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 25861 Oklahoma City, OK 73125

Telecommunications

Type	Address or Phone
Work phone number	(405) 270-2625

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: 11/16/2005 7:36:49 AM

KERR-McGEE CORPORATION

INDUSTRIAL HYGIENE SURVEY
KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
COLUMBUS, MISSISSIPPI

June 4-6, 1996

Kerr-McGee Corporation
Health Management Division

SUMMARY OF INDUSTRIAL HYGIENE MONITORING DATA

COMPANY: KERR-McGEE CHEMICAL CORPORATION - FOREST PRODUCTS DIVISION

LOCATION: COLUMBUS, MS

IH: D. HOUCK

AIR CONTAMINANT: COAL TAR PITCH VOLATILES (CTPV)

ID#	Date	Period	Type	Strategy	Oper.	Media	Unit	Job Assign.	Work Task	Method	Results	OSHA Standard
960605-1	6-05-96	FS	BZ	TS	RO	F	Locomotive	Operated Locomotive	On pad, worked 3 charges	OSHA 58	<0.065 mg/M³	0.2 mg/M³
960605-2	6-05-96	FS	BZ	TS	RO	F	Treating	Treating Operator	Worked inside Treating & in Tank Farm	OSHA 58	<0.066 mg/M³	0.2 mg/M³
960605-3	6-05-96	FS	BZ	TS	RO	F	Pine Yard	Prentice Operator	Loaded treated ties onto rollers for banding	OSHA 58	0.072 mg/M³	0.2 mg/M³
960605-4	6-05-96	FS	BZ	TS	RO	F	Treating	Switchman	On Pad - pulled & plugged charges	OSHA 58	<0.066 mg/M³	0.2 mg/M³

SAMPLE PERIOD

- FS = FULLSHIFT
- PP = PARTIAL PERIOD
- ST = SHORT TERM
- G = GRAB

SAMPLE TYPE

- BZ = BREATHING ZONE
- EAS= EMPLOYEE AREA SAMPLE
- SAS= SOURCE AREA SAMPLE

SAMPLING STRATEGY

- TS = TYPICAL STRATEGY
- WCS = WORST CASE STRATEGY
- RS = RANDOM STRATEGY

OPERATIONS

- RO = ROUTINE OPERATIONS
- MO = MAINTENANCE OPERATIONS
- NO = NONROUTINE OPERATIONS
- TO = TURNAROUND OPERATIONS

SAMPLE MEDIA

- CT = CHARCOAL/SORBENT TUBE
- DB = DIFFUSION BADGE
- F = FILTER
- SF = SORBENT/FILTER COMBINATION
- I = IMPINGER
- DR = DIRECT READING
- GB = GAS BAG/EVACUATED FLASK
- OTHER SPECIFY _____

COAL TAR PITCH VOLATILES (CTPV)

Permissible Exposure Limit (PEL)

The OSHA PEL for coal tar pitch volatiles (benzene soluble fraction) is 0.2 mg/M^3 averaged over an eight-hour shift.

Health Hazards of CTPV

Coal tar pitch volatiles can affect the body if they are inhaled or if they come in contact with the eyes or skin. Repeated exposure to coal tar pitch volatiles has been associated with an increased risk of developing bronchitis and cancer of the lungs, skin, bladder, and kidneys. Repeated exposure may also cause sunlight to have a more severe effect on a person's skin.

IH Monitoring Results

The greatest personal exposure that was measured was significantly less than the OSHA PEL of 0.2 mg/M^3. Employee breathing zone exposure monitoring was conducted during typical work activities: An employee was monitored throughout the day shift during which he worked three (3) charges on the pad (exposure = <0.065 mg/M^3); A Treating Operator worked inside the Treating Building; also was around the Tank Farm and other outside areas (exposure = <0.066 mg/M^3); A Prentice Operator worked in the Pine Yard loading treated wood onto rollers to be banded in Banding Machine (exposure = 0.072 mg/M^3); and, a Switchman worked on the pad pulling and plugging charges (exposure = 0.066 mg/M^3)

SEE SUMMARY OF INDUSTRIAL HYGIENE MONITORING DATA - COAL TAR PITCH VOLATILES

Recommendations

Continue the well-established practices of effective use of personal protective equipment (gloves, respirators etc.), and continue to provide employees with Hazard Communication information and training on the health hazards of creosote.

BF

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

February 5, 1998

Mr. Bruce Ferguson
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Re: Kerr-McGee Chemical LLC -Forest Products Division
Columbus Mississippi Facility
RCRA Facility Investigation Phase II Workplan
HW-90-329-01

Dear Mr. Ferguson:

Attached, please find two sets of Figures 7 and 8 to be inserted in your copies of the *RCRA Facility Investigation Phase II Workplan* for the Kerr-McGee Chemical LLC - Forest Products Division (KMCLLC-FPD) facility in Columbus, Mississippi. I apologize for not making sure that these maps were included in the original submission, and hope that this has not caused any inconvenience.

Thank you again for taking the time to meet with us yesterday on the pertinent issues of the Phase II investigation. We were able to clarify some key points in the workplan and appreciate your input and help.

If you have any questions or require additional information concerning the Phase II Workplan, please feel free to contact me at (405) 270-2654.

Sincerely,

Thomas W. Reed
Staff Hydrologist
Kerr-McGee Corporation

Attachments

cc: Mr. Alan Farmer, USEPA Region IV
R. Murphey, KMCLLC-FPD - Columbus
S. Ladner, KMCLLC -FPD - Oklahoma City

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

FILE COPY

October 10, 1997

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 Ditch Sediment Sampling: RFI Phase II Workplan

Dear Mr. Ferguson:

In Kerr-McGee Chemical Corporation - Forest Products Division (KMCC-FPD) correspondence dated July 30, 1997, KMCC-FPD proposed a sediment sampling program as part of the RFI Phase II Workplan. The sediment samples would be collected in the offsite drainage ditches which convey stormwater from the Columbus wood treating facility, and would be analyzed for K001 total and TCLP constituents.

As an aid in preparation of the sediment sampling program to be presented in the Phase II Workplan, KMCC-FPD plans to collect initial sediment samples from three offsite ditch locations downstream from outfalls 001, 003, and 004. These data will serve as a baseline to determine K001 concentrations at the initial downstream locations from the facility. The sediment sampling procedures will follow the protocol outlined in the approved facility Sampling and Analysis Program.

We are planning at this time to conduct the sediment sampling on October 20th. If you have any questions concerning this sampling 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
cc: Mr. Russ McClean, USEPA - Region IV
R. Murphey
T. Reed

FOREST PRODUCTS

MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

August 28, 1997

CERTIFIED MAIL NO. : Z 389 969 512
Mr. Steve Ladner
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: RFI Phase I Report Revisions
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

The Mississippi Office of Pollution Control (Office) is in receipt of the RFI Phase I Report Revisions dated July 30 and 31, 1997. The Office has no further comments on the Phase I Report. The facility should, therefore, submit a Phase II RFI Workplan within 120 days of receipt of this letter to address the comments discussed in Office's letter of July 14, 1997.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson
Hazardous Waste Division

cc: Mr. Russ McLean, U. S. EPA, Region 4, Permitting

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

July 31, 1997

Mr. Bruce Ferguson
Office of Pollution Control
Mississippi Department of Environmental Quality
2380 Highway 80 West
Jackson, Mississippi 39204

RE: RFI Phase I Report Revisions
EPA I.D. Number MSD 990-866-329
Hazardous Waste Permit Number HW-90-329-01
Kerr-McGee Chemical Corporation - Forest Products Division
Columbus, Mississippi Facility

Dear Mr. Ferguson:

The correspondence dated July 30, 1997 from Kerr-McGee Chemical Corporation - Forest Products Division (KMCC-FPD) concerning revisions to the Phase I RFI report for the Columbus facility contained a revised figure erroneously labeled "Figure 8". Corrected copies of this figure are included which are to be replaced in your copies of the Phase I RFI report. The corrected figure will be labeled "Figure 12".

We appreciate your understanding in this correction and hope it has not caused any confusion. Please contact me with any questions or comments regarding this correspondence. My telephone number is (405) 270-2625.

Sincerely,

Kerr-McGee Chemical Corporation
Forest Products Division

Stephen A. Ladner
Staff Environmental Specialist

Attachments

cc: R. Murphey, w/ attachments
T. Reed, w/ attachments
K. Williams, Region IV - USEPA, w/ attachments

FOREST PRODUCTS

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

July 30, 1997

Mr. Bruce Ferguson
Office of Pollution Control
Mississippi Department of Environmental Quality
2380 Highway 80 West
Jackson, Mississippi 39204

RE: RFI Phase I Report Revisions
EPA I.D. Number MSD 990-866-329
Hazardous Waste Permit Number HW-90-329-01
Kerr-McGee Chemical Corporation - Forest Products Division
Columbus, Mississippi Facility

Dear Mr. Ferguson:

Kerr-McGee Chemical Corporation - Forest Products Division (KMCC-FPD) is in receipt of your correspondence dated July 14 , 1997 which details comments based upon review of KMCC-FPD's RFI Phase I Report for the Columbus facility. Based on our meeting at the Mississippi Department of Environmental Quality (MDEQ) offices on June 26th and follow-up conference call on the 27th, KMCC-FPD presents the following responses to your comments. The MDEQ comment will be listed first in italics, followed by the KMCC-FPD response.

1) MDEQ - *Section 5.4 of the RFI Workplan states that the integrity of containment systems within SWMA II will be assessed and the assessment will be modeled after the recommendations contained in the 1993 USEPA publication, "Determining the Integrity of Concrete Sumps: Technical Guidance Document." The RFI report states that the integrity of the containment systems is assessed by facility personnel, however, there is no documentation as to how the integrity of the containment systems was assessed. The protocol and results of the sump integrity assessments should be clearly documented.*

KMCC-FPD - The current inspection of the containment systems by facility personnel may be sufficient to meet the recommendations of the USEPA guidance document, however, KMCC-FPD will review the guidance recommendations and initiate procedures and documentation as required. This information will be provided in the RFI Phase II Workplan to be prepared at a later date.

2) MDEQ - *Section 6.2.1of the RFI Report states that soil sample SB6 did not contain creosote constituents exceeding the Health Based criteria. This statement does not correspond to Table 7 which shows benzo(a)anthracene and benzo(a)pyrene as being above the Health Based criteria.*

KMCC-FPD - For clarity and uniformity, the Health Based soil criteria has been replaced in the tables with Region III Risk Based Concentration criteria - industrial soil ingestion scenario (see comment #3). Based on these data for comparison, sample SB6 does not contain creosote

constituents exceeding these criteria. The appropriate revisions are included as attachments to this correspondence.

3) MDEQ - *Region III, June 1996 is referenced in the analytical summary tables. The health based limit listed in the table appears to be calculated using the methodology in the RFI Guidance, May 1989, and not that used by Region III for the Risk Based Concentration Tables.*

KMCC-FPD - The analytical summary tables and report text will be revised to include the Region III Risk Based Concentrations rather than health based data. The revised tables are included as attachments to this correspondence.

4) MDEQ - *Section 6.3.1. of the RFI report states that shallow soil borings SD6 and SD9 did not detect creosote constituents, however, they did have several "J" flags. Test Methods for Evaluating Solid Waste, Volume IA, SW-846 defines the method detection limit as "the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte." While these "J" flags may not be accurately quantifiable, the Office views these results as detects.*

KMCC-FPD - Again, while soil borings SD6 and SD9 did detect creosote constituents as "J" indicators, these values do not exceed the Region III Risk Based Concentration criteria. However, these "J" values did exceed the previously used Health Based criteria. The revised page(s) are included as attachments to this correspondence.

5) MDEQ - *A number of constituents were determined to be present in the drainage ditches at the site. With the exception of the ditch labeled 001, the concentrations where the ditch exits the facility were consistently greater than samples taken upstream. The report state that TCLP analyses of the sediment samples were non-detect, however, sample 002B showed detects of naphthalene and phenanthrene at quantifiable levels and acenaphthalene and carbazole at estimated levels. The extent of contamination in the drainage ditches should be fully characterized to non-detect levels. In addition, to this investigation at least one surface water sample should be taken at each discharge point and analyzed for all K001 constituents.*

KMCC-FPD - Section 6.4.1. includes the TCLP reference to sample 002B. This section will be revised to agree with the laboratory results. The revised page will be included as an attachment to this correspondence.

The additional sediment assessment of the ditches offsite from the facility along with surface water sampling will be proposed in a Phase II RFI Work Plan to be prepared following final approval of the Phase I report.

6) MDEQ - *All of the surficial samples collected show concentrations of constituents above health based criteria with the exception of SD9. The lateral extent of the surficial contamination should be defined.*

KMCC-FPD - Issues pertaining to surficial soil impact at the facility, including potential delineation of the lateral extent of the impact, will be addressed in the Phase II RFI Work Plan.

7) MDEQ - *It is stated throughout the report that extensive soil investigations through previous assessments have delineated the existing contamination at the facility. This previous information should be incorporated into the investigations conducted during this RFI to fully delineate the soil contamination at the facility. This data should be presented in the form of isoconcentration maps for the constituents of concern, cross sections showing the vertical distribution of these constituents, etc.*

KMCC-FPD - The soil investigation data collected in previously studies at the facility will be incorporated in the Phase II Work Plan in conjunction with the proposed resolution of the surficial soil impact issue (see comment #6). These data can be presented in a map and cross-section format for clarity and consistency.

8) MDEQ - *The RFI Work Plan indicated that the borings and surface soil samples would be made near the secondary O/W separator, wastewater pipes, polymer addition area and holding tank area as depicted in Figure 5.1 of the Work Plan. The locations shown on Figure 15 do not appear to follow this strategy. Explain what criteria were used for siting the sample locations. Indicate on Figure 12 the actual boring and surface soil sampling locations.*

KMCC-FPD - The proposed locations for the borings and surface sample locations shown on Figure 5.1 of the Work Plan were chosen based on ideal proximity to the units in question. At the time field work was initiated it was found that most of the locations could not be drilled or sampled because of overhead power lines, underground utilities, building clearances, and concrete slabs. The actual locations for the borings and soil samples have been spotted on revised versions of Figures 12 and 14. These maps are included as an attachment with this correspondence.

9) MDEQ - *Samples 005A and 005B appear to be taken from a ditch that receives runoff from an area of the facility that is used to store non-treated wood, yet, these samples show a remarkable amount of contamination. The RFI report should address what the source is for the contamination in samples 005A and 005B.*

KMCC-FPD - Using Figure 14 as a reference, drainage ditch outfall 002 flows off the facility property to the north and then flows along the north property line to the east to connect with outfall ditch 005. The source of contamination noted in the sediment samples from the 005

outfall moved from the 002 ditch to the 005 area. The concentrations noted in the 005 samples are correspondingly lower than those in the 002 samples, indicating a downgradient reduction in contaminant constituents.

Again, revised pages for the Phase I RFI report are attached to this correspondence and are to replace the equivalent pages in your copies. Please contact me with any questions or comments regarding this correspondence. My telephone number is (405) 270-2625.

Sincerely,

Kerr-McGee Chemical Corporation
Forest Products Division

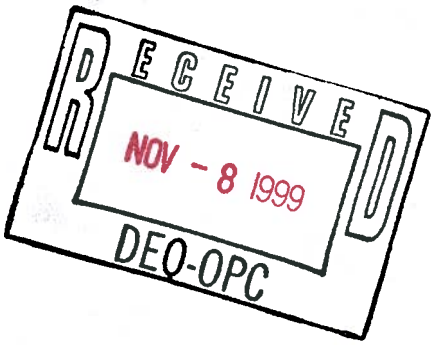
Stephen A. Ladner
Staff Environmental Specialist

Attachments

cc: R. Murphey, w/ attachments
T. Reed, w/ attachments
K. Williams, Region IV - USEPA, w/ attachments

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

NOV 0 4 1999



CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical LLC
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

SUBJ: Approval of Time Extension Request
Supplemental RFI Activities
Columbus, Mississippi Facility
EPA I. D. Number MSD 990 866 329
Forest Products Lowndes County

Dear Mr. Ladner:

The U. S. Environmental Protection Agency (EPA), Region 4 has received your request for a 30-day extension to the deadline for submittal of the Supplemental RFI Activities Work Plan for the off-site drainage ditches. This investigation was required following EPA's receipt of sediment sampling data from these drainage ditches collected by the Mississippi Department of Environmental Quality (MDEQ). The reason given for your time extension request is that you have not received a copy of the MDEQ sampling report for your review.

Your request for a time extension is hereby approved. Submittal of the Supplemental RFI Activities Work Plan for the off-site drainage ditches shall be made to this office no later than December 20, 1999. Until the RFI process is completed, you have not fulfilled the requirements of your HSWA permit. Failure to comply with any permit condition may result in enforcement actions initiated by EPA pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of penalties of up to $27,500 per day of continued noncompliance.

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

October 20, 1999

Mr. Russ McLean
RCRA Permitting
US EPA Region IV
345 Courtland, N.E.
Atlanta, GA 30365

Re: Supplemental RFI Activities
Off-site Drainage Ditch
Columbus, Mississippi
EPA ID Number MSD 990 866 329
Lowndes County

Dear Mr. McLean:

Kerr McGee Chemical LLC (KMC LLC) received your letter on October 19, 1999 requesting supplemental RFI activities specific to off-site drainage ditches in the Columbus, Mississippi area based on new data generated by the Mississippi Department of Environmental Quality (Miss DEQ). As per our phone conversation this morning, Kerr-McGee Chemical LLC is asking for a 30 day extension to the deadline for submittal of a supplemental work plan for the additional investigation of the off-site drainage ditches. As we discussed and agreed upon, the reason for the request and approval of an extension for the submittal of a work plan for this area is that KMC LLC did not have a copy of the Miss DEQ data in question.

With the approval of this request, KMC LLC would now have 60 days to provide the US EPA with a supplemental work plan for the investigation of these off-ditches. Based on a receipt date of October 19, 1999, a total of sixty days would be available to prepare this work plan and providing a due date of December 18, 1999. Thank you for time and consideration in this matter.

Sincerely,

KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: N.E. Bock
Kirk Shelton, Miss DEQ
Ron Murphy, KMC LLC
Tom Reed, KMC

FOREST PRODUCTS

Should you have any questions or comments in regard to the requirements contained in your HSWA permit or your obligation to respond to these requirements, please contact Russ McLean of the South Programs Section at (404) 562-8504.

Sincerely,

Narindar Kumar, Chief
RCRA Programs Branch
Waste Management Division

cc: Bruce Ferguson, MDEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

OCT 13 1999

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

SUBJ: Supplemental RFI Activities
Off-Site Drainage Ditch
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. Ladner:

The U. S. Environmental Protection Agency (EPA). Region 4 has reviewed the results of sediment sampling conducted in the ditches which drain the above-referenced facility. The sampling was conducted by the Mississippi Department of Environmental Quality (MDEQ). This sampling event took place on July 1, 1999 and the results were submitted to EPA in a memo dated August 24, 1999. The MDEQ investigated the drainage ditch sediments in response to a complaint filed by the Marantha Faith Center, following the removal of a steel culvert from the ditch during construction activities at the Center. The areas sampled generally coincide with those areas investigated by Kerr-McGee during the Phase II RFI and identified as the Off-Site Drainage Ditches.

