed

Certification - Module K

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART K - CERTIFICATION	270.11		
Certification of application by a principal executive of the company of at least the level of vice president			Not provided
Certification by a general partner or proprietor for a partnership or sole proprietorship, respectively.			
Certification by a principal executive officer or ranking elected official for a municipality, state, federal, or other public agency			

REGULATORY COMPLETENESS CHECKLIST FOR HAZARDOUS WASTE STORAGE, TREATMENT AND DISPOSAL FACILITIES

Facility Name Kerr-McGee
Address

Contact Name
Contact Phone Number

EPA I.D. Number MSD 990 866 329
Permit Review Team

Date Application Received
Date Review Completed

Corrective Action - Module L

Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
PART L - INFORMATION REQUIREMENTS FOR SOLID WASTE MANAGEMENT UNITS			
L-1 Description of Solid Waste Management Units A description of each solid waste management unit at the facility including: Location of the unit on the topographic map required under 270.14(b)(19) Type of unit General dimensions and structural description (provide drawings if available) Dates of operation of the unit Description of all wastes that have been managed at the unit	270.14(d)(1) [12/01/87]		Not provided
L-2 Information Pertaining to Releases The applicant must provide all available information pertaining to releases of hazardous wastes or hazardous constituents from solid waste management units at the facility.	270.14(d)(2) [12/01/87]		

	Subject Requirement	40 CFR Section Nos.	Location in Application	Comments
L-3	Sampling and Analysis The applicant must provide the results of sampling and analysis of groundwater, land surface and subsurface strata, surface water, and air which has been conducted (voluntarily, or) at the request of the Agency to complete a RCRA Facility Assessment.	270.14(d)(3) [12/01/87]		

Revision: 1

Date: 7 MAR 97

RCRA INSPECTION HEALTH AND SAFETY CHECKLIST

FACILITY NAME: KERR-McGEE - (LOWNDES Co.) EPA ID#: MSD990866329

ADDRESS: 2300 - 14th Ave. NORTH COLUMBUS, MS 39701 PHONE #: 662 328 7551

PERSONNEL LOG

INSPECTOR'S NAME *	INSPECTOR'S SIGNATURE	DATE OF LAST OSHA TRAINING	DATE CHECKLIST PERPARED	CHECKLIST MODIFIED?	DATE OF SITE VISIT	INSPECTION TYPE	SUPERVISOR'S SIGNATURE	APPROVAL DATE
*LOUIS CRAWFORD	[signature]	10/99	10 JUL 00	N/A	11 JUL 00	Pre-Permit	[signature]	7-10-00

Place an asterisk (*) by the name of the lead inspector.
Please note any comments on the back of this sheet.

KERR McGEE COLUMBUS
RCRA Permitting File I
LHC

Revision: 1

Date: 7 MAR 97

GENERAL INFORMATION

FACILITY NAME: Kerr-McGee CONTACT: Steve Ladner

DIRECTIONS TO FACILITY: (Attach map if available)

SPECIAL ACCESS REQUIREMENTS: None

EMERGENCY INFORMATION

AMBULANCE: Baptist Hosp. TELEPHONE: 243-1565 /911
HOSPITAL: Baptist TELEPHONE: 243-1167
POLICE: Columbus TELEPHONE: 328-7511 /911
FIRE DEPARTMENT: Columbus TELEPHONE: 329-5121 /911
SITE FIRE/EVACUATION SIGNAL: PA
INFORMATION SOURCE: Cont. Plan

PERMITS

(X) RCRA ( ) HSWA ( ) NPDES (X) AIR (X) OTHER: Pre-Treat

SUMMARY OF REGULATED UNITS: Closed SI - Drip Pad (Gen. Stats)

FACILITY PROCESS DESCRIPTION

Wood treating

NOTE ANY MATERIALS/WASTES ON SITE OF SPECIAL CONCERN

None

PREVIOUS RELEASES/ACCIDENTS/COMPLAINTS AND CURRENT STATUS

See file

POTENTIAL HAZARDS: CHECK IF APPLICABLE AND DESCRIBE ON BACK

( ) EXPLOSION ( ) OXYGEN DEFICIENCY ( ) RADIATION ( ) TOXIC
( ) UNUSUAL PHYSICAL ( ) UNUSUAL BIOLOGICAL (X) HEAT/COLD ( ) NOISE
Weather dependent

Revision: 1 7 MAR 97

HEALTH AND SAFETY

PERSONAL PROTECTIVE EQUIPMENT

Note if facility does NOT require: ( ) safety glasses ( ) hard hat ( ) steel-toed boots

THESE ARE STILL RECOMMENDED!!

OTHER EQUIPMENT

Y/N	ITEM	COMMENTS*
(N)	FACE SHIELD	
( )	GOGGLES	
( )	NOISE PROTECTION	
( )	APR#	
( )	APR CARTRIDGE#	
( )	ESCAPE MASK#	
( )	SAMPLING GLOVES	
( )	OTHER GLOVES	
( )	TYVEK COVEALL	
( )	SARANEX COVERALL	
( )	NOMEX COVERALL	
( )	SPLASH SUIT	
( )	OVERBOOTS	
( )	RAIN GEAR	
( )	OTHER	

*NOTE IF NEEDED SITE-WIDE OR IN LIMITED AREAS. ALSO NOTE IF THE EQUIPMENT WILL BE PROVIDED BY THE FACILITY OR BY INSPECTOR.

#INDICATE TYPE OF EQUIPMENT NEEDED.

AIR MONITORING

TYPE: ( ) TOXIC ( ) EXPLOSIVE/OXYGEN ( ) RADIATION (X) NONE
CONDUCTED BY: ( ) FACILITY ( ) ESD ( ) CONTRACTOR ( ) OTHER: _____

OVERALL HAZARD RATING: CIRCLE AS APPLICABLE

LEVEL A: VERY HIGH (ASSISTANCE NECESSARY)

LEVEL B: HIGH (ASSISTANCE NECESSARY)

LEVEL C: MEDIUM (MONITORING REQUIRED)

LEVEL D: LOW

Permit

IMPLEMENTATION PROCEDURES
TO COMPLY WITH
RCRA INTERIM STATUS STANDARDS
FOR
GROUNDWATER IMPACT ASSESSMENT AND MONITORING

Prepared By:

Terry L. Bentley

Sr. Staff Environmental Engineer

Kerr-McGee Corporation

April 1, 1981

SUMMARY

Owners and operators of hazardous waste (HW),[1] surface impoundments, landfills, and landfarms are required by RCRA[2] to implement one of three alternate groundwater monitoring programs no later than November 19, 1981 (45 FR 33239). These alternate programs are:

1. Demonstrate a low potential for migration of HW to water supply wells or surface water; or

2. Implement a groundwater monitoring program to determine impact on groundwater quality; or

3. Implement an expanded groundwater monitoring program if it is assumed or known that HW has significantly affected groundwater quality.

Dr. W. J. Ganus' Hydrology Department will inspect each Kerr-McGee site to determine the proper location of monitoring wells, help coordinate well drilling, and supervise well installation. Your groundwater monitoring programs should then be implemented in accordance with Figure 1. A description of each item of Figure 1 and designation of responsibilities is provided in the text which follows.

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[1] Hazardous waste as defined in 40 CFR Part 261.

[2] Resource Conservation and Recovery Act, PL 94-580 dated October 21, 1976.

IMPLEMENTATION PROCEDURES

FOR COMPLIANCE WITH

RCRA GROUNDWATER IMPACT ASSESSMENT AND MONITORING PROGRAMS

Figure 1 is a schematic flow sheet for guidance in establishing and conducting groundwater impact assessment and monitoring programs required by RCRA.

Item 1: Submit Part A RCRA Permit Application.

These applications were submitted to EPA prior to November 19, 1980, for existing operating facilities.

Responsibility: Submitted by Operating Facility.
Approved by Environmental Affairs.

Item 2: Perform First Site Visit.

A reconnaissance visit by Hydrology and Environmental Affairs people will be made to learn of past and present practices, compile hydrologic and geologic data and make a preliminary judgement whether groundwater degradation has occurred.

Responsibility: Hydrology and Environmental Affairs.

Item 3: Prepare Preliminary Site Evaluation Report.

Existing information will be summarized and recommendations made for obtaining any additional data which may be required.

Responsibility: Hydrology and Environmental Affairs.

Item 4: Perform Site Soil/Water Testing (If Existing Data Insufficient).

Soil borings, permeability tests, groundwater quality tests, etc., may be required to further establish a data base.

Responsibility: Operating Facility. Drilling by outside contractor supervised by Hydrology.
Concurrence by Environmental Affairs.

Item 5: Prepare Final Site Evaluation Report and Recommendations.

Preliminary report (Item 3) will be revised to include results of Item 4. One of three groundwater programs will be recommended. A waiver demonstration is preferable, but may not always be possible.

Responsibility: Hydrology, Environmental Affairs, and Operating Facility.

Item 6: Select a Course of Action.

A groundwater program will be selected.

Responsibility: Hydrology. Concurrence by Environmental Affairs and Operating Facility.

Item 7: Prepare Waiver Demonstration Report.

All or part of the monitoring requirements may be waived if low potential for migration of HW to water supply wells or surface water can be demonstrated. A written report, certified by a qualified geologist or geotechnical engineer, must be prepared by November 19, 1981 and kept at the facility.

Responsibility: Hydrology. Concurrence by Environmental Affairs and Operating Facility.

Item 8: Design Groundwater Monitoring System.

A minimum of four groundwater monitoring wells are required. At least one must be upgradient (in the direction of increasing static head) and at least three downgradient (in the direction of decreasing static head).

Separate monitoring systems for each surface impoundment, landfill, or landfarm are not required as long as HW migration can be detected.

The well casing must be screened or perforated and packed with gravel or sand to allow sample collection at proper depths. The casing must also be sealed with cement grout or bentonite clay to prevent contamination of sampling zone.

Responsibility: Hydrology. Concurrence by Environmental Affairs and Operating Facility.

Item 9: Install Monitoring Wells.

Wells installed per Item 8. Dr. W. J. Ganus of the Hydrology Department is scheduling installation. A target date of September 1, 1981, has been set for installing all wells.

Responsibility: Operating Facility. Installation by outside contractor supervised by Hydrology. Concurrence by Environmental Affairs.

Item 10: Review Annually.

Groundwater surface elevations must be reviewed annually to insure that the wells are located properly. If not, the number, location, or depth of wells must be modified.

Responsibility: Hydrology and Environmental Affairs.

Item 11: Prepare Groundwater Sampling and Analysis Plan.

A written plan must be prepared by November 19, 1981, and kept at the facility. This plan must include procedures and techniques for:

1. Sample Collection;
2. Sample Preservation and Shipment;
3. Analytical Procedures; and
4. Chain of Custody Control.

The plan must require:

1. Monitoring wells to be sampled and analyzed quarterly for the parameters in Table I for the first year to establish a baseline. After the first year, groundwater quality parameters must be analyzed annually, indicator parameters semi-annually, and analysis of drinking water parameters can be discontinued. See Appendix I for instructions concerning sampling and analysis techniques.

2. Four replicate measurements of each of the indicator parameters to be obtained for upgradient wells the first year. After the

first year, four replicate measurements of each of the indicator parameters must be obtained for all wells.

3. Groundwater surface elevations to be determined each time a sample is obtained.

4. Sample analysis to be continued during the active life of HW facilities and during the post-closure care period of HW disposal facilitities (normally 30 years).

Responsibility: Operating Facility and Environmental Affairs.

TABLE I

REQUIRED ANALYSES

GROUNDWATER MONITORING WELLS

Drinking Water Parameters:

Arsenic	Methoxychlor
Barium	Toxaphene
Cadmium	2,4-D
Chromium	2,4,5-TPSilvex
Fluoride	Radium
Lead	Gross Alpha
Mercury	Gross Beta
Nitrate (as N)	Turbidity
Selenium	Coliform Bacteria
Silver	
Endrin	
Lindane	

Groundwater Quality Parameters:

Chloride	Phenols
Iron	Sodium
Manganese	Sulfate

Contamination Indicator Parameters:

pH
Specific Conductance
Total Organic Carbon
Total Organic Halogen[1]

[1]There is no standard accepted procedure for the determination of Total Organic Halogen. Environmental Affairs has requested clarification from EPA and will advise.

Item 12: Prepare Outline of Groundwater Quality Assessment Plan.

An outline of a more comprehensive groundwater program than the one implemented the first year (Refer to Item 8) must be prepared by November 19, 1981, and kept at the facility: The program must be capable of determining:

1. Whether HW or HW constituents have entered the groundwater.

2. Rate and extent of migration of HW or constituents.

3. Concentration of HW or constituents in the groundwater.

Responsibility: Hydrology and Environmental Affairs.

Item 13: Implement Sampling and Analysis Program.

Implement program described in Item 11.

Responsibility: Operating Facility. Approved by Environmental Affairs.

Item 14: Establish Initial Background Values During First Year.

Quarterly analyses performed the first year must be recorded and summarized to establish a baseline.

Responsibility: Hydrology and Environmental Affairs.

Item 15: Report Results to EPA.

Results obtained the first year must be sent to Environmental Affairs and Hydrology immediately after they are available to allow time for review prior to submitting to EPA. Results of the drinking water analyses for each well must be submitted to the EPA Regional Administrator within 15 days after receipt, or to the State if it has obtained RCRA interim authorization. Concentrations or values which exceed the Interim Primary Drinking Water standards must be identified.

Reporting of groundwater quality parameters is not

required. Indicator parameters must be reported in the Annual Report (Refer to Item 17).

Responsibility: Reported by Operating Facility after approval by Environmental Affairs.

Item 16: Continue Sampling and Analysis During Active Life of the Facility.

Continue the program identified in Item 11.

Responsibility: Operating Facility. Approved by Environmental Affairs.

Item 17: Submit Results in Annual Report to EPA.

An Annual Report must be submitted to the EPA Regional Administrator, or to the State, if it has obtained RCRA interim authorization, by March 1 of each year. This report must include:

1. Concentrations or values of indicator parameters for each well.

2. Statistical evaluations of indicator parameters (Refer to Item 18).

3. Results of the evaluation of groundwater surface elevations performed in Item10 and modifications required to the monitoring system.

Responsibility: Submitted by Operating Facility. Approved by Environmental Affairs.

Item 18: Perform Statistical Analyses on Indicator Parameters.

First year indicator parameter measurements must be pooled for each upgradient well and the initial background arithmetic mean and variance of each parameter calculated. After the first year, the arithmetic mean and variance of each indicator parameter must be calculated semi-annually for each upgradient and downgradient well using the four replicate measurements taken on each sample.

Responsibility: Hydrology and Environmental Affairs.

Item 19: Compare Semi-Annual Indicator Results to Initial Background Values.

Each semi-annual arithmetic mean calculated for a specific parameter must be compared with its background arithmetic mean using the student's t-test (statistical test) at the 0.01 level of significance to establish whether a "statistically significant" change has occurred. The calculation for the student's t-test is as follows:

$$t = \frac{\bar{x} - \bar{y}}{s} \sqrt{\frac{nm}{n + m}}$$

where, $\bar{x}$ = average of four replicate measurements obtained during semiannual testing.

$\bar{y}$ = average of sixteen (four replicate measurements per quarter) measurements establishing initial background.

s = overall standard deviation for all measurements under examination.

m = 4

n = 16

therefore, $t = \frac{\bar{x} - \bar{y}}{s}$ (1.79)

A "t" value exceeding 2.84 represents a "statistically significant" change.

Responsibility: Hydrology and Environmental Affairs.

Item 20: Has Degradation Occurred? (Upgradient Wells)

Student's t-test results must be evaluated for upgradient wells. Groundwater sampling and analysis must continue.

Responsibility: Hydrology and Environmental Affairs.

Item 21: Submit Results in Annual Report to EPA.

Significant increases (or pH decreases) in upgradient wells must be submitted in the Annual Report due March 1 of each year. Groundwater sampling and analysis must continue.

Responsibility: Submitted by Operating Facility. Concurrence by Environmental Affairs and Hydrology.

Item 22: Has Degradation Occurred? (Downgradient Wells)

Student's t-test results must be evaluated for downgradient wells. If degradation has not occurred, the original sampling and analysis program must be continued.

Responsibility: Hydrology and Environmental Affairs.

Item 23: Prepare Assessment Plan from Outline (See Item 12).

If comparisons for the downgradient wells show significant increases (or pH decreases), a specific plan for a groundwater quality assessment program must be prepared. It must be certified by a qualified geologist or geotechnical engineer and specify.

1. The number, location, and depths of wells.

2. Sampling and analytical methods for those HW constituents in the facility.

3. Evaluation procedures, including any use of previously gathered information.

4. An implementation schedule.

Responsibility: Hydrology. Concurrence by Environmental Affairs.

Item 24: Obtain Additional Samples and Analyze.

Additional samples must be obtained immediately from downgradient wells where significant increases (or pH decreases) were detected. Samples must be split in two and four replicate measurements of each split sample taken for indicator(s) showing significant differences.

Responsibility: Operating Facility. Approved by Environmental Affairs.

Item 25: Were Results Due to Lab Error?

Measurements must be compared to background data to determine if results were due to laboratory error. If they were, the original sampling and analysis program must be continued.

Responsibility: Environmental Affairs and Operating Facility.

Item 26: Notify EPA.

The EPA Regional Administrator, or the State if it has obtained RCRA interim authorization, must be notified in writing within seven days if degradation has occurred.

Responsibility: Notification by Operating Facility. Approved by Environmental Affairs.

Item 27: Submit Assessment Plan to EPA.

The assessment plan must be submitted within 15 days after the notification of Item 26.

Responsibility: Submitted by Operating Facility. Approved by Environmental Affairs.

Item 28: Implement Assessment Plan.

The assessment plan must be implemented as soon as technically feasible and determine:

1. Rate and extent of HW migration in the groundwater.

2. Concentrations of HW constituents in the groundwater.

Responsibility: Operating Facility, Hydrology, and Environmental Affairs.

Item 29: Submit Assessment Report to EPA.

A written report assessing the groundwater quality must be submitted within 15 days after the first determination of Item 28. It must be submitted to the EPA Regional Administrator, or State if it has obtained RCRA interim authorization.

Responsibility: Submitted by Operating Facility. Prepared by Hydrology. Approved by Environmental Affairs.

Item 30: Has Degradation Occurred?

If the first determination shows that HW has not entered the groundwater, the original sampling and analysis program must be continued. If HW has entered the groundwater, proceed to Item 31.

Responsibility: Hydrology and Environmental Affairs.

Item 31: Determine Closure Status.

Was the assessment made before or after final closure of the facility?

Responsibility: Operating Facility and Environmental Affairs.

Item 32: Make Quarterly Assessments Until Final Closure.

Determinations of Item 28 must be continued quarterly until final closure. Results must be submitted in the Annual Report due March 1 of each year.

Responsibility: Submitted by Operating Facility. Prepared by Hydrology. Approved by Environmental Affairs.

Item 33: Cease Determination.

Assessments may be discontinued if the assessment plan was implemented during the post-closure care period.

Responsibility: Operating Facility and Environmental Affairs.

Item 34: Design Expanded Groundwater Monitoring System.

An expanded groundwater monitoring program may be implemented if it is assumed or known that groundwater quality has been significantly affected.

Responsibility: Hydrology. Concurrence by Environmental Affairs and Operating Facility.

Item 35: Install Monitoring Wells.

Wells installed per Item 34. Dr. W. J. Ganus of the Hydrology Department is scheduling installation. A target date of September 1, 1981 has been set for installing all wells.

Responsibility: Operating Facility. Installation by outside contractor supervised by Hydrology. Concurrence by Environmental Affairs.

Item 36: Submit Groundwater Quality Assessment Plan to EPA.

A specific plan for a groundwater quality assessment program must be submitted by November 19, 1981 to the EPA Regional Administrator, or to the State if it has obtained RCRA interim authorization. The plan must specify:

1. The number, location, and depth of wells.

2. Sampling and analytical methods for those HW constituents in the facility.

3. Evaluation procedures, including any use of previously gathered information.

4. An implementation schedule.

The first groundwater samples must be analyzed prior to November 19, 1981. Implementation must be in accordance with Items 28-33 with the exception of Item 30, which does not apply.

Responsibility: Submitted by Operating Facility. Prepared by Hydrology and Environmental Affairs.

Prepared By: Terry L. Bentley
T. L. Bentley

Concurred By: Will J. Ganus
W. J. Ganus

Approved By: [illegible]
T. L. Hurst

Dated: [illegible]

APPENDIX I

SAMPLING AND ANALYSES TECHNIQUES GROUNDWATER MONITORING PROGRAMS

The following standard sampling and preservation techniques must be employed when monitor wells are sampled and analyzed.

Preparation for Sampling

1. Measure depth to water from the top of the well casing within 1/10 of an inch.

2. Clear standing water from the casing as specified below:

   (a) Pumping: A pump should be used for sampling whenever possible. Three casing-volumes of water should be pumped from the well before sampling. For wells that have a slow recovery rate, the well should be evacuated and allowed to recover at least once prior to sampling.

   (b) Bailing: When pumping is not possible (i.e. a 2" casing) the well casing must be bailed to dryness at least once then allowed to recover before sampling. If this is not possible due to a rapid recovery rate, one casing-volume should be bailed from the well before sampling.

Sampling Volumes, Containers, and Preservation Requirements

The attached Table I lists EPA recommended sample volumes, preservatives, containers, and holding times. For example, the following samples, preservatives, and containers would be required for RCRA groundwater monitoring.

All wells

Container	Preservative	Parameter
Plastic/Glass (polyethylene w/ polypropylene top recommended) 1 gallon	Filter on site using a 0.45 υ membrane filter and pressure apparatus. Add HNO_3 to pH <2	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Fe, Mn, Na, Ra Gross α, Gross β.
Glass only 1 quart	Add H_3PO_4 to pH <4, 1.0 g $CuSO_4$/1. Cool to 4°C.	Phenols

Container	Preservative	Parameter
Glass only 1 quart	Cool to $4^{o}C$.	Pesticides--must be extracted 7 days after sampling (Proposed in the 12/18/78 FR)
Plastic/Glass 1 gallon	Cool to $4^{o}C$.	F, Cl, SO_4, NO_3(N) turbidity, coliform bacteria, specific conductance*
Plastic/Glass 1 quart	Cool to $4^{o}C$. H_2SO_4 or HCl to pH <2.	TOC*

ph* must be determined on site.

*For establishing baseline data, four replicate determinations must be obtained for each sample of the upgradient well for these parameters. (sp. cond., TOC, pH) (TOH when procedure is approved)

All glass containers should be cleaned thoroughly and rinsed with distilled water before sampling. Preferably new sterile plastic containers should be used when possible. Each container should be rinsed at least once with the sample before filling one sample container.

The RCRA regulations require total organic halogen analysis for which there is no standard procedure. Environmental Affairs is awaiting clarification from EPA on this requirement.

Analyses

All analyses must be conducted by using procedures found in "Standard Methods for the Examination of Water and Wastewater", 14th edition; "Methods for Chemical Analysis of Water and Wastes" (EPA 600/4-79-020, March, 1979); or the Annual Book of ASTM Standards, Part 31, "Water" (1976).

Environmental Affairs has prepared a list of certified laboratories. Except for those facilities that have complete in-house capability and routinely perform NPDES or equivalent analysis, it is imperative a competent State/EPA certified laboratory do the sampling and analyses at each facility.

Chain-of-Custody

Proper chain-of-custody records are essential to avoid any questions regarding sample integrity. A Kerr-McGee standard chain-of-custody form has been prepared which must accompany the sample from the time it is taken to the time it is analyzed. The complete chain-of-custody record must be kept by the K-M

site manager and a copy sent to Environmental Affairs with the analytical results.

References

1. "Methods for Chemical Analysis of Water and Wastes", (EPA 600/4-79-020) March, 1979.

2. "Handbook for Analytical Quality Control in Water and Wastewater Laboratories", (EPA 600/4-79-019) March, 1979.

3. "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities", (EPA 530/SW-611) August, 1977.