During the Phase II RFI, Kerr-McGee detected low concentrations of polynuclear aromatic hydrocarbon (PAH) constituents which exhibited a rapid decline in concentration moving downstream from the facility. In the Phase II RFI Report submitted to EPA, Kerr-McGee presented the analytical results of this sampling and advocated natural attenuation as the remedy for the constituents in the ditches. This proposed remedy was supported by the low concentrations of constituents detected, source controls in place at the facility, preventing the current discharge of constituents to the ditches, proposed routine monitoring of the sediments at the NPDES outfalls to demonstrate continued attenuation and source control, the presence of other potential sources of this contamination and the lack of control to mitigate further impacts

from these sources, and the reduced mobility and bioavailability of the constituents due to their low solubilities and corresponding high sorption to the soil/sediment matrix.

The analytical results obtained from the MDEQ sampling event indicate concentrations of the constituents of concern in the downstream areas several times higher than levels detected by Kerr-McGee during the Phase II RFI. The differences in concentrations detected between the two sampling events appear to reflect the sampling methodology used to collect the samples. MDEQ utilized 6" stainless steel auger buckets to obtain sediments below the stream bed, while Kerr-McGee collected sediments from the bottom surface of the ditches. For exposure purposes, the upper sediments would present the greatest potential for exposure from direct contact and from a bioavailability standpoint. However, the purpose of the RFI is to establish the extent of contamination, both laterally and vertically, before a complete exposure assessment can be performed. As the potential for contamination in the ditches would be higher from an historical perspective, an investigation of the deeper soils and sediments underlying the ditches is required. This investigation should focus on areas of the ditches where sediment deposition would be greatest (i.e., deep pools, downstream of obstructions, on the outside of bends, etc.). It was also stated in the Phase II RFI Work Plan that surface water samples would be obtained from the ditches to demonstrate that the constituents present in the sediments is not leaching to the water column. This sampling is also required.

The Supplemental RFI activities should be presented as an addendum to the RFI, utilizing the protocols established in the previous RFI Work Plans for performing the investigation and submitting the report. This Work Plan addendum should be submitted to this office within thirty (30) days of receipt of this letter. Until the RFI process is completed, you have not fulfilled the requirements of your HSWA permit. Failure to comply with any permit condition may result in enforcement actions initiated by EPA pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of penalties of up to $27,500 per day of continued noncompliance.

Should you have any questions or comments in regard to the requirements contained in your HSWA permit or your obligation to respond to these requirements, please contact Russ McLean of the South Programs Section at (404) 562-8504.

Sincerely,

Patricia Herbert, for

Narindar Kumar, Chief
RCRA Programs Branch
Waste Management Division

cc: Bruce Ferguson, MDEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUN 9 1999

4WD-RPB

#SWA

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

SUBJ: Notification of Press Release on RCRA Cleanup Reforms

Dear Mr. Ladner:

As you are likely aware, your facility in Columbus, Mississippi is listed as a high priority for cleanup on the Resource Conservation and Recovery Act (RCRA) Corrective Action Baseline list of facilities. The United States Environmental Protection Agency (EPA), with input from many States, has developed this Baseline list in response to the Government Performance Results Act (GPRA) which requires federal agencies to develop measures for tracking environmental results. This Baseline list will be used to track progress of EPA, the states, and the listed facilities in accelerating corrective action at the 1700+ sites.

The purpose of this correspondence is to make you aware that a trade press briefing will take place in mid June 1999, to announce a non-regulatory set of reforms to the RCRA Corrective Action program, referred to as the RCRA Cleanup Reforms. The announcement will be made in Washington, D.C., by the Acting Assistant Administrator of EPA's Office of Solid Waste & Emergency Response, Mr. Timothy Fields, Jr. The list of facilities on the Baseline may be released during the press announcement.

The RCRA Cleanup Reforms will focus on increasing the pace of cleanup at the 1700+ high priority facilities. The Reforms are EPA's comprehensive effort to address the key impediments to cleanups, maximize program flexibility, and spur progress with a set of ambitious national cleanup goals. The national cleanup goals apply to 1700+ RCRA sites identified by EPA and the States as high priority for cleanup over the next several years. The goals, set by EPA under the GPRA, are that by 2005, the States and EPA verify and document that 95 percent of the 1700+ high priority RCRA facilities have "current human exposures under control," and 70 percent of these facilities have "migration of contaminated groundwater under control." To ensure that these ambitious goals are achieved, the RCRA Cleanup Reforms establish aggressive national cleanup targets for each of the next several years.

We are giving you this advanced notice of the trade press announcement so that you have the opportunity to prepare for any questions that may arise because your facility is included as one of the facilities in the Baseline.

Some of the listed facilities have previously received from us an Environmental Indicators Assessment which describes the status (at the time of the assessment) of their ongoing Corrective Action efforts, particularly with regard to: 1) elimination of any existing or potential human exposure to contamination and 2) containment of any existing groundwater contamination. While these two indicators by no means represent the end point of the Corrective Action process, they can provide the public and the facility an assurance that the immediate threats to public health and the environment have been addressed, and if not, when they might be addressed.

We will therefore, be seeking your cooperation in having the necessary steps taken to ensure that current human exposures are controlled and migration of contaminated groundwater is controlled (if these factors have not already been controlled at your facility). In those cases where these two factors have not been controlled, we would expect your facility to develop a firm schedule to attain these controls within a time-frame that is acceptable to all parties concerned.

We look forward to working with you to attain these interim cleanup objectives which we believe are in the vital interest of the environment, the public and your facility.

Sincerely,

Narindar M. Kumar, Chief
RCRA Programs Branch
Waste Management Division

cc: Louis Crawford, MDEQ

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

December 20, 1999

Mr. Russ McLean
RCRA Permitting
U.S. EPA Region IV
345 Courtland, N.E.
Atlanta, Georgia 30365

Re: Supplemental Phase II RFI Workplan
Kerr-McGee Chemical LLC
Columbus, Mississippi Facility

Dear Mr. McLean:

Enclosed please find two (2) copies of the Supplemental Phase II RFI Workplan for the Kerr-McGee Chemical LLC facility located in Columbus, Mississippi.

Please review the submittal and feel free to contact me, Steve Ladner at (405) 270-2625 if you have any questions or need any additional information.

Sincerely,

KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

cc: N.E. Bock, KMC LLC
R.P. Murphey, KMCLLC - Columbus
Tom Reed - KM Hydrology
Kirk Shelton - Mississippi DEQ
Myron Cunningham, KM
Barrett Cieutat - ERM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

OCT 13 1999

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

SUBJ: Supplemental RFI Activities
Off-Site Drainage Ditch
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. Ladner:

The U. S. Environmental Protection Agency (EPA). Region 4 has reviewed the results of sediment sampling conducted in the ditches which drain the above-referenced facility. The sampling was conducted by the Mississippi Department of Environmental Quality (MDEQ). This sampling event took place on July 1, 1999 and the results were submitted to EPA in a memo dated August 24, 1999. The MDEQ investigated the drainage ditch sediments in response to a complaint filed by the Marantha Faith Center, following the removal of a steel culvert from the ditch during construction activities at the Center. The areas sampled generally coincide with those areas investigated by Kerr-McGee during the Phase II RFI and identified as the Off-Site Drainage Ditches.

During the Phase II RFI, Kerr-McGee detected low concentrations of polynuclear aromatic hydrocarbon (PAH) constituents which exhibited a rapid decline in concentration moving downstream from the facility. In the Phase II RFI Report submitted to EPA, Kerr-McGee presented the analytical results of this sampling and advocated natural attenuation as the remedy for the constituents in the ditches. This proposed remedy was supported by the low concentrations of constituents detected, source controls in place at the facility, preventing the current discharge of constituents to the ditches, proposed routine monitoring of the sediments at the NPDES outfalls to demonstrate continued attenuation and source control, the presence of other potential sources of this contamination and the lack of control to mitigate further impacts

from these sources, and the reduced mobility and bioavailability of the constituents due to their low solubilities and corresponding high sorption to the soil/sediment matrix.

The analytical results obtained from the MDEQ sampling event indicate concentrations of the constituents of concern in the downstream areas several times higher than levels detected by Kerr-McGee during the Phase II RFI. The differences in concentrations detected between the two sampling events appear to reflect the sampling methodology used to collect the samples. MDEQ utilized 6" stainless steel auger buckets to obtain sediments below the stream bed, while Kerr-McGee collected sediments from the bottom surface of the ditches. For exposure purposes, the upper sediments would present the greatest potential for exposure from direct contact and from a bioavailability standpoint. However, the purpose of the RFI is to establish the extent of contamination, both laterally and vertically, before a complete exposure assessment can be performed. As the potential for contamination in the ditches would be higher from an historical perspective, an investigation of the deeper soils and sediments underlying the ditches is required. This investigation should focus on areas of the ditches where sediment deposition would be greatest (i.e., deep pools, downstream of obstructions, on the outside of bends, etc.). It was also stated in the Phase II RFI Work Plan that surface water samples would be obtained from the ditches to demonstrate that the constituents present in the sediments is not leaching to the water column. This sampling is also required.

The Supplemental RFI activities should be presented as an addendum to the RFI, utilizing the protocols established in the previous RFI Work Plans for performing the investigation and submitting the report. This Work Plan addendum should be submitted to this office within thirty (30) days of receipt of this letter. Until the RFI process is completed, you have not fulfilled the requirements of your HSWA permit. Failure to comply with any permit condition may result in enforcement actions initiated by EPA pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of penalties of up to $27,500 per day of continued noncompliance.

Should you have any questions or comments in regard to the requirements contained in your HSWA permit or your obligation to respond to these requirements, please contact Russ McLean of the South Programs Section at (404) 562-8504.

Sincerely,

Patricia Herbert, for

Narindar Kumar, Chief
RCRA Programs Branch
Waste Management Division

cc: Bruce Ferguson, MDEQ

BF

Lowndes County Haz Waste File HSWA

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

October 15, 1998

Mr. Bruce Ferguson
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Re: Kerr-McGee Chemical LLC -Forest Products Division
Columbus Mississippi Facility
RCRA Facility Investigation Phase II Report
HW-90-329-01

Dear Mr. Ferguson:

Enclosed, please find two copies of the RCRA Facility Investigation (RFI) Phase II Report submitted in compliance with the requirements listed in the HSWA Permit finalized August 1, 1995. This report describes activities conducted in accordance with the Phase II RFI Workplan submitted on December 30, 1997 and revised through later regulatory correspondence in April and July 1998.

If you have any questions or require additional information concerning the contents of this report, please contact me at (405) 270-2625.

Sincerely,

KERR-MCGEE CHEMICAL LLC
FOREST PRODUCT DIVISION

Stephen A. Ladner

STEPHEN A. LADNER
Staff Environmental Specialist

Enclosures

Mr. Bruce Ferguson, MDEQ (2)
Mr. Alan Farmer, USEPA – Region IV (1)
Mr. Russ McClean, USEPA – Region IV (I)
Mr. Ron Murphey, KMCLLC-FPD, Columbus (1)
Mr. Stephen Ladner, KMCLLC (1)

FOREST PRODUCTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW
ATLANTA, GEORGIA 30303-8909

MAR 27 1998

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

SUBJ: Notice of Technical Inadequacy
Phase II RFI Work Plan
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. Ladner:

The U. S. Environmental Protection Agency (EPA), Region 4 and the Mississippi Department of Environmental Quality (MDEQ) have conducted a joint review of the above-referenced document. Based on this review, the enclosed comments are submitted for your response.

You should address these comments in a revised Phase II RFI Work Plan. This Work Plan should be submitted to this office within thirty (30) days of receipt of this letter. Until the RFI process is completed, you have not fulfilled the requirements of your HSWA permit. Failure to comply with any permit condition may result in enforcement actions initiated by EPA pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of penalties of up to $27,500 per day of continued noncompliance.

Should you have any questions or comments in regard to the requirements contained in your HSWA permit or your obligation to respond to these requirements, please contact Russ McLean of the South Programs Section at (404) 562-8504.

Sincerely,

Narindar Kumar, Chief
RCRA Programs Branch
Waste Management Division

Enclosure

cc: Bruce Ferguson, MDEQ

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

April 23, 1998

Mr. Russ McLean
United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-8909

Re: Response to Notice of Technical Inadequacy
Phase II RFI Work Plan
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. McLean:

The Kerr-McGee Chemical LLC (KMC LLC) received the joint review of the Phase II RFI Work Plan for the Columbus, Mississippi facility. The enclosed responses address the comments of both the United States Environmental Protection Agency (EPA) and the Mississippi Department of Environmental Quality (MDEQ).

This letter also serves as the revised Phase II RFI Work Plan. The data generated in response to these comments will be incorporated and presented in the Phase II RFI Report.

EPA and MDEQ Comment 1- Visible contamination exists above the water table coinciding with the facility fence line at the southwest corner of the facility. Additional sampling should be conducted outside the facility fence line in this area to delineate the extent of contamination.

KMC LLC Response - Four shallow borings are proposed in the southwest corner of the facility. These borings will be advanced to above the water table to evaluate the extent of visible contamination in the subsurface soil conditions. All sampling protocol for visible evaluation will follow that prescribed in the Phase I RFI Work Plan. Figure 1 depicts the locations for these borings.

EPA and MDEQ Comment 2 - This comment focuses on three items: the exposure risk in the Black Tie Storage Area, the need for additional wells in the northern area of the Black Tie Storage Yard, and the need for an additional well in the southeastern corner of the facility.

KMC LLC Response - In terms of the first item, the exposure risk in the Black Tie Storage Area, KMC LLC agrees with the comment that this issue is resolved and will appropriately addressed in the Phase II RFI Report.

The second and third items will be addressed together. KMC LLC is proposing the installation of two additional monitor wells in the Black Tie Storage Area and the installation of one additional well in the southeast corner of the facility. These wells will be installed according to protocol established in the Phase I RFI Work Plan. These wells will be sampled for K001 constituents using Method 8270 according to the facility Sampling and Analysis Plan. KMC LLC believes that these locations will satisfy the plume boundary questions that the agencies have raised. Figure 2 depicts the location of these well installation sites.

EPA and MDEQ Comment 3 - Industrial hygiene data on exposure to facility personnel is collected pursuant to worker exposure monitoring protocols under the auspices of OSHA. This information will be incorporated into the Phase II RFI Report.

KMCC LLC Response - This information will be included in the Phase II RFI Report and will clearly discuss what parameters are measured and a thorough assessment will be provided.

EPA and MDEQ Comment 4 - The agencies suggests that the off-site ditch characterization should be based solely on residential exposure criteria and that the extent of contamination will not be defined until the downstream analysis for constituents is non-detect.

KMC LLC Response - KMC LLC will continue plans to extend the sampling downstream of the facility to characterize the off-site ditch areas. However, based on the number of industrial sites contributing to this drainage area, KMC LLC believes that it is entirely premature to characterize the entire off-site area as using residential exposure criteria. Even more importantly, KMC LLC believes that the assumption that all contributions of Polynuclear Aromatic Hydrocarbons (PAH's) to the drainage areas derive from historical KMC LLC operations may not be the case, and at a minimum, premature. Judgements of this magnitude can only be made when all analytical data have been evaluated and that all other downstream contributors have been evaluated.

Until all information has been collected as part of the RFI and all of these considerations have been properly evaluated, KMC LLC disagrees with the conservative approach of both agencies and will not agree to these risk and cleanup exposure scenarios without considering all data and other factors.

KMC LLC seeks to understand the technical philosophy behind this conservative approach as well as present the technical merits that contrast with the agency's approach, with the ultimate outcome being an agreement on an investigative approach that will satisfy all concerns. KMC LLC believes the most effective solution to this issue is to meet at the Columbus facility and discuss these issues. This meeting would ultimately lead to the best approach in conducting the investigation of these drainage areas as well as view firsthand the other factors that influence this investigation.

Therefore, KMC LLC is proposing a meeting to discuss further the characterization of the off-site ditches, to inspect the off-site areas of interest, and meet all key personnel in this process. This meeting should include both the EPA and MDEQ project managers, and the Chief of RCRA Program, Mr. Kumar. Since it has been over four years since the last site meeting, KMC LLC believes this meeting would add significant value to the successful completion of the corrective action process.

I will call during the week of May 4th to set a meeting time that will be convenient to all parties.

Should you have any questions or comments in regard to these responses, please feel free to contact me, Steve Ladner at (405) 270-2625. Thank you for your time and consideration in this matter.

Sincerely,

KERR-McGEE CHEMICAL LLC
FOREST PRODUCTS DIVISION

Stephen A. Ladner

cc: Bruce Ferguson, MDEQ
Ron Murphy, KMC LLC - Columbus
Nick Bock, KMC LLC
Tom Reed, KM Hydrology

FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

February 25, 1998

Mr. Russ McLean
US EPA, Region 4
Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303-3104

Re: Phase II RFI Work plan - December 30, 1997
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. McLean:

The Mississippi Office of Pollution Control (Office) has the following comments in regards to the above referenced Work plan:

1. Figure 3 of the Work plan shows the visible contamination above the water table coinciding with the facility fence line at the southwest corner of the facility. Additional sampling should be conducted outside the facility fence line in this area to delineate the extent of contamination.

2. During the February 4, 1998, meeting between the Mississippi Office of Pollution Control (Office) and Kerr-McGee Chemical Corporation, industrial hygiene data was presented on the exposure to coal tar pitch volatiles. This information should be incorporated in the RFI report. It should be clear in the report what was actually measured, i.e., does the sampling method include the inhalation of contaminants sorbed to dust and what contaminants were measured.

3. The sample investigation should be expanded out from SD7 and SD8 in a northern and east-west direction to define the extent of contamination in this area.

4. The sample investigation should be expanded out from borings B25 and B26 to define the extent of contamination in this area.

5. Sediment sampling should define the extent of contamination in streams and ditches to non-detect or background. The selection of appropriate locations for background samples should be approved prior to initiating the sampling investigation.

Should you have any questions, I can be reached at (601) 961-5141.

Sincerely,

Bruce Ferguson
Hazardous Waste Division

OFFICE OF POLLUTION CONTROL
P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

KERR-McGEE CHEMICAL CORPORATION
P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

February 9, 1998

Mr. Bruce Ferguson
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Re: Kerr-McGee Chemical LLC-Forest Products Division
Columbus Mississippi Facility
RCRA Facility Investigation Phase II Workplan
HW-90-329-01

Dear Mr. Ferguson:

Attached, please find copies of our Coal Tar Pitch Volatiles Monitoring results from our June 1996 Industrial Hygiene Survey. I hope that this information as well as the 1997 hygiene results that I left with you last week will be helpful to answer questions that you might have concerning our facility.

Thank you for taking the time to meet with us last week. If I can help with any additional questions or information, please feel free to contact me at (601) 328-7551.