TABLE 1

RECOMMENDATION FOR SAMPLING AND PRESERVATION OF SAMPLES ACCORDING TO MEASUREMENT[1]

Measurement	Vol. Req. (ml)	Container[2]	Preservative	Holding Time[3]
100 Physical Properties				
Color	50	P,G	Cool, 4°C	24 Hrs.
Conductance	100	P,G	Cool, 4°C	24 Hrs.[4]
Hardness	100	P,G	Cool, 4°C HNO_3 to pH<2	6 Mos.[5]
Odor	200	G only	Cool, 4°C	24 Hrs.
pH	25	P,G	Det. on site	6 Hrs.
Residue				
Filterable	100	P,G	Cool, 4°C	7 Days
Non-Filterable	100	P,G	Cool, 4°C	7 Days
Total	100	P,G	Cool, 4°C	7 Days
Volatile	100	P,G	Cool, 4°C	7 Days
Settleable Matter	1000	P,G	None Req.	24 Hrs.
Temperature	1000	P,G	Det. on site	No Holding
Turbidity	100	P,G	Cool, 4°C	7 Days
200 Metals				
Dissolved	200	P,G	Filter on site HNO_3 to pH<2	6 Mos.[5]
Suspended	200		Filter on site	6 Mos.
Total	100	P,G	HNO_3 to pH<2	6 Mos.[5]

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative	Holding Time[3]
Mercury				
Dissolved	100	P,G	Filter on site HNO_3 to pH < 2	38 Days (Glass) 13 Days (Hard Plastic)
Total	100	P,G	HNO_3 to pH < 2	38 Days (Glass) 13 Days (Hard Plastic)
300 Inorganics, Non-Metallics				
Acidity	100	P,G	None Req	24 Hrs.
Alkalinity	100	P,G	Cool, 4°C	24 Hrs.
Bromide	100	P,G	Cool, 4°C	24 Hrs.
Chloride	50	P,G	None Req.	7 Days
Chlorine	200	P,G	Det. on site	No Holding
Cyanides	500	P,G	Cool, 4°C NaOH to pH 12	24 Hrs.
Fluoride	300	P,G	None Req.	7 Days
Iodide	100	P,G	Cool, 4°C	24 Hrs.
Nitrogen				
Ammonia	400	P,G	Cool,4°C H_2SO_4 to pH < 2	24 Hrs.
Kjeldahl, Total	500	P,G	Cool, 4°C H_2SO_4 to pH < 2	24 Hrs.[6]
Nitrate plus Nitrite	100	P,G	Cool, 4°C H_2SO_4 to pH < 2	24 Hrs.[6]
Nitrate	100	P,G	Cool, 4°C	24 Hrs.
Nitrite	50	P,G	Cool, 4°C	48 Hrs.

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative	Holding Time[3]
Dissolved Oxygen				
Probe	300	G only	Det. on site	No Holding
Winkler	300	G only	Fix on site	4–8 Hours
Phosphorus				
Ortho-phosphate, Dissolved	50	P,G	Filter on site Cool, 4°C	24 Hrs.
Hydrolyzable	50	P,G	Cool, 4°C H_2SO_4 to pH<2	24 Hrs.[6]
Total	50	P,G	Cool, 4°C H_2SO_4 to pH<2	24 Hrs.[6]
Total, Dissolved	50	P,G	Filter on site Cool, 4°C H_2SO_4 to pH<2	24 Hrs.[6]
Silica	50	P only	Cool, 4°C	7 Days
Sulfate	50	P,G	Cool, 4°C	7 Days
Sulfide	500	P,G	2 ml zinc acetate	24 Hrs.
Sulfite	50	P,G	Det. on site	No Holding
400 Organics				
BOD	1000	P,G	Cool, 4°C	24 Hrs.
COD	50	P,G	H_2SO_4 to pH<2	7 Days[6]
Oil & Grease	1000	G only	Cool, 4°C H_2SO_4 or HCl to pH<2	24 Hrs.
Organic carbon	25	P,G	Cool, 4°C H_2SO_4 or HCl to pH<2	24 Hrs.
Phenolics	500	G only	Cool, 4°C H_3PO_4 to pH<4 1.0 g $CuSO_4$/l	24 Hrs.
MBAS	250	P,G	Cool, 4°C	24 Hrs.

TABLE 1 (CONT)

Measurement	Vol. Req. (ml)	Container[2]	Preservative	Holding Time[3]
NTA	50	P,G	Cool, 4°C	24 Hrs.

1. More specific instructions for preservation and sampling are found with each procedure as detailed in this manual. A general discussion on sampling water and industrial wastewater may be found in ASTM, Part 31, p. 72–82 (1976) Method D-3370.

2. Plastic (P) or Glass (G). For metals, polyethylene with a polypropylene cap (no liner) is preferred.

3. It should be pointed out that holding times listed above are recommended for properly preserved samples based on currently available data. It is recognized that for some sample types, extension of these times may be possible while for other types, these times may be too long. Where shipping regulations prevent the use of the proper preservation technique or the holding time is exceeded, such as the case of a 24-hour composite, the final reported data for these samples should indicate the specific variance.

4. If the sample is stabilized by cooling, it should be warmed to 25°C for reading, or temperature correction made and results reported at 25°C.

5. Where HNO_3 cannot be used because of shipping restrictions, the sample may be initially preserved by icing and immediately shipped to the laboratory. Upon receipt in the laboratory, the sample must be acidified to a pH <2 with HNO_3 (normally 3 ml 1:1 HNO_3/liter is sufficient). At the time of analysis, the sample container should be thoroughly rinsed with 1:1 HNO_3 and the washings added to the sample (volume correction may be required).

6. Data obtained from National Enforcement Investigations Center-Denver, Colorado, support a four-week holding time for this parameter in Sewerage Systems. (SIC 4952).

APPENDIX II

Parameters, Analytical Procedures and Detection Limits
Groundwater Monitoring Programs

The following parameters must be analyzed by the proceudre(s) indicated and to the corresponding detection limit.

Parameter	Measure	Analytical Procedure[1]	Detection Limit
pH	units	Electrometric 150.1	N/A
Arsenic	mg/l	AA Furnace 206.2	.001
Barium	mg/l	AA Furnace 208.2	.002
Cadmium	mg/l	AA Furnace 213.2	.0001
Chromium	mg/l	AA Furnace 218.2	.001
Iron	mg/l	AA Furnace 236.2	.001
Lead	mg/l	AA Furnace 239.2	.001
Manganese	mg/l	AA Furnace 243.2	.0002
Mercury	mg/l	Cold Vapor Technique (245.1 or 245.2)	.0002
Selenium	mg/l	AA Furnace 270.2	.002
Silver	mg/l	AA Furnace 272.2	.0002
Sodium	mg/l	AA Direct Aspiration 273.1	.002
Chloride	mg/l	Titrimetric 325.3	N/A
Fluoride	mg/l	340.1, 340.2, 340.3	0.1
Phenols (Total)	mg/l	Spectro. w/Distillation 420.1	.005
Sulfate	mg/l	Gravimetric 375.3	10
TOC	mg/l	Combustion or Oxidation 415.1	1
TOH	mg/l	No EPA Procedure[2]	
Turbidity	AS NTU	180.1	N/A
Nitrogen(Nitrate)	mg/l	Colormetric 352.1	0.1
Coliform	#/100 mls	Procedures found in Standard methods	N/A
Conductance	umhos/cm@25C	120.1	N/A

[1]Procedures specified in "Methods for Chemical Analysis of Water and Wastes" (EPA 600/4-79-020)

[2]Do not analyze for TOH until EPA approves procedure.

APPENDIX II (Cont.)

Parameter	Procedure	Detection Limit
Radium	Proportional Counter 14th ed., Standard Methods (SM), p. 661	Not Specified
Gross α	Proportional or scintillation, 14th ed., SM, p. 648	Not specified
Gross β	Proportional Counter 14th ed., SM, p. 648	Not specified
Lindane Methoxychlor 2, 4-D 2,3,5-TP Silvex Toxaphene Endrin	Gas Chromatography 14th ed., SM, p. 555	Not specified

KERR-McGEE CORPORATION

CHAIN OF CUSTODY RECORD— ENVIRONMENTAL SAMPLES KM-4775

FACILITY	SAMPLING FIRM	SAMPLE
NAME	NAME	☐ Effluent ☐ Groundwater
ADDRESS	ADDRESS	☐ Solid ☐ Surface Water
	SIGNATURE	☐

NO.	LOCATION	DATE	TIME	WEATHER		SAMPLE TYPE AND METHOD				TIMES CASING CLEARED	NO. OF CONTAINERS	ANALYSIS REQUIRED	REMARKS
				TEMP.	PREC.	COMP.	GRAB	MECH	MAN.				

RELINQUISHED BY (SIGNATURE)	RECEIVED BY (SIGNATURE)	DATE	TIME	ADDITIONAL REMARKS
RELINQUISHED BY (SIGNATURE)	RECEIVED BY (SIGNATURE)	DATE	TIME	
RELINQUISHED BY (SIGNATURE)	RECEIVED BY (SIGNATURE)	DATE	TIME	

DISPATCHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LABORATORY (SIGNATURE)	DATE	TIME

CARRIER	LABORATORY
ADDRESS	ADDRESS
METHOD OF SHIPMENT	

ALL ANALYSIS PERFORMED BY EPA APPROVED PROCEDURES

☐ Yes ☐ No, explain above

PASTE AD HERE

PUBLIC NOTICE
Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi
39289-0385
(601) 961-5171

PUBLIC NOTICE NO. HW-96-008

NOTICE OF PROPOSED ISSUANCE OF A POST-CLOSURE PERMIT MODIFICATION

Resource Conservation and Recovery Act
Mississippi Solid Waste Disposal Act

The Mississippi Environmental Quality Permit Board has proposed a Post-Closure Permit Modification for the Kerr-McGee Chemical Corporation facility located at 14th Avenue and 20th Street North, Columbus, Mississippi 39701.

The staff of the Permit Board believes that, with proper constraints and limitations proposed within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board has preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment upon or object to the proposed determination are invited to submit comments in writing to Bruce Ferguson at the above Permit Board address, no later than December 13, 1996. All comments received prior to that day will be considered in the formulation of final determinations regarding the application. A hearing will not be held on this permit action, unless specifically requested in writing by the commenter. The Permit Board is limited in the scope of its analysis to environmental impact. Any comments relative to zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities and should be addressed to them.

Additional details about the application, including a copy of the draft permit, are available by writing or calling Bruce Ferguson at the above Permit Board address and telephone number. This information is also available for review at the following locations during normal business hours:

Mississippi Department of Environmental Quality
Office of Pollution Control
Southport Center Building
2380 Highway 80 West
Jackson, Mississippi
39289-0385

Please bring the foregoing to the attention of persons whom you know will be interested.

October 28, 1996

PROOF OF PUBLICATION
THE STATE OF MISSISSIPPI
HINDS COUNTY

PERSONALLY appeared before me, the undersigned notary public in and for Hinds County, Mississippi,

Shirley Waits,

an authorized clerk of THE CLARION-LEDGER, a daily newspaper as defined and prescribed in Sections 13-3-31 and 13-3-32, of Mississippi Code of 1972, as amended, who, being duly sworn, states that the notice, a true copy of which is hereto attached, appeared in the issues of said newspaper as follows:

Date October 28, 19 96

Date _____, 19 ____

Date _____, 19 ____

Date _____, 19 ____

Date _____, 19 ____

Number of Lines/Words 101/373

Published 1 Times

Total $ 31.84

Signed Shirley Waits
Authorized Clerk
of The Clarion-Ledger

Sworn to and subscribed before me the 28 day of October 19 96.

Marie Miles
Notary Public

My Commission Expires:

NOTARY PUBLIC STATE OF MISSISSIPPI AT LARGE.
MY COMMISSION EXPIRES: Nov. 8, 1996.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

(SEAL)

STATE OF MISSISSIPPI,

County of Lowndes

PERSONALLY CAME before me, the undersigned, a notary public in and for Lowndes County, Mississippi, the CLERK of the Commercial Dispatch, a newspaper published in the City of Columbus, who, being duly sworn, deposes and says that the COMMERCIAL DISPATCH is a newspaper as defined and prescribed in Section 13-3-31 of the Mississippi Code of 1972, as amended effective July 1, 1976, and that the publication of a notice, of which the annexed is a copy, in the matter of

Public Notice

has been made in said paper 1 times consecutively, to-wit:

On the 28 day of October, 1996

On the _____ day of _____, 19__

On the _____ day of _____, 19__

On the _____ day of _____, 19__

On the _____ day of _____, 19__

On the _____ day of _____, 19__

Esther K. Thacker
Clerk

SWORN TO and subscribed before me, this

28 day of October, 1996

Mary L Hosley
Notary Public

MISSISSIPPI STATEWIDE NOTARY PUBLIC
MY COMMISSION EXPIRES JAN. 23, 2000

PUBLIC NOTICE
Mississippi Environmental Quality
Permit Board
P.O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171
PUBLIC NOTICE NO. HW-96-008
NOTICE OF PROPOSED
ISSUANCE OF A POST-CLOSURE
PERMIT MODIFICATION
Resource Conservation and
Recovery Act
Mississippi Solid Waste Disposal
Act

The Mississippi Environmental Quality Permit Board has proposed a Post-Closure Permit Modification for the Kerr-McGee Chemical Corporation facility located at 14th Avenue and 20th Street North, Columbus, Mississippi 39701.

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Additional details about the application, including a copy of the draft permit, are available by writing or calling Bruce Ferguson at the above Permit Board address and telephone number. This information is also available for review at the following locations during normal business hours:

Mississippi Department of
Environmental Quality
Office of Pollution Control
Southport Center Building
2380 Highway 80 West
Jackson, Mississippi 39289-0385

Please bring the foregoing to the attention of persons whom you know will be interested.
10-28-96

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 14, 1996

Edna Turner
WACR-AM/FM
P. O. Box 1078
Columbus, MS 39703

Dear Ms. Turner:

Enclosed herewith is a legal notice to be broadcast on your station twice daily for three (3) consecutive days beginning October 28, 1996.

After the announcements have been made, please send to me the original and one (1) copy of your bill along with a certification that all six (6) announcements were made.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

Enclosure
cc: Ms. Sue Moore, OPC

RADIO ANNOUNCEMENT

THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY ANNOUNCES THE AVAILABILITY OF INFORMATION RELATED TO ITS PROPOSAL TO MODIFY A HAZARDOUS WASTE MANAGEMENT PERMIT FOR KERR-MCGEE CHEMICAL CORPORATION IN COLUMBUS, MISSISSIPPI. THE DEPARTMENT IS ACCEPTING COMMENTS UNTIL DECEMBER 13, 1996 , AND WILL HOLD A PUBLIC HEARING IF SIGNIFICANT INTEREST IS SHOWN. IF YOU HAVE ANY QUESTIONS, CONTACT BRUCE FERGUSON AT 961-5171.

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 14, 1996

Ms. Leigh Nickoles
Commercial Dispatch
P. O. Box 511
Columbus, MS 39701

Dear Ms. Nickoles:

Enclosed herewith is a legal notice to be published in your newspaper on October 28, 1996.

Please furnish this office with statement and proof of publication in duplicate.

Very truly yours,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

Enclosure
cc: Ms. Sue Moore, OPC

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 14, 1996

Marie Mills
The Clarion-Ledger
P. O. Box 40
Jackson, MS 39205

Dear Ms. Mills:

Enclosed herewith is a legal notice to be published in your newspaper on October 28, 1996.

Please furnish this office with statement and proof of publication in duplicate.

Very truly yours,

Bruce Ferguson
Hazardous Waste Division

Enclosure
cc: Ms. Sue Moore, OPC

PUBLIC NOTICE

Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171

PUBLIC NOTICE NO. HW-96-008
NOTICE OF PROPOSED ISSUANCE OF A POST-CLOSURE PERMIT MODIFICATION
Resource Conservation and Recovery Act
Mississippi Solid Waste Disposal Act

The Mississippi Environmental Quality Permit Board has proposed a Post-Closure Permit Modification for the Kerr-McGee Chemical Corporation facility located at 14th Avenue and 20th Street North, Columbus, Mississippi 39701.

The staff of the Permit Board believes that with proper constraints and limitations proposed within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board has preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment upon or object to the proposed determination are invited to submit comments in writing to Bruce Ferguson at the above Permit Board address, no later than December 13, 1996. All comments received prior to that day will be considered in the formulation of final determinations regarding the application. A hearing will not be held on this permit action, unless specifically requested in writing. The Permit Board is limited in the scope of its analysis to environmental impact. Any comments relative to zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities and should be addressed to them.

Additional details about the application, including a copy of the draft permit, are available by writing or calling Bruce Ferguson at the above Permit Board address and telephone number. This information is also available for review at the following locations during normal business hours:

Mississippi Department of Environmental Quality
Office of Pollution Control
Southport Center Building
2380 Highway 80 West
Jackson, Mississippi 39289-0385

Please bring the foregoing to the attention of persons whom you know will be interested.

FACT SHEET

Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi
EPA I. D. Number MSD 990 866 329

This fact sheet is prepared pursuant to MHWMR 124.8 for the draft permit modification to Mississippi Hazardous Waste Management Permit Number HW-90-329-01. The draft permit modification was prepared by the Mississippi Department of Environmental Quality for Kerr-McGee Chemical Corporation, Forest Products Division, 14th Avenue and 20th Street North, Columbus, Mississippi 39701. This permit is issued in conjunction with HSWA Permit Number MSD990866329 issued by the United States Environmental Protection Agency (EPA). Together, these permits constitute the RCRA permit for this facility.

Facility Description

Kerr- McGee Chemical Corporation, Forest Products Division owns and operates a wood preserving facility in Columbus, Mississippi. The production process utilizes creosote and creosote coal tar solutions to produce pressure treated railroad products. The facility previously maintained a hazardous waste surface impoundment as part of the waste water treatment system. The impoundment was used to settle out solids and preservatives from the process waste water before final discharge to the city publicly owned treatment works. Preservatives were then recovered from the impoundment and returned to the production process for reuse. The impoundment was closed in the summer of 1986 in accordance with an approved closure plan.

The surface impoundment was replaced by upgrading production process oil/water separators to recycle preservatives for re-application within the production process. The wastewater is then pumped to the wastewater treatment system which operates under a pre-treatment permit and is discharged to the City of Columbus POTW. In 1994 the volume of wastewater from the production process was reported as 3.6 million gallons.

The facility maintains a corrective action system to address both on-sit and off-site contamination. The corrective action system consists of eleven groundwater recovery wells and tow recovery trenches. The recovery wells are completed in the alluvial aquifer. Five of the wells are located along the facility boundary south of the process area, one well is located along the facility boundary south of the process area, one well is located west of the process area, two wells are located adjacent to the diesel storage tanks, one well is located upgradient of the former below ground tie loading dock and two wells are located along the eastern edge of the facility property boundary. The recovery trenches are approximately 20 feet deep with the base of the trench being at the top of the Eutaw formation. One trench is located to the south of the facility outside of the facility property boundary. This trench is located on property currently being leased by the facility. The remaining trench is located downgradient of the former below ground tie loading dock. The recovered groundwater is treated in the facility's wastewater treatment system. In 1994 the volume of groundwater treated from the corrective action system was reported as 2.4 million gallons.

In 1988, the facility installed a concrete drip track to collect excess preservative dripping from treated wood after removal from the pressure cylinder. The treated wood is held on the drip pad until the dripping has ceased and is then moved to the black tie storage area. The drip pad is sloped to collect rainwater and water from the washing of the drip pad. This water is treated in the facility's wastewater treatment system.

The black tie storage area is used to store treated wood prior to shipment. Due to changes in temperature and atmospheric pressure, incidental drippage of wood preservative can occur in the black tie storage area. The facility has in place a contingency plan for the management of infrequent and incidental spills to

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD
OFFICE OF POLLUTION CONTROL
HAZARDOUS WASTE DIVISION

JULY 9, 1996

Permit Modifications

approved	Chevron U.S.A., Inc.	Jackson County	HW-054-179-403
approved	Kerr-McGee Chemical Corporation	Lowndes County	HW-090-329-01

Temporary Authorizations

approved	First Chemical Corporation	Jackson County	HW-090-031-01

JOINT PUBLIC NOTICE

Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171

In Conjunction With The

U. S. Environmental Protection Agency
Region IV, Residuals Management Branch
345 Courtland Street, N. E.
Atlanta, Georgia 30365
(404) 347-3343

PUBLIC NOTICE NO. HW-95-004

NOTICE OF PROPOSED MODIFICATION OF A HAZARDOUS WASTE TREATMENT AND STORAGE PERMIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, AND THE MISSISSIPPI SOLID WASTE DISPOSAL ACT, AND ISSUANCE OF THE HSWA PORTION OF THE RCRA PERMIT TO KERR-McGEE CHEMICAL CORPORATION, FOREST PRODUCTS DIVISION LOCATED IN COLUMBUS, MISSISSIPPI

Kerr-McGee Chemical Corporation has submitted an application to the Mississippi Department of Environmental Quality (MDEQ) for the modification of the Mississippi Hazardous Waste Post-Closure and Corrective Action Permit for is facility located at 2300 14th Avenue and 20th Street North, Columbus, Mississippi. The permit application was submitted as a result of a five year permit review conducted by the MDEQ. The U. S. Environmental Protection Agency (EPA) has developed the HSWA portion of the RCRA permit based upon a RCRA Facility Assessment conducted at the site. Together the Hazardous Waste Management Permit issued by the MDEQ and the HSWA portion of the permit issued by EPA will constitute the full RCRA Permit for the facility. The Staff of the Mississippi Environmental Quality Permit Board and EPA, after reviewing the application and pertinent standards and regulations, have tentatively determined that the permit should be modified and the HSWA portion issued. This action is being proposed since the staff of the Permit Board and EPA have determined that the permit will be protective of public health and the environment.

The staff of the Permit Board and EPA believe that, with proper constraints and limitations contained within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board and EPA have preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment on the Board's and EPA's tentative decision are invited to submit comments to the Permit Board at the above address no later than July 7, 1995. All comments received by that day will be considered in formulation of a final decision to issue the permit. Additionally, a public hearing will be held if written notice of opposition to the draft permit is

received or if there is a significant degree of public interest in the proposed permit. If a public hearing is held, the time and place of the hearing will be published under a separate public notice. However, if a hearing is not held, all written comments will be considered in formulating a final decision.

On November 8, 1984, President Reagan signed the Hazardous and Solid Waste Amendments of 1984. These amendments to the Resource Conservation and Recovery Act have a number of provisions affecting hazardous waste permitting that are immediately effective for any facilities whose RCRA hazardous waste permit had not been issued as of November 8, 1984. In addition, the provisions are applicable in all states whether or not the state has received interim or final authorization under RCRA.

The State of Mississippi has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. Mississippi has not made the necessary program revisions and received authorization from the EPA for the provisions of the 1984 amendments. However, the MDEQ has incorporated the HSWA portion of the permit under the Mississippi Solid Waste Disposal Act in anticipation of the State receiving authorization. EPA has provided the HSWA portion and will retain this portion of the permit until the State receives authorization.

The draft permit also includes procedures for Kerr-McGee Chemical Corporation to investigate potential releases from solid waste management units located on the property. If releases of hazardous constituents from solid waste management units have occurred, Kerr-McGee Chemical Corporation must perform corrective action according to the procedures stated in the permit. Kerr-McGee Chemical Corporation submitted a permit application for post-closure care and corrective action under RCRA. The MDEQ in conjunction with the EPA reviewed the initial application and sent comments to Kerr-McGee Chemical Corporation. Kerr-McGee Chemical Corporation revised the application and submitted it the MDEQ and EPA. The revised application was determined to be complete under 40 CFR and MHWMR Part 270, and is being placed before the public for a 45-day comment period.

Copies of the fact sheets and draft hazardous waste management permits are available for public inspection Monday through Friday, except legal holidays, during the hours indicated at the following locations:

U. S. Environmental Protection Agency

345 Courtland Street, N.E.
Atlanta, Georgia 30365
(404) 347-3433
8:00 a.m. to 5:00 p.m. EDT

Mississippi Department of Environmental Quality

Southport Center Building
2380 Highway 80 West
Jackson, Mississippi 39204
(601) 961-5171
8:00 a.m. to 5:00 p.m. CDT

Lowndes County Library

314 Seventh Street, North
Columbus, MS 39701
(601)329-5300
9:00 a.m. to 8:00 p.m. Monday - Thursday
9:00 a.m. to 5:00 p.m. Friday
10:00 a.m. to 4:00 p.m. Saturday

Copies may be obtained by contacting Mr. Russ McLean, U. S. Environmental Protection Agency, or Mr. Bruce Ferguson, MDEQ, at the above addresses. A nominal fee for copying and/or mailing may be charged. Arrangements for copying should be made in advance.

The administrative record, which includes the material listed above as well as all other data submitted by the applicant, is available at the U. S. Environmental Protection Agency and the Southport Center Building at the above addresses during the hours listed.

A 45-day comment period begins May 22, 1995, and ends at 5:00 p.m. (local time) July 7, 1995. The comment period and the hearing are to provide an opportunity to comment upon the proposed issuance of the RCRA permit to conduct post-closure care and corrective action for a hazardous waste management unit at the Kerr-McGee Chemical Corporation, Columbus, Mississippi facility. A hearing will not be held on this permit action unless specifically requested in writing by the commenters.