Sincerely

Ronald P. Murphey
Plant Manager

Attachments

cc: S. Ladner
T. Reed

FOREST PRODUCTS

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

July 14, 1997

CERTIFIED MAIL NO. - Z 156 165 151
Mr. Steve Ladner
Kerr-McGee Chemical Corporation
Forest Products Division
P. O. Box 25861
Oklahoma City, OK 73125

Re: RCRA Facility investigation Report
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

The Mississippi Department of Environmental Quality in conjunction with the U. S. Environmental Protection Agency have reviewed the above referenced report. The following comments have been compiled based upon the review of the report:

1. Section 5.4 of the RFI Workplan states that the integrity of containment systems within SWMA II will be assessed and the assessment will be modeled after the recommendations contained in the 1993 USEPA publication , "Determining the Integrity of Concrete Sumps: Technical Guidance Document." The RFI Report states that the integrity of the containment systems is assessed by facility personnel, however, there is no documentation as to how the integrity of the containment systems were assessed. The protocol and results of the sump integrity assessments should be clearly documented.

2. Section 6.2.1. of the RFI Report states that soil sample SB6 did not contain creosote constituents exceeding the Health Based criteria. This statement does not correspond to Table 7 which shows benzo(a)anthracene and benzo(a)pyrene as being above Health Based criteria.

3. Region III, June 1996, is referenced in the analytical summary tables. The health based limit listed in the table appears to be calculated using the methodology in the RFI Guidance, May 1989, and not that used by Region III for the Risk Based Concentration Tables.

4. Section 6.3.1. of the RFI Report states that shallow soil borings SD6 and SD9 did not detect creosote constituents, however, they did have several "J" flags. Test Methods for Evaluating Solid Waste, Volume IA, SW-846 defines the method detection limit as "the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte." While these "J" flags may not be accurately quantifiable, the Office views these results as detects.

5. A number of constituents were determined to be present in the drainage ditches at the site. With the exception of the ditch labeled 001, the concentrations where the ditch exits the facility were consistently greater than samples taken upstream. The report states that TCLP analyses of the sediment samples were non-detect, however, sample 002B showed detects of naphthalene and phenanthrene at quantifiable levels and acenaphthalene and carbazole at estimated levels. The extent of contamination in the drainage ditches should be

fully characterized to non-detect levels. In addition to this investigation at least one surface water sample should be taken at each discharge point and analyzed for all K001 constituents.

6. All of the surficial samples collected show concentrations of constituents above health based criteria with the exception of SD9. The lateral extent of the surficial contamination should be defined.

7. It is stated throughout the report that extensive soil investigations through previous assessments have delineated the existing contamination at the facility. This previous information should be incorporated into the investigations conducted during this RFI to fully delineate the soil contamination at the facility. This data should be presented in the form of isoconcentration maps for the constituents of concern, cross sections showing the vertical distribution of these constituents, etc.

8. The RFI Work Plan indicated that the borings and surface soil samples would be made near the secondary O/W separator, wastewater pipes, polymer addition area and holding tank area as depicted in Figure 5.1 of the Work Plan. The locations shown on Figure 15 do not appear to follow this strategy. Explain what criteria were used for siting the sample locations. Indicate on figure 12 the actual boring and surface soil sampling locations.

9. Samples 005A and 005B appear to be taken from a ditch that receives runoff from an area of the facility that is used to store non-treated wood, yet, these samples show a remarkable amount of contamination. The RFI report should address what the source is for the contamination in samples 005A and 005B.

The facility should submit a revised Phase I RFI report within 30 days of receiving this letter to address the above comments relative to the RFI report. The remaining comments should be addressed in a Phase II RFI workplan submitted within 120 days of receiving approval of the Phase I RFI report. The Phase II workplan should specify the procedures that will be used to perform any planned risk assessment activities as well as the procedures that will be used for development of proposed remediation levels. The proposed risk assessment activities and development of remediation levels should include routes of exposure for contaminants found above the screening values found in Region III Risk Based Concentration Tables. For example if a contaminant is found at concentrations greater than the screening level for transfers from soil to air, then this route must be considered.

Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

JUN 13 1997

4WD-RCRA

Mr. Toby Cook
Chief, RCRA Branch
Mississippi Department of
Environmental Quality
P. O. Box 10385
Jackson, Mississippi 39289-0385

SUBJ: Comments to Draft RFI Report
Kerr-McGee, Columbus, MS
EPA I. D. Number MSD 990 866 329

Dear Mr. Cook:

The U. S. Environmental Protection Agency (EPA), Region 4 has reviewed the above-referenced document and offers the following comments for your consideration. These comments may be incorporated into a notice of technical inadequacy to the facility as appropriate.

- General: It is stated throughout the report that extensive soil investigations through previous assessments have delineated the existing contamination at the facility. This previous information should be incorporated into the investigations conducted during this RFI to fully delineate the soil contamination at the facility. This data should be presented in the form of isoconcentration maps for the constituents of concern, cross sections showing the vertical distribution of these constituents, etc.

- Section 5.1 It is stated that soil impacts in this area are clearly defined based on previous investigations. As stated above, delineate the existing soil contamination in this area.

  The RFI Work Plan stated that integrity testing of the containment systems (sumps) in this area would be conducted following the guidance in the 1993 US EPA publication, "Determining the Integrity of Concrete Sumps". Additionally, a protocol for conducting the integrity investigation was set out in the February 2, 1996, response to comments for

the RFI Work Plan. A statement that the containment system's integrity is assessed weekly by facility personnel does not meet this criteria.

- o Section 5.2 See above comment regarding assessment of this area's containment systems.

- o Section 5.3 See above comment regarding assessment of this area's containment systems.

- o Section 6.1 The RFI Work Plan indicated that the borings and surface soil samples would be made near the secondary O/W separator, wastewater pipes, polymer addition area and holding tank area as depicted in Figure 5.1 of the Work Plan. The locations shown on Figure 15 do not appear to follow this strategy. Explain what criteria were used for siting the sample locations. Indicate on Figure 12 the actual boring and surface soil sampling locations .

In addition to submitting comments in the form of a notice of technical inadequacy on the RFI Report to Kerr-McGee, it is recommended that a call for a Phase II RFI to fully characterize soil and sediment contamination be included in the notice. A Phase II RFI is especially warranted for the investigation of sediments in the drainage ditches off-site, down to and including Luxapallila Creek, as access to any contamination in the drainage ways downstream of the facility is not controlled. In addition to this investigation at least one surface water sample should be taken at each discharge point and analyzed for all K001 constituents.

Should Kerr-McGee argue that further soil sampling of SWMAs IV, V and VII not be warranted, it should be pointed out that the results of the limited sampling in each of these SWMAs will be taken as representative, in terms of characterizing the contamination of the entire area. This information will be used in identifying any Corrective Measures necessary in these areas.

Sincerely,

Kent Williams, Chief
South Programs Section
RCRA Programs Branch

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

February 6, 1997

Mr. Russ McLean
RCRA Permitting
U.S. EPA Region IV
345 Courtland, N.E.
Atlanta, Georgia 30365

Re: RFI Report Submittal Extension
Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi Facility

Dear Mr. McLean:

As per our conversation on January 30, 1997, the Kerr-McGee Chemical Corporation-Forest Products Division (KMCC-FPD) has a submittal date of March 2, 1997 for the RFI Report for the Columbus, Mississippi facility. As per our conversation on January 30, 1997, KMCC-FPD requested an extension for the submittal of this report to March 31, 1997 based on unforeseen circumstances. After our conversation, you agreed that the extension would be granted.

This letter serves to document our conversation and the agreement of the need for an extension of the RFI Report submittal date to March 31, 1997. 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: N.E. Bock, KMCC-FPD
R.P. Murphey, KMCC-FPD - Columbus
J.L. Poor, KM Hydrology
Bruce Ferguson, Mississippi DEQ

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

November 25, 1996

Mr. Alan Farmer
Chief, RCRA Branch
Waste Management Branch
United States Environmental Protection Agency, Region 4
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Notification of Completion of RFI Fieldwork
Kerr-McGee Chemical Corporation
Columbus, Mississippi Facility
EPA ID Number MSD 990 866 329

Dear Mr. Farmer:

The Kerr-McGee Chemical Corporation (KMCC) Columbus, Mississippi facility received the approval letter for the RFI Workplan on June 6, 1996. In accordance with the approval conditions, KMCC was to commence the RCRA Facility Investigation (RFI) within 30 days after the receipt of the approval letter, which would be July 6, 1996. In addition to this condition, KMCC was to submit 90 day progress reports if the RFI was not completed within 180 days. KMCC has completed the investigation segment of the RFI. KMCC will use today's date, November 25, as the completion date, which is 142 days since the commencement of the RFI. KMCC is notifying the agency that as per the conditions of the RFI Workplan approval letter that under these conditions, KMCC is not required to submit quarterly progress reports and that the RFI Draft Report will be due 90 after completion of the investigation. Using November 25, 1996 as the completion date of the fieldwork, 90 days after this date will be a submittal date of March 3, 1997 for the Draft RFI Report.

Therefore, KMCC will be submitting the Draft RFI Report for the Columbus, Mississippi facility on or before March 3, 1997. Unless otherwise informed, KMCC will utilize these dates for submittals. If you have any questions, please feel free to contact me, Steve Ladner, at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: Russ McLean - US EPA, Region 4
Jerry Banks, Miss DEQ
Bruce Ferguson, Miss DEQ
Jami Poor, KM Hydrology
Ron Murphey, KMCC - Columbus
Nick Bock, KMCC

FOREST PRODUCTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

JUN 06 1996

4WD-RCRA

Mr. Steve Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Oklahoma City, Oklahoma 73125

SUBJ: RFI Work Plan Approval
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. Ladner:

The Environmental Protection Agency (EPA), Region 4 has received the revisions to the RFI Work Plan, dated May 24, 1996. This submittal satisfies the requirements presented in a letter granting conditional approval of the Work Plan, dated April 24, 1996.

In accordance with Condition II.E.1.d. of the Hazardous and Solid Waste Amendments (HSWA) portion of your RCRA permit, effective August 1, 1995, this notice serves as written approval of the RFI Work Plan. As further required under this same Condition, the start date of the RFI Work Plan schedule shall commence thirty (30) days from receipt of this letter. Additionally, if the time required to conduct the RFI is greater than 180 days, in accordance with Condition II.E.3.a. of the permit, quarterly RFI Progress Reports shall be provided beginning 90 days from the start date. Please note that failure to comply with any conditions of the HSWA permit for your facility may result in enforcement action pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of penalties of up to $25,000 for each day of continued noncompliance.

Should you have any questions regarding requirements contained in your HSWA permit, please contact Russ McLean of the RCRA Permitting Section at (404) 347-3555, x6343.

Sincerely,

K.W. Williams

for G. Alan Farmer
Chief, RCRA Branch
Waste Management Division

cc: Jerry Banks, MDEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR 2 4 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-RCRA

Mr. Steve Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Oklahoma City, Oklahoma 73125

SUBJ: RFI Work Plan
Columbus, Mississippi Facility
EPA I.D. Number MSD 990 866 329

Dear Mr. Ladner:

The Environmental Protection Agency (EPA), Region 4 and the Mississippi Department of Environmental Quality (MDEQ) have reviewed your response to comments on the RFI Work Plan. Based on this review, you are hereby granted conditional approval for the RFI Work Plan. This approval is contingent upon your submittal of a revised RFI Work Plan incorporating the responses contained in your February 2, 1996 letter as well as the following comments:

- Remove the statement in paragraph 3, page 1-1, Introduction which reads; "The USEPA granted the authority to MDEQ to oversee the HSWA permit." The EPA and MDEQ entered into an agreement in which MDEQ would take the lead in reviewing the submissions made under the HSWA portion of the permit. No authority has been granted MDEQ in this regard.

- Indicate in the Work Plan that this investigation will be implemented in a phased approach as necessary. For example, if the documentation of investigations previously conducted in conjunction with any supplemental sampling and analyses, conducted as part of the RFI, fail to fully characterize the contamination in a Solid Waste Management Area (SWMA), then an additional phase of investigation may be required.

A revised RFI Work Plan shall be submitted within thirty (30) days of receipt of this letter. Please note that failure to comply with any conditions of the HSWA permit for your facility may result in enforcement action pursuant to Section 3008 of RCRA, 42 U.S.C. 6928, under which EPA may seek the imposition of

penalties of up to $25,000 for each day of continued non-compliance.

Should you have any questions regarding requirements contained in your HSWA permit, please contact Russ McLean of the RCRA Permitting Section at (404) 347-3555, x6343.

Sincerely,

G. Alan Farmer
Chief, RCRA Branch
Waste Management Division

cc: Jerry Banks, MDEQ

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

February 27, 1996

Mr. Russ McLean
U.S. EPA, Region 4
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Letter of February 2, 1996
RCRA Facility Investigation Workplan Response to Comments
Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi

Dear Mr. McLean:

The Mississippi Office of Pollution Control (Office) has reviewed the facility's response to comments made on the RFI workplan. A site map showing the areal extent of removal efforts in the Tank Farm Area and the Drip Track Area was not provided in the comments. In a phone conversation with Mr. Steve Ladner, I was told that the areal extent of the removal efforts extended to the boundaries of the existing drip track and the secondary containment that was installed after the removal efforts. The analytical results for confirmatory sampling performed after the removal efforts was submitted. Some of the results were reported as ug/l. These results are for soil samples that were subjected to the toxicity leaching procedure.

The Office feels that the initial concerns have been adequately addressed. The facility will incorporated the response to the initial comments into the RFI Workplan. If you have any additional concerns, please advise me so that they might be addressed before the RFI Workplan is revised.

If you have any questions or comments, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson
Hazardous Waste Division

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

February 2, 1996

Mr. Bruce Ferguson
Mississippi Department of Environmental Quality
Office of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Re: RCRA Facility Investigation Workplan Response to Comments
Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi
EPA I.D. Number - MSD 990 866 329
Hazardous Waste Permit Number HW-90-329-01

Dear Mr. Ferguson:

Enclosed please find responses from Kerr-McGee Chemical Corporation (KMCC) to the comments provided by the Mississippi Department of Environmental Quality (MDEQ) on the RCRA Facility Investigation Workplan submitted on November 27, 1995. Please review the following comments, if these meet with MDEQ approval KMCC will incorporate them into the workplan and re-issue a revised copy of the workplan.

MDEQ Comment 1

1) The workplan does not require further investigation for SWMA's I, II, III, VII. Sufficient justification and associated documentation should be provided. The following work should be included for these SWMA's in the RFI workplan:

a) A procedure should be included in the workplan to assess the integrity of all waste containment systems within the SWMA's.

b) Documentation should be presented showing the areal extent of surficial soil contamination, or sampling should be proposed for the SWMA's that will provide this information.

KMCC Response

The decision to advocate no further investigation in SWMA's I (Retort Area), II (Drip Pad Area), III (Tank Farm), and VII (Black Tie Storage) was based on the extensive soil boring investigation that had been conducted previously at the site. In addition, SWMA's II (Drip Pad Area) and SWMA III (Tank Farm) did undergo extensive source removal measures which included excavation of impacted soils and the installation of concrete surfaces to eliminate any future releases. This effort has been documented and confirmatory sampling has been enclosed as attachment 1 to this letter providing additional documentation .

SWMA I (Retort Area), SWMA II (Drip Pad Area) and SWMA III (Tank Farm Area) do contain waste containment systems, sumps, that will be assessed for structural integrity. KMCC will model this assessment after recommendations put forth in the EPA publication, Determining the Integrity of Concrete Sumps: Technical Guidance Document. The sump integrity investigation will involve the following steps:

* Planning the investigative survey
* Reviewing engineering data,
* Preparing the sump for inspection,
* Performing the inspection, and
* Conducting a sump tightness test.

A secondary investigation will be performed if the basic investigation is inconclusive.

Additional sampling in these areas has not been presented, since they have been subjected to source removal efforts and are under the influence of the groundwater extraction system as well as having a release preventive concrete containment area.

Additional surficial sampling has been recommended in SWMA VII (Black Tie Storage Area), and will be shown with the recommendations for additional sampling in the next comment section of this letter.

MDEQ Comment 2

The office does not consider one sample per SWMU to be sufficient to determine if a release has occurred nor to characterize any release that may have occurred. Additional sampling should be proposed or justification as to why only one sample would be sufficient to detect or characterize a release should be provided.

KMCC Response

KMCC is in agreement with the MDEQ that one sample per SWMA is not sufficient to determine if a release has occurred. However, many of the designated SWMA's have undergone extensive soil investigations during previous assessments, therefore additional data is available for determination of releases in these areas. KMCC is also in agreement that there needs to be additional surficial soil characterization. KMCC is proposing the following augmentations to the sampling scheme proposed in the RFI workplan:

1) SWMA IV (Creosote Recovery System/Wastewater Treatment System) has three soil borings projected for this area. In addition, KMCC will sample the area for surficial soil impact at three

different locations. These locations are identified on the map presented as Attachment II. Surficial soil sampling will involve the interval from grade to one foot below grade and will be composited as per guidance in the sediment sampling protocol of the Quality Assurance Manual of the RFI Workplan.

2) SWMA V (Cooling Tower Basin) has one soil boring planned for the investigation of the soil environment in this area. Based on the number of soil borings in this area, KMCC still believes that this boring will provide sufficient evidence of whether releases have been detected in this area. KMCC will propose three additional surficial soil samples in this area to determine surface soil impact and risk. The locations are identified on Attachment III.

3) SWMA VI (Waste Piles) have already been sampled and analyzed to determine if release occurred in this area during past operations. Four samples were taken in this area and did not detect the presence of creosote constituents. This data was submitted along with a confirmatory sampling report to the USEPA and MDEQ documenting that this area was not a SWMA (See correspondence 1995).

4) SWMA VII (Black Tie Storage Area) is under the influence of the groundwater remediation system and has been evaluated during previous investigations by 33 soil borings in the area. KMCC believes that the potential for a release has been fully characterized. In terms of surficial soil impact and risk to workers, the majority of this area is covered with gravel and offers no exposure threat. KMCC will take four surficial soil samples in this area where the gravel is not present (See Attachment IV) .

5) SWMA VIII (Drainage Ditches) have been sampled for surface water impact under the State of Mississippi NPDES Stormwater permit system. No detections have been detected indicating that creosote constituents have been detected in the stormwater discharge. KMCC will propose one additional sample in the 5 existing drainage ditches (See Attachment IV). KMCC still believes that if there is leaching of any contamination from these ditches into the groundwater regime, the existing cleanup system would impact that release. KMCC believes that the data generated from these additional samples plus the data from the stormwater monitoring will be sufficient to characterize the release potential of the drainage ditches.

Please review the additional sampling locations proposed in this section.

MDEQ Comment 3

The practical quantitation limits are listed in Table 5.2 as an attachment . The analytical method detection limit for the various constituents of concern should be below the RCRA Health Based Criteria calculated using the methodology in "RCRA Facility Investigation

Guidance", Volume I, Section 8. The attached Table contains the RCRA Health Based Criteria for the K001 constituents.

In review of the Table submitted, only one constituent would have a health based risk criterium in soils below the method detection limit for Method 8270. The constituent, benzo(a)pyrene, has a risk based health criteria limit in soils of .096 mg/kg.

Method 8270 is the accepted method for soil analysis of K001 or creosote constituents. Method 8270 is a gas chromatograph/Mass Spectrometry method, which provides the identity of the constituent with verification through mass spectrometry . According to the RCRA Health Based Standards supplied in the attached table, benzo(a)pyrene would have a health based criterium in soils of .096 mg/kg. According to the Method 8270, the practical quantitation limit (PQL) for soils in an impacted in environment would be .660 mg/kg and .330 mg/kg for an unimpacted sample. According to the lab analysis, the method detection limit (MDL) for each of these matrices would be .144 mg/kg and .103 mg/kg, respectively. Both of these MDL values would be slightly higher than the health based guidance of .096 mg/kg.

There is another analytical method, Method 8310, that is capable of a lower MDL limit; however, it is prone to providing false positives and provides no verification of constituent identity through mass spectrometry. Because of the unreliability of this method, EPA has not endorsed this method for a substitute and still recommends Method 8270.

Other considerations, practical considerations, should be examined in terms of this question. One consideration is the fact that creosote constituents will be detectable with a fixed ratio of lighter end compounds, such as naphthalene - a four compound ring compound, compared with the higher end compounds, such as benzo(a)pyrene - six carbon ring compounds. These fixed ratios vary slightly due to manufacturer formulation differences, but the light end constituents exceed the heavier ended compounds typically by orders of one to two magnitude. Based on this ratio, naphthalene would have to be detected in the parts per million (ppm) concentration range for benzo(a) pyrene to be present at or near the health based criteria level of .096 ppm.

Another consideration is the risk based concentration for this compound based on the most recent risk based concentration table generated by the USEPA Office of Technical & Program Support Branch on October 20, 1995 show that the acceptable risk based concentration of . 780 mg/kg for soil ingestion at an industrial site. This level of measurement would be easily met by Method 8270, with a MDL of .660 mg/kg.

Based on this site-specific scenario of risk based criteria of soil ingestion, the proposed Method 8270 will be able to detect the presence of benzo(a)pyrene at a level below the risk based criteria. Therefore, KMCC still believes this method offers the most technically sound method for the investigation of soil exposure and risk.

Please review these responses to the MDEQ's comments on the RFI workplan, and provide KMCC with your direction and comments on these ammendments to the scope of work proposed in the workplan. If you have any additional questions or need to discuss these proposals, please do not hesitate to call me, Steve Ladner at (405) 270-2625. 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: N.E. Bock
D. Yarbrough, KMCC-Columbus
J. Poor.
R. McLean-USEPA Region IV

ATTACHMENT I

ETC

Tank Farm

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

SEP 22, 1988
QA9437

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3078	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDC0L	SSPJTFSCI	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Rec
1A	2-Chlorophenol	ND	3.7	ND	ND	ND	103	87	ND	110	96
3A	2,4-Dimethylphenol	28.4	3.0	ND	ND	ND	103	91	27.5	110	3
5A	2,4-Dinitrophenol	ND	47	ND	ND	ND	103	0	ND	110	81
8A	p-Chloro-m-cresol	ND	3.3	ND	ND	ND	103	90	ND	110	94
9A	Pentachlorophenol	333	4.0	ND	ND	ND	103	21	342	110	167
10A	Phenol	ND	1.7	ND	ND	ND	103	17	ND	110	17
11A	2,4,6-Trichlorophenol	6.56	3.0	ND	ND	ND	103	66	5.92	110	98
	2,3,4,6-Tetrachlorophenol	117	11	ND	ND	ND	103	117	108	110	284

All zero and variable recoveries have been manually verified.

ETC

OCT 2, 1988
QB9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3078	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSCI	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen Added ug/l	% Recov
2B	Acenaphthylene	16.5	3.9	ND	ND	ND	100	101	17.0	110	98
5B	Benzo(a)anthracene	ND	8.7	ND	ND	ND	100	103	ND	110	99
6B	Benzo(a)pyrene	ND	2.8	ND	ND	ND	100	100	ND	110	97
7B	Benzo(b)fluoranthene	ND	5.3	ND	ND	ND	100	85	ND	110	82
19B	Dibenzo(a,h)anthracene	ND	11	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	40.5	2.4	ND	ND	ND	100	101	43.9	110	99
37B	Indeno(1,2,3-c,d)pyrene	ND	5.2	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	561	1.8	ND	ND	ND	100	95	607	110	66
44B	Phenanthrene	178	6.0	ND	ND	ND	100	103	175	110	115
	Carbazole	358	11	ND	ND	ND	100	154	419	110	137

All zero and variable recoveries have been manually verified.

ETC

Tank Farm

OCT 2, 1988
QB9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3079	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSCL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
2B	Acenaphthylene	16.5	4.1	ND	ND	ND	100	101	17.0	110	98
5B	Benzo(a)anthracene	ND	9.2	ND	ND	ND	100	103	ND	110	99
6B	Benzo(a)pyrene	ND	2.9	ND	ND	ND	100	100	ND	110	97
7B	Benzo(b)fluoranthene	ND	5.6	ND	ND	ND	100	85	ND	110	82
19B	Dibenzo(a,h)anthracene	ND	12	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	44.5	2.6	ND	ND	ND	100	101	43.9	110	99
37B	Indeno(1,2,3-c,d)pyrene	ND	5.5	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	655	1.9	ND	ND	ND	100	95	607	110	66
44B	Phenanthrene	178	6.4	ND	ND	ND	100	103	175	110	115
	Carbazole	546	12	ND	ND	ND	100	154	419	110	137

All zero and variable recoveries have been manually verified.

ETC

SEP 22, 1988
QA9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3079	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSCL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
1A	2-Chlorophenol	ND	3.9	ND	ND	ND	103	87	ND	110	36
3A	2,4-Dimethylphenol	22.8	3.2	ND	ND	ND	103	91	27.5	110	3
5A	2,4-Dinitrophenol	ND	49	ND	ND	ND	103	0	ND	110	81
8A	p-Chloro-m-cresol	ND	3.5	ND	ND	ND	103	90	ND	110	94
9A	Pentachlorophenol	358	4.2	ND	ND	ND	103	21	342	110	167
10A	Phenol	ND	1.8	ND	ND	ND	103	17	ND	110	17
11A	2,4,6-Trichlorophenol	ND	3.2	ND	ND	ND	103	66	5.92	110	98
	2,3,4,6-Tetrachlorophenol	135	12	ND	ND	ND	103	117	108	110	284

All zero and variable recoveries have been manually verified.

ETC — Tank Farm

OCT 2, 1988
QB9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3081	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSBL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
2B	Acenaphthylene	17.5	3.9	ND	ND	ND	100	101	17.0	110	98
5B	Benzo(a)anthracene	ND	8.7	ND	ND	ND	100	103	ND	110	99
6B	Benzo(a)pyrene	ND	2.8	ND	ND	ND	100	100	ND	110	97
7B	Benzo(b)fluoranthene	ND	5.3	ND	ND	ND	100	85	ND	110	82
19B	Dibenzo(a,h)anthracene	ND	11	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	62.4	2.4	ND	ND	ND	100	101	43.9	110	99
37B	Indeno(1,2,3-c,d)pyrene	ND	5.2	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	479	1.8	ND	ND	ND	100	95	607	110	66
44B	Phenanthrene	218	6.0	ND	ND	ND	100	103	175	110	115
	Carbazole	226	11	ND	ND	ND	100	154	419	110	137

All zero and variable recoveries have been manually verified.

ETC

SEP 22, 1988
QA9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

TCLP
EP 707

Chain of Custody Data Required for ETC Data Management Summary Reports

BG3081 KERR-MCGEE CHEMICAL CORPORATIO KMCCFPDCOL SSPJTFSBL 880819 1020 0

ETC Sample No. | Company | Facility | Sample Point | Date | Time | Elapsed Hours

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen Added ug/l	% Recov
1A	2-Chlorophenol	ND	3.7	ND	ND	ND	103	87	ND	110	96
3A	2,4-Dimethylphenol	50.3	3.0	ND	ND	ND	103	91	27.5	0	3
5A	2,4-Dinitrophenol	ND	47	ND	ND	ND	103	0	ND	110	81
8A	p-Chloro-m-cresol	ND	3.3	ND	ND	ND	103	90	ND	110	94
9A	Pentachlorophenol	54.5	4.0	ND	ND	ND	103	21	342	110	167
10A	Phenol	ND	1.7	ND	ND	ND	103	17	ND	110	17
11A	2,4,6-Trichlorophenol	ND	3.0	ND	ND	ND	103	66	92	110	98
	2,3,4,6-Tetrachlorophenol	24.3	11	ND	ND	ND	103	117	108	110	284

All recoveries and applicable recoveries have been manually verified.

ETC — Tank Farm

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3076	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSBI	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1A	2-Chlorophenol	ND	2900	ND	ND	ND	0	-	ND	3700	143
3A	2,4-Dimethylphenol	ND	2400	ND	ND	ND	0	-	ND	3700	106
5A	2,4-Dinitrophenol	ND	37000	ND	ND	ND	0	-	ND	3700	0
8A	p-Chloro-m-cresol	ND	2600	ND	ND	ND	0	-	ND	3700	104
9A	Pentachlorophenol	89100	3100	ND	ND	ND	0	-	ND	3700	0
10A	Phenol	ND	1300	ND	ND	ND	0	-	ND	3700	24
11A	2,4,6-Trichlorophenol	ND	2400	ND	ND	ND	0	-	ND	3700	93
	2,3,4,6-Tetrachlorophenol	ND	8700	ND	ND	ND	0	-	ND	3700	148

All zero and variable recoveries have been manually verified.

ETC

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3076	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSBI	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
2B	Acenaphthylene	16000	3100	ND	ND	ND	0	-	ND	3700	100
5B	Benzo(a)anthracene	300000	6800	7120	4250	ND	0	-	ND	3700	121
6B	Benzo(a)pyrene	119000	2200	7210	1230	ND	0	-	ND	3700	126
7B	Benzo(b)fluoranthene	266000	4200	11000	5140	ND	0	-	ND	3700	76
19B	Dibenzo(a,h)anthracene	ND	8700	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	1190000	1900	14600	8460	ND	0	-	ND	3700	128
37B	Indeno(1,2,3-c,d)pyrene	44500	4100	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	181000	1400	860	179	ND	0	-	ND	3700	114
44B	Phenanthrene	1400000	4700	10400	4260	ND	0	-	ND	3700	121
	Carbazole	466000	8700	ND	273	ND	0	-	ND	3700	80

All zero and variable recoveries have been manually verified.

ETC

Tank Farm

SEP 22, 1988
QA9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3080	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSDL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
1A	2-Chlorophenol	ND	3.6	ND	ND	ND	103	87	ND	110	96
3A	2,4-Dimethylphenol	27.5	2.9	ND	ND	ND	103	91	27.5	110	3
5A	2,4-Dinitrophenol	ND	46	ND	ND	ND	103	0	ND	110	81
8A	p-Chloro-m-cresol	ND	3.3	ND	ND	ND	103	90	ND	110	94
9A	Pentachlorophenol	342	3.9	ND	ND	ND	103	21	342	110	107
10A	Phenol	ND	1.6	ND	ND	ND	103	17	ND	110	17
11A	2,4,6-Trichlorophenol	5.92	2.9	ND	ND	ND	103	66	5.92	110	98
	2,3,4,6-Tetrachlorophenol	108	11	ND	ND	ND	103	117	108	110	284

All zero and variable recoveries have been manually verified.

ETC

OCT 2, 1988
QB9437

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3080	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSDL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/l	MDL ug/l	First ug/l	Second ug/l	Blank Data ug/l	Concen. Added ug/l	% Recov	Unspiked Sample ug/l	Concen. Added ug/l	% Recov
2B	Acenaphthylene	17.0	3.8	ND	ND	ND	100	101	17.0	110	98
5B	Benzo(a)anthracene	ND	8.5	ND	ND	ND	100	103	ND	110	99
6B	Benzo(a)pyrene	ND	2.7	ND	ND	ND	100	100	ND	110	97
7B	Benzo(b)fluoranthene	ND	5.2	ND	ND	ND	100	85	ND	110	82
19B	Dibenzo(a,h)anthracene	ND	11	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	43.9	2.4	ND	ND	ND	100	101	43.9	110	99
37B	Indeno(1,2,3-c,d)pyrene	ND	5.1	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	607	1.7	ND	ND	ND	100	95	607	110	66
44B	Phenanthrene	175	5.9	ND	ND	ND	100	103	175	110	115
	Carbazole	419	11	ND	ND	ND	100	154	419	110	137

All zero and variable recoveries have been manually verified.

ETC — Tank Farm

OCT 15, 1988
QC9465

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

BG3074 KERR-MCGEE CHEMICAL CORPORATIO KMCCFPDC0L SSPJTFSDI 880819 0

ETC Sample No. | Company | Facility | Sample Point | Date | Time | Elapsed Hours

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1A	2-Chlorophenol	ND	1200	ND	ND	ND	0	-	ND	3550	166
3A	2,4-Dimethylphenol	1190	980	1190	1440	ND	0	-	1190	3550	136
5A	2,4-Dinitrophenol	ND	15000	ND	ND	ND	0	-	ND	3550	140
8A	p-Chloro-m-cresol	ND	1100	ND	ND	ND	0	-	ND	3550	179
9A	Pentachlorophenol	142000	1300	142000	157000	ND	0	-	142000	3550	361
10A	Phenol	ND	540	ND	ND	ND	0	-	ND	3550	89
11A	2,4,6-Trichlorophenol	ND	980	ND	ND	ND	0	-	ND	3550	124
	2,3,4,6-Tetrachlorophenol	21700	3600	21700	24400	ND	0	-	21700	3550	25

All zero and variable recoveries have been manually verified.

ETC

OCT 15, 1988
QC9465

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3074	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSDI	880819		0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
2B	Acenaphthylene	9150	1300	9150	9750	ND	0	-	9150	3550	183
5B	Benzo(a)anthracene	95100	2800	95100	98000	ND	0	-	95100	3550	190
6B	Benzo(a)pyrene	36400	910	36400	41300	ND	0	-	36400	3550	175
7B	Benzo(b)fluoranthene	75100	1700	75100	85100	ND	0	-	75100	3550	86
19B	Dibenzo(a,h)anthracene	7250	3600	7250	8800	ND	0	-	7250	0	-
31B	Fluoranthene	349000	800	349000	488000	ND	0	-	349000	3550	3580
37B	Indeno(1,2,3-c,d)pyrene	13200	1700	13200	14400	ND	0	-	13200	0	-
39B	Naphthalene	111000	580	111000	129000	ND	0	-	111000	3550	476
44B	Phenanthrene	519000	2000	519000	555000	ND	0	-	519000	3550	3850
	Carbazole	45300	3600	45300	51400	ND	0	-	45300	3550	514

All zero and variable recoveries have been manually verified.

ETC

Tank Farm

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3075	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSAI	880819		0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
1A	2-Chlorophenol	ND	34000	ND	ND	ND	0	-	ND	3700	143
3A	2,4-Dimethylphenol	BMDL	27000	ND	ND	ND	0	-	ND	3700	106
5A	2,4-Dinitrophenol	ND	430000	ND	ND	ND	0	-	ND	3700	0
8A	p-Chloro-m-cresol	ND	30000	ND	ND	ND	0	-	ND	3700	104
9A	Pentachlorophenol	1130000	37000	ND	ND	ND	0	-	ND	3700	0
10A	Phenol	BMDL	15000	ND	ND	ND	0	-	ND	3700	24
11A	2,4,6-Trichlorophenol	ND	27000	ND	ND	ND	0	-	ND	3700	93
	2,3,4,6-Tetrachlorophenol	BMDL	100000	ND	ND	ND	0	-	ND	3700	148

All zero and variable recoveries have been manually verified.

ETC

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3075	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSAI	880819		0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
2B	Acenaphthylene	BMDL	36000	ND	ND	ND	0	-	ND	3700	100
5B	Benzo(a)anthracene	409000	79000	7120	4250	ND	0	-	ND	3700	121
6B	Benzo(a)pyrene	50100	25000	7210	1230	ND	0	-	ND	3700	126
7B	Benzo(b)fluoranthene	338000	49000	11000	5140	ND	0	-	ND	3700	76
19B	Dibenzo(a,h)anthracene	ND	100000	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	2210000	22000	14600	8460	ND	0	-	ND	3700	128
37B	Indeno(1,2,3-c,d)pyrene	57700	48000	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	481000	16000	860	179	ND	0	-	ND	3700	114
44B	Phenanthrene	2020000	55000	10400	4260	ND	0	-	ND	3700	121
	Carbazole	BMDL	100000	ND	273	ND	0	-	ND	3700	80

All zero and variable recoveries have been manually verified.

ETC

Tank Farm

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Acid Compounds - GC/MS Analysis Data (QR80)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3077	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSAL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	Re
1A	2-Chlorophenol	ND	33000	ND	ND	ND	0	-	ND	3700	143
3A	2,4-Dimethylphenol	BMDL	27000	ND	ND	ND	0	-	ND	3700	106
5A	2,4-Dinitrophenol	ND	420000	ND	ND	ND	0	-	ND	3700	0
8A	p-Chloro-m-cresol	ND	30000	ND	ND	ND	0	-	ND	3700	104
9A	Pentachlorophenol	900000	36000	ND	ND	ND	0	-	ND	3700	0
10A	Phenol	BMDL	15000	ND	ND	ND	0	-	ND	3700	24
11A	2,4,6-Trichlorophenol	ND	27000	ND	ND	ND	0	-	ND	3700	93
	2,3,4,6-Tetrachlorophenol	BMDL	100000	ND	ND	ND	0	-	ND	3700	148

All zero and variable recoveries have been manually verified.

ETC

OCT 19, 1988
QC9430

TABLE 1: QUANTITATIVE RESULTS and QUALITY ASSURANCE DATA

FORP Base/Neutral Compounds - GC/MS Analysis Data (QR81)

Chain of Custody Data Required for ETC Data Management Summary Reports

ETC Sample No.	Company	Facility	Sample Point	Date	Time	Elapsed Hours
BG3077	KERR-MCGEE CHEMICAL CORPORATIO	KMCCFPDCOL	SSPJTFSAL	880819	1020	0

NPDES Number	Compound	Results		QC Replicate		QC Blank and Spiked Blank			QC Matrix Spike		
		Sample Concen. ug/kg	MDL ug/kg	First ug/kg	Second ug/kg	Blank Data ug/kg	Concen. Added ug/kg	% Recov	Unspiked Sample ug/kg	Concen. Added ug/kg	% Recov
2B	Acenaphthylene	BMDL	35000	ND	ND	ND	0	-	ND	3700	100
5B	Benzo(a)anthracene	345000	78000	7120	4250	ND	0	-	ND	3700	121
6B	Benzo(a)pyrene	37000	25000	7210	1230	ND	0	-	ND	3700	126
7B	Benzo(b)fluoranthene	279000	48000	11000	5140	ND	0	-	ND	3700	76
19B	Dibenzo(a,h)anthracene	ND	100000	ND	ND	ND	0	-	ND	0	-
31B	Fluoranthene	1780000	22000	14600	8460	ND	0	-	ND	3700	128
37B	Indeno(1,2,3-c,d)pyrene	ND	47000	ND	ND	ND	0	-	ND	0	-
39B	Naphthalene	463000	16000	860	179	ND	0	-	ND	3700	114
44B	Phenanthrene	1770000	54000	10400	4260	ND	0	-	ND	3700	121
	Carbazole	BMDL	100000	ND	273	ND	0	-	ND	3700	80

All zero and variable recoveries have been manually verified.