Persons wishing to comment upon the permit application or the proposed permit conditions should submit such requests or comments in writing. Copies of comments regarding the State Hazardous Waste permit should be sent to ATTENTION: Mr. Jerry Banks at the Permit Board's address above. Copies of comments regarding the Federal RCRA permit should be sent to the Environmental Protection Agency, ATTENTION: Mr. Rich Campbell at the above address.

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This notice is hereby given this May 22, 1995, by authorization of the Mississippi Department of Environmental Quality and the U. S. Environmental Protection Agency.

J. I. Palmer, Jr.
Executive Director
Mississippi Department of Environmental Quality

John H. Hankinson, Jr.
Regional Administrator
U. S. Environmental Protection Agency

RADIO ANNOUNCEMENT

THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY IN CONJUNCTION WITH THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ANNOUNCES THE AVAILABILITY OF INFORMATION RELATED TO ITS PROPOSAL TO MODIFY KERR-MCGEE CHEMICAL CORPORATION'S HAZARDOUS WASTE MANAGEMENT PERMIT IN COLUMBUS, MISSISSIPPI. THE DEPARTMENT IS ACCEPTING COMMENTS UNTIL JULY 7, 1995, AND WILL HOLD A PUBLIC HEARING IF SIGNIFICANT INTEREST IS SHOWN. IF YOU HAVE ANY QUESTIONS, CONTACT BRUCE FERGUSON AT 961-5141.

Jerry Banks

RECEIVED
JUN 14 1995
Dept. of Environmental Quality
Office of Pollution Control

PASTE AD HERE

Miscellaneous Legal Notices 492

JOINT PUBLIC NOTICE
Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171
in Conjunction With The U. S. Environmental Protection Agency
Region IV, Residuals Management Branch
345 Courtland Street, N. E.
Atlanta, Georgia 30365
(404) 347-3433

PUBLIC NOTICE
NO. HW-95-004

NOTICE OF PROPOSED MODIFICATION OF A HAZARDOUS WASTE TREATMENT AND STORAGE PERMIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, AND THE MISSISSIPPI SOLID WASTE DISPOSAL ACT, AND ISSUANCE OF THE HSWA PORTION OF THE RCRA PERMIT TO KERR-McGEE CHEMICAL CORPORATION, FOREST PRODUCTS DIVISION LOCATED IN COLUMBUS, MISSISSIPPI

Kerr-McGee Chemical Corporation has submitted an application to the Mississippi Department of Environmental Quality (MDEQ) for the modification of the Mississippi Hazardous Waste Post-Closure and Corrective Action Permit for its facility located at 2300 14th Avenue and 20th Street North, Columbus, Mississippi. The permit application was submitted as a result of a five year permit review conducted by the MDEQ. The U. S. Environmental Protection Agency (EPA) has developed the HSWA portion of the RCRA permit based upon a RCRA Facility Assessment conducted at the site. Together the Hazardous Waste Management Permit issued by the MDEQ and the HSWA portion of the permit issued by EPA will constitute the full RCRA Permit for the facility. The Staff of the Mississippi Environmental Quality Permit Board and EPA, after reviewing the application and pertinent standards and regulations, have tentatively determined that the permit should be modified and the HSWA portion issued. This action is being proposed since the staff of the Permit Board and EPA have determined that the permit will be protective of public health and the environment.

The staff of the Permit Board and EPA believe that, with proper constraints and limitations contained within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board and EPA have preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment on the Board's and EPA's tentative decision are invited to submit comments to the Permit Board at the above address no later than July 7, 1995. All comments received by that day will be considered in formulation of a final decision to issue the permit. Additionally, a public hearing will be held if written notice of opposition to the draft permit is received or if there is a significant degree of public interest in the proposed permit. If a public hearing is held, the time and place of the hearing will be published under a separate public notice. However, if a hearing is not held, all written comments will be considered in formulating a final decision.

On November 8, 1984, President Reagan signed the Hazardous and Solid Waste Amendments of 1984. These amendments to the Resource Conservation and Recovery Act have a number of provisions affecting hazardous waste permitting that are immediately effective for any facilities whose RCRA hazardous waste permit had not been issued as of November 8, 1984. In addition, the provisions are applicable in all states whether or not the state has received interim or final authorization under RCRA.

The State of Mississippi has been granted authorization for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of the Hazardous and Solid Waste Amendments of 1984. Mississippi has not made the necessary program revisions and received authorization from the EPA for the provisions of the 1984 amendments. However, the MDEQ has incorporated the HSWA portion of the permit under the Mississippi Solid Waste Disposal Act in anticipation of the State receiving authorization. EPA has provided the HSWA portion and will retain this portion of the permit until the State receives authorization.

The draft permit also includes procedures for Kerr-McGee Chemical Corporation to investigate potential releases from solid waste management units located on the property. If releases of hazardous constituents from solid waste management units have occurred, Kerr-McGee Chemical Corporation must perform corrective action according to the procedures stated in the permit. Kerr-McGee Chemical Corporation submitted a permit application for post-closure care and corrective action under RCRA. The MDEQ in conjunction with the EPA reviewed the initial application and sent comments to Kerr-McGee Chemical Corporation. Kerr-McGee Chemical Corporation revised the application and submitted it to the MDEQ and EPA. The revised application was determined to be complete under 40 CFR and MHWMR Part 270, and is being placed before the public for a 45-day comment period.

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Mississippi Department of Environmental Quality
Southport Center Building
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J. I. Palmer, Jr.
Executive Director
Mississippi Department of Environmental Quality

John H. Hankinson, Jr.
Regional Administrator
U. S. Environmental Protection Agency

May 22, 29, June 5, 1995

PROOF OF PUBLICATION
THE STATE OF MISSISSIPPI
HINDS COUNTY

PERSONALLY appeared before me, the undersigned notary public for Hinds County, Mississippi,

Shirley Waits,

an authorized clerk of THE CLARION-LEDGER, a daily newspaper as defined and prescribed in Sections 13-3-31 and 13-3-32, of Mississippi Code of 1972, as amended, who, being duly sworn, states that the notice, a true copy of which is hereto attached, appeared in the issues of said newspaper as follows:

Date May 22, 19 95

Date May 29, 19 95

Date June 5, 19 95

Date _____, 19 ___

Date _____, 19 ___

Number of Lines 335/1328

Published 3 Times

Total $ 241.04

Signed Shirley Waits
Authorized Clerk
of The Clarion-Ledger

Sworn to and subscribed before me the 5th day of June 19 95.

Marie Mills
Notary Public

My Commission Expires:

NOTARY PUBLIC STATE OF MISSISSIPPI AT LARGE
MY COMMISSION EXPIRES: Nov. 8, 1996
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

(Seal)

KERR-McGEE CHEMICAL CORPORATION
A SUBSIDIARY OF KERR-McGEE CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

CHECK NO 716732

TO CITIBANK DELAWARE
ONE PENN'S WAY
NEW CASTLE, DE 19720

62-20
311

THE FACE OF THIS DOCUMENT HAS A COLORED BACKGROUND ON WHITE PAPER • THE BACK OF THIS DOCUMENT CONTAINS AN ARTIFICIAL WATERMARK—HOLD AT AN ANGLE TO VIEW

DATE 11/29/94 CHECK NO. 00716732 VOID AFTER 6 MONTHS NET AMOUNT *******1,499.00

PAY ONE THOUSAND FOUR HUNDRED NINETY NINE AND 00/100 DOLLARS

TO THE ORDER OF
MISSISSIPPI STATE TREASURY
% BRUCE FERGUSON
OFFICE OF POLLUTION CONTROL
PO BOX 10385
JACKSON, MS 39289-0385

KERR-McGEE CHEMICAL CORPORATION
DISBURSING ACCOUNT
BY Thomas B. [illegible]

⑈00716732⑈ ⑆031100209⑆ 3871134 2⑈

01-706-A00022568 KERR-MCGEE CHEMICAL CORP CHECK NO. 00716732

VOUCHER NUMBER	INVOICE NUMBER	PURCHASE ORDER	INVOICE DATE	AMOUNT	DISCOUNT	NET AMOUNT
W7351	112294	NOTICE	11-22-94	1,499.00	.00	1,499.00
RUSH --	CALL DARLA CAIN @ X-2402		VIOLATION			
		TOTALS		1,499.00	.00	1,499.00

DEC 1994 RECEIVED AS/BS FEES

KM-4114-H
DETACH BEFORE DEPOSITING

REMITTANCE ADVICE
THE ENDORSEMENT BY PAYEE OF THE DETACHED CHECK CONSTITUTES RECEIPT IN FULL FOR THE ITEMS LISTED ABOVE

KERR-McGEE CHEMICAL CORPORATION

PENALTIES

(✓) Meets order requirements; please deposit check ok per Bruce Ferguson

( ) Overpayment of penalty assessed; please return check to Respondent

( ) Please hold check until further notice

CS
Signature

12/22/94
Date

**Please send receipt to Miriam Holcomb.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

May 11, 1995

Commercial Dispatch
Legal Notices
516 Main Street
P. O. Box 511
Columbus, MS 39701

Dear Sir:

Enclosed herewith is a legal notice to be published in your newspaper on May 22, May 29 and June 5, 1995.

Please furnish this office with statement and proof of publication in duplicate.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

pc: Ms. Terry Baily, OPC

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

May 11, 1995

WACR-AM/FM
P. O. Box 1078
Columbus, Mississippi 39703

Dear Sir:

Enclosed herewith is a legal notice to be broadcast on your station twice daily for three (3) consecutive days beginning on May 22, 1995.

After the announcements have been made, please send to me the original and one (1) copy of your bill along with a certification that all six (6) announcements were made.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

Enclosure
pc: Ms. Terry Bailey, OPC

Bruce Ferguson

Commercial Script

Radio Station WACR-FM
P.O. Box 1078
Columbus, Ms 39701

Script # 706

Length: 30

Dept. Of Enviromental Quality
Attn: Bruce Ferguson
P.O. Box 10385
Jackson, Ms 39289-0385

DEPT. OF ENVIRONMENTAL QUALITY

THE MISSISSIPPI DEPARTMENT OF ENVIROMENTAL QUALITY IN CONJUNCTION WITH THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ANNOUNCES THE AVAILABILITY OF INFORMATION RELATED TO MODIFY KERR-MCGEE CHEMICAL CORPORATION'S HAZARDOUS WASTE MANAGEMENT PERMIT IN COLUMBUS, MISSISSIPPI. THE DEPARTMENT IS ACCEPTING COMMENTS UNTIL JULY 7, 1995, AND WILL HOLD A PUBLIC HEARING IF SIGNIFICANT INSTREST IS SHOWN. IF YOU HAVE ANY QUESTION, CONTACT BRUCE FERGUSON AT 961/5141.
05/22 - 05/24

==========

6 spots at 9.50 each for $ 57.00 ____spots at____each for $_____
____spots at____each for $_____ ____spots at____each for $_____
____spots at____each for $_____ ____spots at____each for $_____

==========

The announcement was broadcast 6 times as entered in the station's records. The times this announcement was broadcast were billed to the above client on our Invoice # 50317 dated as per the attached Affidavit of Performance.

Sworn to and suscribed before me and in my presence on this 8th day of July 19 95

Beverly J. Williams
Notary Public

NOTARY PUBLIC STATE OF MISSISSIPPI AT LARGE
MY COMMISSION EXPIRES
BONDED THRU

Mary Boyd
Operations Manager

Jerry Banks

STATE OF MISSISSIPPI,

County of Lowndes

PERSONALLY CAME before me, the under
public in and for Lowndes County, Mississipp
the Commercial Dispatch, a newspaper publ
of Columbus, who, being duly sworn, depos
the COMMERCIAL DISPATCH is a newsp
and prescribed in Section 13-3-31 of the Mis
1972, as amended effective July 1, 1976, and
tion of a notice, of which the annexed is a co
of

Notice

has been made in said paper 3 times
to-wit:

On the 22 day of May
On the 29 day of May
On the 05 day of June
On the ____ day of ____
On the ____ day of ____
On the ____ day of ____

Leigh Ne

SWORN TO and subscribed before me, this
05 day of June, 19 9

Tina L Higgans
Notary Public

JOINT PUBLIC NOTICE
Mississippi Environmental Quality
Permit Board
P.O. Box 10385
Jackson, Mississippi 39289-0385
(601) 961-5171
In Conjunction With The
U.S. Environmental
Protection Agency
Regency IV, Residuals
Management Branch
345 Courtland Street, N.E.
Atlanta, Georgia 30365
(404) 347-3343

PUBLIC NOTICE NO HW-95-004
NOTICE OF PROPOSED MODIFICATION OF A HAZARDOUS WASTE TREATMENT AND STORAGE PERMIT UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), AS AMENDED BY THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984, AND THE MISSISSIPPI SOLID WASTE DISPOSAL ACT, AND ISSUANCE OF THE HSWA PORTION OF THE RCRA PERMIT TO KERR-McGEE CHEMICAL CORPORATION, FOREST PRODUCTS DIVISION LOCATED IN COLUMBUS, MISSISSIPPI

Kerr-McGee Chemical Corporation has submitted an application to the Mississippi Department of Environmental Quality (MDEQ) for the modification of the Mississippi Hazardous Waste Post-Closure and Corrective Action Permit for its facility located at 2300 14th Avenue and 20th Street North, Columbus, Mississippi. The permit application was submitted as a result of a five year permit review conducted by the MDEQ. The U.S. Environmental Protection Agency (EPA) has developed the HSWA portion of the RCRA permit based upon a RCRA Facility Assessment conducted at the site. Together the Hazardous Waste Management Permit issued by the MDEQ and the HSWA portion of the permit issued by EPA will constitute the full RCRA Permit for the facility. The Staff of the Mississippi Environmental Quality Permit Board and EPA, after reviewing the application and pertinent standards and regulations, have tentatively determined that the permit should be modified and the HSWA portion issued. This action is being proposed since the staff of the Permit Board and EPA have determined that the permit will be protective of public health and the environment.

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(404) 347-3433
8:00 a.m. to 5:00 p.m. EDT

Mississippi Department of
Environmental Quality
Southport Center Building
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Mississippi Department of
Environmental Quality

John H. Hankinson, Jr.
Regional Administrator
U.S. Environmental Protection
Agency

05-22, 29-95
06-05-95

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

May 11, 1995

The Clarion-Ledger
Legal Notices
311 E. Pearl Street
P. O. Box 40
Jackson, Mississippi 39205

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Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

pc: Ms. Terry Baily, OPC

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In Conjunction With The

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A 45-day comment period begins May 22, 1995, and ends at 5:00 p.m. (local time) July 7, 1995. The comment period and the hearing are to provide an opportunity to comment upon the proposed issuance of the RCRA permit to conduct post-closure care and corrective action for a hazardous waste management unit at the Kerr-McGee Chemical Corporation, Columbus, Mississippi facility. A hearing will not be held on this permit action unless specifically requested in writing by the commenters.

Persons wishing to comment upon the permit application or the proposed permit conditions should submit such requests or comments in writing. Copies of comments regarding the State Hazardous Waste permit should be sent to ATTENTION: Mr. Jerry Banks at the Permit Board's address above. Copies of comments regarding the Federal RCRA permit should be sent to the Environmental Protection Agency, ATTENTION: Mr. Rich Campbell at the above address.

All comments received during the public comment period or at the hearing, if held, will be considered in the formulation of final determinations regarding the permits. After consideration of all written and oral comments, the requirements and policies of RCRA, and appropriate regulations, the EPA Regional Administrator and the Permit Board will make their decisions regarding permit issuance. All persons submitting comments will be notified by the EPA Regional Administrator and the Permit Board of the final permit decisions. If the determinations are substantially changed, the EPA Regional Administrator and the State Director will issue a joint public notice indicating the revised determinations.

This notice is hereby given this May 22, 1995, by authorization of the Mississippi Department of Environmental Quality and the U. S. Environmental Protection Agency.

J. I. Palmer, Jr.
Executive Director
Mississippi Department of Environmental Quality

John H. Hankinson, Jr.
Regional Administrator
U. S. Environmental Protection Agency

PUBLIC NOTICE

Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi 39289-0385
Telephone No. (601) 961-5171

PUBLIC NOTICE NO. HW - 90-009
NOTICE OF PROPOSED ISSUANCE OF A Hazardous Waste Post-Closure Permit
Resource Conservation and Recovery Act
Mississippi Solid Waste Disposal Act

Kerr-McGee Chemical Corporation, Forest Product Division, Columbus, Mississippi, has applied to the Mississippi Environmental Quality Permit Board for a Post-Closure Permit for its facility located at 14th Avenue North, Columbus, Mississippi.

The staff of the Permit Board believes that, with proper constraints and limitations proposed within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board has preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment upon or object to the proposed determination are invited to submit comments in writing to Mr. Steve Spengler at the above Permit Board address, no later than September 4, 1990. All comments received prior to that day will be considered in the formulation of final determinations regarding the application. A hearing will

not be held on this permit action, unless specifically requested in writing by the commenter. The Permit Board is limited in the scope of its analysis to environmental impact. Any comments relative to zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities and should be addressed to them.

Additional details about the application, including a copy of the draft permit, are available by writing or calling Mr. Spengler at the above Permit Board address and telephone number. This information is also available for review at the following locations during normal business hours:

Mississippi Department of Environmental Quality
Bureau of Pollution Control
Southport Center Building
2380 Highway 80 West
Jackson, Mississippi 39204

Columbus Public Library
314 North 17th Street
Columbus, Mississippi 39701
(601) 329-5300

Office Hours:	Monday - Thursday	9:00 a.m. - 8:00 p.m.
	Friday	9:00 a.m. - 5:00 p.m.
	Saturday	9:00 a.m. - 3:00 p.m.

Please bring the foregoing to the attention of persons whom you know will be interested.

FACT SHEET

Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi

PERMIT ISSUANCE

EPA I.D. No. MSD990866329

Background

This fact sheet is prepared in accordance with Mississippi Hazardous Waste Management Regulations (MHWMR) Section 124.8. The purpose of this fact sheet is to set forth factual, legal, methodological, and policy questions considered in issuing the permit application submitted by Kerr-McGee Chemical Corporation, Forest Products Division, Columbus, Mississippi (hereinafter referred to as the Permittee).

Facility Description

The Kerr-McGee Chemical Corporation, Forest Products Division (KMCC) facility is located in Lowndes County, Mississippi, northeast of Columbus. The facility consists of approximately 90 acres. Land use surrounding the facility is primarily residential and industrial. There are residences within 500 feet from the facility. The surface water body closest to the facility is Luxapalila Creek, approximately one mile to the east.

The facility has functioned as a wood preserving facility since 1928 but was not acquired by KMCC until 1964. KMCC uses a creosote solution to treat railroad ties, switch ties, crossings and pilings. Pentachlorophenol was also used as a preservative prior to 1976.

On January 27, 1981, KMCC submitted a Part A Permit application to the U.S. EPA for the operation of two surface impoundments and 4 holding tanks for wastewater treatment. The two surface impoundments operated as part of the wastewater treatment process and were used to manage hazardous waste designated as K001 wastes. K001 wastes are defined in MHWMR Part 261 as "bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and pentachlorophenol". The facility closed the units on June 18, 1986, in accordance with the closure plan approved by the mississippi Department of Environmental Quality (MDEQ). Following closure, KMCC conducted a sampling program to detect residual contamination. The analytical results indicated that clean closure was not accomplished and a post-closure permit application was submitted to the MDEQ on March 12, 1987.

In September, 1987, KMCC notified the MDEQ that dissolved K001 constituents had been detected in monitoring well CMW-4, downgradient from the closed impoundments. A groundwater assessment program was approved by the MDEQ in February of 1988 and a subsequent assessment program was initiated through Administrative Order No. 1636-89 in September of 1989. As a result of

these assessments, two contaminant plumes have been identified. One is associated with the production process and possibly the former surface impoundments. The second is in an area of a former below-ground level railroad tie loading dock. This permit addresses onsite contamination from the production area and former surface impoundments as well as outlines provisions for post-closure care of the closed impoundments. The permit also provides a mechanism to address the contaminant plume from the below-ground loading dock and any off-site contamination identified. As information becomes available pursuant to Compliance Order 1630-89, this permit will be modified to include complete on-site and off-site corrective action.

Hazardous Waste Characterization

The following hazardous wastes or hazardous waste constituents are documented to have been disposed of in the lagoons and/or may have entered the groundwater at the facility:

Hazardous Waste	Waste Code	Characteristic
Bottom sediment sludge from treatment of waste-water from wood preserving processes using creosote and pentachlorophenol	K001	Listed (Toxic)

Hazardous Waste Constituents
Benzene
m-xylene
o/p-xylene

Procedures for Permit Issuance

As described in the public notice, persons interested in commenting on this permit should submit written comments to:

Mr. Steve Spengler
Mississippi Department of Environmental Quality
Bureau of Pollution Control
Hazardous Waste Division
P.O. Box 10385
Jackson, Mississippi 39289-0385

This permit shall be issued in conformance with MHWMR 270 and 124. The comment period for this permit begins on July 17, 1990, and ends on September 4, 1990. A hearing will be scheduled if requested in writing. If a hearing is held, all comments will be considered by the Permit Board before final disposition of the draft permit modification is made. Public participation in the permit process is encouraged. For additional information, please contact Mr. Stephen Spengler at (601) 961-5171.

Basis for Draft Permit Conditions

The following discussion is a summary of the basis for the conditions of the permit. This discussion is organized such that the reviewer may cross reference conditions of the permit to this discussion.

MODULE I - GENERAL PERMIT CONDITIONS

The standard conditions for the permit are taken directly from MHWMR Parts 270 and 264.

MODULE II - GENERAL FACILITY CONDITIONS

A. Authorized Activities

This condition describes general activities to be conducted by the Permittee under conditions of the permit.

B. Hazardous Waste from Off-site Sources

The Permittee is prohibited from receiving waste from an off-site source.

C. Security

The Permittee is required to provide security for the regulated units as required by MHWMR 264.14.

D. Personnel Training

The Permittee is required to comply with MHWMR 264.16 and conduct a program of personnel training.

E. Preparedness and Prevention

The Permittee is required to comply with MHWMR 264.32 and 264.33.

F. Contingency Plan

The Permittee shall maintain and carry out the provisions of the facility's Contingency Plan as necessary and shall comply with MHWMR 264, Subpart D, Contingency Plan and Emergency Procedures.

G. Bookkeeping and Reporting

The Permittee is required to comply with MHWMR 264.73 and 264.75.

H. General Closure Requirements

The Permittee certified closure of the surface impoundments on July 7, 1986.

MODULE III - POST-CLOSURE CARE

A. Unit Identification

The Permittee is required to conduct post-closure care for the unit identified and described in Attachment III-1.

B. Post-closure Procedures and Use of Property

The Permittee is required to conduct post-closure care in accordance with MHWMR 264.117, 264.118 and 264.228.

C. Inspections

The Permittee shall perform inspections in accordance with the Inspection Schedule, Permit Attachment III-1, and MHWMR 264.117.

D. Notices and Certification

The Permittee is required to comply with MHWMR 264.117(6), 264.119(c) and 264.120.

E. Cost-estimate for Facility Post-closure

The Permittee shall comply with the requirements of MHWMR 264.142 and 264.144.

F. Financial Assurance

The Permittee shall maintain financial assurance during post-closure care as specified by MHWMR 264.145.

G. Post-closure Permit Modifications

The Permittee is required to comply with MHWMR 264.118(d).

MODULE IV - GROUNDWATER MONITORING AND EVALUATION OF THE UPPER SATURATED ZONE

A. Module Highlights

This condition describes the geological and hydrological basis for requiring groundwater monitoring and corrective action.

B. Monitoring and Corrective Action Program

The Permittee is required to conduct corrective action and groundwater monitoring activities pursuant to MHWMR 264.91(a)(3).

C. Groundwater Monitoring System

This condition designates groundwater monitoring wells as "compliance", "effectiveness", "upgradient", "boundary control", and "Deep" or Eutaw monitoring wells. It also specifies well location, and well construction techniques and sets procedures for adding or deleting monitoring wells to or from the system.

D. Groundwater Protection Standard

This Condition defines the groundwater protection standard (GWPS) for the facility.

E. Groundwater Concentration Limits

The GWPS concentration limits are established by this condition.

F. Monitoring Program and Data Evaluation

The Permittee is required to determine groundwater quality, groundwater surface elevations, groundwater flow rate and direction, and to collect and analyze samples by approved methods.