ETC ENVIRONMENTAL TESTING and CERTIFICATION

DATE: 02/29/
PAGE: 1

DATA MANAGEMENT SUMMARY REPORT
(DM-1L) - All Parameters Present, Samples Linked by Order

Chain of Custody Data Required for ETC Data Management Summary Report

See Below				See Below
ETC Sample No.	KERR-MCGEE CHEMICAL CORPORATION *Company*	KMCCFPDCOL *Facility*	DRIP TRACK / Pad *Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		S SPJDPT1I 880116 BD0652	S SPJDPT2I 880116 BD0651	S SPJDPT3I 880116 BD0650	S SPJDPT4I 880116 BD0649	S SPJDPT5I 880116 BD0648	S SPJDPT6I 880116 BD0647		
Priority Poll. Acids GC/MS									
2,4-Dimethylphenol	ug/kg	1950	< 100	14400	1030	< 100	< 100		
Pentachlorophenol	ug/kg	358000	201	10000	273	357	313		
Phenol	ug/kg	< 290	< 56	23200	596	< 57	105		
2,4,6-Trichlorophenol	ug/kg	1870	< 100	< 510	< 100	< 100	< 100		
Priority Poll. B/Ns GC/MS									
Acenaphthylene	ug/kg	<27000	< 2600	113000	<13000	< 1300	1690		
Benzo(a)anthracene	ug/kg	95000	7060	476000	85300	8040	11200		
Benzo(a)pyrene	ug/kg	40000	3430	193000	33100	3690	8030		
Benzo(b)fluoranthene	ug/kg	171000	14800	810000	142000	17400	15400		
Fluoranthene	ug/kg	506000	37400	2180000	407000	43000	65300		
Indeno(1,2,3-c,d)pyrene	ug/kg	<36000	< 3500	<89000	<18000	< 1800	4990		
Naphthalene	ug/kg	488000	40200	1930000	316000	6800	31300		
Phenanthrene	ug/kg	814000	57900	3420000	629000	58500	86500		
Miscellaneous Parameters									
2,3,4,6-Tetrachlorophenol	ug/kg	11000	< 370	< 1900	< 380	< 380	< 390		
Carbazole	ug/kg	<77000	< 7500	340000	43900	5490	14700		

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested

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

December 28, 1995

Mr. Steve Ladner
Kerr-McGee Chemcial Corporation
P. O. Box 25861
Oklahoma City, OK 73125

Re: RFI Workplan
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

The Mississippi Office of Pollution Control (Office) has received and reviewed the above referenced workplan submitted in accordance with the HSWA portion of the facility's Hazardous Waste Management Permit. The Office has reviewed the workplan and has the following comments based upon the review:

1. The workplan does not require any further investigation for Solid Waste Management Areas (SWMA) I, II, III and VII. Permit Condition II.E.1.c. does allow for omissions of areas, however, sufficient justification and associated documentation must be provided. The following work should be included for these SWMAs in the RFI workplan:

   a. A procedure should be included in the workplan to assess the integrity of all the waste containment systems within the SWMAs.

   b. Documentation should be presented showing the areal extent of surficial soil contamination, or sampling should be proposed for the SWMAs that will provide this information.

2. The Office does not consider one sample per Solid Waste Management Unit (SWMU) to be sufficient to determine if a release has occurred nor to characterize any release that may have occurred. Additional sampling should be proposed or justification as to why only one sample would be sufficient to detect or characterize a release should be provided.

3. The practical quantitation limits are listed in Table 5.2 of the RFI Workplan. The analytical method detection limit for the various constituents of concern should be below the RCRA Health Based Criteria calculated using the methodology in "RCRA Facility Investigation Guidance", Volume I, Section 8. The attached Table contains the RCRA Health Based Criteria for the K001 constituents.

These comments should be addressed and the RFI Workplan revised within 30 days of receiving this letter. Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

PER PHONE CONVERSATION WITH STEVE LADNER ON 1/16/96. THIS LETER WAS RECEIVED BY KERR-MCGEE ON 1/2/96

Bruce Ferguson
Hazardous Waste Division

Table 1. RCRA Health Based Criteria for K001 Constitiuents

Substance Name	CASRN	RCRA Health Based Criteria	
		SOIL mg/kg	WATER mg/l
Acenaphthylene	208-96-8		
Benzo[a]pyrene	50-32-8	9.59e-02	2.00e-04
Benzo[b]fluoranthene	205-99-2		2.00e-04
Benz[a]anthracene	56-55-3		1.00e-04
Carbazole	86-74-8	3.50e+01	1.75e-03
p-Chloro-m-cresol	59-50-7		
2-Chlorophenol	95-57-8	4.00e+02	1.75e-01
Dibenz[a,h]anthracene	53-70-3		3.00e-04
2,4-Dimethylphenol	105-67-9	1.60e+03	7.00e-01
2,4-Dinitrophenol	51-28-5	1.60e+02	7.00e-02
Fluoranthene	206-44-0	3.20e+03	1.40e+00
Indeno(1,2,3,cd)pyrene	193-39-5		4.00e-04
Naphthalene	91-20-3		
Pentachlorophenol	87-86-5	5.83e+00	1.00e-03
Phenanthrene	85-01-8		
Phenol	108-95-2	4.80e+04	2.10e+01
2,3,4,6-Tetrachlorophenol	58-90-2	2.40e+03	1.05e+00
2,4,6-Trichlorophenol	88-06-2	6.36e+01	3.18e-03

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

December 13, 1995

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department of
Environmental Quality
Office of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Confirmatory Sampling Report Comments
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ferguson:

On November 17, 1995 Kerr-McGee Chemical Corporation (KMCC) received comments on the Confirmatory Sampling Report for the Columbus, Mississippi facility from the Mississippi Office of Pollution Control (Office) and the U. S. Environmental Protection Agency (EPA). KMCC has reviewed the comments and has provided responses to each comment with the intent of answering and clarifying all questions. Please review the following responses:

Comment 1

KMCC should provide a discussion of the sampling methodology employed including, copies of field logbook containing all field observations and information pertinent to sampling activities, description of the split spoon sampler, decontamination procedures, lithological logging record of each boring, a list of all personnel involved in the sampling activity and qualifications, and documentation of sample preservation.

KMCC Response: Four separate sampling locations were selected in the Pine Yard area to determine whether a release had occurred to the environment, which by definition would categorize this area as a SWMU. The RFA listed this area as potential area of concern that had in the past stored untreated wood waste and metal banding. The RFA requested confirmatory sampling for SWMU determination.

KMCC submitted a Confirmatory Sampling Workplan in accordance to suggested guidance in the Draft HSWA permit to the U.S. EPA in May, 1995. KMCC received verbal approval in June, 1995 and proceeded with the confirmatory sampling on August 2, 1995.

A CME 75 drilling rig was contracted to drill each soil boring to a depth of 2 feet below grade. Prior to commencement, the augurs and split spoon samplers were cleaned near the site using potable water and high pressure hot-water cleaner. The split spoon

samplers were allowed to air-dry. The augers, split spoons and sampling equipment were steam cleaned between borings. All drill crew, and the Senior Hydrologist wore the proper personal protective equipment (PPE), with Tyvek suits and rubber gloves. The PPE was changed between each sampling location to assure that cross contamination would not occur and protect personnel.

Using a 4 1/4 inch (inner diameter) auger, each boring was advanced to a depth of 1 foot to ensure that the surface gravel and silt fill had been removed . Any soils which had fallen back into the borehole were removed by a vinyl-gloved hand. Approximately 2 to 3 inches of road fill is present at the site. A two-foot long, 2 inch (OD) 1 7/8 inch (ID) stainless steel split-spoon was then advanced to a depth of 2 feet below grade using standard test method ASTM D 1586 penetration test and split barrel sampling of soils.

The split sampler was then laid open and the one-foot long soil column split length-wise by a Kerr-McGee Corporation Senior Hydrologist. The soils were returned to each half of the sampler. In one-half of the sampler, the soils were removed from the center of the one foot column of soils and placed in a 500 ml sample bottle provided in a sampling shuttle by Southwest Laboratories of Tulsa, Oklahoma. The sampling depth was therefore taken between 17 to 19 inches below the ground surface. The Kerr-McGee sample label was prepared for each sampling site to document the sample number, the date and time collected, and the requested analyses. Each soil sample was placed in individual zip-lock bags and placed in the shuttle which was filled with ice. The chain of custody was prepared and the shuttle was mailed overnight service to Southwest Laboratories. Soil from the other half of the samplers was examined for soil description and for visual creosote impact. The soil description was recorded on the chain of custody form.

The 2 inch boreholes were back-filled with 18 inches of bentonite chips, one gallon of water and then topped off with the surface material.

The Senior Hydrologist, Jami Poor, has 15 years experience as a Geologist and over six years of experience as the Site Hydrologist at the Columbus facility for KMCC.

Comment 2

The intent of confirmatory sampling is to serve as an initial screening in order to detect any contamination that may be present. The sampling approach, especially when taking only a few samples in a fairly large area, is to bias the sampling to locations exhibiting visual evidence of contamination (ie. staining), area with standing water, or any low-lying areas or depressions. Was

this approach taken in the sampling of these areas?

KMCC Response: As specified in the RFA the intent of the confirmatory sampling of the wood waste piles in the pine yard was for the purposes of SWMU determination. As documented in the RFA, this area was deemed to be of little potential, since only untreated wood waste and scrap metal had been stored in this area. The rationale for the selection of the four sampling locations was based on the area with the highest probability of releases, the center area of the where the untreated wood waste had accumulated. The process behind this decision was that this would be the area with the highest probability of impact. The wood waste and scrap metal accumulated in this area was cleaned out shortly after the RFA. There were no obvious areas of staining or depressions to bias any sampling procedures.

Based on the analytical results of the surficial soil sampling performed in this area showing no impact, KMCC still believes that this area is not a SWMU and has been documented by the confirmatory sampling program approved by the U.S. EPA.

Comment 3

The procedures and details for the extraction of the actual soil samples taken for analysis should be provided. Was the entire length of the split spoon sample composited for analysis? Were discreet samples taken from intervals exhibiting organoleptic evidence of contamination?

KMCC Response: The actual soil sample was collected from one half of the soil column in the split sampler. The soils were then taken at the 17 to 19 inch depth and placed in the 500 ml sample bottle. No odors or visual evidence, in other words organoleptic evidence, of creosote was detected in the examined soils.

Comment 4

The practical quantitation limit of benzo(a)pyrene and dibenz(a,h)anthracene for all four samples are above the health based level of 0.09 mg/kg for these constituents. Was the method detection limit below the health based level for these constituents?

KMCC Response: Method 8270 is the accepted method for soil analyses for K001 constituents although the permit does not cover soil requirements for analyses. Method 8270 is a gas Chromatograph/ Mass Spectrometry method, which provides identity of the constituents with verification through the mass spectrometry. According to the method, the recording level is 660 ug/kg (practical quantitation limit - PQL). The sampling results for

benzo(a)pyrene and dibenz(a,h)anthracene was < 330 ug/kg PQL (clean). According to the lab the method detection limit for each of these constituents would be 144 ug/kg and 103 ug/kg, respectively. Both of these MDL's would be slightly higher than the health based guidance of 90 ug/kg.

There is another method, 8310 that is capable of a lower MDL limit, however, it is prone to providing many false positives and provides no verification of constituent identity through mass spectrometry. Because of the unreliability of this method, EPA has not endorsed it and still recommends Method 8270.

Other considerations, practical considerations, should be examined in terms of this question. One consideration is the fact that creosote constituents will be detectable with a fixed ratio of lighter end compounds, such as naphthalene - a four carbon ring compound, compared to the higher end compounds, such as benzo(a)pyrene and dibenz(a,h)anthracene - six carbon rings. These fixed ratios differ slightly due to manufacturer formulation differences, but the light ends exceed the heavier ended compounds typically by orders of one to two magnitudes. Based on the analytical results from the confirmatory samples, the lighter ended constituents would have been detected at concentrations of one to two orders of magnitude greater than the MDL's of Method 8270, if the benzo(a)pyrene and dibenz(a,h)anthracene compounds were present. The analytical results did not detect any lighter ended compounds in samples.

Another consideration, risk based concentrations for these two compounds based on the most recent risk based concentration table for July - December 1995 shows a risk based concentration of 780 ug/kg soil ingestion in an industrial area for these two constituents, far in excess of the MDL for these samples.

In addition, this area stored untreated wood and scrap metal, further reducing the risk that the analytical method may have not been able to detect these compounds.

In summary, KMCC believes the analytical results accurately reflect the absence of creosote constituents in the wood waste area.

Comment 5

Pentachlorophenol has been used at the facility in the past. This constituent was not on the list of analytes.

KMCC Response: Pentachlorophenol was not analyzed in this area since it was an area of untreated wood storage. Furthermore, if pentachlorophenol had been present, the other creosote constituents that were analyzed would have been detected in conjunction with

usage of pentachlorophenol. Based on the absence of any creosote constituents in this area, the storage of untreated wood scraps, and the lack of phenols in the stormwater discharge samples, KMCC believes that there was not a reason to analyze for pentachlorophenol in this area.

Comment 6

The confirmatory Sampling Report must be signed by a duly authorized representative of KMCC and include a certification statement as required by 40 CFR 270.11.

KMCC Response: As stated in 40 CFR 270.11 (b) Reports (2) the authorized signature must have responsibility for a particular duty. As RFI Project Officer, Stephen Ladner, should qualify under this requirement for signing of reports.

Therefore:

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

Stephen A Ladner

Please review these responses to your comments, and feel free to contact me, Steve Ladner at (405) 270-2625, if you have further questions. Thank you for your time and consideration.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A Ladner
Stephen A. Ladner
RFI Project Officer

cc: D. Yarbrough - KMCC, Columbus
N. E. Bock
J. L. Poor
R. K. Widman

8/2/95 Columbus, Miss - FPD

12:15 Meet w/ TTL at site

12:30 Safety training by Chuck Swann, sign Site Safety Plan & discuss location of nearest treatment center and also the field work expected to be accomplished this afternoon

Fill rig & tanks w/ water from hydrant. Will need to decon the augers prior to drilling. The augers were deconed prior to mobilization.

Recon pineyard & stake locations while augers & samplers are steamed cleaned. Area is covered w/ crushed rock & silty fill. Set up rig on SWMU 32A

14:35 Begin to drill first boring at SWMU 32A. Augers are 4"x4" I.D. Have to 'sweep' gravel from the ground surface to drill straight. Drill one foot below surface, remove auger. Some soil caving into the bore hole. Driller removes the soil using his gloved hand. Sample next 1' using a 2" diameter 3' long sampling spoon

KERR-McGEE CORPORATION

Split open the Spoon. Soil column is on one side. Cut the sample w/ knife and place ½ into the empty spoon. Take sample of soil from 17-19' & place into 500 ml bottle. Examine rest of soil. Sandy, tan No indication of impact, no odor. Decon auger & spoons

1450. Sample SWMU 33A as above no indication of impact, gray sand Decon auger & spoons

1458 Sample SWMU 33B as above no indication of impact. tan sand Decon augers

1515 Sample SWMU 32B. ~~tan~~ gray sand. Decon augers an samplers. Prepare to move sites with rig and equipment.

Prepare chain of custody form and shipping labels. All 4 soil samples have been placed in the sampling shuttle w/ baggies of ice.

Today is clear hot few clouds begin to roll in late. Must be 100° F w/ 5 mph wind.

EPA Copied 11/15/95

FILE COPY

STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

November 15, 1995

Mr. Steve Ladner
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Confirmatory Sampling Report
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

The Mississippi Office of Pollution Control (Office) and the U. S. Environmental Protection Agency (EPA) have reviewed the above referenced report. The following comments were developed as a result of the review:

1. Kerr-McGee should provide a discussion of the sampling methodology employed including, copies of the field logbook containing all field observations and information pertinent to sampling activities, description of the split spoon sampler, decontamination procedures, lithological logging record of each boring, a list of all personnel involved in the sampling activity and qualifications, and documentation of sample preservation.

2. The intent of confirmatory sampling is to serve as an initial screening in order to detect any contamination that may be present. The sampling approach, especially when taking only a few samples in a fairly large area, is to bias the sampling to locations exhibiting visual evidence of contamination (i. e., staining), areas with standing water, or any low-lying areas or depressions. Was this approach taken in the sampling of these areas?

3. The procedures and details for the extraction of the actual soil samples taken for analysis should be provided. Was the entire length of the split spoon sample compositied for analysis? Were discreet samples taken from intervals exhibiting organoleptic evidence of contamination?

4. The practical quantitation limit for benzo(a)pyrene and dibenz(a,h)anthracene for all four samples are above the health based level of 0.09 mg/kg for these constituents. Was the method detection limit below the health based level for these constituents?

5. Pentachlorophenol has been used at the facility in the past. This constituent was not on the list of analytes.

6. The Confirmatory Sampling Report must be signed by a duly authorized representative of Kerr-McGee Chemical Corporation and include a certification statement as required by 40 CFR §270.11.

Kerr-McGee should respond to the above reference comments withing 30 days of receiving this letter. Should you have any questions, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

NOV 06 1995

4WD-RCRA

Mr. Jerry Banks, Acting Chief
Hazardous Waste Division
Mississippi Department of
Environmental Quality
P. O. Box 10385
Jackson, Mississippi 39289-0385

SUBJ: Review Comments - Confirmatory Sampling Report
Kerr-McGee Chemical Corporation
Columbus, Mississippi
EPA ID Number MSD 990 866 329

Dear Mr. Banks:

The Environmental Protection Agency (EPA), Region 4 has reviewed the Confirmatory Sampling Report submitted by Kerr-McGee Chemical Corporation for their facility in Columbus, Mississippi. Enclosed are review comments on the report which should be incorporated with those of your Agency and submitted to the facility in a Notice of Technical Inadequacy (NOTI).

Should you have any questions in regard to the enclosed comments, please call Russ McLean of the RCRA Permitting Section at (404) 347-3555, x6343.

Sincerely,

G. Alan Farmer
Chief, RCRA Branch
Waste Management Division

Enclosure

REVIEW COMMENTS
CONFIRMATORY SAMPLING REPORT
KERR-MCGEE CHEMICAL CORPORATION
COLUMBUS, MISSISSIPPI
EPA I.D. NUMBER MSD 990 866 329

1. Kerr-McGee should provide a discussion of the sampling methodology employed including, copies of the field logbook containing all field observations and information pertinent to sampling activities, description of the split spoon sampler, decontamination procedures, lithological logging record of each boring, a list of all personnel involved in the sampling activity and qualifications, documentation of sample preservation.

2. The intent of confirmatory sampling is to serve as an initial screening in order to detect any contamination that may be present. The sampling approach, especially when taking only a few samples in a fairly large area, is to bias the sampling to locations, exhibiting visual evidence of contamination (ie, staining), areas with standing water, or any low-lying areas or depressions. Was this approach taken in the sampling of these areas?

3. Please provide the procedures and details for the extraction of the actual soil samples taken for analysis. Was the entire length of the split spoon sample composited for analysis? Were discrete samples taken from intervals exhibiting organoleptic evidence of contamination?

4. The method detection limits for benzo(a)pyrene and dibenz(a,h)anthracene of all four samples are above the health based level of .09 mg/kg for these constituents.

5. The Confirmatory Sampling Report must be signed by a duly authorized representative of Kerr-McGee Chemical Corporation and include a certification statement as required by 40 CFR §270.11.

HSWA

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

March 16, 1995

Mr. Russ McLean
RCRA Permitting Section
U.S. EPA Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Draft HSWA Permit Comments
Kerr-McGee Chemical Corporation-Forest Products Division
Columbus, Mississippi Facility

Dear Mr. McLean:

I wanted to thank you and Rich for our meeting on February 16, 1995. The issues of historical voluntary corrective action measures and SWMU consolidation discussed during this meeting clarified many of the KMCC questions and provided a clear direction for the successful implementation of the HSWA permit.

Please find enclosed comments by the Kerr-McGee Chemical Corporation (KMCC) on the Draft HSWA Permit for the Columbus, Mississippi facility. These comments are presented as suggested language for incorporation into the permit to develop a more site-specific permit.

Again, thank you for your time and consideration in this process. If you have any questions, please feel free to contact me, Steve Ladner at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Steve Ladner
Staff Environmental Specialist

cc: B. Ferguson, MDEQ
N. Bock, KMCC
T. Helms, KMCC - Columbus

FOREST PRODUCTS

Draft HSWA Permit Comments
Kerr-McGee Chemical Corporation
Columbus, Mississippi Facility

1) Fact Sheet, Section III Facility Description

First Paragraph, "The Columbus facility has undergone extensive field investigation to delineate groundwater contamination associated with historical releases due to past practices from the production process area and the Solid Waste Management Units (SWMU's). The extent of the contaminant plumes has been investigated by the installation of a groundwater monitoring network comprised of seventy-eight wells (78) and fifty-two soil borings (52). In addition, to these investigative efforts KMCC has implemented voluntary corrective action measures by utilizing both groundwater recovery wells and groundwater recovery trenches."

Page 2, First Paragraph, line 8, and require a RCRA Facility Investigation (RFI). (KMCC) "RFA comments received by KMCC consolidated the SWMU areas into eight groupings based on proximity, type of release, and production process. The consolidation of SWMU's was approved by the EPA on September 23, 1994." The purpose of the ..... in the vicinity of the facility "that have not been characterized during previous investigations at the facility."

Part II - Corrective Action

Page 15 of 29, II.A.1., line 3, ... (RFI). "Appendix A-1A lists the consolidation of these SWMU's requiring further action into eight groups."

Page 18 of 29, II.E.1.a. KMCC requests that 180 days be given for RFI workplan development and submittal.

Page 18 of 29, II.E.1.b. KMCC requests that 120 days be given for this condition.

Page 18 of 29, II.E.1.d., line 13, sufficient written justification "or the specific reference document" for any omissions .....

Page 19 of 29, II.E.2, RFI Implementation. KMCC requests that notification of sampling activity be reduced to 10 days.

Page 19 of 29, II.E.3.b. KMCC requests that 90 days be provided for the submittal of the Final RFI Report after receipt of comments from the EPA.

Page 20 of 29, II.E.3.c. KMCC requests the elimination of Appendix F for calculation of action levels.

Page 22 of 29, II.G Corrective Measures Study

Page 22 of 29, II.G.1.a, line 2. ..... a CMS within ninety (90) calendar days "after approval of the Final RFI Report" of notification ..... is required.

Page 22 of 29, II.G.1.b, line 8. ....shall provide sufficient written justification "or reference specific documents" for any omissions .... of Appendix C.

Page 23 of 29, II.G.2, KMCC requests 30 days for implementation of CMS after approval.

Page 23 of 29, II.G.3.a, KMCC requests 90 days for submittal of Final CMS Report upon receipt of comments from EPA on the Draft CMS Report.

APPENDIX A

Appendix A.1A

SWMA I: Retort Area

This areas encompasses the treating cylinders and associated sumps, the drip collection tanks, and Work Tanks 1 and 2. This area includes the following SWMUs as identified in the RFA:

SWMU	Description
1	Front Door Pit
2	Front Door Pit North Sump
3	Front Door Pit South Sump
4	Retort Sump
5	Drip Collection Tank 1
6	Drip Collection Tank 2
7	Drip Collection Tank 3
8	Work Tank 1
9	Work Tank 2

SWMA II: Drip Pad Area

Includes the area around the drip track and the associated sump and drain and includes the following SWMUs as identified in the RFA:

SWMU	Description
34	Drip Track
35	Drip Track Sump & Drain

SWMA III: Tank Farm

Includes the areas encompassing the work tanks, sap tank, vapor tank sump, creosote storage tanks and sump, truck unloading sump, and sump for tank car unloading sump. These SWMUs were identified in the RFA as:

SWMU/AOC	Description
10	Work Tank 3
11	Work Tank 4
12	Work Tank 5
14	Sap Tank
15	Sump for Tank Car Unloading
16	Vapor Tank Sump
18	Truck Unloading Sump
20	Creosote Storage Area Sump
40	Rainwater Tank
A	Creosote Storage Tank Containment Area

SWMA IV: Creosote Recovery System/Wastewater Treatment System

Includes the area of the plant site encompassing the primary and secondary oil/water separators and holding tanks. These SWMUs were identified in the RFA as follows:

SWMU	Description
17	Wastewater Underground Pipes
21	Primary Oil/Water Separator
22	Polymer Addition Area
23	Secondary Dual Compartment Oil/Water
24	Holding Tank 1
25	Holding Tank 2
26	Holding Tank 3
27	Holding Tank 4

SWMA V: Cooling Tower Basin

Includes the areas of the former cooling tower surface impoundment. The SWMUs identified in the RFA in this area are as follows:

SWMU	Description
38	Cooling Tower Surface Impoundment
39	Two Cooling Tower Basins

SWMA VI: Waste Piles

Includes the area of the two former waste piles located north of 14th Avenue. The two waste piles were identified in the RFA as follows:

SWMU	Description
32	Waste Pile 1
33	Waste Pile 2

SWMA VII: Black Tie Storage Area

Includes the treated wood storage area in the east section of the facility. This area was identified in the RFA as follows:

SWMU	Description
36	Black Tie Storage Area

SWMA VIII: Drainage Ditches

Unlined ditches which collect surface water runoff and discharge to Luxapalila Creek. The drainage ditches were identified in the RFA as follows:

SWMU	Description
37	Drainage Ditches

APPENDIX B

Page B - 1 of 15, B. Sampling and Analysis Plan, line 6. documented. "Where applicable the permittee may reference the facility's existing groundwater Sampling and Analysis Plan."

Page B - 2,3, and 4 of 15, B. Sampling and Analysis Plan, All material in these sections is included in the Sampling and Analysis Plan for the facility.

Page B - 5 of 15, C. Data Management Plan, item c. sampling or field measurement raw data. The inclusion of raw data in the report presents a formidable task for duplication and physical size of the submittals. Possible alternative would be "Raw analytical data may be submitted upon request."

Page B - 5 of 15, C. Data Management Plan, 2. c. Data reduction for statistical analysis, as appropriate. KMCC suggests omission of this condition based on the fact that a groundwater contaminant plume has already been identified and that statistical analysis for establishment of groundwater impact is not necessary.

Page B - 7 of 15, II. RCRA Facility Investigation (RFI) Requirements

c. i) Hydraulic conductivity. (omit) porosity (total and effective).

ii) omit- not applicable to clay textured soil

iv) omit- attenuation capacity not applicable to creosote.

Page B - 8 of 15, 2. Soils. omit items f,g, h,i,j,k, n, and t. Not applicable to creosote soil contamination.

Page B - 9, 10 of 15, 4. Air. This section should be omitted due to the semi-volatile chemical nature of creosote. Air is not considered a potential media for creosote contamination.

Appendix D Schedule of Compliance

Appendix D Page 1 of 3 - RFI Workplan submittal should be changed from 90 calendar days to 180 calendar days.

Appendix D Page 2 of 3 - Final RFI Report submittal should be changed to 90 calendar days after receipt of comments on Draft.

Appendix D Page 2 of 3 - CMS Workplan should be within ninety (90) calendar days of notification after approval of Final RFI Report by the RA.

Appendix D Page 2 of 3 - Implementation of the CMS Workplan should be within thirty (30) calendar days after receipt of approval by RA.

Appendix D Page 2 of 3 - Final CMS Report should be within ninety (90) calendar days.

#SWA

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

November 18, 1994

Mr. Russell McLean
Project Officer
USEPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Response to USEPA RFA Comments
Kerr-McGee Chemical Corporation
Columbus, Mississippi
EPA I.D. Number MSD 990 866 329

Dear Mr. McLean:

In response to your letter dated September 23, 1994 and our subsequent conversations, Kerr-McGee Chemical Corporation (KMCC) is in agreement with the proposed Solid Waste Management Units (SWMU's) consolidation detailed in the aforementioned letter by the USEPA. KMCC is in agreement with the USEPA that the proposed consolidation plan will provide for a more efficient investigation of all of the potentially affected media at the facility during the RFI investigation.

As per our conversations, KMCC further understands that the extensive voluntary corrective action already in-place at the facility will be evaluated during the generation of the RFI Workplan, and will help determine the need for sampling as well as the extent of the sampling efforts for these SWMU's. KMCC awaits the issuance of the Draft HSWA Permit for our review.

If you have any questions, please feel free to contact me, Steve Ladner at (405) 270-2625. 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: G.A. Farmer, USEPA Region IV
N.E. Bock
T. Helms
J. Banks, Mississippi DEQ
B. Ferguson, Mississippi DEQ

FOREST PRODUCTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

SEP 23 1994

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

SUBJ: Response to RFA Comments
Columbus, Mississippi Facility
EPA I. D. Number MSD 990 866 329

Dear Mr. Ladner:

The Environmental Protection Agency (EPA) and the Mississippi Department of Environmental Quality (MDEQ) have reviewed your comments, dated July 29, 1994, to the RCRA Facility Assessment (RFA), which was performed on the Kerr-McGee Chemical Corporation (KMCC) Facility, Columbus, Mississippi in June 1988. In a meeting held on May 11, 1994, at EPA's Atlanta Office, a proposal was agreed to for consolidating/eliminating solid waste management units (SWMUs) and one area of concern (AOC) identified in the RFA for corrective action purposes at KMCC's Columbus, Mississippi facility. This consolidation would provide for a more efficient investigation of contaminated media during the upcoming RCRA Facility Investigation (RFI). The RFI will be required following issuance of the Hazardous and Solid Waste Amendments (HSWA) portion of the RCRA permit.

Enclosed are EPA's and MDEQ's responses to the proposed consolidation/elimination of SWMUs and AOCs at the Columbus, Mississippi Facility for corrective action purposes. Also enclosed is a proposed Appendix A, listing the SWMUs as they will be identified in the HSWA Permit.

Please provide any comments to the proposed listing of SWMUs as they will appear in the HSWA Permit and to the proposed consolidation of SWMUs for corrective action purposes within fifteen (15) days of receipt of this letter. Should you have any questions regarding this matter, please contact Russ McLean at (404) 347-3555 X6343.

Sincerely,

G. Alan Farmer
Chief, RCRA Branch
Waste Management Division

Enclosures (2)

cc: Jerry Banks, MDEQ

RESPONSE TO COMMENTS
RCRA FACILITY ASSESSMENT
KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
COLUMBUS, MISSISSIPPI FACILITY

- In Section IV it is stated that the nine (9) SWMUs and one (1) AOC identified in the RFA as requiring no further action would no longer be considered SWMUs. **Because solid waste has been managed in these units, they are SWMUs and will not be eliminated because of their having a low potential for contamination. These units will retain their identity as SWMUs in order to address any problems that may surface in the future in association with these units. These SWMUs will be incorporated into the HSWA permit under condition II.A.2. (requiring no further action under the HSWA permit at this time) and identified in Appendix A-2.**

- In Section IV KMCC provides justification for eliminating the drainage ditches (SWMU 37) as a SWMU as they are governed under the Clean Water Act by an NPDES permit and that any groundwater contamination from past releases would be remediated by the current groundwater extraction system. **The drainage ditches were identified in the RFA as SWMUs requiring an RFI because of the potential of contaminant migration to the underlying soils due to the unlined nature of the ditches and staining observed on the soils. Justification may be made through the RFI process that surface water contamination does not exist as documented through sampling requirements under the NPDES Program. Also, the RFI process will allow for a demonstration that the current groundwater remediation system will capture any contamination emanating from these ditches. Therefore, the ditches will remain a SWMU requiring an RFI in the HSWA permit.**

- KMCC provides justification for eliminating the Black Tie Storage Area as a SWMU based on this area being subject to the same NPDES regulations as the drainage ditches which provides for detection of any surface water runoff contamination. Additionally, the area is subject to the Part 264 Subpart W regulations which require daily inspections for drippage and immediate remediation of such spillage. It is further stated that any past releases to subsurface soils and groundwater would be influenced by the current corrective action system. **One of the major goals of any investigation is the identification and removal/stabilization of any contributing source of contamination. Historic practices in this area have resulted in routine and systematic releases of contamination to subsurface soils which may still be contributing to groundwater contamination. As part of the RFI, the lateral**

and vertical extent of contamination should be defined in order to design an effective corrective measures program if needed. This unit will remain a SWMU requiring an RFI in the HSWA permit.

- The Waste Piles (SWMUs 32 & 33) are also requested to be eliminated as SWMUs based on the premise that the treated wood waste disposed here does not constitute a hazardous waste in the State of Mississippi. **By definition a SWMU is any discernible unit at which solid wastes have been placed and from which hazardous constituents may migrate. Therefore, these areas will remain SWMUs. However, as these areas were identified in the RFA as having no known releases and only surficial soil staining was observed, the most practical approach to addressing these areas in terms of corrective action would be to allow confirmatory sampling. Based on the results of confirmatory sampling an RFI would then be required only if the level of hazardous constituents detected is above a prescribed action level for each constituent found.**

- KMCC proposes for the consolidation of SWMUs for purposes of corrective action into the six (6) areas defined in Table 4. **The EPA and MDEQ are in agreement with the proposed consolidation of SWMUs for corrective action purposes. The consolidation proposed by KMCC will be utilized when defining the areas to be investigated during the RFI/Confirmatory Sampling phase of the corrective action process. Sampling strategies for defining the extent of contamination in each of these areas will allow for a more focused and efficient investigation as opposed to developing an investigation plan for each SWMU identified in the RFA.**

The EPA proposes the consolidation of SWMUs as described by KMCC into Solid Waste Management Areas (SWMAs) for corrective action purposes during the RFI/Confirmatory Sampling. This consolidation considers the proximity of identified units which would preclude an exact determination of that unit's contribution to any contamination detected and the similarity of waste management processes and constituents. Based on these criteria, the following consolidation of units into SWMAs for corrective action is proposed:

SWMA I: Retort Area

This area encompasses the treating cylinders and associated sumps, the drip collection tanks, and Work Tanks 1 and 2. This area includes the following SWMUs as identified in the RFA:

SWMU	Description
1	Front Door Pit
2	Front Door Pit North Sump
3	Front Door Pit South Sump
4	Retort Sump
5	Drip Collection Tank 1
6	Drip Collection Tank 2
7	Drip Collection Tank 3
8	Work Tank 1
9	Work Tank 2

SWMA II: Drip Pad Area

Includes the area around the drip track and the associated sump and drain and includes the following SWMUs as identified in the RFA:

SWMU	Description
34	Drip Track
35	Drip Track Sump & Drain

SWMA III: Tank Farm

Includes the area encompassing the work tanks, sap tank, vapor tank sump, creosote storage tanks and sump, truck unloading sump, and sump for tank car unloading sump. These SWMUs were identified in the RFA as:

SWMU/AOC	Description
10	Work Tank 3
11	Work Tank 4
12	Work Tank 5
14	Sap Tank
15	Sump for Tank Car Unloading
16	Vapor Tank Sump
18	Truck Unloading Sump

SWMA III: Tank Farm (cont.)