G. Recordkeeping and Reporting

The Permittee is required to enter all monitoring data into the facility operating record, to report semi-annually on the effectiveness of the corrective action program and to submit analytical results according to the specified schedule.

H. Corrective Action

The Permittee is required to perform on-site and off-site corrective action activities for groundwater contamination.

I. Modifications

This Condition establishes a procedure for modifying the Permit when it is determined that corrective action measures are no longer effective or when the GWPS has not been exceeded for a period of three (3) executive years.

Item 4.b

MISSISSIPPI ENVIRONMENTAL QUALITY PERMIT BOARD

BUREAU OF POLLUTION CONTROL

AGENDA - HAZARDOUS WASTE DIVISION

September 11, 1990

HAZARDOUS WASTE - FOR DISCUSSION

There is a requirement in state law and state hazardous waste regulations that the Permit Board consider the financial capability of an applicant for a hazardous waste permit in its permit decision process. The staff needs to discuss this requirement with the Board.

HAZARDOUS WASTE - PERMIT MODIFICATION

Bausch & Lomb, Ferguson Optics Division	Jackson County	MSD048816953	Appr'd

HAZARDOUS WASTE - PERMIT ISSUANCES

U.S. Army Engineers Waterways Experiment Station	Warren County	MS6210809871	Appr'd
Kerr McGee Chemical Corporation	Lowndes County	MSD990856329	Appr'd

STATE OF MISSISSIPPI,

County of Lowndes

PERSONALLY CAME before me, the undersigned, a notary public in and for Lowndes County, Mississippi, the CLERK of the Commercial Dispatch, a newspaper published in the City of Columbus, who, being duly sworn, deposes and says that the COMMERCIAL DISPATCH is a newspaper as defined and prescribed in Section 13-3-31 of the Mississippi Code of 1972, as amended effective July 1, 1976, and that the publication of a notice, of which the annexed is a copy, in the matter of

Notice

has been made in said paper 1 times consecutively, to-wit:

On the 17 day of July, 19 90

On the ____ day of ____, 19 __

On the ____ day of ____, 19 __

On the ____ day of ____, 19 __

On the ____ day of ____, 19 __

On the ____ day of ____, 19 __

On the ____ day of ____, 19 __

Leigh Nickols
Clerk

SWORN TO and subscribed before me, this

17 day of July, 1990

Maxie J. Medley
Notary Public

My Commission Expires Sept. 19, 1992

PUBLIC NOTICE
Mississippi Environmental Quality
Permit Board
P.O. Box 10385
Jackson, Mississippi 39289-0385
Telephone No. (601) 961-5171
PUBLIC NOTICE NO. HW-90-009
NOTICE OF PROPOSED ISSUANCE OF A Hazardous Waste Post-Closure Permit
Resource Conservation and Recovery Act
Mississippi Solid Waste Disposal Act

Kerr-McGee Chemical Corporation, Forest Product Division, Columbus, Mississippi, has applied to the Mississippi Environmental Quality Permit Board for a Post-Closure Permit for its facility located at 14th Avenue North, Columbus, Mississippi.

The staff of the Permit Board believes that, with proper constraints and limitations proposed within the proposed permit, this project will operate within all State and Federal hazardous waste laws and standards and will protect health and the environment. Therefore, the staff of the Permit Board has preliminarily decided, based upon available information, to recommend to the Board that a permit be issued containing numerous regulatory constraints specifically stated in the draft permit. However, before proceeding further with the staff evaluation, public comments are being solicited. The staff recommendation to the Board, as well as the Board's decision, will be made only after a thorough consideration of all public comments.

Persons wishing to comment upon or object to the proposed determination are invited to submit comments in writing to Mr. Steve Spengler at the above Permit Board address, no later than September 4, 1990. All comments received prior to that day will be considered in the formulation of final determinations regarding the application. A hearing will not be held on this permit action, unless specifically requested in writing by the commenter. The Permit Board is limited in the scope of its analysis to environmental impact. Any comments relative to zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities and should be addressed to them.

Additional details about the application, including a copy of the draft permit, can obtained by writing or calling Mr. Spengler at the above Permit Board address and telephone number. This information is also available for review at the following locations during normal business hours:

Mississippi Department of Environmental Quality
Bureau of Pollution Control
Southport Center Building
2380 Highway 80 West
Jackson, Mississippi 39204

Columbus Public Library
314 North 17th Street
Columbus, Mississippi 39701
(601) 329-5300
Office Hours:
Monday-Thursday 9:00 a.m.-8:00 p.m.
Friday 9:00 a.m. - 5:00 p.m.
Saturday 9:00 a.m. - 3:00 p.m.

Please bring the foregoing to the attention of persons whom you know will be interested.

07-17-90

PASTE AD HERE

PUBLIC NOTICE
Mississippi Environmental
Quality Permit Board
P.O. Box 10385
Jackson, Mississippi
39289-0385
Telephone No. (601) 961-5171

PUBLIC NOTICE
NO. HW - 90-109
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Resource Conservation and Recovery Act
Mississippi Solid Waste Disposal Act

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Persons wishing to comment upon or object to the proposed determinations are invited to submit comments in writing to Mr. Steve Spengler at the above Permit Board address, no later than September 4, 1990. All comments received by that day will be considered in the formulation of final determinations regarding the application. A hearing will not be held on this permit action, unless specifically requested in writing by the commenter. The Permit Board is limited in the scope of its analysis to environmental impact. Any comments relative to zoning or economic and social impacts are within the jurisdiction of local zoning and planning authorities and should be addressed to them.

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Jackson, Mississippi 39204

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314 North 17th Street
Columbus, Mississippi 39701
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Office Hours: Monday - Thursday - 9:00 a.m. - 8:00 p.m.
Friday - 9:00 a.m. - 5:00 p.m.
Saturday - 9:00 a.m. -3:00 p.m.

Please bring the foregoing to the attention of person whom you know will be interested.

July 18, 1990

RECEIVED
JUL 23 1990

PROOF OF PUBLICATION
THE STATE OF MISSISSIPPI
HINDS COUNTY

PERSONALLY appeared before me, the undersigned notary public for Hinds County, Mississippi,

Janet Boatner,

an authorized clerk of THE CLARION-LEDGER, a daily newspaper as defined and prescribed in Sections 13-3-31 and 13-3-32, of Mississippi Code of 1972, as amended, who, being duly sworn, states that the notice, a true copy of which is hereto attached, appeared in the issues of said newspaper as follows:

Date July 18, 19 90

Date _____, 19 ____

Date _____, 19 ____

Date _____, 19 ____

Date _____, 19 ____

Number of Lines 110

Published 1 Times

Total $ 37.20

Signed Janet Boatner
Authorized Clerk
of The Clarion-Ledger

Sworn to and subscribed before me the 18th day of July 19 90.

Marie Mills
Notary Public

My Commission Expires:
My Commission Expires Nov. 9, 1992

(Seal)

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

July 11, 1990

Columbus Public Library
314 N. 7th Street
Columbus, MS 39701

Dear Librarian:

Re: Kerr-Mcgee Draft Post-Closure Permit

The referenced facility has applied to the Mississippi Department of Environmental Quality Permit Board for a Post-Closure Permit. Comments are now being accepted on the draft permit.

A copy of the draft permit and the fact sheet supporting the permit conditions are enclosed. Please make these available to any member of the public requesting them. We do ask that those individuals reviewing the documents leave their names and addresses.

Please contact our office at 961-5171 if you have any questions.

Sincerely,

Thad Hopper
Hazardous Waste Division

Enclosure

PUBLIC NOTICE

Mississippi Environmental Quality Permit Board
P. O. Box 10385
Jackson, Mississippi 39289-0385
Telephone No. (601) 961-5171

PUBLIC NOTICE NO. HW - 90-009
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Resource Conservation and Recovery Act
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Bureau of Pollution Control
Southport Center Building
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Jackson, Mississippi 39204

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314 North 17th Street
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	Friday	9:00 a.m. - 5:00 p.m.
	Saturday	9:00 a.m. - 3:00 p.m.

Please bring the foregoing to the attention of persons whom you know will be interested.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

July 11, 1990

The Commercial Dispatch
516 Main St.
Columbus, MS 39701

Dear Sir:

Enclosed herewith is a legal notice to be published in your newspaper on July 17, 1990.

Please furnish this office with statement and proof of publication in duplicate.

Very truly yours,

Thad Hopper
Hazardous Waste Division

Enclosure
cc: Mrs. Terry Bailey, BPC

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

July 11, 1990

The Clarion Ledger
P. O. Box 40
Jackson, MS 39205

Dear Sir:

Enclosed herewith is a legal notice to be published in your newspaper on July 17, 1990.

Please furnish this office with statement and proof of publication in duplicate.

Very truly yours,

Thad Hopper

Thad Hopper
Hazardous Waste Division

Enclosure
cc: Mrs. Terry Bailey, BPC

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

Postmaster
U. S. Postal Service
3202 Bluecutt Rd.
Columbus, MS 39759

Dear Sir:

Please post the attached public notice in your post office on or before July 17, 1990..

If you are unable to do so or if you have any questions, please advise.

Very truly yours,

Thad Hopper

Thad Hopper
Hazardous Waste Division

Attachment

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

July 11, 1990

Ms. Libba Andrews
WKOR AM-FM Radio Station
P.O. Box 980
Starkville, MS 39759

Dear Ms. Andrews:

Enclosed herewith is a legal notice to be broadcast on your station twice daily for three (3) consecutive days beginning July 17, 1990.

After the announcements have been made, please send to me the original and one (1) copy of your bill along with a certification that all six (6) announcements were made.

Sincerely,

Thad Hopper
Hazardous Waste Division

Enclosure
cc: Mrs. Terry Bailey, BPC

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

December 11, 2000

CERTIFIED MAIL No.7099 3400 0014 1712 0701

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr McGee Chemical LLC
Forest Products Division
P.O. Box 25861
Oklahoma City, OK 73125

FILE COPY

Dear Mr. Ladner:

Re: RCRA Permit Application - Revision 2
Kerr-McGee Chemical, LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

Review has been completed of the referenced submittal for technical adequacy in accordance with Mississippi Hazardous Waste Management Regulations. Items requiring clarification, addition, and/or modification are detailed below. Please provide a cover letter addressing each item for the facility file.

1. Our letter of October 6, 2000, stated that certain wells (CMW3, CMW11, and CMW 19) that were proposed for replacement be addressed as a part of the reissuance process rather than as a permit modification per MHWMR 270.42. We are now in receipt of your letter of November 17, 2000, indicating that the activity is immanent. Since apparently these changes will be handled as a modification to the existing permit under MHWMR 270.42 (as opposed to a modification requested concurrent with permit reissuance), it will be necessary to provide amended pages to the application to reflect actual site conditions at the time of permit reissuance.

2. Our previous letter commented that no Appendix I was provided nor referenced and that if this was skipped for some reason, please provide a slip sheet to document that fact. No sheet was provided.

3. We commented that the certification as required by MHWMR 270.11(d) had errors; Kerr-McGee responded asking that MDEQ make the needed corrections to this document. Since this is a certification to be signed by a responsible official of the applicant, it would be inappropriate for MDEQ to modify the page.

4. While Kerr McGee confirmed the heading **"Solid Waste Management Area II"** is correct, no corrected page was provided.

5. Kerr McGee confirmed in the cover letter that Page 22 incorrectly stated that Post-Closure care started in the Spring of 1987 but no revised page for the application was provided.

6. We had requested that Kerr-McGee please provide a map depicting each Solid Waste Management Area, as required by MHWMR 270.14(d)(1)(i). Also, it will be beneficial to indicate in the text which Solid Waste Management Units are addressed under each Solid Waste Management Area. Kerr-McGee provided a portion of this information (not all SWMUs were depicted on the submitted map) and directed MDEQ to another document for additional details. It is the responsibility of the applicant, not MDEQ, to assemble and submit a complete and accurate application. We have been very accommodating in this matter, but cannot accept responsibility in all cases.

The corrected information must be received in our office no later than January 16, 2001. **NO EXTENSIONS TO THIS DEADLINE WILL BE GRANTED.** If you have any questions, please call me at 601-961-5117.

Sincerely,

Louis Crawford, P.E.
Environmental Permits Division

cc: Mr. Russ McLean, EPA Region 4
Mr. Nick Bock, Kerr-McGee
Mr. Ron Murphey, KMC LLC-Columbus

d22/RCRA/NOD-03

KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

November 29, 2000

Mr. Louis Crawford, PE
Environmental Permits Division
Mississippi Department of Environmental Quality
Post Office Box 10385
Jackson, Mississippi 39289-0385

RECEIVED
DEC - 4 2000

Re: RCRA Permit Application Revision I - Comments
Kerr-McGee Chemical LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

Dear Mr. Crawford,

Kerr-McGee Chemical LLC received your RCRA Part B Revision I comment letter on September 28, 2000. This letter serves as a response to your comment letter. This letter will respond to each comment.

Please review the enclosed responses and revised application, feel free to contact me, Steve Ladner at (405) 270-2625 if you have any further questions or needs. Thank you for your time and consideration in this matter.

Sincerely,

KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

Cc: Nick Bock, KMC LLC
Ron Murphey, KMC LLC - Columbus
Russ McLean, US EPA Region IV

FOREST PRODUCTS

KMC LLC RESPONSE TO MISSDEQ COMMENTS

GENERAL – OVERALL

1) With the concurrence of KMC LLC the following items were corrected in-house by Miss DEQ

   - The code for "Permit Type" was added as item X.A for the air permit on Part A
   - The map that should have been included as Appendix D will be correctly located to Appendix A.

2) Appendix I was not utilized

3) KMC LLC appreciates that the use of various names for different recovery trenches has evolved with time, and the current nomenclature will suffice.

4) KMC LLC would be more than willing to submit an electronic coy of the Post-closure plan, Corrective Action Plan, and Sampling & Analysis Plan, however, all of the aforementioned documents exist only on a hard copy format due to age at this point. At the time the Sampling & Analysis is fully revised KMC LLC will re-write the entire document in word processing format and submit it electronically to the Miss DEQ.

Section I

5) The certification as required by MHWMR 270.11 (d) had a typographical error in it, " information submitted is, to be the best of my knowledge and belief, true, accurate, and …". Miss DEQ will cross out the word "be", so the sentence will read, "information submitted is , to the best of my knowledge and belief, true, accurate, and …".

Section II

6) KMC LLC will provide an updated map that will contain the following:

   - Surrounding land use (MHRMR 270.14 (b)(19)(iv)
   - Access controls to the regulated unit (MHWMR 270.14(b)(19)(viii)

   This updated map may be inserted into Appendix B.

7) The 'Aerial Photograph' presented as Figure 2-2 is a new photograph; however, to enhance the resolution, KMC LLC has included additional photographs of the impoundment area. These photographs will be itemized as Figure 2-2A.

8) Figure 2-3 is a SWMA location map for the facility itemizing the SWMU's under each SWMA. For more detail, KMC LLC suggests that the report entitled, RCRA Facility Investigation Report, Columbus, Mississippi, March 31, 1997 , be examined.

9) The use of the Solid Waste Management Area II is the proper designation.

Section 3

10) KMC LLC suggests that language be included in the permit. It seems implied that if there is an enforcement action or requested by the Executive Director, all records would be indefinitely retained.

11) Appendix H is the Corrective Action Plan

12) KMC LLC believes that the designation of K001 Appendix VII compounds needs to remain for clarification.

13) A copy of the latest revision for the Sampling and Analysis Plan for May 31, 1996 is included and should be inserted into Appendix J.

14) Page 32 is correct. Post-closure started in the Spring of 1986.

Flip 4

PHONE CONVERSATION RECORD

Spoke to STEVE LADNER Date 16 NOV 00 Time _____

Of KERR - McGEE Phone No. _____

☐ I placed call ☐ Party called

☐ My ☒ Party's Message

MODIFICATIONS / REVISIONS TO RCRA APPLICATION WILL BE SUBMITTED BY 1 DEC 00

☒ My ☐ Party's Response

OK – NO MORE EXTENSIONS

Action / Follow-up needed

Refer to ☐ Compliance Branch ☐ Regional Office ☒ File ☐ Other _____

Signed [signature]

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

September 28, 2000

CERTIFIED MAIL No.7099 3400 0014 1712 1524

FILE COPY

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr McGee Chemical LLC
Forest Products Division
P.O. Box 25861
Oklahoma City, OK 73125

Dear Mr. Ladner:

Re: RCRA Permit Application - Revision 1
Kerr-McGee Chemical, LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

Review has been completed of the referenced submittal for technical adequacy in accordance with Mississippi Hazardous Waste Management Regulations. Items requiring clarification, addition, and/or modification are detailed on the attached pages. Please provide a cover letter addressing each item for the facility file.

It is suggested that whenever possible corrected pages be submitted with proper page numbers, utilizing subpage numbers if necessary, to facilitate insertion into the original application.

Please submit the corrected information no later than October 30, 2000. If you have any questions, please call me at 601-961-5117.

Sincerely,

Louis Crawford, P.E.
Environmental Permits Division

cc: Mr. Russ McLean, EPA Region 4
Mr. Ron Murphey, KMC LLC-Columbus

d22/RCRA/NOD-02

General - Overall

1. With your concurrence, the following items will be corrected in-house:

   -The code for 'Permit Type' will be added (handwritten) as item X.A. for the Air Permit on the Part A.

   -The map that apparently should have been included as Appendix D was found in Appendix A. It will be relocated and the map initially submitted as Appendix D, will be moved to Appendix B.

2. No Appendix I was provided nor referenced. If this was skipped for some reason, please provide slip sheets to document that fact.

3. It is recognized that differing terms used to reference the various components (impoundments, trenches) is due to the fact that many different sources have been culled to assemble the document; therefore, editing of pre-existing documents will not be requested.

4. If at all possible, we would appreciate an electronic copy of available portions the application. The reasons for this include:

   -Because certain portions of the application (Post-Closure Plan, Corrective Action Plan, and Sampling & Analysis Plan) are to be incorporated directly into the permit, an electronic copy will ensure accuracy, speed up the process of generating a draft permit, and facilitate subsequent permit revisions.

   -The electronic copy can be placed on our server, ensuring a back-up copy is available.

Section 1

5. The certification as required by MHWMR 270.11(d) had typographical errors: "...information submitted is, to ~~be~~ the best of my knowledge and belief, true, accurate, and..."

Section 2

6. Please provide a map (or clarify which submitted map) contains information to document compliance with the following requirements of MHWMR 270.14(b)(19):

   -Surrounding land use (MHWMR 270.14(b)(19)(iv).
   -Access controls to the regulated unit (MHWMR 270.14(b)(19)(viii).

7. The 'Aerial Photograph' presented as Figure 2-2 is still of poor quality, but not so much to prevent continuing the permit process. If a better photo can be located, it would be appreciated. Alternatively, ground-level photograph(s) of the closed impoundment can supplement the existing photo.

8. Please provide a map depicting each Solid Waste Management Area. Also, it will be beneficial to indicate in the text which Solid Waste Management Units are addressed under each Solid Waste Management Area.

9. The heading for **Solid Waste Management Area II** utilizes the numeral while the others have Roman numerals.

Section 3

10. We recommend that Table 3-4 also contain a stipulation that the retention period may be extended during the course of any unresolved enforcement action or as requested by the MDEQ Executive Director, per MHWMR 264.74(b).

11. On page 29, it is stated that the Corrective Action Plan is in Appendix H. This Appendix contains only some letters referencing the plan.

12. In Table 3-5 (page 31), the reference to 'K001 Appendix VII Acid Compounds' remains and is potentially confusing. This table also has minor formatting problems.

13. The **Sampling and Analysis Plan** provided as Appendix J is the March 1, 1992, revision. However, the text under the heading **Sampling and Analysis Procedures** refers to the May 31, 1996, version. Please provide a copy of the correct revision.

14. Page 32 states that Post-Closure care was initiated in Spring, 1986, consequently resulting in a 16 year cost estimate. Page 22 indicates that Post-Closure care has been provided since the Spring of 1987 (and thus 17 years of post-closure care remains). Please reconcile.

KERR-McGEE
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

RECEIVED
SEP 26 2000
DEQ-EPD

September 21, 2000

Mr. Louis Crawford, PE
Environmental Permits Division
Mississippi Department of Environmental Quality
Post Office Box 10385
Jackson, Mississippi 39289-0385

Re: RCRA Permit Application Comments
Kerr-McGee Chemical LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

Dear Mr. Crawford,

Kerr-McGee Chemical LLC received your comment letter on July 31, 2000. This letter serves as a response to your comment letter. This letter will respond to each comment and two (2) copies of the revised Part B application are enclosed for your review.

Please review the enclosed responses and revised application, feel free to contact me, Steve Ladner at (405) 270-2625 if you have any further questions or needs. Thank you for your time and consideration in this matter.

Sincerely,

KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

Cc: Nick Bock, KMC LLC
Ron Murphey, KMC LLC - Columbus
Russ McLean, US EPA Region IV

FOREST PRODUCTS

KMC LLC RESPONSE TO MISSDEQ COMMENTS

General - Overall

1). KMC LLC will send a copy of the application to Russ McLean in U.S. EPA Region IV.

2) As recommended by the Miss DEQ, KMC LLC will incorporate the following as Appendices: Post-Closure Plan - Appendix F, Corrective Action Plan - Appendix H, and Groundwater Sampling & Analysis Plan - Appendix J.

3) As recommended by the Miss DEQ, KMC LLC will remove the contingency plan and the personnel training plan from the permit application.

4) As recommended by the Miss DEQ, KMC LLC will include information on the existing SWMU's. This information is in Section II on pages 1 and 2.

5) KMC LLC will correct the existence of two "Section 5" tabs.

6) KMC LLC will review the page numbering scheme and correct any inconsistencies

7) KMC LLC has included a certification as per MHWMR270.11(d). the certification statement is included in Section 1 on page 8.

8) KMC LLC has provided a specific street address in Section III.A

9) KMC LLC mistakenly included the wrong P.O. Box. Instead of P.O. Box 906, the current address is P.O. Box 9310, Columbus , MS 39701.

10) KMC LLC will include the facility's air permit number in Section X of the Part A portion of the permit application.

11) KMC LLC will change Section XIV of the Part A portion of the permit to reflect only the closed surface impoundment's that manages K001 waste.

12) KMC LLC has included three maps satisfying the conditions outlined in Section XV of the Part A portion of the permit.

13) KMC LLC has provided the printed name of the individual signing the application in Section XVIII of the Part A portion of the application.

<u>SECTION 2, ATTACHMENT 1</u>

14) KMC LLC has located an aerial photo that displays a clearer resolution and replaces Figure 2-2

15) KMC LLC has changed this sentence to more accurately reflect the information detailed on the facility map contained in Appendix D. Appendix B contains detailed topographic maps.

SECTION 2, ATTACHMENT 2

16) KMC LLC has changed the facility map in Appendix D to reflect the plural expression "closed impoundments" . Appendix F will be changed to reflect the same expression "closed impoundments".

SECTION 3

17) KMC LLC has changed the paragraph to comply with the information required to satisfy MHWHR 264.118(b)(3). KMC LLC entered the Corporate name, address, and phone number for responsibility of post-closure care. This correction is located page 22 of Section 3.

18) KMC LLC has changed Table 3-2 Post-Closure Inspection Report to include the time of the inspection. This change is located on page 25 of Section 3.

19) KMC LLC has changed Table 3-2 Post-Closure Inspection Report to include a requirement to check the locks on the monitoring wells. This change is located on page 25 of Section 3.

20) KMC LLC has included a statement explaining that during the annual engineering survey, benchmark integrity will be addressed. This changed is noted on page 27.

21) KMC LLC has changed the Inspection Schedule to reflect that inspections will occur after significant storm events. This change is reflected on page 26.

22) KMC LLC has provided information about security in the text of the report in compliance with MHWMR 264.14. This change is reflected on page 27.

23) KMC LLC has provided additional explanations in the text to satisfy MHWMR 270.14(b)(6). This change is reflected in the under the subheading of Preparedness and Prevention, page 27.

24) KMC LLC has changed the wording from "K001 Appendix VII constituents" to "K001 constituents". This change is noted on page 31.

25) KMC LLC has included as Appendix G the Post-Closure notices from 1987 as required in MHWMR 264.119(a) and (b). Additionally, language has been included in the application specifying that MHRMR 264.119 (c) will be followed if necessary and that certification under MHWMR 264.120 will be provided.

26) KMC LLC has included the most recent copy of the Financial Assurance in Appendix K.

27) KMC LLC has amended the language in the Groundwater Monitoring Section to discuss the limited off-site contamination in the groundwater noted to the east. This changed is noted on page 29.

28) KMC LLC has included a copy of the Sampling and Analysis Plan without the attachments as per your suggestion in Appendix J.

29) KMC LLC is in agreement that CMW-28, CMW-29, and CMW-30 should be added to the permitted wells are part of the groundwater monitoring network as Boundary Wells. KMC LLC is also in agreement that CMW-27 should be included as an effectiveness well this change is noted in page 30.

30) The costs for corrective action as well as financial assurance are provided in Appendix K.

31) KMC LLC has included language in the application for actions to be taken if new Appendix IX constituents be detected. This language is noted on page 32.

SECTION 5.0 - ENGINEERING FEASIBILITY STUDY

32) KMC LLC has changed the language as per your suggestion to state " .... in the 1999 Groundwater Monitoring and Effectiveness Report, which is included as Appendix F of this application". The change is noted on page 49.

33) KMC LLC has changed the map in Appendix D to only include monitoring wells that are sampled in the permit.

34) KMC LLC has changed the language on page 4 of Appendix F to "K001 constituents as listed in MHWMR Part 261, Appendix VII"

35) KMC LLC has reconciled the language regarding the trenches.

RCRA Permitting, Step 4

PHONE CONVERSATION RECORD

Spoke to Steve Ladner Date 11 SEP 00 Time 4:00 pm

Of Kerr Mc Gee Phone No.

☐ I placed call ☒ Party called

☐ My ☒ Party's Message

① Questions / clarifications on comments
② One week extension to due date for response

☒ My ☐ Party's Response

① Answered
② Granted - response now due 22 SEP 00

Action / Follow-up needed

Refer to ☐ Compliance Branch ☐ Regional Office ☒ File ☐ Other

Signed

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

July 27, 2000

CERTIFIED MAIL No. Z 353 769 159
Mr. Stephen A. Ladner
Staff Environmental Specialist
P.O. Box 25861
Oklahoma City, OK 73125

FILE COPY

Dear Mr. Ladner:

Re: RCRA Permit Application
Kerr-McGee Chemical, LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

Review has been completed of the referenced submittal for technical adequacy in accordance with Mississippi Hazardous Waste Management Regulations. Items requiring clarification, addition, and/or modification are detailed on the attached pages. Please provide a cover letter addressing each item for the facility file.

It is suggested that whenever possible corrected pages be submitted with proper page numbers, utilizing subpage numbers if necessary, to facilitate insertion into the original application.

Please submit the corrected information no later than September 15, 2000. If you have any questions, please call me at 601-961-5117.

Sincerely,

Louis Crawford, P.E.
Environmental Permits Division

cc: Mr. Russ McLean, EPA Region 4

d22/RCRA/NOD-01

General - Overall

1. Because the corrective action system covered by the MDEQ RCRA Permit also addresses releases from Solid Waste Management Units (SWMUs) regulated under the U.S. EPA HSWA Permit, it is appropriate that EPA Region 4 be involved in the review to allow for proper project coordination. Therefore, please send a copy of future revisions of this application and any correspondence to:

   Mr. Russ McLean
   U.S. EPA Region 4
   61 Forsythe Street
   Atlanta, GA 30303

2. MHWMR 270.28 stipulates that certain items must be submitted as a part of a proper permit application. To cite portions that were previously submitted is insufficient, if for no other reason that since our files are open to the public there is no guarantee that documents contained therein have not become corrupted. This is especially of concern for certain documents that are to be incorporated directly into the permit (specifically the Post-Closure Plan, Corrective Action Plan, and Groundwater Sampling & Analysis Plan). However, some of these plans may be abridged as detailed in comments below.

3. Since the regulated units are no longer operating, per MHWMR 270.28 the permit application need not include a contingency plan or a personnel training plan. We therefore would prefer that they be removed from the application for purposes of brevity and clarity. However, these documents are required for the facility to operate under MHWMR Part 262 (Generator Standards). No comments on the adequacy of these plans will be made as a part of this review.

4. Information on Solid Waste Management Units must be included in the application, per MHWMR 270.14(d). A paragraph or two describing and summarizing the present status of each unit will be sufficient.

5. There are two portions of the application entitled "Section 5"; one behind the "Section 5" tab and another behind the "Attachment 4" tab.

6. Page numbering is inconsistent throughout the document, including some sections which lack page numbers, leading to possible confusion in attempts to cite specific passages.

7. No certification as required by MHWMR 270.11(d) was provided.

Part A

8. If possible, provide a specific (e.g., "911") street address in Section III.A..

9. Correspondence sent to 'P.O. Box 906, Columbus, MS 39701' was returned. Is this address still valid?

10. Section X.A. does not include the facility's air permit.

11. Section XIV indicates that the permit application is for a drip pad, container storage area, and an incinerator; all managing F034 waste. The Part A application should only address the activities for which a permit is being sought. The existing permit was for a closed surface impoundment managing K001 waste.

12. The map to be provided under Section XV must comply with the requirements of MHWMR 270.14(b)(19) unless a variance is requested and granted. There was no topographic map meeting these requirements, nor do any maps depict the location of access control devices, nor was a request for a variance included.

13. Please provide the printed name of the individual signing the application (Section XVIII).

Section 2, Attachment 1

14. The 'Aerial Photograph' presented as Figure 2-2 is illegible.

15. The last paragraph on page 10 refers to Appendix D for 'detailed topographic maps of the facility'. This appendix contains only one map which has no contour lines.

Section 2, Attachment 2

16. The first sentence on page 20 references two surface impoundments, one which "collected process wastewater and the storm water runoff from the facility" and one which "served as a cooling water leg for a shell and tube barometric condenser". The site map in Section 6, Appendix D depicts a "Closed Impoundment" (note singular) and the Groundwater Monitoring Report (Appendix F) mentions only the "Production Process Settling Impoundment". The HSWA Permit identifies two RCRA-Regulated Units, an "Aeration Impoundment" and a "Sedimentation Impoundment". Please reconcile these discrepancies.

Section 3

17. The information concerning the post-closure care contact person in the second paragraph of this section is insufficient to comply with the requirements of MHWMR 264.118(b)(3).

18. The **Post-Closure Care Inspection Report** (Table 3-2) does not include the time of the inspection as required by MHWMR 264.15(d).

19. The **Post-Closure Care Inspection Report** (Table 3-2) should include a requirement to check the locks on the monitoring wells.

20. The **Post-Closure Care Inspection Report** (Table 3-2) should include a requirement relative to maintaining benchmark integrity, per MHWMR 264.310(b)(6). This may simply require clarification that the scheduled annual 'engineering survey' will address this issue.

21. The **Inspection Schedule** (Table 3-3) should call for inspections to occur following significant storms. Language as included on the schedule submitted with the previous application will be adequate.

22. The **Security** information provided in this section is insufficient to document compliance with MHWMR 264.14.

23. This section would probably be the most logical to contain the required justification for requesting any waivers under MHWMR 270.14(b)(6).

24. In Table 3-5, the reference to 'K001 Appendix VII constituents' is potentially confusing. Recommend using just 'K001 constituents' where appropriate.

25. MHWMR 270.28 and 270.14(b)(14) stipulate that the application include documentation that the notices required by MHWMR 264.119(a) and (b) have been filed. Additionally, the Post-Closure Care Plan must include documentation that the requirements of MHWMR 264.119(c) will be followed if necessary and that the certification under MHWMR 264.120 will be provided.

26. MHWMR 270.14(b)(15) requires submittal of the most recent financial assurance documentation with the application.

27. The **Groundwater Monitoring** section mentions only the migration of off-site contamination to the south; however, Figures 3 and 4 of the most-recent Corrective Action Performance Evaluation indicate that there is off-site contamination to the east. This should be noted in the description.

28. Please provide a copy of the **Sampling and Analysis Plan** for inclusion into the permit. Please be aware that it will be acceptable (in fact preferable) to provide only the plan itself (i.e., minus the Attachments). Including the entire plan, either directly or by reference, will necessitate a permit modification any time any information contained in the plan changes, including laboratory personnel.

29. Because of changes in the contaminant plume, we believe that permit reissuance will be an appropriate time to redesignate some of the groundwater monitoring wells to allow for a more efficient characterization of the site. Since the most recent Semi-Annual Corrective Action Report states that Boundary Wells CMW-28, CMW-29, and CMW-30 have been added to the sampling schedule, and based on the results of sampling at these wells, we

believe they should also be added to the Groundwater Sampling Plan and will be added to the permit. Also, since Monitoring Well CMW-27 appears to be contaminated, we believe that it cannot appropriately serve as a Boundary Control Well; however, it can and should function as an Effectiveness Well.

30. Costs of Corrective Action must be provided as well as financial assurance documentation for these costs, per MHWMR 264.101(b).

31. The plan does not include any actions to be taken should any new Appendix IX constituents be detected.

Section 6.0 - Engineering Feasibility Study

32. The next-to-last paragraph of this section indicates that a detailed discussion of the Corrective Action Program is provided "in Appendix F in the 1999 Groundwater Monitoring and Effectiveness Report". This reference is confusing since there is an unrelated Appendix F *in* the **1999 Groundwater Monitoring and Effectiveness Report,** which itself is Appendix F of the application. Please clarify; we recommend using "...in the 1999 Groundwater Monitoring and Effectiveness Report, which is included as Appendix F of this application".

33. For clarity, the map in Appendix D should only include monitoring wells to be sampled under the permit. Alternatively, another map depicting only these wells should be provided.

34. On page 4 of Appendix F, the reference to 'K001 Appendix VII constituents' is potentially confusing. Recommend using 'K001 constituents as listed in MHWMR Part 261, Appendix VII' or similar wording.

35. The report refers to 'Trench 1' at the bottom of page 14; elsewhere and on maps 'Trench 1A' and 'Trench 1B' are indicated. Please reconcile.

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

July 27, 2000

CERTIFIED MAIL No. Z 353 769 159
Mr. Stephen A. Ladner
Staff Environmental Specialist
P.O. Box 25861
Oklahoma City, OK 73125

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Re: RCRA Permit Application
Kerr-McGee Chemical, LLC
Forest Products Division - Columbus Facility
Columbus, Lowndes County
MSD 990 866 329

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d22/RCRA/NOD-01

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33. For clarity, the map in Appendix D should only include monitoring wells to be sampled under the permit. Alternatively, another map depicting only these wells should be provided.

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MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
James I. Palmer, Jr., Executive Director

June 7, 2000

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical, LLC
P. O. Box 25861
Oklahoma City, 73125

FILE COPY

Dear Mr. Ladner:

Re: RCRA Part B Permit Application
MSD 990 866 329
Kerr-McGee Chemical LLC - Forest Products Division
Columbus, Lowndes County

This letter is to inform you that we have received all major components required for the review process and the application is administratively complete. However, additional items will be identified during the detailed review for drafting the permit that may require clarification and/or correction.

If you have any questions, please contact me at 601-961-5117.

Sincerely,

Louis Crawford, P.E.
Environmental Permits Division

d22/RCRA/A-81

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

May 31, 2000

Mr. Ron Murphey, Plant Manager
PO Box 906
Columbus, MS 39703-

Dear Sir/Madam:

Re: Kerr McGee Chemical Corporation, Columbus
Columbus, Lowndes County, MS
Hazardous Waste TSD Ref. No. - MSD990866329

This letter is to acknowledge receipt of your application on May 16, 2000, for the above referenced permit. Within forty-five days after the date of receipt of the request, you will be notified either the submitted information is complete or of the major components required to complete the processing of your request.

If this action involves construction activities, please notify us of your projected schedule for commencement of construction and completion of construction if this information is not already contained in the submitted information.

Should you have any questions, please contact Louis Crawford at (601) 961-5171.

Sincerely,

Maggie Carney
Environmental Permits Division

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

RCRA - Permitting File

MAY 2000
Received
OPC

MAY 15 2000

KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

May 12, 2000

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department Environmental Quality
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: Post-Closure Part B Permit Re-Application
Kerr-McGee Chemical - LLC
Columbus, Mississippi
MSD990866329

Dear Mr. Ferguson:

Enclosed please find two (2) copies of the Post-Closure Part B Permit Re-application for the Kerr-McGee Chemical LLC - Forest Products Divsision facility in Columbus, Mississippi.

Thank you for your time and consideration in this matter. If you have any questions, plaease feel free to contact me, Steve Ladner at (405) 270 - 2625.

Sincerely,

KERR-McGEE CHEMCIAL-LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: Ron Murphey, Columbus
N.E. Bock, KMC-LLC
T.R. Reed, KM Hydrology

FOREST PRODUCTS

KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

MAR 2000
Received

February 28, 2000

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department Environmental Quality
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: Permit Application Extension
Kerr-McGee Chemical - LLC
Columbus, Mississippi

Dear Mr. Ferguson:

As per our phone conversation on Friday, February 25, Kerr-McGee Chemical LLC is requesting an extension for the submittal of the re-application of the hazardous waste permit for the Columbus Facility. As per 40 CFR 270.10 (h), the facility may seek an extension from the Director as long as it does not exceed the expiration date. KMC LLC believes that 60 days will be adequate. With the 60 day extension, the permit re-application will be due on May 15, 2000. A May 15, 2000 deadline will still be considerably before the expiration date of October 15, 2000.

Thank you for your time and consideration in this matter. If you have any questions, plaease feel free to contact me, Steve Ladner at (405) 270 - 2625.

Sincerely,

KERR-McGEE CHEMCIAL-LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: Ron Murphey, Columbus
N.E. Bock, KMC-LLC
T.R. Reed, KM Hydrology

FOREST PRODUCTS

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

October 25, 1999

Mr. Ron Murphey
Plant Manager
Kerr McGee Chemical Corporation
PO Box 906
Columbus, MS 39703

Dear Mr. Murphey:

Re: Expiring Permits
Kerr McGee Chemical
Corporation, Columbus
Lowndes County, MS

As you are probably aware, the environmental permits listed below are scheduled to expire within the next year. State and Federal regulations require that a permittee who wishes to continue to operate under such permit(s) shall submit a written request to the Director for reissuance at least 180 days prior to the permit expiration date. In order that the permit(s) can be reissued in a timely manner, we request that you complete the enclosed reapplication form(s) and return to our office by the date specified below.

Permit Program	*Permit Type*	*Permit Number*	*Permit Exp*	*App Due Date*
HW	TSD		9/11/2000	3/15/2000

Should you have any questions, please contact me at (601) 961-5171.

Sincerely,

Bruce Ferguson
Environmental Permits Division

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

May 7, 1999

Mr. Steve Ladner
Kerr-McGee Chemical, LLC
Forest Products Division
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Dear Mr. Ladner:

Re: Kerr-McGee Chemical Corporation
Lowndes County, Mississippi
HW Permit No. HW-90-329-01
MSD 990 866 329
Proposed Monitor Well Plugging Program

The Mississippi Office of Pollution Control (Office) has received and reviewed your letter of April 13, 1999, regarding the plugging and abandonment of monitoring wells at the above referenced facility. The Office has no objections to the plugging and abandonment of the proposed wells with the exception of monitoring well CMW-62. This well should be maintained as it is on the edge of the contaminant plume and may provide confirmation in the future that the contaminant plume has not expanded in size.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson
Environmental Permits Division

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

Perm Ther

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

April 13, 1999

RECEIVED
APR 16 1999
Dept. of Environmental Quality
Office of Pollution Control

Mr. Bruce Ferguson
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Re: Kerr-McGee Chemical Corporation -Forest Products Division
Columbus Mississippi Facility
Proposed Monitor Well Plugging Program

Dear Mr. Ferguson:

Prompted by the recent damage to a groundwater monitor well at the Columbus, MS wood-treating facility, Kerr-McGee Chemical Corporation - Forest Products Division (KMCC-FPD) conducted an in-depth review of all site groundwater monitor wells to determine function and need in relation to the approved Hazardous Waste Permit.

The attached figure is a color-coded map of the functions and use of the various wells at the Columbus facility. The majority of the wells are specifically utilized for permit groundwater monitoring and remediation system monitoring. The remaining wells were segregated into those to be retained for periodic groundwater level measurements and those with no technical merit. These latter wells, eight in number, are proposed for plugging and abandonment.

The plugging and abandonment will be performed during the early third quarter to accommodate rig availability. First half semi-annual water levels will be measured in these wells prior to plugging in the third quarter. All plugging and abandonment procedures will be conducted in compliance with current regulatory requirements.

If you have any questions concerning this well plugging program please do not hesitate to contact me at (405) 270-2625.

Sincerely,

KERR-MCGEE CHEMICAL CORP.
FOREST PRODUCT DIVISION

Stephen A. Ladner

STEPHEN A. LADNER
Staff Environmental Specialist

SL/TWR
Attachment
cc: Mr. Russ McClean, USEPA - Region IV
R. Murphey
T. Reed

FOREST PRODUCTS

FIGURE 1
WELL USE MAP

KERR-McGEE CORP.-SAFETY & ENVIRONMENTAL AFFAIRS

COLUMBUS FACILITY
KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

REVISED: 4/99 | DRAWN BY: KB

LEGEND

- ● CME - EUTAW WELLS
- ⊠ RECOVERY SUMP
- ▲ RECOVERY WELLS
- ■ PIEZOMETERS
- ● CMW - SHALLOW ALLUVIAL WELLS
- ▬ TRENCH
- * APPROXIMATE WELL LOCATIONS

FIGURE 6
NEW WELL LOCATION MAP

Safety & Environmental Affairs

COLUMBUS FACILITY
KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Revised: 9/01	Drawn By: KB

KERR-McGEE CHEMICAL CORPORATION
P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

January 27, 1999

RECEIVED
FEB - 1 1999
Dept. of Environmental Quality
Office of Pollution Control

Mississippi Department of Natural Resources
Bureau of Pollution Control
P. O. Box 10385
Jackson, MS 39209

Attention: Kirk Shelton

Dear Mr. Shelton:

Attached, please find the Discharge Monitoring Report for the month of December 1998. Also find attached the annual Discharge Monitoring Report for our semi-annual sampling. If you have any questions please contact me at 601/328-7551.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

R.P. Murphey
Plant Manager

Enclosures

RPM/cjs

cc: N. Bock

FOREST PRODUCTS

Table No. 2-3

FACIILITY DISCHARGE MONITORING RECORD

KMCC-FPD Facility - Columbus, MS
Month/Year - Dec-98

		O&G		PHENOLS		pH
Permit Requirement						
Unit of Measurement		XXXXXXXX	XXXXXXXX	XXXXXXX	XXXXXXXX	XXXXXXXX
DATE	FLOW	mg/1	lbs.	mg/1	lbs.	SU
1	25,663					
2	22,115	8.00		30.8	5.66	7.10
3	24,569					
4	28,564					
5	21,036					
6	27,891					
7	22,015					
8	29,001					
9	30,118					6.70
10	31,679					
11	24,558					
12	27,514					
13	25,612					
14	26,544					
15	20,255					
16	24,566	7.00		14.85	3.03	6.90
17	30,222					
18	30,004					
19	35,269					
20	20,145					
21	19,882					
22	16,558					
23	30,778					6.60
24	25,456					
25	20,445					
26	25,689					
27	24,642					
28	20,014					
29	35,662					
30	20,145	7.00		14.85	2.48	6.60
31	27,889					
Avg.	**25,629**	**7.33**		**20.17**	**3.72**	**6.78**
Max.	**35,662**	**8.00**		**30.80**	**5.66**	**7.10**
Min.	**16,558**	**7.00**		**14.85**	**2.48**	**6.60**

Semi-annual Sampling Results

Date	Flow	Pentachlorophenol		Copper		Chromium		Arsenic	
		lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l
3/23/98	24690	0.00014352	<0.0007	0.00615075	<0.03	0.008201	<0.04	0.00266532	0.013
5/19/98	24596	0.07638737	0.374	0.00612733	0.03	0.00816977	<0.04	0.00040849	<0.002

Lowndes

KERR-McGEE CHEMICAL LLC
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

DEC 1998
Received
OPC

December 28, 1998

Mr. Bruce Ferguson
Mississippi Department of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Response to comments on 1998 Semi-Annual Report
Kerr-McGee Chemical LLC - Forest Products Division
Columbus, Mississippi

Dear Mr. Ferguson:

The following responses were generated to satisfy the comments from the letter received by us from the Mississippi Department of Environmental Quality (MissDEQ) pertaining to the 1998 Semi-Annual Corrective Action Evaluation and Groundwater Monitoring Report from the Kerr-McGee Chemical - LLC facility in Columbus, Mississippi.

1) KMC-LLC shows the permit to be expiring on August 1, 2005, please advise as to what the date of expiration is.

2) KMC-LLC will change the text to read " metals (with the exception of arsenic and chromium) will be excluded.

3) KMC-LLC will resurvey the affected wells and determine the problem, and report the findings in the next Semi-Annual report.

4) KMC-LLC has not changed the operation of the existing recovery system that would influence CMW-66. KMC-LLC will continue to monitor the situation, with emphasis on these trends and how they relate to seasonal weather variations and constituents analyzed.

Thank you for your time and consideration in this matter. Please feel free to contact me, Steve Ladner, at (405) 270 - 2625, if you require further information.

Sincerely,

KERR-McGEE CHEMICAL - LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: N.E. Bock
R.P. Murphey
T.R. Reed

FOREST PRODUCTS

FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

December 1, 1998

Mr. Russ McLean
U. S. EPA Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8909

Re: RFI Phase II Report
October 1998
Kerr-McGee Chemical Corporation
Columbus, Lowndes County, Mississippi
MSD 990 866 329

Dear Mr. McLean:

The Mississippi Office of Pollution Control (Office) has received and reviewed the above referenced report. The Office offers the following comments based on this review:

1. The report states that the Mississippi Hazardous Waste Management Permit No. HW-90-329-01 is effective until August 1, 2005. This is not the case. The permit expires September 11, 2000.

2. Section 3.1.1. of the report seems to imply that the sumps within Solid Waste Management Area (SWMA) II are exempt from RCRA. While the facility conducted the integrity tests on these sumps as was requested, the Office would like to receive a determination, for future reference, from EPA as to whether an exemption applies to these sumps.

3. Figure 5 may be misleading in showing the extent of the free product contamination at the site. Previous depictions of the extent of free product contamination were based on visible observations of soil samples taken from soil borings (see enclosure). Figure 5 appears to be taken from the annual groundwater reports where free product is determined by a measurable amount in a piezometer or well.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson
Environmental Permits Division

Enclosure

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

Attachment 2

LOCATION OF PROPOSED RECOVERY TRENCH/GALLERY SYSTEM ON THE FREE PRODUCT PLUME SOURCE DATA TO 12/31/91

KERR-McGEE CHEMICAL CORP., FOREST PRODUCT DIVISION, COLUMBUS, MISS.

FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

November 20, 1998

Mr. Steve Ladner
Kerr-McGee Chemical, LLC
Forest Products Division
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Dear Mr. Ladner,

Re: 1998 Semi-Annual Corrective Action Evaluation and Groundwater Monitoring Report – October 1, 1998
Kerr-McGee Chemical, LLC
Columbus, Lowndes County, Mississippi

The Mississippi Office of Pollution Control has received and reviewed the above referenced report. The following comments are based on this review:

1. Paragraph 2 of page 1 states that the permits are effective until August 1, 2005. The RCRA permit issued by the State of Mississippi is effective until September 11, 2000.

2. Paragraph 1 of page 4 states that the metals arsenic and chromium are excluded from analysis requirements. Arsenic and chromium are not excluded from analysis requirements.

3. The well depth for monitoring well CMW-3 was reported to be 23.93 feet. The constructed depth for this well from previous reports is 27.76 feet. The well depth for monitoring well CMW-19 was reported to be 26.46 feet. The constructed depth for this well, from previous reports, is 32.40 feet. These wells should be re-developed in accordance with the document "Sampling and Analysis Plan, Kerr-McGee Chemical corporation, Forest Products Division, Columbus, Mississippi," revised May 31, 1996.

4. The concentration of monitored constituents in monitoring well CMW-66 have shown a decreasing trend since the monitoring was initiated at this well in August of 1993. It appears that since the end of 1996 there may be an increasing trend in the concentration of naphthalene and acenaphthylene in monitoring well CMW-66. Please elaborate as to

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

whether there may have been a change in the operation of the groundwater corrective action system that may have resulted in this apparent trend.

Please respond to the above comments within 30 days of receiving this letter. Should you have any questions, I can be reached at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Environmental Permits Division

cc: Mr. Russ McLean, U. S. EPA, Region 4
Mr. Kirk Shelton, MDEQ

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OK 73125

July 24, 1998

Mr. Russ McLean
United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8909

RECEIVED
AUG - 3 1998
Dept. of Environmental Quality
Office of Pollution Control

Re: Phase II RFI Meeting
Kerr-McGee Chemical LLC
Columbus, Mississippi

Dear Mr. McLean:

Kerr-McGee Chemical LLC (KMC LLC) wishes to thank you and Mr. Ferguson, Mississippi Department of Environmental Management, for taking the time to meet on July 22, 1998 at the Columbus facility to discuss the remaining issues of the Phase II RFI assessments at the site. The meeting was very productive and provided clear direction for the completion of the Phase II RFI assessment work at the Columbus site.

In summary and as agreed upon, field work will begin the week of July 27, 1998 for the installation of three additional shallow groundwater monitoring wells and four shallow surficial soil samples. The wells will be installed on-site and will provide a more closely spaced monitoring network for the existing groundwater plume on-site. The four shallow soil samples will provide additional data on the impact to this media in the southwest corner of the KMC LLC property. Upon completion of the field work, the data needs for the Phase II RFI will be fulfilled.

In regards to the off-site drainage ditches (SWMA VIII), our discussion focused on usage of the ditches, the existing data that had already been collected, and the documentation of source control on-site. Based on the presentation and our agreement, the assessment of the ditches is complete, and that an option of no action or natural attenuation will be the proposed method of corrective action from KMC LLC. KMC LLC understands that source control at the site must be in place, and believes that this is documented and can be quantified. As per our discussions, KMC LLC will summarize the discussion and data collection from the off-site ditches in the Phase II RFI Report submittal. Thank you again for your time and consideration in this matter.

Sincerely,

KERR McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Environmental Specialist

cc: Ron Murphey, KMC LLC - Columbus
Bruce Ferguson, Miss DEQ
Tom Reed, KM Hydrology

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
PERMIT BOARD
HAZARDOUS WASTE DIVISION
JANUARY 13, 1997

Approved

Permit Modification

Kerr-McGee Chemical Corp. Lowndes County MSD990866329

Z 156 165 102

Receipt for Certified Mail

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PS Form 3800, March 1993

FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

January 29, 1997

CERTIFIED MAIL NO. Z 156 165 102
Mr. Steve Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, OK 73125

RE: Permit Modification
RCRA Permit No. HW-90-329-01
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

On January 13, 1997, the Environmental Quality Permit Board granted approval to the requested modification of the above referenced permit. Therefore, the permit has been modified as follows:

- Permit Condition I.D.3. excludes certain constituents from the Part 264 Appendix IX analysis requirements.

- Permit Conditions IV.C.3.e. and IV.H.3. now require annual sampling and analysis of one "effectiveness" monitoring well for Appendix IX constituents.

Two copies of all Permit Modules are enclosed. Please insert these into your copy of the permit and discard the outdated pages. The entire Modules are included because the modification of the above conditions caused changes in the length and page numbering.

If you have any questions, please call Bruce Ferguson at (601) 961-5141.

Sincerely,

Charles Chisolm

Charles H. Chisolm, Head
Office of Pollution Control

Enclosures

cc: Mr. Russ McLean, U. S. EPA, Region IV, w/enclosure

manage accidental spills and incidental drippage from treated wood. In 1994, the facility reported 109 tons of contaminated soil and debris was shipped off-site to a hazardous waste disposal facility.

Summary of Basis for Modifications to Permit Conditions

The facility's permit has been modified in accordance with Mississippi Hazardous Waste Management Regulation 270.41. This regulation allows for the modification of a facility's permit when the Director reviews the permit under MHWMR 270.50(d).

Permit Condition I.D.3. defines for the purposes of the Permit Appendix IX parameters to be the constituents in MHWMR Appendix IX less selected constituents which are not likely to be detected at the facility based on knowledge of past operational practices.

Permit Conditions IV.C.3.e. and IV.H.3. require the annual sampling and analysis of one effectiveness well for the Appendix IX parameters. Permit Condition IV.H.3. requires the addition of previously undetected constituents to the groundwater monitoring list based upon the annual Appendix IX analysis.

Variances

No variances or alternatives to required standards are proposed.

Procedures for Final Determination

Approval of the permit modification will be made after solicitation and consideration of public comments. comments on the proposed permit modification will be accepted for a period of 45 days beginning on October 28, 1996, and ending on December 13, 1996. Any comments should be submitted to Bruce Ferguson at the following address:

Mississippi Department of Environmental Quality
P. O. Box 10385
Jackson, Mississippi 39289-0385

A public hearing will not be held unless specifically requested in writing. Requests for additional information can be made to Bruce Ferguson at (601) 961-5141.

FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 11, 1996

Steve Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, OK 73125

RE: Permit Modification - Appendix IX Sampling
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Mr. Ladner:

Enclosed are proposed changes to the Post Closure Permit for your Columbus, Mississippi facility. The changes consist of the rewording of Conditions IV.C.3.e. and IV.H.3. and the addition of Condition I.D.3.. Condition I.D.3. excludes certain constituents from Appendix IX analysis. The excluded constituents are based on your letter of July 23, 1996, with the exception that the following constituents were not excluded: polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, arsenic, chromium, lead and cresols.

Please review these conditions and contact me if you feel that further discussion is necessary. I can be reached at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

or his designee or authorized representative.

I.D.1. Hazardous constituents for purposes of this permit are those substances listed in MHWMR 261, Appendix VIII and include hazardous constituents released from solid waste and hazardous constituents that are reaction by-products.

I.D.2. Release for purposes of this permit includes spilling, leaking, pumping, pouring, emitting, emptying, discharging, injection, escaping, leaching, or disposing into the environment of any hazardous waste or hazardous constituents, but excludes those otherwise authorized under law.

I.D.3. Appendix IX Parameters for the purpose of this permit shall mean the constituents listed in MHWMR 264 Appendix IX less the following constituents:

Common Name	CASRN	Common Name	CASRN
Aldrin	309-00-2	Endosulfan II	33213-65-9
Antimony	(Total)	Endosulfan sulfate	1031-07-8
Barium	(Total)	Endrin	72-20-8
Beryllium	(Total)	Endrin aldehyde	7421-93-4
alpha-BHC	319-84-6	Heptachlor	76-44-8
beta-BHC	319-85-7	Heptachlor epoxide	1024-57-3
delta-BHC	319-86-8	Mercury	(Total)
gamma-BHC	58-89-9	Methoxychlor	72-43-5
Cadmium	(Total)	Nickel	(Total)
Chlordane	57-74-9	Polychlorinated biphenyls	
Cobalt	(Total)	Selenium	(Total)
Copper	(Total)	Silver	(Total)
Cyanide	57-12-5	Silvex	93-72-1
2,4-D	94-57-7	Sulfide	18496-25-8
4,4'-DDD	72-54-8	2,4,5-T	93-76-5
4,4'-DDE	72-55-9	Thallium	(Total)
4,4'-DDT	50-29-3	Tin	(Total)
trans-1,2-Dichloroethylene	156-60-5	Toxaphene	8001-35-2
Dieldrin	60-57-1	Vanadium	(Total)
Endosulfan I	959-98-8	Zinc	(Total)

I.E. DUTIES AND REQUIREMENTS

I.E.1. Duty to Comply

The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an Emergency Permit. Any Permit noncompliance, other than noncompliance authorized by an Emergency Permit, constitutes a violation of RCRA and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application. [MHWMR 270.30(a)]

I.E.2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new Permit at least 180 days prior to Permit expiration. [MHWMR 270.10(h), 270.30(b)]

	Fluoranthene	MDL	3520/8270
	Naphthalene	MDL	3520/8270 3510/8100[2]
	Carbozole	MDL	3520/8270
	Benzo(a)anthracene	MDL	3520/8270
	Benzo(b)flouranthene	MDL	3520/8270
	Indeno(1,2,3-c,d)pyrene	MDL	3520/8270
	Phenanthrene	MDL	3520/8270
	Dibenzo(a,h)anthracene	MDL	3520/8270
Solvents	Benzene	MDL	602/8020
	Total xylene	MDL	602/8020
	Total phenols	MDL	EPA Method 420.2

1 - MDL is defined as the method detection limit.
2 - Preparation and analysis methods used prior to meeting the GWPS

IV.C.2. The Permittee shall monitor CMW-6, CMW-7 and CMW-8 at the point of compliance and those wells between the point of compliance and the plume boundary, as described in Permit Condition IV.B., and designated in Permit Attachment IV-3. [MHWMR 264.95 and 264.100(d)]

IV.C.3. The Permittee shall monitor for the following hazardous constituents during the compliance period. The compliance period shall be defined to begin on the effective date of this permit and to continue until the groundwater protection standard for all constituents in Permit Condition IV.C.1. has not been exceeded for a period of three consecutive years in any compliance or "effectiveness" monitoring well specified in Permit Condition IV.B.1. [MHWMR 264.96]

IV.C.3.a. All compliance monitoring wells listed in Permit Condition IV.B.1.a. shall be sampled semi-annually for the groundwater protection parameters listed in Permit Condition IV.C.1.

IV.C.3.b. Upgradient monitoring well(s) listed in Permit Condition IV.B.1.b. shall be sampled annually for the groundwater protection parameters listed in Permit Condition IV.C.1. Within 90 days of meeting the groundwater protection standards listed in Permit Condition IV.C.1., the upgradient monitoring well(s) listed in Permit Condition IV.B.1.b. shall be sampled annually for all Appendix IX Parameters as specified by MHWMR 264.99(g).

IV.C.3.c. All boundary control wells listed in Permit Condition IV.B.1.c. shall be sampled semi-annually for the groundwater protection parameters listed in Permit Condition IV.C.1.

IV.C.3.d. All deep monitoring wells listed in Permit Condition IV.B.1.d. shall be sampled semi-annually for the groundwater protection parameters listed in Permit Condition IV.C.1.

IV.C.3.e. All effectiveness monitoring wells listed in Permit Condition IV.B.1.e. shall be sampled semi-annually for total phenol, naphthalene, and acenapthylene and biennially for the groundwater protection parameters listed in Permit Condition IV.C.1. When analyses from a sampling event indicate that total phenol, naphthalene, and acenapthylene have reached the groundwater protection standards listed in Permit Condition IV.C.1., then the effectiveness wells shall be sampled semi-annually for the groundwater

protection parameters listed in Permit Condition IV.C.1. One effectiveness well shall be sampled annually and analyzed for all Appendix IX parameters. Within 90 days of meeting the groundwater protection standards listed in Permit Condition IV.C.1., the effectiveness monitoring well(s) in Permit Condition IV.B.1.e. shall be sampled annually for all Appendix IX Parameters as specified by MHWMR 264.99(g).

IV.C.3.f. Product thicknesses shall be measured semi-annually in all DNAPL wells listed in Permit Condition IV.B.1.f. Should the permittee choose to remove the free-phase from DNAPL wells, the free-phase thickness shall be measured prior to each removal event.

IV.D. CORRECTIVE ACTION PROGRAM

IV.D.1. The Permittee began corrective action on-site in August 1990 and off-site in November 1992 under the approval of the Executive Director. [MHWMR 264.100(c)]

IV.D.2. The Permittee shall maintain the corrective action program outlined in Permit Attachment IV-5 to remove any hazardous constituents that exceed concentration limits in ground water between the compliance point and the downgradient facility property boundary, and beyond the facility boundary, where necessary to protect human health and the environment. [MHWMR 264.100(e)]

IV.D.3. If the ground-water protection standard is met during the compliance period, the Permittee shall continue corrective action to the extent necessary to ensure that the ground-water protection standard is not exceeded. If corrective action is required beyond the compliance period, it must continue until the ground-water protection standard has not been exceeded for three consecutive years. [MHWMR 264.100(f)]

IV.D.4. If the Permittee determines that the corrective action program is no longer successful at containing and/or reducing the contaminant plume, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program. [MHWMR 264.100(h)] This condition shall not preclude the permittee from taking interim corrective measures .

IV.D.5. Upon termination of corrective action measures, the Permittee shall perform a complete MHWMR 264 Appendix IX analysis on groundwater samples from all compliance, boundary control, "effectiveness", and deep monitoring wells deemed necessary by the Executive Director to confirm that no MHWMR 264 Appendix IX hazardous constituents are present in the groundwater above detection levels, or for those constituents specified in Permit Condition IV.C., above the concentration limit comprising the Ground Water Protection Standard. If hazardous constituents are found to be present, their concentrations shall be reported to the Executive Director within seven days from completion of analysis.

IV.E. SAMPLING AND ANALYSIS PROCEDURES

The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the ground-water monitoring wells described in Permit Condition IV.B.: [MHWMR 264.97(d) and (e)]

IV.E.1. Samples shall be collected by the techniques described in the "Sampling and Analysis Plan, Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Mississippi" as revised May 31, 1996.

IV.E.2. Samples shall be preserved and shipped in accordance with the procedures specified

in the "Sampling and Analysis Plan, Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Mississippi" as revised May 31, 1996.

IV.E.3. Samples shall be analyzed according to the procedures specified in "Sampling and Analysis Plan, Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Mississippi" as revised May 31, 1996.

IV.E.4. Samples shall be tracked and controlled using the chain-of-custody procedures specified in "Sampling and Analysis Plan, Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Mississippi" as revised May 31, 1996.

IV.F. GROUND-WATER SURFACE ELEVATION

IV.F.1. The Permittee shall determine the ground-water surface elevation at each well each time ground water is sampled, in accordance with Permit Condition IV.H. [MHWMR 264.97(f)]

IV.G. STATISTICAL PROCEDURES

In order to reduce the area of monitoring or to discontinue corrective action under Permit Condition IV.D.3., the monitoring results from individual wells shall be evaluated using statistical procedures. Within 90 days of proposing to reduce the area of monitoring and/or to discontinue corrective action, the permittee shall submit proposed statistical procedures to the Executive Director for approval. The approved statistical procedures shall then be used to determine if the groundwater protection standard has been met in accordance with Permit Condition IV.H.5.

IV.H. MONITORING PROGRAM AND DATA EVALUATION

The Permittee shall determine the groundwater quality at each monitoring well specified in Permit Condition IV.B. at the frequency and for the parameters specified in Permit Condition IV.C.

IV.H.1. The Permittee shall collect, preserve and analyze samples in accordance with Permit Condition IV.E.

IV.H.2. The Permittee shall determine the concentrations of the hazardous constituents specified in Permit Condition IV.C., throughout the compliance period and any extensions due to corrective action implementation, to demonstrate conformance with the ground-water protection standard. [MHWMR 264.96] The Permittee shall determine the concentration of hazardous constituents in groundwater at each monitoring well at the compliance point, at least semi-annually. [MHWMR 264.100(d)]

IV.H.3. The Permittee shall analyze samples from one effectiveness well, annually, for all Appendix IX Parameters to determine if additional hazardous constituents are present in the uppermost aquifer. Additional hazardous constituents shall be defined as any constituent which has not already been determined to be present in the groundwater beneath the facility. If the Permittee finds additional hazardous constituents present, the Permittee shall:

IV.H.3.a. Resample within one month and repeat the Appendix IX analysis. If the second analysis confirms the presence of new constituents, the Permittee must report the concentration of these additional constituents to the Executive Director within seven days after the completion of the second analysis and add them to the monitoring list under Permit Condition IV.C.1., or

IV.H.3.b. The Permittee must report the concentration of these additional

constituents to the Executive Director within seven days after the completion of the second analysis and add them to the monitoring list under Permit Condition IV. C.1..

IV.H.4. The Permittee shall determine the ground-water flow rate and direction in the uppermost aquifer at least annually. [MHWMR 264.98 (e)]

IV.H.5. Upon reaching the groundwater protection standard listed in Permit Condition IV.C., the Permittee shall statistically compare the measured concentration of each monitored hazardous constituent with the concentration limit in the ground-water protection standard each time ground-water quality is determined, in accordance with Permit Condition IV.H.2. The Permittee must compare the ground-water quality measured at each point of the compliance monitoring well and any other specified wells, as stated in Permit Condition IV.C. and in accordance with the procedures specified in Permit Condition IV.G.

IV.I. RECORDKEEPING AND REPORTING

IV.I.1. The Permittee shall enter all monitoring, testing and analytical data obtained, according to Permit Condition IV.H.2., in the operating record. The data must include all computations, calculated means, variances, and results of the statistical test(s) that the Executive Director has specified. [MHWMR 264.73(b)(6)]

IV.I.2. The Permittee shall report, in writing, semi-annually to the Executive Director on the effectiveness of the corrective action program. These reports shall be submitted on March 1 and October 1 of each year until the corrective action program has been completed. [MHWMR 264.100(g)]

IV.I.3. The Permittee shall submit the analytical results required by Permit Conditions IV.F, IV.H.2, IV.H.3, IV.H.4, and IV.H.5 in accordance with the following schedule:

Samples Collected During the Months of	Results to the Executive Director
January to June	October1
July to December	March 1

IV.J. REQUEST FOR PERMIT MODIFICATION

If the Permittee or the Executive Director determines that the corrective action program established by this Permit no longer satisfies the regulatory requirements, then the Permittee must submit an application for a permit modification within 90 days to make any appropriate changes to the program. [MHWMR 264.100(h)]

IV.K. COST ESTIMATE FOR FACILITY CORRECTIVE ACTION

IV.K.1. For the purposes of corrective action cost estimates, the number of years remaining in the corrective action period shall be:

i) The number of years remaining in the post-closure period or 15 years, whichever is greater, or;

ii) An alternate period approved by the Executive Director.

IV.K.2. The Permittee's annual corrective action cost estimate is located in Permit Attachment III-2.

IV.K.3. The Permittee must revise the annual corrective action cost estimate for inflation by

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

RECEIVED
AUG 28 1996
Dept. of Environmental Quality
Office of Pollution Control

August 20, 1996

Re: Permit Modification Notification
RCRA Permit No. HW-90-329-01
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Interested Party:

On May 31 and July 9, 1996, the Mississippi Environmental Quality Permit Board granted approval of the requested Class I Modifications for the Kerr-McGee Chemical Corporation (KMCC) permit HW-90-329-01 for the Columbus, Mississippi facility. In compliance with MHWMR 270.42 (a)(1)(ii) and MHWMR 270.42 (a)(1)(iii), KMCC is sending you this letter of notification.

If you have any questions, please feel free to contact Steve Ladner at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Steve Ladner
Staff Environmental Specialist

cc: Mr. Russ McLean, U.S. EPA, Region IV
Mr. Bruce Ferguson, MDEQ
Mr. Ron Murphey, KMCC-Columbus

FOREST PRODUCTS

Permit

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

March 15, 1995

Mr. Steve Ladner
Kerr-McGee Chemical Corporation
Kerr-McGee Center
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Permit Modification
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

Please find enclosed a DRAFT copy of the permit modification for the above reference facility. All changes from the original permit should be highlighted. The only change from the last copy that was sent to you is as follows:

IV.B.1.d. Deep Monitoring Wells - Within 90 days of the approval of the modification of this Permit, the Permittee shall install two wells in the Eutaw formation at the locations specified on Figure 2 of Permit Attachment IV-2. These wells shall be designated as CME-7 and CME-8. Monitoring wells CME-3, , CME-5, CME-6, CME-7, CME-8 and/or other wells required under Condition IV.B.3. shall be designated as deep monitoring wells used to monitor the Eutaw formation.

Should you have any comments, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

2nd Copy mailed
4/20/95

Permit

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

March 1, 1995

RECEIVED
MAR - 6 1995
Dept. of Environmental Quality
Office of Pollution Control

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department of
Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289

Re: Groundwater Monitoring Wells in the Eutaw Formation
Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi Facility

Dear Mr. Ferguson:

As per our February 17, 1995 phone conversation, the Mississippi Department of Environmental Quality (MDEQ) has agreed to allow Kerr-McGee Chemical Corporation (KMCC) Columbus, Mississippi facility to plug and abandon three groundwater monitoring wells completed in the Eutaw formation at the facility. As was cited in the original proposal by KMCC, an October 3, 1994 letter, the Eutaw wells that have been installed interior to the shallow zone plume have shown a potential for cross-contamination between aquifers. Based on this knowledge and your approval, KMCC plans to plug and abandon the following Eutaw wells, CME1, CME2, and CME4, that are located interior to the shallow zone plume.

KMCC will install two replacement Eutaw wells downgradient of the shallow zone plume to monitor potential migration. Enclosed is a map with the proposed locations for these wells. As we discussed, KMCC could complete this work within 90 days of permit approval.

Please feel free to call me at (405) 270-2625, if you have any questions. Thank you for your time and consideration in this matter.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

cc: T. Helms, KMCC-Columbus
N. Bock, KMCC
J. Poor, KM Hydrology

FOREST PRODUCTS

. - HYDROLOGY DEPT.

US FACILITY

CHEMICAL CORP.

DUCTS DIVISION

DATE: 9/94

Permit

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

February 7, 1995

Mr. Steve Ladner
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Permit Modification
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

Please find enclosed a draft copy of the permit modification for the above referenced facility. The parts of the permit that have been modified are highlighted. Also, enclosed is the wording for financial instruments which are to accompany the permit as Attachment IV-3.

The analytical methods have not been changed to method 8100 as you had requested. This is because the practical quantitation limits for that method appear to be above MCLs, where they exist, or RFI health based criteria where MCLs do not exist. The laboratory method used should have quantitation limits as low as the MCL. If no laboratory methods exist that have quantitation limits as low as the MCL, then the laboratory method with the lowest quantitation limits should be used.

There appears to have been a misunderstanding of what needs to be submitted on the post-closure and corrective action cost estimate. The most recent cost estimates for post-closure and corrective action should be submitted so that they may be included as an attachment to the permit. Enclosed are examples of post-closure and corrective action cost estimates. These examples appear to be in line for the post-closure costs. The corrective action costs have been estimated at over three times the estimate which has been submitted. The major expense in these cost estimates is the cost of sampling and analysis. The analytical cost used was $680/well-event. This is in line with the analytical cost used in the original post-closure cost estimate included in the permit. Please review your post-closure and corrective action cost estimates and submit itemized statements showing the costs for individual activities and reflecting the cost of having a third party do the work.

Also, should you wish to act on your earlier request to modify the Eutaw monitoring network in the near future, the change should be reflected in the permit modification. Please review the changes to the permit. Should you have any questions or comments, contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

SUMMARY OF CORRECTIVE ACTION COSTS			
1.	Preparation of annual report	$2,000.00	
2.	Analysis and sampling of deep wells	$6,170.32	
3.	Analysis and sampling of control wells	$13,883.00	
4.	Analysis and sampling of effectiveness wells	$5,340.48	
5.	Subtotal		$27,393.80
6.	Engineering 10%	$2,739.38	
7.	Maintenance and contingency 15%	$4,109.07	
8.	Total annual corrective action costs		$34,242.25
9.	Number of years remaining in corrective action	21	
10.	Corrective action costs for the remainder of the corrective action period		$719,087.25

CORRECTIVE ACTION COST ESTIMATE

1 COLLECTION OF AQUEOUS SAMPLE - BOUNDARY CONTROL WELLS			
1.A.	Number of well sampling events	18	
1.B	Sampling team and equipment cost per work hour a. Level D Protection $91.29/hr b. Level C Protection $115.67/hr C. Level B Protection $137.66/hr	$91.29	
1.C.	Work hours required to collect samples from one sampling location	1	
1.D.	Number of hours required to collect all samples (Multiply line 1.A. by line 1.C.)	18	
1.E.	Per Event Cost to Collect Aqueous Samples (Multiply line 1.B. by line 1.D.)		$1,643.22
2 ANALYSIS OF AQUEOUS SAMPLE			
2.A.	Cost of analysis per well sampling event	$680.00	
2.B.	Enter number of sampling events per year	18	
2.C.	Annual Cost to analyze Aqueous Samples (Multiply line 2.A. by line 2.B. and line 1.A.)		$12,240.00
TOTAL ANNUAL COST OF SAMPLING AND ANALYSIS OF AQUEOUS SAMPLES			$13,883.00

1 COLLECTION OF AQUEOUS SAMPLE - **EFFECTIVENESS WELLS**			
1.A.	Number of well sampling events	12	
1.B	Sampling team and equipment cost per work hour a. Level D Protection $91.29/hr b. Level C Protection $115.67/hr C. Level B Protection $137.66/hr	$91.29	
1.C.	Work hours required to collect samples from one sampling location	1	
1.D.	Number of hours required to collect all samples (Multiply line 1.A. by line 1.C.)	12	
1.E.	Per Event Cost to Collect Aqueous Samples (Multiply line 1.B. by line 1.D.)		$1095.48
2 ANALYSIS OF AQUEOUS SAMPLE			
2.A.	Cost of analysis per well sampling event base neutrals	$245.00	
2.B.	Enter number of sampling events per year	12	
2.C.	Cost of analysis per well sampling event acid extractables	$435.00	
2.D.	Number of sampling events per year	3	
2.E.	Annual Cost to analyze Aqueous Samples		$4,245.00
TOTAL ANNUAL COST OF SAMPLING AND ANALYSIS OF AQUEOUS SAMPLES			$5,340.48

1 COLLECTION OF AQUEOUS SAMPLE - DEEP WELLS			
1.A.	Number of well sampling events	8	
1.B	Sampling team and equipment cost per work hour a. Level D Protection $91.29/hr b. Level C Protection $115.67/hr C. Level B Protection $137.66/hr	$91.29	
1.C.	Work hours required to collect samples from one sampling location	1	
1.D.	Number of hours required to collect all samples (Multiply line 1.A. by line 1.C.)	8	
1.E.	Per Event Cost to Collect Aqueous Samples (Multiply line 1.B. by line 1.D.)		$730.32
2 ANALYSIS OF AQUEOUS SAMPLE			
2.A.	Cost of analysis per well sampling event	$680.00	
2.B.	Enter number of sampling events per year	8	
2.C.	Annual Cost to analyze Aqueous Samples (Multiply line 2.A. by line 2.B. and line 1.A.)		$5,440.00
TOTAL ANNUAL COST OF SAMPLING AND ANALYSIS OF AQUEOUS SAMPLES			$6,170.32

POST CLOSURE CARE COST ESTIMATE

SUMMARY OF POST CLOSURE COSTS			
1.	ANNUAL MAINTENANCE AND INSPECTION OF COVER	$1,102.08	
2.	ANNUAL SAMPLING AND ANALYSIS OF COMPLIANCE WELLS	$4,627.84	
3.	ANNUAL SAMPLING AND ANALYSIS OF BACKGROUND WELL	$862.58	
4.	TOTAL ANNUAL COSTS	$6,592.40	
5.	NUMBER OF YEARS REMAINING IN POST-CLOSURE PERIOD (July 2016 - Jan 1995)	21	
6.	SUBTOTAL OF ANNUALIZED COSTS POST-CLOSURE COSTS (LINE 4 TIMES LINE 5)		$138,440.40
7.	ENGINEERING EXPENSES (10% OF LINE 6)		$13,844.04
8.	DEED NOTATION		$2,800
9.	CERTIFICATION OF COMPLETION OF POST-CLOSURE		$4,960
10	SUBTOTAL		$160,044.00
11	CONTINGENCY (20% OF LINE 10)		$32,009.00
12	TOTAL COST OF POST CLOSURE CARE		$192,053.00

1 COLLECTION OF AQUEOUS SAMPLE - COMPLIANCE WELLS			
1.A.	Number of well sampling events (# wells x # events)	6	
1.B	Sampling team and equipment cost per work hour a. Level D Protection $91.29/hr b. Level C Protection $115.67/hr C. Level B Protection $137.66/hr	$91.29	
1.C.	Work hours required to collect samples from one sampling location	1	
1.D.	Number of hours required to collect all samples (Multiply line 1.A. by line 1.C.)	6.00	
1.E.	Annual Cost to Collect Aqueous Samples (Multiply line 1.B. by line 1.D.)		$547.74
2 ANALYSIS OF AQUEOUS SAMPLE			
2.A.	Cost of analysis per well sampling event	$680.00	
2.B.	Enter number of sampling events per year	6.00	
2.C.	Annual Cost to analyze Aqueous Samples (Multiply line 2.A. by line 2.B. and line 1.A.)		$4,080.00
TOTAL ANNUAL COST OF SAMPLING AND ANALYSIS OF AQUEOUS SAMPLES			$4,627.74

1 COLLECTION OF AQUEOUS SAMPLE - BACKGROUND WELL			
1.A.	Number of sampling locations	1	
1.B	Sampling team and equipment cost per work hour a. Level D Protection $91.29/hr b. Level C Protection $115.67/hr C. Level B Protection $137.66/hr	$91.29	
1.C.	Work hours required to collect samples from one sampling location	1	
1.D.	Number of hours required to collect all samples (Multiply line 1.A. by line 1.C.)	1.00	
1.E.	Annual Cost to Collect Aqueous Samples (Multiply line 1.B. by line 1.D.)		$91.29
2 ANALYSIS OF AQUEOUS SAMPLE			
2.A.	Cost of analysis per well sampling event	$680.00	
2.B.	Enter number of sampling events per year	1	
2.C.	Annual Cost to analyze Aqueous Samples (Multiply line 2.A. by line 2.B. and line 1.A.)		$771.29
TOTAL ANNUAL COST OF SAMPLING AND ANALYSIS OF AQUEOUS SAMPLES			$862.58

1 MAINTENANCE AND REPAIR OF FINAL COVER			
1.A.	Estimated cost of installing final cover	$87,000	
1.B.	Number of years post closure	30	
1.C.	Annual cost to maintain and repair final cover (20% of 1.A. divided by 1.B.)		$580.00
2 POST-CLOSURE CARE INSPECTION			
2.A.	Cost of conducting one inspection	$130.52	
2.B.	Number of inspection per year	4	
2.C.	Annual cost of post-closure inspections		$522.08
TOTAL ANNUAL COST OF MAINTENANCE AND INSPECTION			$1,102.08

Permit

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

January 27, 1995

RECEIVED
FEB - 6 1995
Dept. of Environmental Quality
Office of Pollution Control

Mr. Bruce Ferguson
Hazardous Waste Division
State of Mississippi
Department of Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Adjusted Correction Action Costs
Kerr-McGee Chemical Corporation
Columbus, Mississippi Facility

Dear Mr. Ferguson:

As per our conversation, please find the justification for cost estimate corrections for corrective action. The following adjustments and estimations are itemized below:

I.	RFI Implementation	$ 40,000
II.	Corrective Measures Study	$ 12,000
III.	Corrective Measure Augmentation	$ 50,000
IV.	Monitoring Program (10 years)	$125,000
	Total Cost Estimate	**$227,000**

Hopefully, this fulfills the additional information requested for the draft permit to be issued. Thank you for your time and consideration.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner dbc

Stephen A. Ladner
Staff Environmental Specialist

SAL:dbc

cc: A.N. Helms
N.E. Bock

Forest Products

Print

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

January 18, 1995

RECEIVED
JAN 24 1995
Dept. of Environmental Quality
Office of Pollution Control

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39789-0385

Re: Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi
Draft Permit Comments and Post-Closure Cost Adjustments

Dear Mr. Ferguson:

As per our phone conversations and meetings, I have adjusted the Post-Closure and Corrective Action financial assurance cost estimates for the Kerr-McGee Chemical Corporation Columbus, Mississippi facility. The new cost estimate reduces the Post-Closure estimate to $310,000. This accounts for an approximate reduction of 33%. The justification for this reduction is based on the completion of 33% of the post-closure monitoring period of 30 years.

This means of calculating the annual post-closure cost estimate can be incorporated into the permit as well. As a suggestion to the Draft Permit language for Section III.E., Cost Estimate For Post-Closure, I have modified the language to read:

III.E.4 The Permittee shall determine the most recent post-closure cost estimate by multiplying the most recent annual post-closure cost estimate by **a percentage** of the number of years remaining in the post-closure period.

The Corrective Action cost estimate has been adjusted upwardly by $100,000 for a total of $227,0000. This cost has been adjusted to reflect the future costs associated with the continued implementation of corrective measures and an RFI investigation.

Please call if you have any questions, or need further information.

Sincerely,

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: N.E. Bock
T.N. Helms

Forest Products

Permit

FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

June 10, 1994

CERTIFIED MAIL NO. Z 711 069 179

Mr. Steve Ladner
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Post-Closure and Groundwater Corrective Action Permit HW-90-329-01
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

This letter constitutes a formal request for your submittal of an amended Part B permit application for the above referenced permit under the authority of the Mississippi Solid Waste Disposal Act and Part 270 of the Mississippi Hazardous Waste Management Regulations (MHWMR).

The State of Mississippi has been granted final authorization under the Resource Conservation and Recovery Act (RCRA) to operate in lieu of the federal hazardous waste program. Because of this authorization, RCRA permits for hazardous waste facilities in Mississippi will be issued by the Mississippi Office of Pollution Control Board rather than by the Environmental Protection Agency. The amended Part B permit application shall be submitted by August 1, 1994 and shall contain the following:

1) A description of the Corrective Action Program as required by MHWMR 270.14(c)(8).

2) An amended contingency plan as required by MHWMR 264.54 and

3) The most recent post-closure cost estimate as required by MHWMR 270.14(b)(16).

Should you have any questions concerning this letter or any of these requirements, please contact Bruce Ferguson of the Hazardous Waste Section at (601) 961-5141.

Sincerely,

Bruce Ferguson, P. E.
Hazardous Waste Division

BF:gd

Ladner

Permit

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

RECEIVED
OCT 1 1 1994
DEQ-OPC

October 3, 1994

Mr. Bruce Ferguson
RCRA TSD Coordination
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39789-0385

Re: Kerr-McGee Chemical Corporation Forest Product Division
Columbus, Mississippi
Monitor Well Plugging Request

Dear Mr. Ferguson:

The Kerr-McGee Chemical Corporation - Forest Product Division (KMCC-FPD), Columbus Mississippi facility, installed six (6) Eutaw formation monitor wells to determine quality of the Eutaw groundwater at the site (Attachment 1). According to Hazardous Waste Post-Closure Permit HW-90-329-01 four wells (CME3, CME4, CME5, and CME6) are sampled and analyzed semi-annually. Three Eutaw wells (CME1, CME2, and CME4) were installed at sites determined to have overlying creosote product or dissolved constituents. Three wells (CME3, CME5 and CME6) were installed in areas without overlying contaminants.

KMCC-FPD is concerned that during collection of groundwater samples from wells in contaminated areas, purging these Eutaw wells or the near-by alluvial wells may be impacting the wells and therefore the upper Eutaw formation. CME4 may be an example of this theory. Table 1 has been prepared to show the groundwater analyses over the years. The groundwater was clean when this well was installed in September of 1989. The table shows that naphthalene, acenaphthylene, 2,3,4,6-tetrachlorophenol, fluoranthene, carbazole, and phenanthrene concentrations have increased.

RECEIVED
OCT 5 1994
KMCC-FOREST PRODUCTS DIVISION
ENVIRONMENTAL & QUALITY CONTROL

FOREST PRODUCTS

KMCC-FPD proposed in the October 1994 Semi-Annual Report to plug Eutaw monitor wells CME4, CME1, and CME2. Pending MDEQ approval, these wells will be plugged and abandoned in accordance to Mississippi plugging standards at earliest convenience.

If you have any questions regarding this request, please contact me at 405/270-2625, or Ms. Jami Poor at 405/270-2675.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen Ladner

STEPHEN LADNER
Staff Environmental Specialist

SL/JP

cc: A. Helms
J.M. Poor

ATTACHMENT 1:

TABLE 1

Groundwater Analyses for CME4

CREOSOTE CONSTITUENTS ug/l	11/89	1/90	5/90	8/90	10/90	5/91	11/91	5/92	11/92	5/93	11/93	5/94
2,3,4,6-tetrachlorophenol	U	U	U	U	U	U	U	U	12	U	16.3	26
acenaphthylene	U	U	U	U	U	U	J	J	J	J	23.8	23
Fluoranthene	U	U	U	U	U	U	U	U	J	J	11.8	36
Naphthalene	U	2.1	1.91	3.19	7.07	J	U	1100	U	840D	2070	2800
carbazole	U	U	U	U	U	U	20	J	59	170	191	150
Phenanthrene	U	U	U	U	U	U	J	J	19	18	84.5	120
Phenol	U	U	U	U	3.29	-	-	-	-	-	-	-

J= Estimated Value: Concentration Below Limit of Quantitation
U= Analyzed But Not Detected
D= Reported at a Higher Dilution

Permit

FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

October 27, 1994

Mr. Steve Ladner
Kerr-McGee Chemical Corp.
P.O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Monitor Well Plugging Request
Kerr-McGee Chemical Corp.
Columbus, Mississippi

Dear Mr. Ladner:

The Mississippi Office of Pollution Control (Office) has reviewed the above referenced request dated October 3, 1994. The Office has no objection to the request, provided the wells are replaced by an equal number of wells downgradient of the contaminant plume. The location of the replacement wells shall be proposed to and agreed upon by the Office prior to abandonment of monitoring wells CME-1, CME-2 and CME-4.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

BF:gd

pc: Russ McLean, US EPA Region IV
Tony Helms, Kerr-McGee Chemical Corp.

Permitting

FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

August 19, 1994

Mr. Steve Ladner
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Proposed Permit Modification
Mississippi Hazardous Waste
Management Permit No. HW-90-329-01
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

Please find enclosed the above referenced modification proposal prepared by the Mississippi Office of Pollution Control (Office) in accordance with Mississippi Hazardous Waste Management Regulation (MHWMR) 270.41(a)(1). This copy of the permit language differs from the copy given to you on February 15, 1994, by the ~~highlighted~~ portions and in that the HSWA portions have been removed.

As discussed with you previously the cost estimates for post-closure care and corrective action appear to be inconsistent. The current post-closure and corrective action costs should be submitted to the Office within 30 days. In addition, the specifications and boring logs for the following monitoring wells should be submitted: CMW-24, CMW-27, CMW-57 and CMW-66.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson, P.E.
Hazardous Waste Division

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

August 26, 1991

RECEIVED
AUG 29 1991
Dept. of Environmental Quality
Bureau of Pollution Control

Steve Spengler
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
September 1, 1990

Dear Mr. Spengler:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

KMCC-FPD continues to discuss a proposal to obtain access to cemetery property for installation of a groundwater recovery system with the Columbus Cemetery Board. KMCC-FPD has drafted a lease agreement and submitted the lease to the Cemetery Board for their review. KMCC-FPD has obtained access to property east of the facility and from the city to install a monitoring well on city property to determine western-most extent of dissolved creosote constituents.

The Post-Closure Permit Application, Part B, Volume III was submitted to the Mississippi Bureau of Pollution Control on March 29, 1991 and KMCC-FPD awaits approval of the application and an approved access agreement for cemetery property. After MBPC approves the permit application addendum of March 29, 1991, the installation of the recovery systems will begin. KMCC-FPD has selected a contractor to install these wells.

Third quarter corrective action groundwater monitoring was conducted the week of August 12, 1991, in accordance with the approved analytical schedule. Fourth quarter corrective action groundwater monitoring is tentatively scheduled for the week of November 4, 1991 in accordance with the approved analytical schedule.

The recovery system continues to perform well. The semi-annual report, due October 1, 1991, will detail the performance of the groundwater monitoring and recovery systems.

FOREST PRODUCTS

4556C

KMCC-FPD completed annual RCRA training on August 1, and August 2, 1991. Four managers were trained in two 1.5 hour sessions.

On August 6, 1991, KMCC-FPD notified the Mississippi Hazardous Waste Division of KMCC-FPD's intent to upgrade the existing drip pad to conform to 40 CFR 264, subpart W standard.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

Nick Bock

Nick Bock
Staff Environmental Specialist

NB:wpc

Enclosures

cc: J. Getz
R. Jones
R. Widmann

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

RECEIVED
AUG - 5 1991
DEQ-CPC

August 6, 1991

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mississippi Hazardous Waste Division
Bureau of Pollution Control
Department of Environmental Quality
P. O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Plant
MSD 094228988
Subpart W Notification

Gentlemen:

Kerr-McGee Chemical Corporation, Forest Products Division (Kerr-McGee), operates the wood treatment facility in Columbus, Mississippi. This facility manufactures treated wood railroad products using creosote exclusively as the wood preservative.

On December 6, 1990 (FR Vol. 55, No. 235) U.S. EPA amended The Hazardous Waste Regulations by listing as hazardous wastes various residuals from wood preserving operations and promulgated the Subpart W standards for drip pads. KMCC-FPD's wood preserving operation at this location is subject to the listing of creosote residuals, F034, and the Subpart W standards.

Effective June 6, 1991 (FR Vol. 56, No. 114), U.S. EPA announced an administrative stay for listed hazardous wastes F032, F034 and F035 in process areas and conditionally extended the effective date for Subpart W drip pad management standards. In accordance with the provisions of the administrative stay, all wood preserving facilities must notify the applicable authorized state/Regional Office of their intended course of action.

This serves as notification that the aforementioned wood treating facility using creosote as a wood preservative had previously installed a drip pad in 1988 (prior to the regulation promulgated December 6, 1990) and intends to upgrade the existing drip pad to meet the Subpart W standard. Kerr-McGee's pad design meets all the requirements of 40 CFR 264, Subpart W with the exception of surface coating and certification. Upon receipt of the

provisions of the stay in June, 1991, Kerr-McGee undertook a program to coat all drip pads. This program is ongoing, and is scheduled for completion in August 1991. Subsequently, the pads will be certified by November 6, 1991. At that time KMCC-FPD will notify the Regional Administrator and state authority of our compliance status well in advance of the February 6, 1992 deadline.

If you desire additional information, please contact the plant manager, J. J. Getz at (601) 328-7551 or me at (405) 270-2394.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Nick Bock

Nick Bock
Staff Environmental Specialist

NB:wpc

cc: Facility

U. S. EPA Region IV
Hazardous Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

July 19, 1991

CERTIFIED MAIL NO. P 675 195 868

THIS LETTER WENT OUT 07/19/91
Do you want follow-up?

Mr. Nick Bock
Kerr-McGee Chemical Corporation
Kerr-McGee Center
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Revision to gr[illegible] remediation system Post Closure Permit - Part B Modification EPA I.D. MSD 990866329

Dear Mr. Bock:

A revision to the previously established corrective action plan for Kerr-McGee's Columbus, Mississippi facility was received by this office in the document titled "Post Closure Permit Application, Part B, Volume III", dated March 29, 1991.

After careful staff review, we concur with the additional monitoring wells and the groundwater remediation system revisions that were detailed in the above-mentioned document. As previous meetings and telephone conversations between yourself and members of this staff have indicated, in addition to KMCC-FPD's revisions it is felt that to better define the limits of the southernmost plume an additional well needs to be added to the proposed system. Final approval as to the placement of this well will be determined after access to the property is obtained.

The formal Post Closure Permit - Part B Modification process that these revisions will necessitate will not be initiated until the additional wells are drilled and the revised system is operational.

If you have any questions regarding this matter please contact me at (601) 961-5220.

Sincerely,

David K. Peacock

David Peacock
Hazardous Waste Division

DP:lfc

cc: Mr. James Scarbrough, EPA

06/14/90 08:33 NO. 407 P001

KERR-McGEE CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

FACSIMILE REQUEST KM—5434

INSTRUCTIONS: Originator forward set intact to Message Center. The yellow copy will be returned as confirmation.

TO: ADDRESSEE		FROM: ORIGINATOR	
NAME: Thad Hopper		NAME: Nick Bock	
COMPANY NAME (IF APPLICABLE): MS Bureau of Pollution		LOCATION (BUILDING AND ROOM NO.): Kerr-McGee-Okla. City	
FACSIMILE PHONE NO: 601-961-5190	CONFIRMATION PHONE NO.	PHONE NO.: 405/ 270-2394 x2408	

Total number of pages (including Facsimile Request) 8

REMARKS

THIS SECTION TO BE COMPLETED BY MESSAGE CENTER

SENDING FROM MACHINE GROUP I, II, OR III	DATE SENT	TIME SENT	OPERATOR'S NAME
☒ AUTOMATIC (405) 270-3029 ☐ MANUAL - (405) 270-3129	6-14-90	8:35 ☒ A.M. ☐ P.M.	[illegible]

NOTE: PLEASE CALL (405) 270-3007 AS SOON AS POSSIBLE IF TRANSMISSION IS IMPAIRED.

07/03/90 11:45 [redacted] NO. 505 P001

KERR-McGEE CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

FACSIMILE REQUEST KM 5434

INSTRUCTIONS: Originator forward set intact to Message Center. The yellow copy will be returned as confirmation.

TO: ADDRESSEE		FROM: ORIGINATOR	
NAME	Thad Hopper	NAME	Nick Bock
COMPANY NAME (IF APPLICABLE)	Mississippi Bureau of Pollution	LOCATION (BUILDING AND ROOM NO.)	MT-1203
FACSIMILE PHONE NO.	(601) 961-5190	PHONE NO	2394
CONFIRMATION PHONE NO.			

Total number of pages (including Facsimile Request)

REMARKS

THIS SECTION TO BE COMPLETED BY MESSAGE CENTER

SENDING FROM MACHINE GROUP I, II, OR III	DATE SENT	TIME SENT	OPERATOR'S NAME
☒ AUTOMATIC - (405) 270-3029 ☐ MANUAL (405) 270-3129	7-3	11:50 ☒ A.M. ☐ P.M.	JK

NOTE: PLEASE CALL (405) 270-3007 AS SOON AS POSSIBLE IF TRANSMISSION IS IMPAIRED.

FILE COPY

October 9, 1990

Ms. Nancy Bethune
Environmental Protection Agency
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Dear Ms. Bethune:

Re: Kerr-McGee Columbus Permit
MSD990866329

Please replace the unsigned coordination agreements pages 7-11, Attachment II-2, of the Kerr-McGee (Columbus) Post-Closure Permit with the enclosed, signed agreements (pages 7-10). Please call me at (601) 961-5171 if you have questions.

Sincerely,

Thad Hopper
Hazardous Waste Division

TH:cm
Enclosure

FILE COPY

October 9, 1990

Mr. John Getz, Plant Manager
Kerr-McGee Chemical Corporation
P. O. Box 706
Columbus, Mississippi 39701

Dear Mr. Getz:

Re: Kerr-McGee Columbus Permit
MSD990866329

Please replace the unsigned coordination agreements pages 7-11, Attachment I-B, of the Kerr McGee (Columbus) Post-Closure Permit with the enclosed, signed agreements (pages 7-10). Please call me at (601) 961-5171 if you have questions.

Sincerely,

Thad Hopper
Hazardous Waste Division

TH:cm
Enclosure

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

September 26, 1990

RECEIVED
OCT - 1 1990
Dept. of Environmental Quality
Bureau of Pollution Control

Mr. J. Thad Hopper
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Post Closure Permit Application
Columbus, Mississippi Facility

Dear Mr. Hopper:

As a follow up to our telephone conversation on September 24, 1990, I have enclosed copies of Kerr-McGee Chemical Corporation, Forest Products Division's (KMCC-FPD) arrangements with local authorities for our Columbus, Mississippi Wood Treating facility. Please incorporate figures 4-1 through 4-4 into Section 4 of the Post-Closure Permit Application, Part "B" dated April 12, 1990.

If you have any questions or if I may provide additional information, please contact me at (405) 270-2394.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Nick Bock

Nick E. Bock
Environmental Control Specialist

NEB/lw
Enclosures

cc: J. Getz
J. Poor

DIVISION OF SOLID WASTE
REVIEWED BY TH
DATE Oct 5, 1990
COMMENTS mailed copies to facility & EPA

FOREST PRODUCTS

FIGURE 4-1

COLUMBUS, MISSISSIPPI - FIRE DEPARTMENT

This is a confirmation that the Columbus, Mississippi Fire Department is equipped to provide emergency services for Kerr-McGee Chemical Corporation, Forest Products, Division, Columbus Plant, 2300 14th Avenue at 20th Street North, as needed. Our emergency services are available 24 hours a day, 7 days a week.

Address: 205 7th Street South

Phone: 601- 329-5121

R. W. Gale
Signature

Chief
Title

5/1/90
Date

FIGURE 4-2

COLUMBUS MISSISSIPPI - POLICE DEPARTMENT

This is a confirmation that the Columbus, Mississippi Police Department is equipped to provide emergency services for Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Plant, 2300 14th Avenue at 20th Street North, as needed. Our emergency services are available 24 hours a day, 7 days a week.

Address: 523 Main Street

Phone: 601-328-7511 or 911

Charles M. Walton

Signature

Chief of police

Title

5-1-91

Date

2541C

FIGURE 4-3

COLUMBUS, MISSISSIPPI - AMBULANCE SERVICE

This is a confirmation that the GTR Ambulance Service, Columbus, Mississippi, is equipped to provide emergency services for Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Plant, 2300 14th Avenue at 20th Street North, as needed. Our emergency services are available 24 hours a day, 7 days a week.

Address: 2520 5th North

Phone: 601-243-1565 or 911

Lance B. Ashe
Signature

Assistant Administrator
Title

May 1, 1990
Date

FIGURE 4-4
COLUMBUS, MISSISSIPPI - HOSPITAL

This is a confirmation that the Golden Triangle Regional Medical Center, Columbus, Mississippi, is equipped to provide emergency services for the Kerr-McGee Chemical Corporation, Forest Products Division, Columbus Plant, 2300 14th Avenue at 20th Street North, as needed. Our emergency services are available 24 hours a day, 7 days a week.

Address: 2520 5th Street North

Phone: 601-243-1167

Lance B. Ike
Signature

Assistant Administrator
Title

May 1, 1990
Date

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

FILE COPY

September 21, 1990

Mr. J. J. Getz
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 906
Columbus, Mississippi 39701

Dear Mr. Getz:

Re: Hazardous Waste Post-Closure
Permit No. HW-90-329-01
Kerr-McGee Chemical Corporation
Forest Products Division (FPD)
EPA I.D. MSD990866329

On September 11, 1990, the Mississippi Department of Environmental Quality (MSDEQ) Permit Board approved issuance of Hazardous Waste Permit No. HW-90-329-01 (enclosed) for post-closure care and groundwater corrective action activities at Kerr-McGee Chemical Corporation - FPD, in Columbus, Mississippi.

Please note the stipulated monitoring, inspection, and reporting requirements. Table IV-1 summarizes the monitoring program schedule. Appendix A lists due dates for certain documents required by the permit.

This permit is issued in accordance with the provisions of the Mississippi Solid Waste Disposal Act of 1974 (Sections 17-17-1, et. seq., Mississippi Code of 1972), and the regulations and standards adopted and promulgated thereunder.

Any appeal of this permit action must be made within the thirty (30) day period provided for in Section 49-17-29(4)(b), Mississippi Code of 1972.

If you have any questions regarding this matter, please contact Thad Hopper of my staff at (601) 961-5171.

Sincerely,

Charles H. Chisolm, Head
Office of Pollution Control

CHC:TH-1:lr
pc: Mr. Nick Bock, Kerr-McGee Chemical Corp.
Mr. James H. Scarbrough, EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

JUL 13 1990

RECEIVED
JUL 16 1990
Dept. of Environmental Quality
Bureau of Pollution Control

4WD-RCRAFFB

Mr. Sam Mabry, Director
Hazardous Waste Division
Bureau of Pollution Control
Mississippi Department of
Environmental Quality
Post Office Box 10385
Jackson, Mississippi 39209

RE: Comments on Draft RCRA Permit Kerr McGee Chemical Corporation
Columbus, Mississppi
EPA I.D. Number - MSD 990 866 329

Dear Mr. Mabry:

The Environmental Protection Agency's Waste Engineering Section has reviewed the draft RCRA Permit for post closure care at the Kerr McGee Chemcial Corporation, forest products facility in Columbus, Mississippi. EPA concurs with the draft and recommends proceeding with public notice.

The Agency understands that minor changes may still be made in the permit, and wishes to be kept appraised. Should you wish to discuss this matter, please contact Nancy Bethune of my staff at (404) 347-3433.

Sincerely yours,

James H. Scarbrough, P.E., Chief
RCRA & Federal Facilities Branch
Waste Management Division

Final

MEMORANDUM

TO: Kerr McGee, Columbus, MS Permit File

FROM: Thad Hopper

RE: June 28 Conversation with Nancy Bethune, EPA

DATE: July 13, 1990

Ms. Nancy Bethune of EPA called and stated that she had no comments on Kerr-McGee's proposed permit. I explained the facility's major concerns as stated during the morning meeting. We discussed the requested changes and agreed on the comprises which are included in the final permit.

TH-1:lr

MEMORANDUM

TO: Kerr-McGee Columbus, MS Permit File

THRU: Steve Spengler

FROM: Thad Hopper

RE: June 28 Meeting With Kerr-McGee Representatives

DATE: July 13, 1990

A meeting was held at the Mississippi Bureau of Pollution Control offices with representatives of Kerr-McGee Chemical Corporation (KMCC) on June 28, 1990, to discuss the draft Post-closure Permit for their Columbus, Mississippi, facility. Attendees included:

Mr. Nick Bock (KMCC)
Mr. Roy Widman (KMCC)
Mr. David Pentecost (BPC)
Mr. Thad Hopper (BPC)

The following are major comments submitted by KMCC during the meeting:

Page 8

KMCC questions the need for a Waste Analysis Plan and Contingency Plan for the Closure Surface Impoundment.

Page 9, Condition II.A.

The term "hazardous constituents" should replace "hazardous waste".

Page 9, Condition II.E.

Is the Contingency Plan necessary for a closed surface impoundment?

Page 11, Condition III.A.

The waste inventory listed was the volume of waste prior to closure.

Page 16, Condition IV.C.5.

Is monitoring of an upgradient well required for corrective action when clean up goals are established as MDL's in the permit?

Page 16, Condition IV.C.7.

Kerr-McGee would like to eliminate CME-1, CME-2, and CME-3 from the monitoring program and replace them in the monitoring program with two new Eutaw wells - CME-5 and CME-6. One would be located near CMW-14 and the other near CMW-20. KMCC feels that monitoring deep wells within the free product area of contamination is unnecessary until the free product is removed. CME-1 is an upgradient well and should be omitted.

Page 16, Condition IV.C.8.

This condition does not allow for facility input before requiring a change in the monitoring system.

Page 17

KMCC's analytical methods have MDL's equal to those proposed by the State. Isomers of xylene should be monitored as total xylene (see attachment).

Page 21, Condition IV.H.9.

The term "corrective action" should be changed to engineering "feasibility study."

Table IV-1 - Compliance Wells

Eliminate the requirements for Appendix IX monitoring, as this is a compliance monitoring requirements and the facility is in corrective action.

Eliminate monitoring of the background well CMW-1AR.

Table IV-1 - Effectiveness Wells

KMCC proposes to use total phenol naphthalene and acenaphthylene to show effectiveness of corrective action. Once these are no longer detected, monitoring will begin for Appendix VII, K001 constituents. An Appendix IX would be run following nondetection of K001 constituents.

Monitoring Requirements (General)

Require water level measurements and measurement of presence of immiscible liquids when sampling.

Require field pH, specific conductivity, and temperature to be measured.

Fact Sheet

The hazardous waste codes for benzene and xylene are incorrect. Contamination from these compounds, as they were used in the process, does not meet the definitions specified for these codes.

TH-2:lr

TABLE 1: COMPARISON OF CURRENT K001 METHODS AND THEIR DETECTION LIMITS VERSUS PROPOSED METHODS (BY MBPC) AND THEIR DETECTION LIMITS

K001 APPENDIX VII CONSTITUENTS	CURRENT METHOD USED BY CONTRACT LAB	CURRENT DETECTION LIMIT (ug/l)	PROPOSED METHOD BY MBPC	*DETECTION LIMITS OF PROPOSED METHOD (ug/l)
ACID COMPOUNDS				
2 Chlorophenol	3520/8270	3.3	3520/8250	3.3
2,4 Dimethylphenol	3520/8270	2.7	3520/8250	2.7
2,4 Dinitrophenol	3520/8270	42	3520/8250	42
p-Chloro-m-cresol	3520/8270	3.0	3520/8250	-
Pentachlorophenol	3520/8270	3.6	3520/8250	3.6
Phenol	3520/8270	1.5	3520/8250	1.5
2,4,6 Trichlorophenol	3520/8270	2.7	3520/8250	2.7
2,3,4,6 Tetrachlorophenol	3520/8270	10	3520/8250	-
BASE/NEUTRAL COMPOUNDS				
Acenaphthylene	3520/8270	3.5	3520/8250	3.5
Benzo(a)pyrene	3520/8270	2.5	3520/8250	2.5
Fluoranthene	3520/8270	2.2	3520/8250	2.2
Naphthalene	3520/8270	1.6	3520/8250	1.6
Carbazole	3520/8270	10	3520/8250	-
Benzo(a)anthracene	3520/8270	7.9	3520/8250	7.8
Benzo(b)fluoranthene	3520/8270	4.8	3520/8250	4.8
Indeno(1,2,3-c,d)pyrene	3520/8270	4.7	3520/8250	3.7
Phenanthrene	3520/8270	5.5	3520/8250	5.4
Dibenzo(a,h)anthracene	3520/8270	10	3520/8250	2.5

*from SW-846, Third Edition

	Quarter	Quarter	Quarter	Quarter
Compliance Wells 6, 7, 8, IAR	BNA B & X	BNA B & X	BNA B & X	BNA (APP IX) B & X
Effectiveness Wells 3, 4, 9, 10, 11,		BNA B & X Indicators total phenol + Naph		BNA B & X Indicators
Boundary Control 14, 16, 22		BNA B & X		BNA B & X
Deep Wells 1, 2, 3, 4		BNA B & X		BNA B & X

replace 2 wells

1) no analytical when Free Product Present
1st 90 –
2nd 90 – 3, 12, 13, 17, 18

total phenol & Napthalene
total Xylene
IAR

beginning with the first quarter.

2. The sampling and analysis shall continue on a quarterly basis until the Ground-Water Protection Standard is achieved in accordance with Section VII.A. below.

3. The sampling and analysis requirements for Point of Compliance and Supplemental wells are specified in Sections VI.G, H, I, and J, below. Flow charts describing sampling requirments are provided in Attachments D and E.

G. Phase I Sampling Requirements:

1. The Permittee shall, within the first 60 days of each quarter, sample on a quarterly basis the Point of Compliance wells and Supplemental wells of Table 4 and determine the concentrations of the constituents in Table 3. Total Phenol, naphthalene, acenaphthene

2. If free product is observed in a Point of Compliance or Supplemental well, only the thickness of the product must be determined for that well. Analysis for the indicator parameters specified in Table 3 will not be required until the product is no longer measurable in the individual Point of Compliance or Supplemental well.

3. Comparisons of the analytical results of the Point of Compliance and Supplemental wells to the Concentration Limits of Table 3 shall be performed quarterly for each individual Point of Compliance well and Supplemental well.

4. If none of the Table 3 constituents are detected above the concentration limits for that constituent given in Table 3 for a given Supplemental well for two consecutive quarters, then the Permittee shall respond as follows:

   Commence Phase 2 sampling in that well in accordance with Section VI.H upon the start of the next quarter of sampling and notify the Executive Director of changing a well from Phase 1 sampling status to Phase 2 sampling status before the start of the next quarter of sampling.

5. If, in two consecutive quarterly samplings, none of the constituents in Table 3 are detected above the concentration limit for that constituent given in Table 3 in <u>all</u> Point of Compliance Wells, then the Permittee shall respond as follows:

Commence Phase 2 sampling in all Point of Compliance wells in accordance with Section VI.H upon the start of the next quarter of sampling and notify the Executive Director of changing the wells from Phase 1 sampling status to Phase 2 sampling status before the start of the next quarter of sampling.

6. Point of Compliance and Supplemental wells shall be considered non-compliant with the Ground-Water Protection Standard while being monitored under Phase 1 sampling status.

H. Phase 2 Sampling Requirements

1. The Permittee shall sample quarterly and analyze for constituents in Table 2, for any Supplemental well which has changed from Phase 1 sampling to Phase 2 sampling in accordance with Section VI.G.4, or all Point of Compliance Wells when they have changed from Phase 1 sampling to Phase 2 sampling in accordance with Section VI.G.5.

2. Comparisons of the analytical results of the Point of Compliance and Supplemental wells to the concentration limits of Table 2 shall be performed quarterly for each individual Point of Compliance well and Supplemental well for which Phase 2 sampling has been initiated.

3. The Permittee may submit a request to amend Table 3 to include any Table 2 constituents found and return to Phase 1 sampling.

4. If none of the Table 2 constituents are detected above the concentration limits given in Table 2 for a given Supplemental well for two consecutive quarters, then the Permittee shall respond as follows:

   Commence Phase 3 sampling in that well in accordance with Section VI.I upon the start of the next quarter of samping and notify the Executive Director of changing a well from Phase 2 sampling status to Phase 3 sampling status before the start of the next quarter of sampling.

5. If, in two consecutive quarterly samplings, none of the constituents in Table 2 are detected above the concentration limits given in Table 2 in <u>all</u> Point of Compliance Wells, then the Permittee shall respond as follows:

   Commence Phase 3 sampling in all Point of Compliance wells in accordance with Section VI.I upon the start of the next quarter of sampling and notify the Executive

Director of changing the wells from Phase 2 sampling status to Phase 3 sampling status before the start of the next quarter of sampling.

6. Point of Compliance and Supplemental wells shall be considered non-compliant with the Ground-Water Protection Standard while being monitored under Phase 2 sampling status.

I. Phase 3 Sampling Requirements

1. The Permittee shall sample quarterly and analyze for the constituents of Table 1, for any Supplemental well which has changed from Phase 2 sampling status to Phase 3 sampling status in accordance with Section VI.H.4, or all Point of Compliance Wells when they have changed from Phase 2 sampling to Phase 3 sampling in accordance with Section VI.H.5.

2. Comparisons of the analytical results of the Point of Compliance and Supplemental wells to the concentration limits of Table 1 shall be performed in accordance with Section VI.L on a quarterly basis.

3. Once initiated, Phase 3 sampling of a given Supplemental Well or of all the Point of Compliance wells will continue on a quarterly basis until the Ground-Water Protection Standard is achieved in accordance with Section VII.A.

4. The Permittee may submit a request to modify Table 2 to include any Table 1 constituents found and return to Phase 2 sampling.

J. Field Determination Requirements - All Monitor Wells

1. Water level measurements shall be taken monthly and during the quarterly sampling events in all wells of Table 4 to determine the ground-water table elevations relative to mean sea level. Water table maps will be prepared using the water-level measurements obtained during the quarterly sampling events and reported to TWC according to Section VII.B.

2. Field observations and measurements shall include water level measurement, product level measurement, product thickness, description of odor ("chemical", "hydrocarbon", etc.), if detected, and appearance ("clean", "brownish", "oily", etc.).

3. All Point of Compliance and Supplemental wells shall be sampled and analyzed for pH and specific conductance during each quarterly sampling event.

ATTACHMENT E Sheet 1 of 1

Supplemental Well Sampling and Analysis (refer to Section VI.F)

ATTACHMENT D Sheet _ of 1

f Compliance Well Sampling and Analysis (refer to Section VI.f)

ANCE PLAN NO. CP-50076-000
MCGEE CHEMICAL CORPORATION

able 3. List of Phase 1 Parameters to be Analyzed During Operation of the Corrective Action Program

Column A Hazardous Constituent	Column B Concentration Limit (ug/L)
Total Phenolics	N.D. (10)
Naphthalene	N.D. (25)
Acenaphthene	N.D. (25)

N.D. - Non-detectable at the Practical Quantitation Limit (PQL) as determined by analytical methods of SW-846 "Test Methods for Evaluating Solid Waste, "September, 1986; Third Edition or current edition. Practical Quantitation Limits are indicated in parenthesis.

ETC

METHOD SUMMARY

POLYNUCLEAR AROMATIC HYDROCARBONS

The method for the screening analysis for Polynuclear Aromatic Hydrocarbons are adapted from " Test Methods for Evaluating Solid Waste " (SW-846 third Edition). Sample extraction is performed following method 3510. One liter samples are adjusted to pH 11 and then extracted three times with methylene chloride. The extracts are then concentrated to 25 mls.

Analysis of the extract is performed by Gas Chromatography according to the method 8100 (corresponding EPA method 610) using a DB-5 megabore column and a PID detector.

Modification:

* Samples are analyzed for Napthalene and Acenapthalene only.
* Normal detection limits are 25 ug/l for each compound

Actual detection limits may vary depending upon the matrix of the actual sample.

TOTAL PHENOLS

Standard Methods APHA-AWWA-WPCF

Method 420.2 Automated Colorometic Method
Macro Distallation (250 mls sample)
Lower Detection Limit 5 PPB

le 2. List of Phase 2 Parameters to be Analyzed During Operation of the Corrective Action Program

Column A Hazardous Constituent	Column B Concentration Limit (ug/L)
2,3,4,6-Tetrachlorophenol	N.D. (10*)
2,4,6-Trichlorophenol	N.D. (10)
2,4-Dimethylphenol	N.D. (10)
Pentachlorophenol	N.D. (50)
Acenaphthalene	N.D. (10)
Benzo(a)pyrene	N.D. (10)
Benzo(a)anthracene	N.D. (10)
Benzo(b)fluoranthene	N.D. (10)
Chrysene	N.D. (10)
Fluoranthene	N.D. (10)
Indeno(1,2,3-cd)pyrene	N.D. (10)
Naphthalene	N.D. (10)
Phenanthrene	N.D. (10)

N.D. - Non-detectable at the Practical Quantitation Limit (PQL) as determined by analytical methods of SW-846 "Test Methods for Evaluating Solid Waste, "September, 1986; Third Edition or current edition. Practical Quantitation Limits are indicated in parenthesis.

* - Laboratory determined detection limit as submitted by Kerr-McGee on July 28, 1989.

KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

June 14, 1990

DIVISION OF SOLID WASTE
REVIEWED BY TH
DATE 7-1-90
COMMENTS mailed copy to Nancy B. SPR

J. Thad Hopper
Environmental Scientist
Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Draft RCRA Post-Closure Permit

Dear Mr. Hopper:

On May 29, 1990, the Mississippi Bureau of Pollution Control (MBPC) transmitted a Draft RCRA Post-Closure Permit for Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) Columbus, Mississippi Wood Treating Facility.

After a review of the Draft RCRA Post-Closure Permit, KMCC-FPD wishes to make the following comments.

1) KMCC-FPD has updated the Part A RCRA Application and the RCRA Part A is enclosed.

2) KMCC-FPD has indicated the location of the less than 90 day container storage area in the Contingency Plan and the Contingency Plan has been revised for your review.

3) Tables 3-2 and 3-3 of the Post-Closure Care Plan (Section III) have been revised as per our discussions on June 11, 1990.

4) The Post-Closure Cost Estimate (Attachment III-2) does not reflect the most recent cost estimate. KMCC will comply with the requirements of 40 CFR 264.144 and 40 CFR 264.145 within 60 days of issuance of the Post-Closure Permit.

5) Page 28 of the Sampling and Analyses Plan has been modified to reflect the proper state agency to report plugging and abandonment of wells.

6) KMCC-FPD received the Draft RCRA Post-Closure Permit on June 4, 1990, and is in the process of reviewing Modules I-IV of the draft permit. On June 13, 1990, I telephoned you and discussed some of the areas of

concern KMCC-FPD has and approaches to permitting KMCC-FPD wishes to pursue in the final Post-Closure Permit. I am requesting an extension to comment on the Draft Post-Closure Permit from June 18, 1990 to June 29, 1990. I believe an extension will allow the MBPC and KMCC-FPD to develop a final draft permit which will be most appropriate for the 45 day public comment period.

In the interim if I may provide you with additional information, please telephone me at (405) 270-2394.

Sincerely

KERR-MCGEE CORPORATION
FOREST PRODUCTS DIVISION

Nick Bock

Nick Bock
Staff Environmental Specialist

NB:wpc

Attachment

Laboratory Spike

A laboratory spike is a known concentration of standard added to a specific volume of sample which is then analyzed and compared to the calculated results. This determines percent recovery and is included on the final report.

Laboratory Duplicate

A laboratory duplicate is performed by analyzing a sample twice at different points during a run and comparing results to determine accuracy. This is reported as percent difference and is also included in the final report.

WELL INSTALLATION/ABANDONMENT PROCEDURES

All groundwater monitor wells have been installed so as to yield representative groundwater quality data. Installation methods will include the use of hollow stem auger or rotary wash drilling techniques with minimal introduction of drilling fluid into the borehole.

Temporary wells may remain open-hole completed if all that is required is a water level elevation measurement or a grab sample for chemical analysis. Temporary wells will be plugged within two days after being drilled by cementing them with a tremie line from total depth to grade using a neat Portland Type I cement with 5% bentonite. Any monitor wells needing to be abandoned or replaced will be drilled out or the casing pulled out in its entirety. If borehole collapse occurs or casing/screen remains in the hole, the borehole will be drilled out before plugging with a tremie line and neat cement/bentonite grout. If the casing or screen cannot be removed or drilled out, the casing is cut at ground surface and is filled using a tremie line with cement mixed with 5% bentonite. Well abandonment/plugging report forms will be filed, as appropriate, with the Mississippi Department of Environmental Quality, Bureau of Land and Water.

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

May 29, 1990

FILE COPY

CERTIFIED MAIL NO. P 443 383 145

Mr. Nick Bock
Staff Environmental Specialist
Forest Products Division
Kerr-McGee Chemical Corporation
Kerr McGee Center
P.O. Box 25861
Oklahoma City, Oklahoma 73125

Dear Mr. Bock:

Re: Transmittal of Draft RCRA
Post-Closure Permit
EPA I.D. MSD990866329

Enclosed please find a copy of the draft RCRA permit for post-closure care of the closed surface impoundments and corrective action activities at Kerr-McGee Chemical Corporation's facility in Columbus, Mississippi. The post-closure plan and corrective action engineering feasibility study (and plan) will be incorporated in the permit. The following are comments and proposed changes to the submitted post-closure plan:

1. The Part A Application (Attachment I) should be updated to reflect management changes at the facility.

2. The contingency plan refers to a hazardous waste container storage area. Please indicate the location and status of the storage area (e.g., less than 90 days).

3. The Post-Closure Inspection Report (Attachment III-1) has been modified to include time of inspection and date and time maintenance is performed.

4. The Post-Closure cost estimates (Attachment III-2) have been changed to reflect the most recent estimates.

5. Page 28 of the Sampling and Analysis Plan (Attachment IV-3) has been modified to reflect the proper state agency to report plugging and abandonment of wells.

Comments and modifications required above should be received by the Bureau of Pollution Control by June 18, 1990. Following this permit, a forty-five day Public Notice will be given before the final permit is submitted to the Mississippi Department of Environmental Quality Permit Board for approval. Copies of the draft Fact Sheet and Public Notice will be forwarded under separate cover. If you have questions, please call me at (601) 961-5171.

Sincerely,

Thad Hopper
Hazardous Waste Division

TH-20:lr
Enclosure
pc: Mr. James H. Scarbrough, EPA

McGee

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MAY - 5 1989

4WD-RCRA

RECEIVED
MAY 10 1989
Dept. of Natural Resources
Bureau of Pollution Control

Mr. Sam Mabry, Chief
Hazardous Waste Branch
Bureau of Pollution Control
Mississippi Department of Natural Resources
P.O. Box 10385
Jackson, Mississippi 39209

RE: Post Closure Permit Application
Draft Post-Closure Permit:

Kerr-McGee Chemical Corporation
Forest Product Division
Columbus, Mississippi
MSD 990 866 329

Dear Mr. Mabry:

EPA has reviewed the post-closure application and the draft Post-Closure Permit for the Kerr-McGee facility in Columbus, Mississippi. Based on the review of these materials, EPA has concluded that significant deficiencies for groundwater assessment remain under the requirements of 40 CFR §265.93 and §270.14(c). It is this agency's position that facilities must be in full compliance with all applicable interim status requirements and general application requirements prior to permit issuance: regulatory deficiencies shall not be corrected through permit conditions. Enclosed is a list of the deficiencies which must be addressed.

It is our understanding, per the April 26, 1989, phone conversation of Ms. Beverly Foster of my staff and Mr. David Bockelmann of MDNR, that Kerr McGee will meet these requirements prior to permit issuance and that Kerr McGee has been so informed. We also understand that the State will be issuing a schedule of compliance in a consent agreement with the facility.

Please notify Ms. Beverly Foster, at (404) 347-3433, as to the accuracy of our understanding within five (5) working days of the receipt of this letter.

Sincerely yours,

James H. Scarbrough

James H. Scarbrough, P.E.
Chief, RCRA Branch
Waste Management Division

Enclosure

DIVISION OF SOLID WASTE
REVIEWED BY RR
DATE 5/15/89
COMMENTS

ENCLOSURE

Regulation	Requirement	Comment
§265.93	Ground-water quality assessment program	The assessment program outline submitted by Kerr McGee is not sufficiently comprehensive to define the full vertical and horizontal extent, or the rate of flow, of the contaminant plume.
§270.14(c)(2)	Identification of uppermost Aquifer	Kerr-McGee must identify the uppermost aquifer and aquifers hydraulically interconnected beneath the facility. Unless a pumping test proves otherwise, the Eutaw formation should be considered as an hydraulically interconnected aquifer.
§270.14(c)(4)	Plume Definition	Kerr-McGee must identify the concentrations of each Appendix IX constituent (ii) and delineate the extent of any plume of contamination on the required topographic map (i).
§270.14(c)(5)	Monitoring System	Kerr-McGee must install additional wells, at appropriate locations and depths to evaluate the vertical extent of contamination at the point of compliance.
§270.14(c)(1)	Summary of Interim Status Monitoring	Since the ground-water flow direction in the alluvium is to the east, and the regional flow direction for the Eutaw is to the southwest, Kerr-McGee may find it necessary to define additional point of compliance wells to address the deeper groundwater flow.