20	Creosote Storage Area Sump
40	Rainwater Tank
A	Creosote Storage Tank Containment Area

SWMA IV: Creosote Recovery System/Wastewater Treatment System

Includes the area of the plant site encompassing the primary and secondary oil/water separators and holding tanks. These SWMUs were identified in the RFA as follows:

SWMU	Description
17	Wastewater Underground Pipes
21	Primary Oil/Water Separator
22	Polymer Addition Area
23	Secondary Dual Compartment Oil/Water Separator
24	Holding Tank 1
25	Holding Tank 2
26	Holding Tank 3
27	Holding Tank 4

SWMA V: Cooling Tower Basin

Includes the area of the former cooling tower surface impoundment. The SWMUs identified in the RFA in this area are as follows:

SWMU	Description
38	Cooling Tower Surface Impoundment
39	Two Cooling Tower Basins

SWMA VI: Waste Piles

Includes the area of the two former waste piles located north of 14th Avenue. The two waste piles were identified in the RFA as follows:

SWMU	Description
32	Waste Pile 1
33	Waste Pile 2

SWMA VII: Black Tie Storage Area

Includes the treated wood storage area in the east section of the facility. This area was identified in the RFA as follows:

SWMU	Description
36	Black Tie Storage Area

SWMA VIII: Drainage Ditches

Unlined ditches which collect surface water runoff and discharge to Luxapalila Creek. The drainage ditches were identified in the RFA as follows:

SWMU	Description
37	Drainage Ditches

- The consolidation of SWMUs for purposes of the HSWA permit is shown below. This consolidation leaves most of the identified SWMUs intact for identification purposes, only consolidating units where that unit's contribution to any detected contamination of a media would be difficult to determine. The numbering of the SWMUs in the proposed Appendix A of the HSWA permit and the corresponding number(s) indicated in the RFA are as follows:

Appendix A SWMU	Former SWMU(s) as described in the RFA
1	1, 2, 3, 4, 5, 6 and 7
8	8 and 9
10	10, 11, 12 and 14
13	13
15	15
16	16
17	17

Appendix A SWMU	Former SWMU(s) as described in the RFA
18	18
19	19
20	20, 40 and AOC A
21	21
22	22
23	23
24	24, 25, 26 and 27
28	28
29	29
30	30
31	31
32	32 and 33
34	34 and 35
36	36
37	37
38	38
39	39
41	41

APPENDIX A

SOLID WASTE MANAGEMENT UNIT SUMMARY

Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi

APPENDIX A
SOLID WASTE MANAGEMENT UNIT SUMMARY

A.1. List of solid waste management units (SWMUs) and areas of concern (AOCs) requiring a RCRA Facility Investigation (RFI):

SWMU/AOC No/Letter	SWMU/AOC Name	Unit Comment	Dates of Operation	Potentially Affected Media
1	Retort Area	Enclosed area containing treating cylinders and associated sumps and drip collection tanks.	1928 - present	soil, groundwater
8	Work Tanks 1 and 2 Containment Area	Spherical, above-ground tanks over a concrete containment area.	1928 - present	soil, groundwater
10	Work Tank Area	Contains work tanks 3, 4 and 5 and the sap tank. Formerly a bare soil area surrounded by a concrete berm.	1928 - present	soil, groundwater
15	Sump for Tank Car Unloading	Concrete, in-ground,10' x 7' x 5' in height.	1983 - present	soil, groundwater
16	Vapor Tank Sump	Concrete, received xylene runoff.	1970-1974	soil, groundwater
17	Wastewater Underground Pipes	Underground pipes between process area and o/w separator.	1928 - present	soil, groundwater
18	Truck Unloading Area Sump	Concrete, 10' x 7' x 5' deep.	1982-1986	soil, groundwater
20	Creosote Storage Tank Area & Sump	Concrete Containment area and sump.	1928 - present	soil, groundwater
21	Primary Oil/Water Separator	Concrete, in-ground, open topped separator.	1974 - present	soil, groundwater

A.1. List of solid waste management units (SWMUs) and areas of concern (AOCs) requiring a RCRA Facility Investigation (RFI):

SWMU/AOC No/Letter	SWMU/AOC Name	Unit Comment	Dates of Operation	Potentially Affected Media
22	Polymer Addition Area	Underground unit, receives wastewater from primary o/w separator.	1983 - present	soil, groundwater
23	Secondary Dual Compartment Oil/Water Separator	Steel, above-ground on a 4' concrete pad, 100' long, 10' in height.	1965 - present	soil, groundwater
34	Drip Track Area	Concrete pad, built on excavated area and associated sump and drain.	1988 - present	soil, groundwater
36	Black Tie Storage Area	Outdoor storage area for treated wood.	1928 - present	soil, groundwater
37	Drainage Ditches	Unlined ditches, collect runoff and drain to Luxapalila Creek.	1928 - present	soil, groundwater, surface water
38	Cooling Tower Surface Impoundment	Unlined, received cooling water containing creosote & PCP.	Unknown - 1980	soil, groundwater

A.2. List of solid waste management units (SWMUs) and areas of concern (AOCs) requiring no further action at this time:

SWMU/AOC No/Letter	SWMU/AOC Name	Unit Comment	Dates of Operation
13	Overhead Pipes	Located between treating building and work tanks.	1928 - present
19	Wood Boiler	Currently burns oil or gas. Prior to 1987 burned treated wood. Enclosed area	Unknown - present
24	Holding Tank Area	Four above-ground steel tanks on concrete pads with dike surrounding area. Part of wastewater treatment system.	1984 - present
28*	Aeration Impoundment	Lined with 1' compacted clay, 50' x 50'. Closed with waste in-place.	1928-1986
29*	Sedimentation Impoundment	Lined with 1' compacted clay, 229' x 60'. Closed with waste in-place.	1928-1986
30**	Sand Filter Bed 1	Unlined, covered with gravel and closed along with surface impoundments.	Unknown - 1982
31**	Sand Filter Bed 2	Same as above.	Unknown - 1982
39	Two Cooling Tower Basins	Two basins used to cool water for the condensers. Concrete pad with dike.	Unknown - present
41	Cyclone Dumpster	steel, 30 yard capacity, receives wood waste from cyclone	1987 - present

* Unit regulated by State permit

** Units not regulated by State permit, but have been closed along with regulated impoundments and as such cannot be distinguished from regulated units for corrective action purposes.

A.3. List of solid waste management units (SWMUs) requiring Confirmatory Sampling:				
SWMU	SWMU Name	Unit Description	Dates of Operation	Potentially Affected Media
32	Waste Piles	Two former waste piles located north of 14th Avenue	1974-1987	Soil, groundwater

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

August 6, 1994

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, MS 39289-0385

Re: Interim Corrective Measures

Dear Mr. Ferguson:

Enclosed please find a description of the installation of an additional piezometer, P27, and an additional recovery well, RW9, at the Kerr-McGee Chemical Corporation - Forest Product Division (KMCC-FPD) facility in Columbus, Mississippi. These were installed to augment the existing interim corrective measures in-place at the facility.

If you have any questions, please feel free to contact me at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

cc: R. McClean, USEPA Region IV
T. Helms, KMCC Columbus
J. Poor, KM Hydrology

FOREST PRODUCTS

INTERNAL CORRESPONDENCE

KM-814

Hydrology (UNIT)	TO S. Ladner	DATE July 21, 1994
	FROM J. Poor	SUBJECT RW9 and P27 Installation Columbus, Miss.

During the third week of June, I supervised the installation of a groundwater recovery well near the de-commissioned oil/water separator and a piezometer northwest of trench #1. The locations of these two wells have been placed on the attached map. In addition, monitor well CMW5 was repaired and placed in a flush-mounted meter box.

The bore hole for piezometers P27 was drilled to the top of the green colored Eutaw formation at a depth of 23.7 feet below grade. It was installed with two-inch diameter PVC casing and 10 feet of ten-slot (0.010") screen. An appropriately sized sand-pack (45-55) was placed above the screen. Three feet of bentonite pellets were then added and each well was grouted to the surface using a tremie line. This piezometers is located in an area where facility production will not be hampered therefore it was completed in above-ground stainless steel protector box with a 4′ x 4′ protector pad. The well diagrams and soil boring logs are also attached.

Recovery well RW9 was installed to the top of the Eutaw formation at a depth of 25.9 feet below grade. The well was installed with six-inch diameter carbon steel casing and 5 feet of galvanized-steel thirty-slot (0.030") screen. Sand pack (65-75) was placed to a depth of 4 feet below grade to increase the area of product recovery. The facility will complete the surface portion of this recovery well similar to the other recovery wells at the site.

Monitor well CMW5 had been damaged by large equipment. The damaged pad and protector box was removed, the top section of the well casing was replaced and a new pad was constructed around a flush mounted protector box.

All three wells will be surveyed. If you have any questions pertaining to the installation of these wells, or on any other matter, please contact me at my extension.

Attachments (5)

CC: A. Helms
R.K. Widmann

SOIL BORING LOG KM—5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services	KM SUBSIDIARY Columbus FPD	LOCATION Oil/Water Separator	BORING NUMBER RW9

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE NO.	SOIL SAMPLE TYPE	SOIL SAMPLE DEPTH	SOIL SAMPLE REC.	REMARKS OR FIELD OBSERVATIONS
	Sand & Gravel: 3½", lt brn		SW			1		2.0	0	
	wood: p. sorted treated		MH	5,8 20,11		2	X	4.0	1.2	Sand Fill Treated Wood
5	Silt: w/ prod. Clay: soft, plastic, med gray		CH	1,1 1,1		3	X	6.0	1.9	Product Stain in Sand
	Sand: med dk gray w/clay Clay: dk gray		SC	H, 11 12,21		4	X	9.0	2.0	Movable product Stain in Clay
▽										
10	Clay: organic, roots, med-lt gray soft. Sand: vfn, silty, lt gray w/prod : p. grd, tr. gvl		CH SP	1,3 4,12		5	X	11.0	2.0	Odor, stain in Clay Horiz. stain in SS
	Clay: w/ silt & sand, lt brn/yellow Sand at 12.7 med-fn grn, w. grd		GC SP	1,2 4,1		6	X	14.0	1.4	Sheen & Prod in Clay Blk in Sand at 13.2
15	Sand & gvl. sub rd, rd, ¼-2½" crs-med :10% gvl, tn-brn, med :20% gvl, 2½", lt brn, p grd, sub rd-rd		SP	H 1		7	X	16.0	1.9	Prod in Gv Snd
				F 3 6,5		8	X	18.0	0.8	Flush 6" w/ H_2O Product, Sheen
20	Gravel w/ sand, ¼"-1" sub rd, crs, product, fract chert, brn, brn sand		GW	F,2 8,13		9	X	21.0	0.8	Flush 6"
	Sand: med-crs, tn-brn Sand & Gravel: fract chert,		SP	2,8 8,6		10	X	24.0	1.3	Odor
25	Gravel & sand: fract chert 3/4" rd & 1/2" crs snd. Eutaw: Green at 25.8'		GW SM, ML	6,9 11,10		11	X	26.0	1.2	Prod in Sand Prod in Green
	TD. 26.0' No weathered Eutaw									Had to off-set hole twice due to wood fragments and ties.

EXPLANATION

- ▼ Water Table (24 Hour)
- ▽ Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- NO. Identifies Sample by Number
- TYPE Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY
- DEPTH Depth Top and Bottom of Sample
- REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC PEAT
- SANDY CLAY
- CLAYEY SAND
- _____
- _____

DATE DRILLED: 6/16/94 | PAGE: of

DRILLING METHOD: HSA / Split Spoon

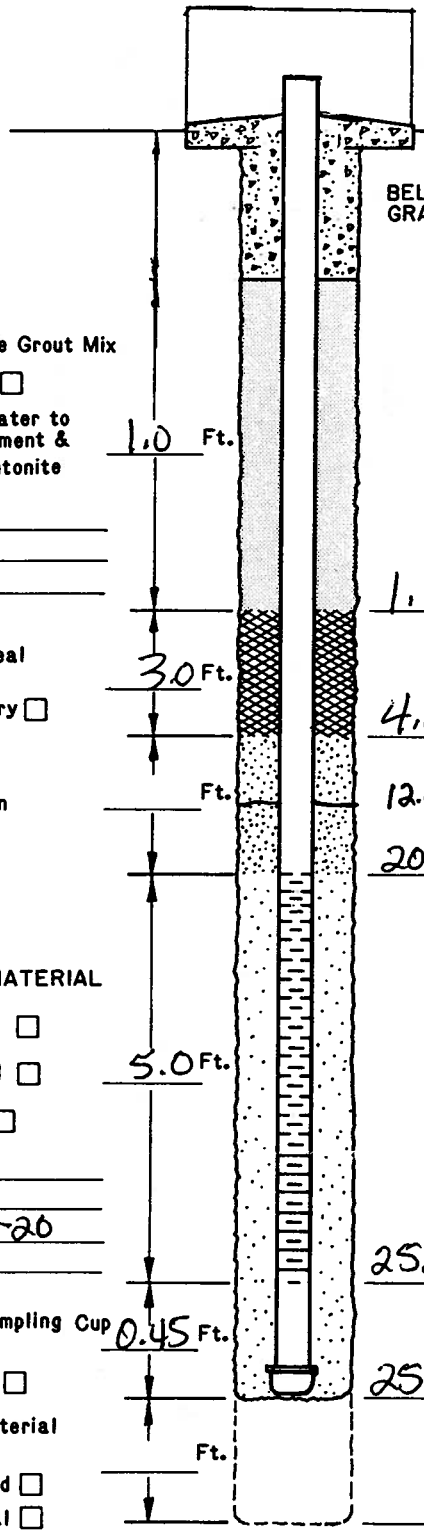
DRILLED BY: Curtis Lee - TTL

LOGGED BY: J. Poor

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM



Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Cement/Bentonite Grout Mix
Yes ☐ No ☐
5.5 Gallons Water to 94Lb. Bag Cement & 3-5 Lb. Bentonite Powder
Other: _____

Bentonite Seal
Pellets ☐ Slurry ☐

Filter Pack Above Screen

FILTER PACK MATERIAL
Silica Sand ☐
Washed Sand ☐
Pea Gravel ☐
Others: _____
Sand Size 10-20

Dense Phase Sampling Cup
Bottom Plug
Yes ☐ No ☐

Overdrilled Material Backfill
Grout ☐ Sand ☐
Caved Material ☐
Other: _____

DRILLING INFORMATION:

1. Borehole Diameter= 12.5 Inches.
2. Were Drilling Additives Used ? Yes ☒ No ☐
   Revert ☐ Bentonite ☐ Water ☒
   Solid Auger ☐ Hollow Stem Auger ☐
3. Was Outer Steel Casing Used ? Yes ☐ No ☒
   Depth= _____ to _____ Feet.
4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC ☐ Galvanized ☐ Teflon ☐
   Stainless ☐ Other Carbon
2. Type of Casing Joints: Screw-Couple ☒ Glue-Couple ☐ Other _____
3. Type of Well Screen: PVC ☐ Galvanized ☒
   Stainless ☐ Teflon ☐ Other _____
4. Diameter of Casing and Well Screen:
   Casing 6" Inches, Screen 6" Inches.
5. Slot Size of Screen: 30
6. Type of Screen Perforation: Factory Slotted ☐
   Hacksaw ☐ Drilled ☐ Other Wire Wrap
7. Installed Protector Pipe w/Lock: Yes ☐ No ☒

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed ? Bailing ☐ Pumping ☐
   Air Surging (Air or Nitrogen) ☒ Other _____
2. Time Spent on Well Development ?
   2 hrs / _____ Minutes/Hours
3. Approximate Water Volume Removed ? _____ Gallons
4. Water Clarity Before Development ? Clear ☐
   Turbid ☒ Opaque ☒
5. Water Clarity After Development ? Clear ☐
   Turbid ☐ Opaque ☒
6. Did Water have Oder ? Yes ☒ No ☐
   If Yes, Describe Creosote
7. Did Water have any Color ? Yes ☒ No ☐
   If Yes , Describe Tan/Brn

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Driller/Firm ITL, Inc. Drill Rig Type CME 75 Date Installed 6/16/94
Drill Crew C. Lee Well No. RW9 Kerr-McGee Hydrologist J. Poor

SOIL BORING LOG KM—5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services	KM SUBSIDIARY Columbus	LOCATION South of RW2	BORING NUMBER P27

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE NO.	SOIL SAMPLE TYPE	SOIL SAMPLE DEPTH	SOIL SAMPLE REC.	REMARKS OR FIELD OBSERVATIONS
	Sand: lt brn, dry, med-fn			1,2 4,1	—	1		2.0	2.0	
	Clay: 2.6, soft, moist, med gray plastic			WH	—	2		4.0	2.0	
5	: med, gray, firm, plastic			WH 13,1	—	3		6.0	1.3	odor
	Clay: sandy, brn Sand: lt gray, med-crs, 2% gvl subrd wet			4,6 8,9	—	4		9.0	1.6	odor
10	: lt gray to yell/brn, 50% gvl < 1/2"			4,7 6,8	—	5		11.0	1.5	sheen
	Gravel & Sand: crs, brn, subang-subrd, chert				—	6		14.0	2.0	odor
15	Sand & Gravel: ang-subang			25,6 7,8	—	7		16.0	0.7	blk stain on surface & in gravel
	Gravel & Sand: gvl 1/4", 1", gry subrd, snd wht, crs-med			3,8 10,8	—	8		19.0	1.1	odor
20	Sand & gvl: >1/4", rust, rdd.			6, 1,2	—	9		21.0	1.2	odor
	Weathered Eutaw 22.0, rust fn snd Green Eutaw at 23.7'			6,16 17,22	—	10		24.0	2.0	Sheen on Surface Green E. 23.7
	TD 24.0'									

EXPLANATION

- ▼ Water Table (24 Hour)
- ▽ Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- NO. Identifies Sample by Number
- TYPE Sample Collection Method

SPLIT-BARREL · AUGER · ROCK CORE · THIN-WALLED TUBE · CONTINUOUS SAMPLER · NO RECOVERY

- DEPTH Depth Top and Bottom of Sample
- REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

CLAY · SILT · SAND · GRAVEL · SILTY CLAY · CLAYEY SILT · DEBRIS FILL · HIGHLY ORGANIC (PEAT) · SANDY CLAY · CLAYEY SAND · _____ · _____

DATE DRILLED 6/15/94 PAGE of

DRILLING METHOD HSA / Split Spoon

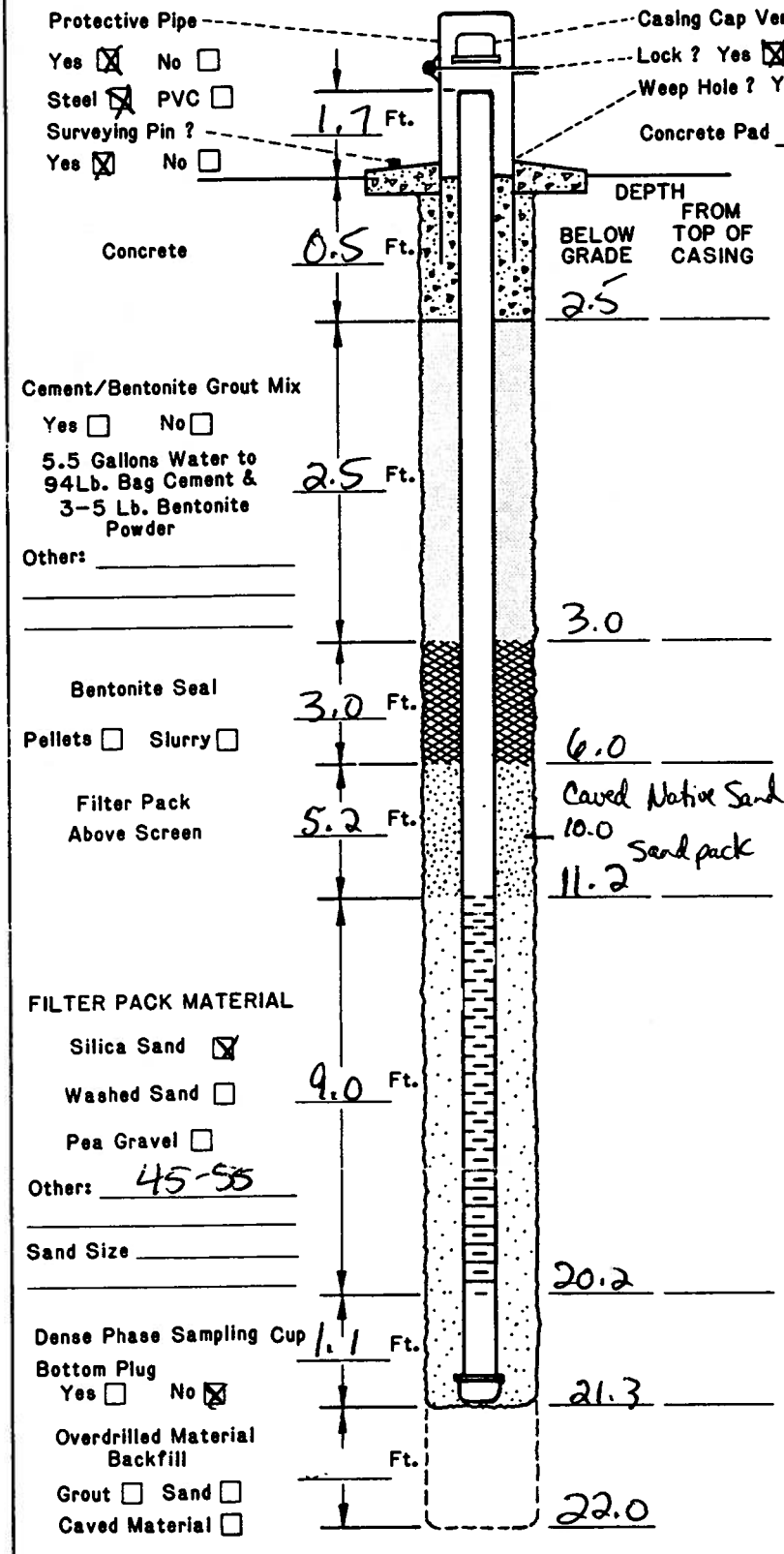
DRILLED BY C. Lee TTC

LOGGED BY J. Poor

EXISTING GRADE ELEVATION (FT AMSL)

LOCATION OR GRID COORDINATES

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM



DRILLING INFORMATION:

1. Borehole Diameter= 8¼ inches.
2. Were Drilling Additives Used ? Yes ☒ No ☐
   Revert ☐ Bentonite ☐ Water ☒
   Solid Auger ☐ Hollow Stem Auger ☐
3. Was Outer Steel Casing Used ? Yes ☐ No ☒
   Depth= _____ to _____ Feet.
4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC ☒ Galvanized ☐ Teflon ☐
   Stainless ☐ Other _____
2. Type of Casing Joints: Screw-Couple ☒ Glue-Couple ☐ Other _____
3. Type of Well Screen: PVC ☒ Galvanized ☐
   Stainless ☐ Teflon ☐ Other _____
4. Diameter of Casing and Well Screen:
   Casing 2" Inches, Screen 2" Inches.
5. Slot Size of Screen: 10
6. Type of Screen Perforations: Factory Slotted ☐
   Hacksaw ☐ Drilled ☐ Other wire wrap
7. Installed Protector Pipe w/Lock: Yes ☒ No ☐

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed ? Bailing ☐ Pumping ☐
   Air Surging (Air or Nitrogen) ☒ Other _____
2. Time Spent on Well Development ?
   4 hrs / _____ Minutes/Hours
3. Approximate Water Volume Removed ? 55 Gallons
4. Water Clarity Before Development ? Clear ☐
   Turbid ☒ Opaque ☒
5. Water Clarity After Development ? Clear ☐
   Turbid ☐ Opaque ☒
6. Did Water have Odor ? Yes ☒ No ☐
   If Yes, Describe Creosote
7. Did Water have any Color ? Yes ☒ No ☐
   If Yes , Describe tan

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Driller/Firm TTL, Inc Drill Rig Type CME 75 Date Installed 6/15/94
Drill Crew C. Lee Well No. P 27 Kerr-McGee Hydrologist V. Poor

#swmu

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

FILE COPY

August 24, 1994

Mr. Russell McLean
U.S. EPA
345 Courtland Street, N. E.
Atlanta, Georgia 30365

Re: Kerr-McGee Comments to RFA
Kerr-McGee Chemical Company
Columbus, Mississippi Facility
EPA I.D. - MSD990866329

Dear Mr. McLean:

As discussed in my conversation with you on August 22, 1994, the Mississippi Office of Pollution Control (Office) has no objection to the grouping of Solid Waste Management Units (SWMU) as described in the above referenced document. The Office agrees with EPA that the request to omit the following SWMUs should not be granted: the black tie storage area (36), the drainage ditches (37) and the wood waste piles (31 and 32). Although areas 36 and 37 have environmental permits which are in place to ensure protection of surface waters, these permits do not ensure that these areas are not a continuing source of contamination to ground water. While areas 31 and 32 may not have managed hazardous waste the areas did handle waste which had the potential to cause a release of hazardous constituents.

The Office appreciates the opportunity to provide comments in this matter.

Sincerely,

Bruce Ferguson, P. E.
Hazardous Waste Division

HSWA

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

June 14, 1994

Mr. Russ McClean
RCRA Permitting Section
USEPA Region IV
345 Courtland Street, N. E.
Atlanta, Georgia 30365

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

Dear Mr. McClean:

In response to your May 13, 1994 letter and as confirmed in our conversation on June 13, 1994, Kerr-McGee Chemical Corporation-Forest Products Division (KMCC-FPD) will submit comments on the RFA for the Columbus Facility no later than August 1, 1994. KMCC-FPD will address the Solid Waste Management Units (SWMU's) identified in the RFA. KMCC-FPD will supply documentation supporting the consolidation and/or elimination of certain SWMU areas.

KMCC-FPD understands that these comments will be jointly reviewed by EPA and MDEQ and that a preliminary draft HSWA permit will be prepared for KMCC-FPD review prior to the public comment period.

I also wanted to thank you and Ms. Williams again for taking the time from your schedules to meet with me in Atlanta on May 11, 1994 to provide guidance and clarification on these issues. If you have any questions, please feel free to call me at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner

Stephen A. Ladner
Staff Environmental Specialist

cc: Beverly Williams-EPA Region IV
Jerry Banks-MDEQ
Tony Helms-Columbus Facility
Nick Bock

FOREST PRODUCTS

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

June 14, 1994

Mr. Bruce Ferguson
Environmental Engineer
Mississippi Department of
Environmental Quality
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39289

Re: Post-Closure and Groundwater Corrective Action
Permit HW-90-329-01
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ferguson:

As per our phone conversation on June 13, 1994 and per your letter dated May 17, 1994, this correspondence serves as acknowledgement of your request for submittal of the aforementioned permit modifications no later than August 1, 1994. The submittal will be as an amended Part B application under the authority of the Mississippi Solid Waste Disposal Act and Part 270 of the Mississippi Hazardous Waste Management Regulations (MHWMR).

Kerr-McGee Chemical Corporation-Forest Products Division (KMCC-FPD) understands that 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. As a result of this ruling, KMCC-FPD understands that RCRA waste 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. KMCC-FPD will submit as the amended Part B permit application the following material:

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).

KMCC-FPD is planning on submitting responses to the RFA to the EPA no later than August 1, 1994 to maintain continuity between the Agencies. If you have any additions or questions, please feel free to contact me, Steve Ladner at (405) 270-2625.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Stephen A. Ladner
Staff Environmental Specialist

cc: Charles Chisolm-Mississippi Department of Environmental Quality
Russ McClean- USEPA, Region IV
Tony Helms-Columbus Facility
Jami Poor
Nick Bock

FILE COPY

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

April 11, 1994

Mr. Steve Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
P.O. Box 25861
Oklahoma City, Oklahoma 73125

Re: HSWA Permitting
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Ladner:

To document our phone conversation of April 6, 1994, the U.S. EPA will issue the HSWA permit for the above referenced facility. The public notice for the HSWA permit will run concurrent with the public notice for the modification of the State authorized RCRA permit, which will be a State initiated modification. Once the HSWA permit has been issued, the State will take the lead role in providing regulatory guidance and review of the HSWA permit requirements and the U.S. EPA will take an oversite role in assuring that the State is implementing the HSWA program at the facility according to U.S. EPA guidelines.

Should you have any questions or need further clarification, please contact me at (601) 961-5141.

Sincerely,

Bruce Ferguson, P. E.
Hazardous Waste Division

BF:gd

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MAY 13 1994

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Stephen A. Ladner
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
P. O. Box 25861
Oklahoma City, Oklahoma 73125

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

File
Kerr-McGee
Columbus

Dear Mr. Ladner:

This letter serves to confirm the procedures that Kerr-McGee and the Environmental Protection Agency (EPA) will follow for consolidating/eliminating solid waste management units (SWMUs) identified in the RFA dated August 29, 1988 for the above referenced facility. This process will identify the areas of the facility to be addressed in the HSWA permit. These issues were discussed in our meeting of May 11, 1994 at EPA's Atlanta Office, which was held to address the proposals presented in your letter of April 26, 1994.

As discussed, Kerr-McGee will present formal comments and documentation supporting the justification for consolidating or eliminating SWMUs identified in the RFA. The criteria for consolidation will consider the proximity and process nature of units, constituents managed and most importantly the inability to distinguish any contamination among units. The consolidation should facilitate a more efficient and effective sampling program for identification of contaminated media during the RFI process. The elimination of units will be based on documentation that the unit never managed hazardous constituents or that such management could not have resulted in releases of constituents to the environment through any media pathway. The EPA and MDEQ will jointly review your comments and prepare a preliminary draft HSWA permit, incorporating the approved consolidation of SWMUs into solid waste management areas (SWMAs) for corrective action purposes and/or the elimination of SWMUs previously identified in the RFA. You will be given the opportunity to comment on this preliminary draft permit prior to it going to public notice.

As also discussed during the meeting, the April 26th letter failed to include SWMUs 32 and 33, the scrap piles located north of 14th Avenue. These units were unlined areas which received scrap material, including treated wood. This scrap material has since been removed. These areas may be best handled in the permit under a confirmatory sampling program to determine if hazardous constituents are present.

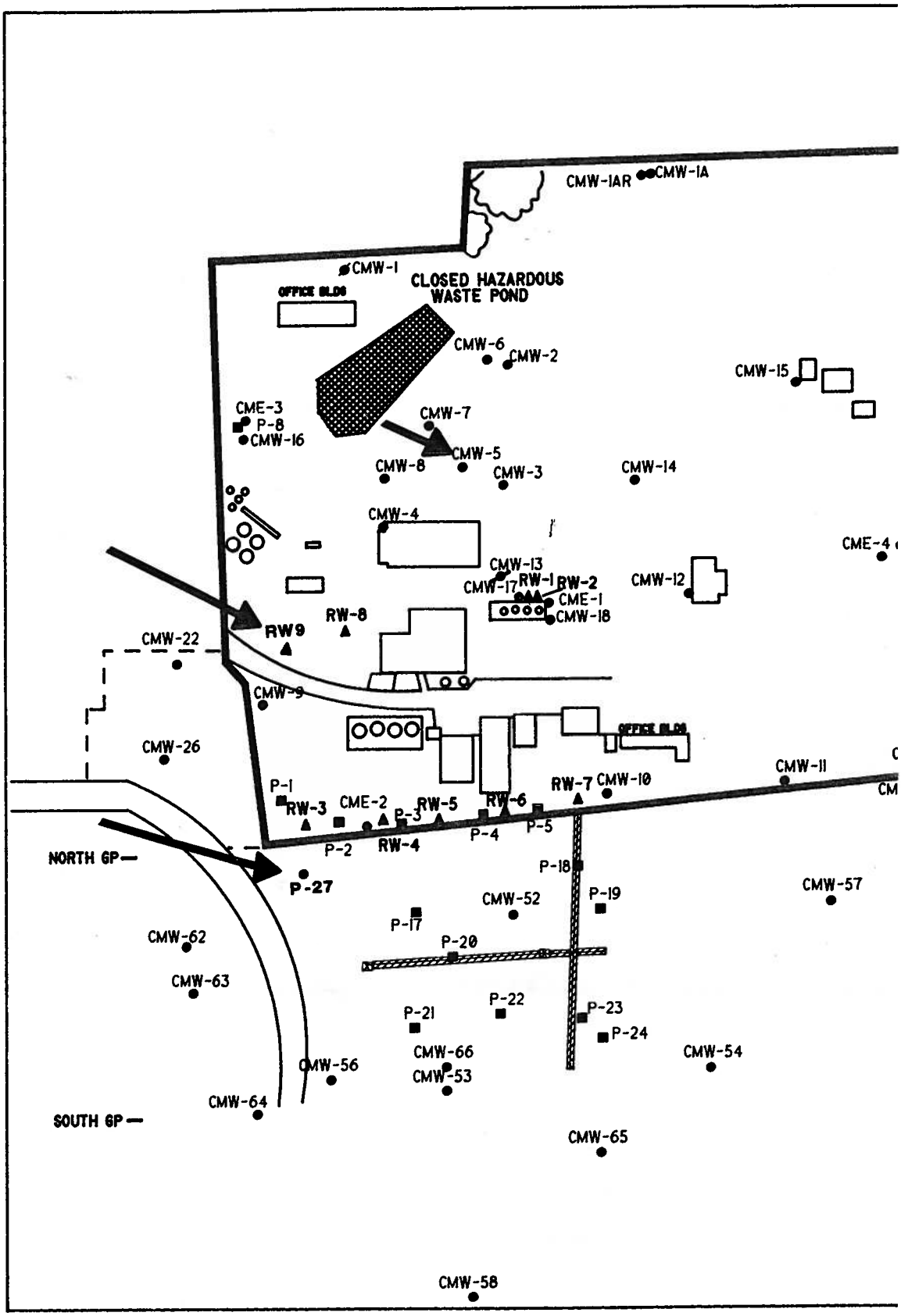
Should you have any questions or comments in regard to this matter, please contact Russ McLean at (404) 347-3555 x6343.

Sincerely yours,

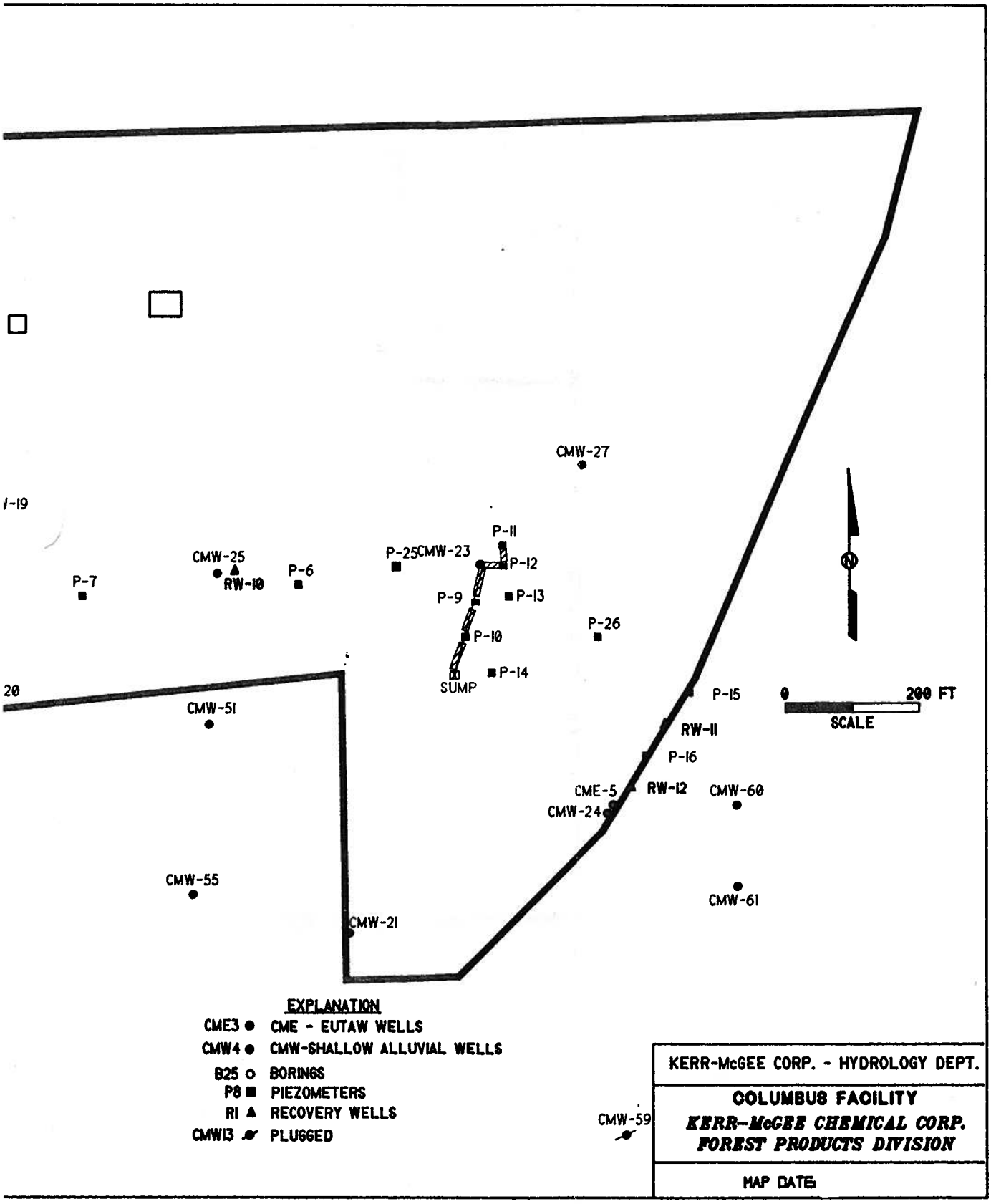
Beverly Williams

Beverly Williams
Chief, AL/MS Unit
RCRA Permitting Section

cc: Jerry Banks, MDEQ


CMW-1AR
CMW-1A
CMW-1
CLOSED HAZARDOUS
WASTE POND
OFFICE BLDG
CMW-6
CMW-2
CMW-15
CME-3
P-8
CMW-16
CMW-7
CMW-5
CMW-8
CMW-3
CMW-14
CMW-4
CME-4
CMW-13
CMW-17
RW-1
RW-2
CME-1
CMW-18
CMW-12
RW-8
RW9
CMW-22
CMW-9
OFFICE BLDG
CMW-26
CMW-11
P-1
RW-3
CME-2
RW-5
RW-6
RW-7
CMW-10
P-3
P-4
P-5
P-2
RW-4
NORTH GP
P-27
P-18
CMW-57
CMW-52
P-19
P-17
CMW-62
P-20
CMW-63
P-22
P-21
P-23
P-24
CMW-66
CMW-54
CMW-56
CMW-53
CMW-64
SOUTH GP
CMW-65
CMW-58

SE MAP


CMW-27
P-11
P-25
CMW-23
P-12
CMW-25
RW-10
P-6
P-7
P-9
P-13
P-26
P-10
P-14
SUMP
CMW-51
P-15
RW-11
P-16
CME-5
RW-12
CMW-60
CMW-24
CMW-55
CMW-61
CMW-21
N
0
200 FT
SCALE
EXPLANATION
CME3 ● CME - EUTAW WELLS
CMW4 ● CMW-SHALLOW ALLUVIAL WELLS
B25 ○ BORINGS
P8 ■ PIEZOMETERS
RI ▲ RECOVERY WELLS
CMW13 PLUGGED
CMW-59
KERR-McGEE CORP. - HYDROLOGY DEPT.
COLUMBUS FACILITY
KERR-McGEE CHEMICAL CORP.
FOREST PRODUCTS DIVISION
MAP DATE: