

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

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2300 14th Avenue North Columbus, MS 39701	PO Box 268859 Oklahoma City, OK 731268859

Telecommunications

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

Alternate / Historic AI Identifiers

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

Regulatory Programs

Program	SubProgram	Start Date	End Date

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

Locational Data

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

Report Date: 12/16/2005 3:17:08 PM



KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

September 30, 1992

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
1992 Semi-Annual Performance
and Groundwater Monitoring Report
HW 90-329-01

Dear Mr. Spangler:

Enclosed are three copies of the Kerr-McGee Chemical Corporation - Forest Product Division 1992 Semi-Annual Performance Evaluation of Corrective Action Report as referenced in provision IV.H.11. of the Permit. The Permit requires a semi-annual report, prepared and submitted by October 1 of each year, on the performance of the corrective action.

This submittal represents the required performance period from January 1, to June 31, 1992. In addition to reporting the performance of the presently installed groundwater recovery system, this report also includes the construction plans of the proposed recovery extension. The construction of the off-site extension began on August 28, 1992.

If you have any questions or require additional information concerning the contents of this report, please do not hesitate to contact me at (405) 270-2394.

Sincerely,

NICK BOCK
Staff Environmental Specialist

NB/JMP/

Enclosures

cc: J.J. Getz
J.M. Poor





KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

August 31, 1992



Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
September 1, 1992

Dear Mr. Ferguson:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

KMCC is in receipt of your July 10, 1992 letter requesting follow-up information on KMCC's June 16, 1992 proposal to modify the groundwater recovery system. KMCC responded to your request on August 1, 1992. KMCC believes the response satisfactorily answered your questions and is proceeding with the modification of the recovery system as proposed. A pre-bid meeting for contractors was held in Columbus, MS on June 29th. The contract was awarded to W. G. Yates & Sons Construction Company of Philadelphia, Mississippi on August 14, 1992. A fence and cemetery access road were completed in early August, 1992. Trenching began on August 28, 1992.

KMCC-FPD has met with Columbus School Board's environmental consultants to discuss in detail the results of the Phase II Assessment and the facility's waste management program. Mr. Martin Rollins submitted a report "Review of Documentation and Conditions Regarding the Potential Environmental Impacts on the Hunt Middle School Site From Adjacent Industrial Activities" to the Columbus Municipal School District on August 4, 1992. Mr. Rollins summarized that the subsurface contamination does not present risk to the school students or faculty.



Bruce Ferguson
August 31, 1992
Page 2

Third quarter corrective action groundwater monitoring was completed during the week of August 10, 1992, in accordance with the approved analytical schedule. The monitoring wells on the approved analytical schedule, CMW6, CMW7 and CMW8 were sampled.

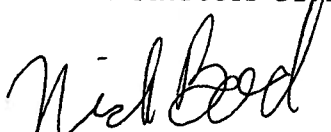
The recovery system continues to perform well. The semi-annual report will be submitted on October 1, 1992 and detailed the performance of the groundwater monitoring and recovery systems.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION

FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB/JP:wpc

cc: J. Getz
R. Jones
J. Poor
J. Crawford, Esq.



KERR-MCGEE CHEMICAL CORPORATION

P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906



August 20, 1992

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

Dear Mr. Ferguson:

Per your conversation with Tony Helms today, we are sending you a copy of the environmental report regarding Hunt School.

This report was obtained from a representative of the Columbus School Board.

Also enclosed is a copy of the newspaper article detailing the release of the report findings.

If we can be of any further assistance, please call.

Sincerely,

John J. Getz
Plant Manager

JJG/tlr

cc: N. E. Bock



Te. June. NAACP Beckwith County grant.

Need Money

Regional Museum of a proud, new owners of a cabin. But they have to contribute money to move it — and Wright, a former Monroe and former Amory mayor, said it will cost about \$100,000. Wright said museum officials have "less," we must hope.

Sports

The Scarred Helmet Of Daniel Boyd Is Ready To Head Back Into Action

Page 2A

Page 1B

THE COMMERCIAL DISPATCH

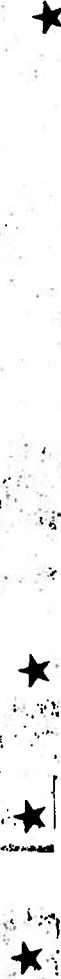
The Commercial Est. 1894, The Dispatch Est. 1879 / Consolidated March 12, 1922 & 1981

COLUMBUS, MISSISSIPPI

TUESDAY, AUGUST 11, 1992

25c

STUDIES ARE GOOD NEWS FOR BOARD



ANNOUNCED MONDAY

Will Re-Evaluate Renovation Of Middle School

PROJECT'S HAD CHECKERED PAST

By SUSAN MAY STACHOWSKI
Dispatch Staff Writer

The future of Hunt Middle School is on more solid ground after a six-month environmental evaluation of the campus produced good news. But the proposed renovation plan has not been put back on track.

Because of environmental concerns about



the Hunt property, the city school district in January hired an environmental attorney and an environmental engineering consultant to study the soil at the school campus on 20th Street N.

The studies included soil borings and laboratory testing and detailed analysis of these tests by the engineer, who also made visits to the site.

Reading a prepared statement during Monday's school board meeting, board President Sarah Jones said, "Based on this investigation and analysis, the school district has concluded that Hunt Middle School will resume its usual operations."

"The district is satisfied that faculty and students may attend Hunt without any significant question of adverse health effects," she said.

"The Department of Environmental Quality has also indicated that they have no reason to believe that proximity to Kerr-McGee or Sanderson Plumbing should cause any adverse health effects to persons attending this facility."

Mrs. Jones said today the proposed remodeling of Hunt will be re-evaluated.

"We haven't made any decisions about the renovation — we just got the final word on the tests," Mrs. Jones said.

"That will be in discussion — whether we try to move for-

8/11/92

Hunt *Continued From 1A*

ward with our plans or look at another option."

Mrs. Jones said if the renovation plans do proceed, the board will be comfortable from the environmental standpoint, based on the engineering studies.

"We've got to move on with our plans of the reorganization of the elementary schools and the high school. This will all be part of the next phase."

Mrs. Jones said the board has been thorough in its investigation and is comfortable with the background and expertise of the engineering consulting firm, H.M. Rollins of Gulfport.

The Hunt site came under fire earlier this year when board members proposed a \$2.89 to \$4.49 million renovation for the facility as the seventh- and eighth-grade middle

school.

The project hit its first snag in January when a petition bearing 3,083 names called for a community referendum on funding the project.

The petition was rejected because it was not in legally acceptable form, but the project was later suspended after a court case loomed and the environmental questions arose.

In other business Monday, the board heard a 15-minute presentation from Service Master, a custodial firm that wants a five-year janitorial contract with the district.

Service Master officials presented three different plans to the board, each of which they said would save the district money.

The board took no action but instructed its attorney, David Dunn, to review the contract

with Service Master officials.

Mrs. Jones said the trustees are especially interested in how a contract with Service Master would affect the district's present custodial employees.

"We have grave responsibility for cost containment, and it appears that this would do that, but we need to get a comfort level on the impact of our employees," Mrs. Jones said.

"We have instructed Mr. Dunn to do some checking on the contract, clarify some areas and look into it further without commitment."

The scope of work Service Master offers includes taking care of electrical and mechanical problems.

Mrs. Jones said many districts are beginning to contract out services like custodial work.



KERR-McGEE CHEMICAL CORPORATION
KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73165

August 5, 1992



CERTIFIED MAIL, RETURN RECEIPT REQUESTED

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

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Groundwater Corrective Action

Dear Mr. Ferguson:

Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD), is in receipt of your July 10, 1992 approval letter for groundwater corrective action for our Columbus, Mississippi facility. Based on this approval letter KMCC intends to:

1. Install additional groundwater monitoring wells as follows:

- a) A boundary control well shall be installed in the area between the existing wells CMW-54 and CMW-58.
- b) A boundary control well shall be installed in the area between the existing wells CMW-63 and CMW-58.

As previously discussed, KMCC is concentrating activities on installing an offsite containment trench south of the facility and will install additional monitoring wells after the containment trench is in place. This will ensure the startup of the containment trench in as short a time period as possible and reduce the potential for well damage during the containment trench construction phase.

2. The corrective action remedy proposed has been designed to capture soluble and free phase constituents. As required by Condition IV.J.1. of Permit HW-90-329-01 for the Columbus, Mississippi facility, KMCC will propose corrective measures wherever corrective measures no longer meet the requirements under MHWMR 264.100(h).



**FOREST
PRODUCTS**
5054C

3. Hazardous waste generated during the installation of the corrective action system shall be handled as hazardous waste and disposed of in accordance with State and Federal regulations.
4. Prior to all excavations of dewatering manholes/containment trenches, a well point system will be installed (both sides of trench) to the top of the competent Eutaw formation to dewater the alluvial formation. The area to be excavated will be fully dewatered prior to commencing excavation and remain in place until backfilling of gravel/sand has occurred. This will eliminate soils releasing contaminated groundwaters.

During operation of the well point system, all groundwaters will be discharged to the wood treating facility for pretreatment prior to discharge to the POTW in compliance with the facility's POTW permit.

KMCC will segregate visually contaminated soils to prevent the potential release of contamination. These soils will be placed on an impermeable barrier to prevent the potential for cross media contamination. Since the trench is located very close to the leading edge of the contaminant plume and in an area where contamination is limited to the contact of the alluvial and Eutaw formations, large quantities of contaminated soils will not be encountered.

5. KMCC awarded a contract on August 14, 1992 for the construction of the corrective action system to W. G. Yates & Sons Construction Company of Philadelphia, Mississippi. Mr. Randy Richardson of Yates Construction will be the contractor's project manager.

A tentative implementation schedule for construction activities at Columbus is as follows:

<u>Date</u>	<u>Task</u>
Week of August 10, 1992	A. Mobilization B. Place orders for required materials and services such as pipe, manholes, gravel, sand, geotechnical fabric and dewatering.
Week of August 17, 1992	A. Install dewatering system and connect to the facility's pretreatment system. B. Dewater area
Week of August 24, 1992	Begin excavation of manholes/trenches. After dewatering complete

The contractor has estimated the total project may take approximately 80 days to complete.

Mr. Bruce Ferguson
August 5, 1992
Page 3

I believe I have addressed all of the conditions in your July 10, 1992 approval letter for corrective action implementation at KMCC's Columbus, Mississippi facility.

Please contact John Getz, Columbus, Mississippi plant manager directly in regard to the current status of corrective action implementation or me at (405) 270-2394 with any questions you may have.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. Getz
J. Bull
R. Michel
J. Poor
R. Richardson, Yates Construction Co.
R. Widmann

THIS FILE IS CLOSED

**THE MATERIAL ENCLOSED IN THIS
FILE BEGINS ON:**

DATE : 1991

AND ENDS ON:

DATE : 1992

**THERE IS MORE RECENT
INFORMATION IN THE NEXT
FILE ON THIS SITE**



KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

July 22, 1992



Mr. Bruce Ferguson
Office of Pollution Control
Hazardous Waste Division
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: 2nd Quarter Analytical Results
Columbus, Mississippi

Dear Mr. Ferguson,

Enclosed for your review are the 1992 2nd quarter analytical results from groundwater collected June 5, 1992. All analytical data reflect consistencies with past sampling data except for that on monitor well CME4.

The resulting analytical detected an inconceivably high detection of both acenaphthylene and naphthalene in monitor well CME4. This well had been "non detect" for previous samplings. Because the laboratory had no known explanation for this occurrence, Kerr-McGee Chemical Corporation - Forest Product Division opted to re-sample CME4 on 7/15/92. This re-sampling event determined that CME4 was indeed clean. It has been our experience that wells do not go from clean to very dirty and back to clean again in a short period of time. Therefore it is presumed that a mix-up may have occurred in the laboratory. The re-sampling analyses for CME4 are consistent with all previous data.

KMCC will continue to sample CME4 bi-annually as is outlined in Permit HW-90-329-01. Please don't hesitate to call me at (405) 270-2394 if you have any questions.

Sincerely,

Kerr-McGee Chemical Corporation
Forest Product Division

Nick Bock JMP

Nick Bock
Staff Environmental Specialist

JMP\NB\
Enclosure

CC: J. Poor
J.J. Getz





SOUTHWEST LABORATORY OF OKLAHOMA, INC.

1700 West Albany • Broken Arrow, Oklahoma 74012 • Office (918) 251-2858 • Fax (918) 251-2599

KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.01

DATE: 07/15/92

SWLO #: 10035.01
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCMW58
LOCATION: COL
DATE ANALYZED : 07/07/92
METHOD REFERENCE: EPA-625/SW 8270

DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 175.79
WELL : 173.22
DATE EXTRACTED: 06/24/92

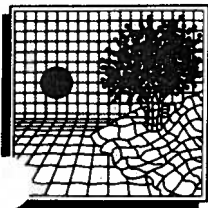
COMMENTS: TURBID

BASE/NEUTRAL EXTRACTABLES

RESULTS REPORTED IN ug/l or Parts Per Billion (PPB)

PARAMETER	RESULTS*		PARAMETER	RESULTS*	
ACENAPHTHYLENE	1.00	1 U	BENZO(A)ANTHRACENE	1.00	1 U
BENZO(B)FLUORANTHENE	1.00	1 U	BENZO(K)FLUORANTHENE	1.00	1 U
QIBENZ(A,H)ANTHRACENE	1.00	1 U	FLUORANTHENE	1.00	1 U
INDENO(1,2,3-CD)PYRENE	1.00	1 U	NAPHTHALENE	1.00	1 U
PHENANTHRENE	1.00	1 U	CARBAZOLE	1.00	1 U
BENZO(A)PYRENE	1.00	1 U			

***RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20 x 10 to the 1 = 12**



SOUTHWEST LABORATORY OF OKLAHOMA, INC.

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REPORT: 10035.01

DATE: 07/15/92

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SAMPLE #: GMWCMW58
LOCATION: COL

DATE SUBMITTED: 06/24/92

SAMPLE MATRIX : WATER

TOP OF CASING : 175.79

WELL : 173.22

COMMENTS: TURBID

PARAMETER	RESULT*	DATE UNITS	DATE PREPARED	DATE ANALYZED	REFERENCE METHOD
FIELD CONDUCTIVITY	5.70 2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	5.80 2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	6.40 2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	6.70 2	um/cm	/ /	06/22/92	SM 205
FIELD pH	6.60 0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	6.70 0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	6.70 0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	6.60 0	s.u.	/ /	06/22/92	EPA 150.1
FLOATERS	0.00 0	in	/ /	06/22/92	Visual
SINKERS	0.00 0	in	/ /	06/22/92	Visual

*RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20×10 to the 1 = 12



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KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.02

DATE: 07/15/92

SWLO #: 10035.02
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCMW26
LOCATION: COL
DATE ANALYZED : 07/07/92
METHOD REFERENCE: EPA-625/SW 8270

DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 181.29
WELL : 177.72
DATE EXTRACTED: 06/24/92

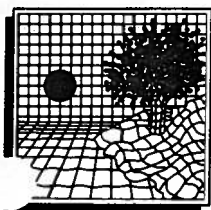
COMMENTS: TURBID

BASE/NEUTRAL EXTRACTABLES

RESULTS REPORTED IN ug/l or Parts Per Billion (PPB)

PARAMETER	RESULTS*		PARAMETER	RESULTS*	
ACENAPHTHYLENE	1.00	1 U	BENZO(A)ANTHRACENE	1.00	1 U
BENZO(B)FLUORANTHENE	1.00	1 U	BENZO(K)FLUORANTHENE	1.00	1 U
DIBENZ(A,H)ANTHRACENE	1.00	1 U	FLUORANTHENE	1.00	1 U
INDENO(1,2,3-CD)PYRENE	1.00	1 U	NAPHTHALENE	1.00	1 U
PHENANTHRENE	1.00	1 U	CARBAZOLE	1.00	1 U
BENZO(A)PYRENE	1.00	1 U			

*RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20 x 10 to the 1 = 12



SOUTHWEST LABORATORY OF OKLAHOMA, INC.

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KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.02

DATE: 07/15/92

SWLO #: 10035.02
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCMW26
LOCATION: COL
DATE ANALYZED : 06/25/92
METHOD REFERENCE: SW846-8020
GC Primary Run

DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 181.29
WELL : 177.72
DATE EXTRACTED: / /

COMMENTS: TURBID

BTEX

RESULTS REPORTED IN ug/l or Parts Per Billion (PPB)

PARAMETER	RESULTS*	PARAMETER	RESULTS*
BENZENE	1.00 0 U	XYLENE (TOTAL)	1.00 0 U



SOUTHWEST LABORATORY OF OKLAHOMA, INC.

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123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.02

DATE: 07/15/92

SWLO #: 10035.02
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCMW26
LOCATION: COL

DATE SUBMITTED: 06/24/92

SAMPLE MATRIX : WATER

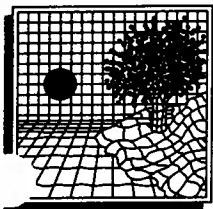
TOP OF CASING : 181.29

WELL : 177.72

COMMENTS: TURBID

PARAMETER	RESULT*		DATE		DATE	REFERENCE
			UNITS	PREPARED	ANALYZED	METHOD
FIELD CONDUCTIVITY	2.00	2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	1.90	2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	2.10	2	um/cm	/ /	06/22/92	SM 205
FIELD CONDUCTIVITY	2.00	2	um/cm	/ /	06/22/92	SM 205
FIELD pH	5.30	0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	5.30	0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	5.20	0	s.u.	/ /	06/22/92	EPA 150.1
FIELD pH	5.20	0	s.u.	/ /	06/22/92	EPA 150.1
FLOATERS	0.00	0	in	/ /	06/22/92	Visual
SINKERS	0.00	0	in	/ /	06/22/92	Visual

*RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20×10 to the 1 = 12



SOUTHWEST LABORATORY OF OKLAHOMA, INC.

1700 West Albany • Broken Arrow, Oklahoma 74012 • Office (918) 251-2858 • Fax (918) 251-2599

KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.03

DATE: 07/15/92

SWLO #: 10035.03
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCME4
LOCATION: COL
DATE ANALYZED : 07/07/92
METHOD REFERENCE: EPA-625/SW 8270

DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 183.01
WELL : 171.16
DATE EXTRACTED: 06/24/92

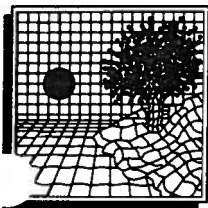
COMMENTS: CLEAR ODOR

BASE/NEUTRAL EXTRACTABLES

RESULTS REPORTED IN ug/l or Parts Per Billion (PPB)

PARAMETER	RESULTS*		PARAMETER	RESULTS*	
ACENAPHTHYLENE	1.00	1 U	BENZO(A)ANTHRACENE	1.00	1 U
BENZO(B)FLUORANTHENE	1.00	1 U	BENZO(K)FLUORANTHENE	1.00	1 U
7IBENZ(A,H)ANTHRACENE	1.00	1 U	FLUORANTHENE	1.00	1 U
INDENO(1,2,3-CD)PYRENE	1.00	1 U	NAPHTHALENE	1.00	1 U
PHENANTHRENE	1.00	1 U	CARBAZOLE	1.00	1 U
BENZO(A)PYRENE	1.00	1 U			

*RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20×10 to the 1 = 12



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KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.03

DATE: 07/15/92

SWLO #: 10035.03
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCME4
LOCATION: COL
DATE ANALYZED : 06/26/92
METHOD REFERENCE: SW846-8020
GC Primary Run

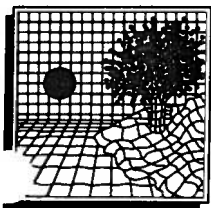
DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 183.01
WELL : 171.16
DATE EXTRACTED: / /

COMMENTS: CLEAR ODOR

BTEX

RESULTS REPORTED IN ug/l or Parts Per Billion (PPB)

PARAMETER	RESULTS*	PARAMETER	RESULTS*
BENZENE	1.00 0 U	XYLENE (TOTAL)	2.30 0



SOUTHWEST LABORATORY OF OKLAHOMA, INC.

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KERR-MCGEE CHEMICAL CORPORATION
123 ROBERT S. KERR
OKLAHOMA CITY, OK 73125
ATTN: ROY WIDMANN

REPORT: 10035.03

DATE: 07/15/92

SWLO #: 10035.03
PROJECT: KMCCFPDCOL
SAMPLE #: GMWCME4
LOCATION: COL

DATE SUBMITTED: 06/24/92
SAMPLE MATRIX : WATER
TOP OF CASING : 183.01
WELL : 171.16

COMMENTS: CLEAR ODOR

PARAMETER	RESULT*		DATE		DATE	REFERENCE
			UNITS	PREPARED	ANALYZED	METHOD
FIELD CONDUCTIVITY	2.60	2	um/cm	/ /	06/23/92	SM 205
FIELD CONDUCTIVITY	2.59	2	um/cm	/ /	06/23/92	SM 205
FIELD CONDUCTIVITY	2.57	2	um/cm	/ /	06/23/92	SM 205
FIELD CONDUCTIVITY	2.60	2	um/cm	/ /	06/23/92	SM 205
FIELD pH	8.00	0	s.u.	/ /	06/23/92	EPA 150.1
FIELD pH	8.10	0	s.u.	/ /	06/23/92	EPA 150.1
FIELD pH	8.10	0	s.u.	/ /	06/23/92	EPA 150.1
FIELD pH	8.00	0	s.u.	/ /	06/23/92	EPA 150.1
FLOATERS	0.00	0	in	/ /	06/23/92	Visual
SINKERS	0.00	0	in	/ /	06/23/92	Visual

*RESULTS REPORTED IN SCIENTIFIC NOTATION: Ex.: 1.20 1 is 1.20 x 10 to the 1 = 12

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Sample Point--> Sample Date--> SWLOW-->	GMCHW6 05/05/92 9550.01	GMCHW7 05/05/92 9550.02	GMCHW8 05/05/92 9550.03	GMCHW63 05/05/92 9550.04	GMCHW62 05/05/92 9550.05	GMCHW61 05/05/92 9550.06
Parameters						
Units						
ACID EXTRACTABLES						
2-CHLOROPHENOL	10	10	400	10	10	10
2,4-DIMETHYLPHENOL	10	10	400	10	10	10
2,4-DINITROPHENOL	50	50	2000	50	50	50
P-CHLORO-N-CRESOL	10	10	400	10	10	10
PENTACHLOROPHENOL	10	10	400	10	10	10
PHENOL	10	10	400	10	10	10
2,4,6-TRICHLOROPHENOL	10	10	400	10	10	10
2,3,4,6-TETRACHLOROPHENOL	10	10	400	10	10	10
BASE/NEUTRAL EXTRACTABLES						
ACENAPHTHYLENE	10	10	38	10	10	1.00
BENZO(A)ANTHRACENE	10	10	400	10	10	10
BENZO(B)FLUORANTHENE	10	2.00	400	10	10	10
BENZO(K)FLUORANTHENE	10	10	400	10	10	10
DIBENZ(A,H)ANTHRACENE	10	10	400	10	10	10
FLUORANTHENE	10	5.00	11	10	10	14
INDENO(1,2,3-CD)PYRENE	10	10	400	10	10	10
NAPHTHALENE	10	1.00	5300	4.00	3.00	4.00
PHENANTHRENE	10	2.00	190	10	10	10
BENZO(A)PYRENE	10	10	40	10	10	10
CARBAZOLE	10	10	150	10	10	10
BTEX						
BENZENE	1.00	1.00	200	1.00	1.00	1.00
TOTAL XYLENES	1.00	1.00	200	1.00	1.00	1.00
POLYNUCLEAR AROMATIC HYDROCARBONS						
NAPHTHALENE	-	-	-	-	-	-
ACENAPHTHYLENE	-	-	-	-	-	-
ACENAPHTHENE	-	-	-	-	-	-
MISC PARAMETER						
TOTAL PHENOLS	-	-	-	-	-	-

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SWLOH->	GUMCHW6 05/05/92 9550.01	GUMCHW7 05/05/92 9550.02	GUMCHW8 05/05/92 9550.03	GUMCHW63 05/05/92 9550.04	GUMCHW62 05/05/92 9550.05	GUMCHW61 05/05/92 9550.06
Units							
um/cm		381	355	316	188	238	339
um/cm		383	350	310	185	238	339
um/cm		383	354	312	184	238	333
um/cm		380	353	311	186	243	338
s.u.		5.80	5.83	5.53	5.20	6.10	7.10
s.u.		5.78	5.87	5.54	5.22	6.07	7.08
s.u.		5.79	5.92	5.60	5.24	6.13	7.08
s.u.		5.84	5.90	5.56	5.25	6.12	7.07
in		0.00	0.00	0.00	0.00	0.00	0.00
in		0.00	0.00	0.00	0.00	0.00	0.00

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE
* See enclosure for additional qualifiers

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point--> Sample Date--> SWL01-->	GMCHN3 05/05/92 9550.07	GMCHN4 05/05/92 9550.08	GMREP 05/05/92 9550.09	GMCHN16 05/05/92 9550.10	GMCHN3 05/05/92 9550.11	GMCHN1AR 05/05/92 9550.12
Units							
ACID EXTRACTABLES							
2-CHLOROPHENOL	ug/l	-	-	10	10	10	10
2,4-DIMETHYLPHENOL	ug/l	-	-	10	10	10	10
2,4-DINITROPHENOL	ug/l	-	-	50	50	50	50
P-CHLORO-N-CRESOL	ug/l	-	-	10	10	10	10
PENTACHLOROPHENOL	ug/l	-	-	4.00	10	10	10
PHENOL	ug/l	-	-	10	10	10	10
2,4,6-TRICHLOROPHENOL	ug/l	-	-	10	10	10	10
2,3,4,6-TETRACHLOROPHENOL	ug/l	-	-	2.00	10	10	10
BASE/NEUTRAL EXTRACTABLES							
ACENAPHTHYLENE	ug/l	-	-	59	10	10	10
BENZO(A)ANTHRACENE	ug/l	-	-	10	10	10	10
BENZO(B)FLUORANTHENE	ug/l	-	-	1.00	10	10	2.00
BENZO(K)FLUORANTHENE	ug/l	-	-	10	10	10	10
DIBENZ(A,H)ANTHRACENE	ug/l	-	-	10	10	10	10
FLUORANTHENE	ug/l	-	-	16	10	10	1.00
INDENO(1,2,3-CD)PYRENE	ug/l	-	-	10	10	10	10
NAPHTHALENE	ug/l	-	-	10	1.00	3.00	10
PHENANTHRENE	ug/l	-	-	160	10	10	10
BENZO(A)PYRENE	ug/l	-	-	10	10	10	10
CARBAZOLE	ug/l	-	-	170	10	10	10
BTX							
BENZENE	ug/l	-	-	200	1.00	1.00	1.00
TOTAL XYLENES	ug/l	-	-	200	1.00	1.00	1.00
POLYNUCLEAR AROMATIC HYDROCARBONS							
NAPHTHALENE	ug/l	25	3170	-	-	-	-
ACENAPHTHYLENE	ug/l	23.3	210	-	-	-	-
ACENAPHTHENE	ug/l	25	25	-	-	-	-
MISC PARAMETER							
TOTAL PHENOLS	mg/l	0.19	0.060	-	-	-	-

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SWLO#->	GMCHW3 05/05/92 9550.07	GMCHW4 05/05/92 9550.08	GMREP 05/05/92 9550.09	GMCHW16 05/05/92 9550.10	GMCHW3 05/05/92 9550.11	GMCHW1AR 05/05/92 9550.12
Units							
FIELD CONDUCTIVITY	um/cm	397	267	-	246	462	243
FIELD CONDUCTIVITY	um/cm	394	266	-	240	466	237
FIELD CONDUCTIVITY	um/cm	390	267	-	245	473	238
FIELD CONDUCTIVITY	um/cm	391	270	-	245	475	337
FIELD pH	s.u.	7.41	5.95	-	6.17	8.53	4.81
FIELD pH	s.u.	7.44	6.03	-	6.12	8.55	4.84
FIELD pH	s.u.	7.48	5.99	-	6.13	8.47	4.88
FIELD pH	s.u.	7.49	5.96	-	6.12	8.50	4.85
FLOATERS	in	0.00	0.00	-	0.00	0.00	0.00
SINKERS	in	0.00	0.00	-	0.00	0.00	0.00

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE
* See enclosure for additional qualifiers
J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Sample Point--> Sample Date--> SULOW-->	GUMCHW14 05/05/92 9550.13	GUMCHES 05/05/92 9550.14	GUMCHE4 05/05/92 9550.15	GUMCHE6 05/05/92 9550.16	GUMCHW11 05/06/92 9550.17	GUMCHW58 05/06/92 9550.18
Parameters	Units					
ACID EXTRACTABLES						
2-CHLOROPHENOL	ug/L	10	100	10	-	10
2,4-DIMETHYLPHENOL	ug/L	10	100	10	-	10
2,4-DINITROPHENOL	ug/L	50	500	50	-	50
P-CHLORO-M-CRESOL	ug/L	10	100	10	-	10
PENTACHLOROPHENOL	ug/L	10	100	10	-	10
PHENOL	ug/L	10	100	10	-	10
2,4,6-TRICHLOROPHENOL	ug/L	10	100	10	-	10
2,3,4,6-TETRACHLOROPHENOL	ug/L	10	100	10	-	10
BASE/NEUTRAL EXTRACTABLES						
ACENAPHTHYLENE	ug/L	10	7.00	10	-	10
BENZO(A)ANTHRACENE	ug/L	10	100	10	-	10
BENZO(B)FLUORANTHENE	ug/L	10	100	10	-	10
BENZO(K)FLUORANTHENE	ug/L	10	100	10	-	10
DIBENZ(A,H)ANTHRACENE	ug/L	10	100	10	-	10
FLUORANTHENE	ug/L	10	100	10	-	10
INDENO(1,2,3-CD)PYRENE	ug/L	10	100	10	-	10
NAPHTHALENE	ug/L	3.00	1100	10	-	10
PHENANTHRENE	ug/L	10	16	10	-	10
BENZO(A)PYRENE	ug/L	10	10	10	-	10
CARBAZOLE	ug/L	10	45	10	-	10
BTEX						
BENZENE	ug/L	0.60	10	10	-	1.00
TOTAL XYLENES	ug/L	0.60	10	10	-	1.00
POLYNUCLEAR AROMATIC HYDROCARBONS						
NAPHTHALENE	ug/L	-	-	-	358	-
ACENAPHTHYLENE	ug/L	-	-	-	22.9	-
ACENAPHTHENE	ug/L	-	-	-	25	-
MISC PARAMETER						
TOTAL PHENOLS	mg/L	-	-	-	0.13	-

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE

DATE: 06/05/92
PAGE: 2

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SULO#->	GMCHW14 05/05/92 9550.13	GMCHES 05/05/92 9550.14	GMCHC4 05/05/92 9550.15	GMCHC6 05/05/92 9550.16	GMCHW11 05/06/92 9550.17	GMCHW58 05/06/92 9550.18
FIELD CONDUCTIVITY	Units						
um/cm							
um/cm							
um/cm							
um/cm							
FIELD pH	S.U.						
FIELD pH	S.U.						
FIELD pH	S.U.						
FIELD pH	S.U.						
FLOATERS	in						
SINKERS	in						
		384	247	239	266	239	564
		386	250	246	265	231	557
		386	247	248	265	232	550
		388	255	255	262	235	550
		6.26	8.58	7.55	7.71	5.78	6.56
		6.23	8.55	7.54	7.72	5.80	6.51
		6.22	8.58	7.57	7.73	5.85	6.50
		6.22	8.55	7.65	7.74	5.84	6.54
		0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE
* See enclosure for additional qualifiers

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SWLO#->	GMCMU22 05/06/92 9550.19	GMCMU9 05/06/92 9550.20	GMCMU10 05/06/92 9550.21		
ACID EXTRACTABLES	Units					
2-CHLOROPHENOL	ug/l	10	U	-		
2,4-DIMETHYLPHENOL	ug/l	10	U	-		
2,4-DINITROPHENOL	ug/l	50	U	-		
P-CHLORO-M-CRESOL	ug/l	10	U	-		
PENTACHLOROPHENOL	ug/l	10	U	-		
PHENOL	ug/l	10	U	-		
2,4,6-TRICHLOROPHENOL	ug/l	10	U	-		
2,3,4,6-TETRACHLOROPHENOL	ug/l	10	U	-		
BASE/NEUTRAL EXTRACTABLES						
ACENAPHTHYLENE	ug/l	10	U	-		
BENZO(A)ANTHRACENE	ug/l	10	U	-		
BENZO(B)FLUORANTHENE	ug/l	10	U	-		
BENZO(K)FLUORANTHENE	ug/l	10	U	-		
DIBENZ(A,H)ANTHRACENE	ug/l	10	U	-		
FLUORANTHENE	ug/l	10	U	-		
INDENO(1,2,3,-CD)PYRENE	ug/l	10	U	-		
NAPHTHALENE	ug/l	10	U	-		
PHENANTHRENE	ug/l	10	U	-		
BENZO(A)PYRENE	ug/l	10	U	-		
CARBAZOLE	ug/l	10	U	-		
BTEX						
BENZENE	ug/l	1.00	U	-		
TOTAL XYLENES	ug/l	1.00	U	-		
POLYNUCLEAR AROMATIC HYDROCARBONS						
NAPHTHALENE	ug/l	-	6860	25	U	
ACENAPHTHYLENE	ug/l	-	188	25	U	
ACENAPHTHENE	ug/l	-	25	25	U	
MISC PARAMETER						
TOTAL PHENOLS	mg/l	-	0.11	0.060		

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/05/92
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Sample Point--> Sample Date--> SLOW-->		GMCHW22 05/06/92 9550.19	GMCHW9 05/06/92 9550.20	GMCHW10 05/06/92 9550.21		
Parameters	Units					
FIELD CONDUCTIVITY	um/cm	237	260	415		
FIELD CONDUCTIVITY	um/cm	238	250	414		
FIELD CONDUCTIVITY	um/cm	239	260	415		
FIELD CONDUCTIVITY	um/cm	238	259	422		
FIELD pH	s.u.	5.12	5.42	6.36		
FIELD pH	s.u.	5.09	5.42	6.31		
FIELD pH	s.u.	5.11	5.40	6.34		
FIELD pH	s.u.	5.16	5.41	6.35		
FLOATERS	in	0.00	0.00	0.00		
SINKERS	in	0.00	0.00	0.00		

U: ANALYZED BUT NOT DETECTED J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE T: TRACE
* See enclosure for additional qualifiers

1700 W. Albany • Broken Arrow, Oklahoma 74012
Office: 918-251-2858 • Fax 918-251-2569

Office: 918-251-2858 • Fax 918-251-2590

SALES OFFICE (Signature)

1/6/2009

[illegible]

DATE	TIME	RECEIVED BY: (Signature)
10/10/78	10:00	John Doe
10/11/78	10:00	John Doe
10/12/78	10:00	John Doe
10/13/78	10:00	John Doe
10/14/78	10:00	John Doe
10/15/78	10:00	John Doe
10/16/78	10:00	John Doe
10/17/78	10:00	John Doe
10/18/78	10:00	John Doe
10/19/78	10:00	John Doe
10/20/78	10:00	John Doe
10/21/78	10:00	John Doe
10/22/78	10:00	John Doe
10/23/78	10:00	John Doe
10/24/78	10:00	John Doe
10/25/78	10:00	John Doe
10/26/78	10:00	John Doe
10/27/78	10:00	John Doe
10/28/78	10:00	John Doe
10/29/78	10:00	John Doe
10/30/78	10:00	John Doe
10/31/78	10:00	John Doe

RECEIVED BY: *Robert L. Lacey*

DATE	TIME	RECEIVED BY: (Signature)

APPROVED BY: (Signature)

DATE TIME RECEIVED BY: (Signature)

DATE	01:00
TIME	26/9/85

DATE	TIME	RECEIVED BY: (Signature)
------	------	--------------------------

DATE	TIME
------	------

RELINQUISHED BY: (Signature)

DATE | TIME

RECEIVED BY: (Signature)

REQUISITIONED BY: (Signature)

DATE TIME

RECEIVED FOR LABORATORY
BY: (Signature)

RECEIVED FOR LABORATORY
BY: (Signature) Paul R. ...

FORM NO. CHCA-1

REV 1-2001

CHAIN OF CUSTODY RECORD

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

1700 W. Albany • Broken Arrow, Oklahoma 74012
Office: 918-251-2858 • Fax 918-251-2590

SAMPLING FIRM	CLIENT CONTACT	PHONE NUMBER
R M Hydro		
PROJECT NUMBER	PROJECT NAME	
K-166-PH04	Ind S 86-11-72	

ANALYTICAL TESTS REQUESTED		REMARKS
	FORM ACID	
	FORM FINE	
	POLYMER	
	POLYMER (D)	
	PAN (G)	

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
------------------------------	------	------	--------------------------

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY: (Signature)
	1/7/92	9:15	<i>[Signature]</i>

RESULTS

MISSISSIPPI STATE UNIVERSITY

Jim Hardage

MISSISSIPPI
STATE CHEMICAL LABORATORY

BOX CR - MISSISSIPPI STATE, MISSISSIPPI 39762

TELEPHONE (601) 325-3324

DR. EARL G. ALLEY
State ChemistDR. LARRY G. LANE
Director, IAS Division

March 6, 1992

Analysis No. 829,954-955

Analysis of Groundwater

Marked: Kerr-McGee

Received on 2-5-92

from MS Office of Pollution Control
ATTN: Jim Hardage

Address P.O. Box 10385 Jackson, MS 39209

RESULTS:

<u>MSCL No.</u>	<u>MS DEQ-OPC Identification</u>	<u>TCL Analytes*</u>	
		<u>VOCs</u>	<u>ABNs</u>
829,954	MW-62, Monitor Well On Football Field	+	+
829,955	MW-63, Monitor Well On Football Field	+	+

Results from our gc/mass spec analyses of the above water samples for volatile and semivolatile organic compounds are presented in attached reports.

Analytical Costs

2 VOCs By gc/ms @ \$225 =	\$ 450
2 ABNs By gc/ms @ \$400 =	800
TOTAL	<u>\$1250</u>

State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS



**OFFICE OF
POLLUTION CONTROL
P. O. Box 10385
Jackson, Mississippi 39289-0385**

[illegible]

TARGET COMPOUND LIST
VOLATILE ORGANIC COMPOUNDS
IN DRINKING WATER

MSCL NO. 829,954

SAMPLE MARKED: Kerr McGee

ANALYSIS OF: WATER

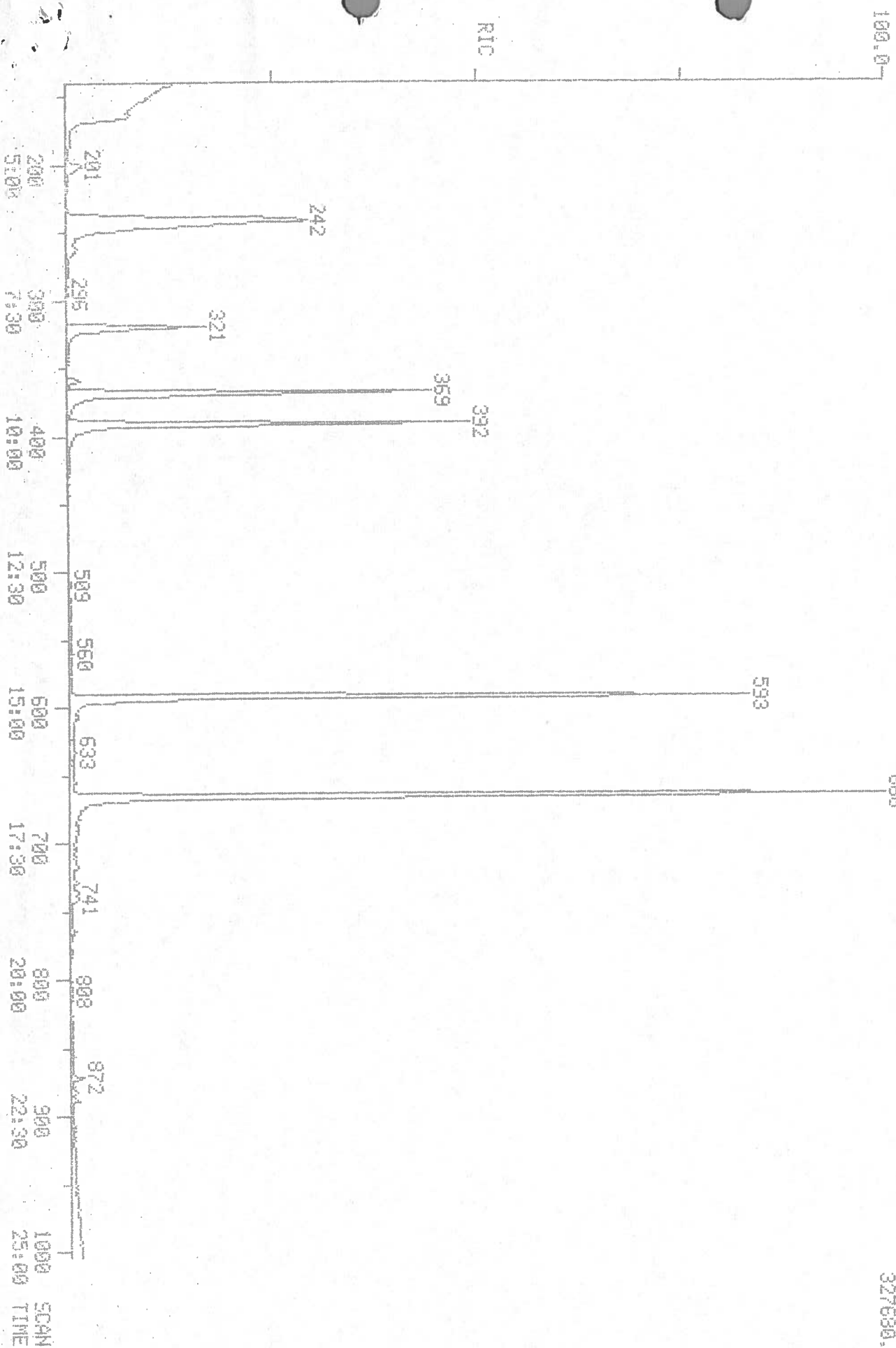
MW-62

COMPOUND	MOQ	ND	Micro g/L	COMPOUNDS	MOQ	ND	Micro g/L
Chloromethane	10	X		Benzene	5	X	
Bromomethane	10	X		Dibromochloromethane	5	X	
Vinyl Chloride	10	X		1, 1, 2-Trichloroethane	5	X	
Chloroethane	10	X		Tribromomethane	5	X	
Dichloromethane	5	X		cis- 1, 3-Dichloropropene	5	X	
1, 1-Dichloroethene	5	X		trans- 1, 3-Dichloropropene	5	X	
1, 1-Dichloroethane	5	X		Tetrachloroethene	5	X	
Trichloromethane	5		Trace (2)	Toluene	5	X	
1, 2-Dichloroethane	5	X		1,1,2,2-Tetrachloroethane	5	X	
Acetone	10	X		Chlorobenzene	5	X	
2-Butanone (MEK)	10	X		Ethyl Benzene	5	X	
1, 2-Dichloroethene	5	X		Styrene	5	X	
1, 1, 1-Trichloroethane	5	X		Xylenes	5	X	
Tetrachloromethane	5	X		Vinyl Acetate	10	X	
Bromodichloromethane	5	X		Carbon Disulfide	5	X	
1, 2-Dichloropropane	5	X		4-Methyl-2-pentanone	10	X	
Trichloroethene	5	X		2-Hexanone	10	X	

SURROGATES	RECOVERY (%)
Bromofluoroethane	94
Dibromofluoromethane	102

ADDITIONAL UNREGULATED VOCs			
Bromobenzene	5	X	
o-Chlorotoluene	5	X	
p-Chlorotoluene	5	X	

RIC
 02/12/32 15:23:00
 SAMPLE: OPC, KERR-MOORE, MMEZ, 10 ML
 COND: 1.00 UO, 12000 EM, 25 ML TUBE, 10 ML
 RANGE: G 1.1004 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
 DATA: 829954U #1
 CALI: CALTAB #3
 SCANS 140 TO 1004



2/12/92 21:01:28

DIAGNOSTIC REPORT

PROCEDURE: TCA
DATA FILE: 829954V

NAME LIST: VM
INITIALIZATION OPTION: 2
PROCESSING OPTION: 3

REPORT: RTVM

STANDARDS -----> <----- PLUS UNKNOWNMS
PROC USED POSS RMS PRDC USED POSS RMS STANDARD/UNKNOWN
3 3 4 112 9 9 24 97 RTVM/VMO
3 3 3 112 13 4 86 RTVM/VM1
3 3 1 112 14 3 112 RTVM/VM2
3 3 1 112 18 7 207 RTVM/VM3
42 COMPOUNDS PROCESSED, 11 FOUND

< COMPOUND >		> SEARCH		> SAT		> CHRD	
NO LIB ENTRY		REF	PRED	SEL DELTA PEAKS	FIT PEAKS	M/Z	TOP DELTA PEAKS
1	VM	1	-240	243	242	179	242
2	VM	2	-381	391	392	84	392
3	VM	3	-573	593	593	117	593
4	VM	4	-314	321	321	47	321
5	VM	5	-359	368	369	111	369
6	VM	6	-644	667	666	95	666
7	VM	7	-147	144		50	
8	VM	8	-155	153		62	
9	VM	9	-174	173		94	
10	VM	10	-181	180		64	
11	VM	12	-230	232		61	
12	VM	13	-231	233		43	235
13	VM	14	-249	252		76	250
14	VM	15	-260	263	263	84	264
15	VM	16	-299	304		63	
16	VM	17	-301	307		43	
17	VM	18	-333	341		43	
18	VM	19	-350	358		83	360
19	VM	20	-362	371		97	371
20	VM	21	-372	382		117	383
21	VM	22	-383	393		78	392
22	VM	23	-383	393		62	392
23	VM	24	-419	431		130	
24	VM	25	-432	445		63	
25	VM	26	-447	461		83	
26	VM	27	-472	487		77	
27	VM	40	-332	339		61	
28	VM	28	-480	496		43	
29	VM	30	-492	508	509	92	509
30	VM	31	-503	520		75	
31	VM	32	-514	532		97	
32	VM	33	-524	542		166	
33	VM	34	-528	546		43	547
34	VM	41	-538	557		129	
35	VM	35	-575	596		112	594
36	VM	36	-580	601		91	601
37	VM	37	-612	635		91	633
38	VM	38	-612	635		104	633
39	VM	39	-624	648		173	
40	VM	42	-710	739	742	146	742
41	VM	43	-715	744		146	742
42	VM	44	-739	769		146	767

Quantitation Report

File: 829954V

Data: 829954V.TI

02/12/92 15:23:00

Sample: OPC, KERR-MCGEE, MW62, 10 ML

Conds.: GC VD, 1200V EM, 25 ML TUBE, 10 ML

Formula:

Instrument: FINN

Weight: 0.000

Submitted by:

Analyst: DAD

Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

Resp. fac. from average of whole .RL

No	Name
1	CI02 DIBROMOTETRAFLUOROETHANE
2	CI11 D6-BENZENE
3	CI20 D5-CHLOROBENZENE (IS)
4	BROMOFLUOROETHANE(SURROGATE)
5	DIBROMOFLUOROMETHANE(SURROGATE)
6	CS10 BROMOFLUOROBENZENE (SARR)
7	CO10 CHLOROMETHANE
8	CO20 VINYL CHLORIDE
9	CO15 BROMOMETHANE
10	CO25 CHLOROETHANE
11	CO45 1,1-DICHLOROETHENE
12	CO35 ACETONE
13	CARBON DISULFIDE
14	CO30 METHYLENE CHLORIDE
15	CO50 1,1-DICHLOROETHANE
16	VINYL ACETATE
17	METHYL ETHYL KETONE
18	CO60 CHLOROFORM
19	CI15 1,1,1-TRICHLOROETHANE
20	CI20 CARBON TETRACHLORIDE
21	CI65 BENZENE
22	CO65 1,2-DICHLOROETHANE
23	CI50 TRICHLOROETHENE
24	CI40 1,2-DICHLOROPROPANE
25	CI30 BROMODICHLOROMETHANE
26	C 145 CIS-1,3-DICHLOROPROPENE
27	CO55 1,2-DICHLOROETHENE (TOTAL)
28	METHYL ISOBUTYL KETONE
29	C230 TOLUENE
30	CI70 TRANS-1,3-DICHLOROPROPENE
31	CI60 1,1,2-TRICHLOROETHANE
32	C220 TETRACHLOROETHENE
33	2-HEXANONE
34	DIBROMOCHLOROMETHANE
35	C235 CHLOROBENZENE
36	C240 ETHYLBENZENE
37	XYLENE
38	STYRENE
39	CI80 BROMOFORM
40	1,3-DICHLOROBENZENE
41	1,4-DICHLOROBENZENE
42	1,2-DICHLOROBENZENE

94
102
107

Name	Amount	Area (Hght)	Time	Scan
C102 DIBROMOTETRAFLUOROETHA	400.000 NG	164559.	242 6:03	392 9:48
C111 D6-BENZENE	400.000 NG	234480.	593 14:49	321 8:01
C120 D5-CHLOROBENZENE (IS)	400.000 NG	234194.	369 9:13	666 16:39
BROMOFLUOROMETHANE (SURROGA	408.025 NG	149386.	NOT FOUND	NOT FOUND
BROMOFLUOROBENZENE (IS)	374.277 NG	67252.	NOT FOUND	NOT FOUND
C035 ACETONE	9.944 NG	659.	NOT FOUND	NOT FOUND
CARBON DISULFIDE	0.487 NG	220.	235 5:52	250 6:15
C030 METHYLENE CHLORIDE	15.039 NG	3068.	264 6:36	250 6:15
C060 CHLOROFORM	15.875 NG	6786.	360 9:00	371 9:16
C115 1,1,1-TRICHLOROETHANE	0.499 NG	388.	371 9:16	383 9:34
C120 CARBON TETRACHLORIDE	0.408 NG	157.	383 9:34	392 9:48
C165 BENZENE	4.183 NG	2601.	392 9:48	392 9:48
C065 1,2-DICHLOROETHANE	5.552 NG	1451.	392 9:48	NOT FOUND
C230 TOLUENE	1.464 NG	663.	509 12:43	NOT FOUND
2-HEXANONE	0.675 NG	105.	547 13:40	NOT FOUND
C235 CHLOROBENZENE	0.319 NG	202.	594 14:51	NOT FOUND
C240 ETHYLBENZENE	0.418 NG	428.	601 15:01	633 15:49
XYLENE	0.524 NG	469.	633 15:49	633 15:49
STYRENE	0.558 NG	365.	NOT FOUND	NOT FOUND
1,3-DICHLOROBENZENE	1.201 NG	737.	742 18:33	742 18:33
1,4-DICHLOROBENZENE	1.297 NG	737.	742 18:33	767 19:10
1,2-DICHLOROBENZENE	2.027 NG	1089.	NOT FOUND	NOT FOUND

TARGET COMPOUND LIST

SEMIVOLATILES DATA SHEET FOR WATERS

MSCL ANALYSIS NO. 829,954

MARKED Kerr-McGee, Columbus, MS

Water

MW-62

ANALYSIS OF _____

COMPOUNDS

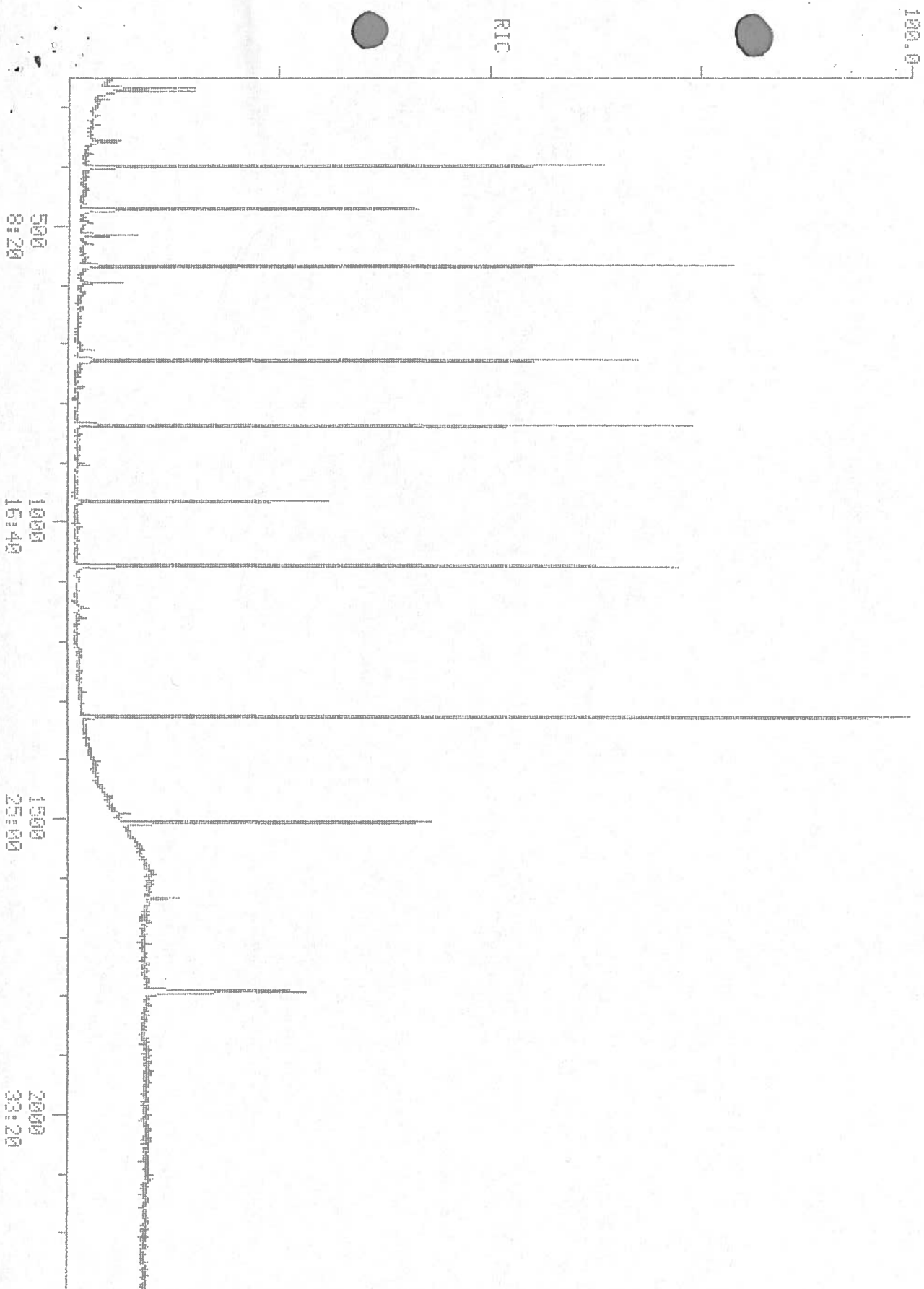
	MQL*	Micro g/L
Phenol	10	ND
bis(2-Chloroethyl)ether	10	ND
2-Chlorophenol	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Benzyl alcohol	20	ND
1,2-Dichlorobenzene	10	ND
2-Methylphenol	10	ND
bis(2-Chloroisopropyl)ether	10	ND
4-Methylphenol	10	ND
N-Nitroso-di-n-dipropylamine	10	ND
Hexachloroethane	10	ND
Nitrobenzene	10	ND
Isophorone	10	ND
2-Nitrophenol	10	ND
2,4-Dimethylphenol	10	ND
Benzoic acid	20	ND
bis(2-Chloroethoxy)methane	10	ND
2,4-Dichlorophenol	10	ND
1,2,4-Trichlorobenzene	10	ND
Naphthalene	10	ND
4-Chloroaniline	20	ND
Hexachlorobutadiene	10	ND
4-Chloro-3-methylphenol	20	ND
2-Methylnaphthalene	10	ND
Hexachlorocyclopentadiene	10	ND
2,4,6-Trichlorophenol	10	ND
2,4,5-Trichlorophenol	10	ND
2-Chloronaphthalene	10	ND
2-Nitroaniline	50	ND

COMPOUNDS

	MQL*	Micro g/L
2,4-Dinitrophenol	50	ND
4-Nitrophenol	50	ND
Dibenzofuran	10	ND
2,4-Dinitrotoluene	10	ND
Diethylphthalate	10	ND
4-Chlorophenyl-phenyl ether	10	ND
Fluorene	10	ND
4-Nitroaniline	50	ND
4,6-Dinitro-2-methylphenol	50	ND
N-nitrosodiphenylamine	10	ND
4-Bromophenyl-phenylether	10	ND
Hexachlorobenzene	10	ND
Pentachlorophenol	50	ND
Phenanthrene	10	ND
Anthracene	10	ND
Di-n-butylphthalate	10	ND
Fluoranthene	10	ND
Pyrene	10	ND
Butylbenzylphthalate	10	ND
3,3'-Dichlorobenzidine	20	ND
Benzo(a)anthracene	10	ND
Chrysene	10	ND
bis(2-Ethylhexyl)phthalate	10	ND
Di-n-octylphthalate	10	ND
Benzo(b)fluoranthene	10	ND
Benzo(k)fluoranthene	10	ND
Benzo(a)pyrene	10	ND

RIC
02/21/92 15:22:00
DATA: 829954ABN #1
CALL: 829954ABN #2
SAMPLE: KERR-NOCHE, COLUMBUS MS WATER MARKED MM-52, 1000ML TO 1.0 ML
COMDS.: DESO 1M, 1400 EM VOLTS, EI MODE, X11-5, 22 PSI
RANGE: G 1, 2300 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
SCANS 250 TO 2300

194043.



45	EX	45	-814	814				152		
46	EX	46	-835	835				65		
47	EX	47	-843	843				154		
48	EX	48	-849	849				184		
49	EX	49	-860	860				139		
50	EX	50	-867	867				168		
51	EX	51	-872	872				165		
52	EX	52	-905	905	905	1	954	149	905	1
53	EX	53	-922	922				166		
54	EX	54	-918	918				204		
55	EX	55	-938	938				138		
56	EX	82	-937	937				198		
57	EX	57	-938	939				169		
58	EX	59	-996	996				248		
59	EX	60	-1023	1023				284		
60	EX	61	-1052	1052				266		
61	EX	62	-1078	1078				178		
62	EX	63	-1085	1085				178		
63	EX	64	-1162	1162	1162	2	953	149	1162	1
64	EX	65	-1272	1272				202		
65	EX	66	-1310	1309				202		
66	EX	67	-1405	1404	1404	1	989	149	1404	1
67	EX	68	-1504	1503				228		
68	EX	69	-1511	1510				228		
69	EX	70	-1492	1491	1491	1	925	149	1491	1
70	EX	81	-1498	1497				252		
71	EX	71	-1589	1588				149		
72	EX	72	-1703	1702				252		
73	EX	73	-1708	1707				252		
74	EX	74	-1780	1779				252		
75	EX	75	-2111	2109				276		
76	EX	76	-2108	2106				278		
77	EX	77	-2211	2209				276		

DATA: 829954ABN.TI

02/21/92 15:22:00

SAMPLE: KERR-MCGEE, COLUMBUS, MS WATER MARKED MM-62, 100ML TO 1.0 ML

COMDS.: DESC 1M, 1400 EM VOLTS, EI MODE, XTI-5, 22 PSI

INSTRUMENT: 4500

ANALYST: SMATHERS

WEIGHT: 0.000

ACCT. NO.: OPC

SUBMITTED BY: OPC

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

RESP. FAC. FROM AVERAGE OF WHOLE . RL

NO NAME

1 D-4 DICHLOROBENZENE (INTERNAL STD)

2 D-8 NAPHTHALENE (INTERNAL STD)

3 D-10 ACENAPHTHENE (INTERNAL STD)

4 D-10 PHENANTHRENE (INTERNAL STD)

5 D-12 CHRYSENE (INTERNAL STD)

6 D-12 PERLYNE (INTERNAL STD)

7 2-FLUOROPHENOL (SURR.)

8 D-5 PHENOL (SURR.)

9 D-5 NITROBENZENE (SURR.)

10 2-FLUOROBIPHENYL (SURR.)

11 2,4,6-TRIBROMOPHENOL (SURR.)

12 D-14 TERPHENYL (SURR.)

13 PHENOL

14 BIS(2-CHLOROETHYL) ETHER

15 2-CHLOROPHENOL

16 M-DICHLOROBENZENE

17 P-DICHLOROBENZENE

18 BENZYL ALCOHOL

19 O-DICHLOROBENZENE

20 2-METHYL PHENOL

21 BIS(2-CHLORO ISOPROPYL) ETHER

22 4-METHYL PHENOL

23 N-NITROSODIPROPYLAMINE

24 HEXACHLOROETHANE

25 NITROBENZENE

26 ISOPHORONE

27 2-NITROPHENOL

28 2,4-DIMETHYLPHENOL

29 BENZOIC ACID

30 BIS(2-CHLOROETHOXY) METHANE

31 2,4-DICHLOROPHENOL

32 1,2,4-TRICHLOROBENZENE

33 NAPHTHALENE

34 4-CHLOROANILINE

35 HEXACHLOROEBUTADIENE

36 4-CHLORO-3-METHYLPHENOL

37 2-METHYLNAPHTHALENE

38 HEXACHLOROCYCLOPENTADIENE

39 2,4,6-TRICHLOROPHENOL

40 2,4,5-TRICHLOROPHENOL

41 2-CHLORONAPHTHALENE

42 2-NITROANILINE

43 DIMETHYLPHTHALATE

44 2,6-DINITROTOLUENE

45 ACENAPHTHYLENE

46 3-NITROANILINE

47 ACENAPHTHENE

48 2,4-DINITROPHENOL

49 4-NITROPHENOL

50 DIBENZOFURAN

No	NAME
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TCA FINISHED, 18 FOUND
FINISHED AT: 2/24/92 7:58:49

[illegible]

TARGET COMPOUND LIST
VOLATILE ORGANIC COMPOUNDS
IN DRINKING WATER

MSCL NO. 829,955

SAMPLE MARKED: Kerr-McGee, Columbus, MS

ANALYSIS OF: WATER

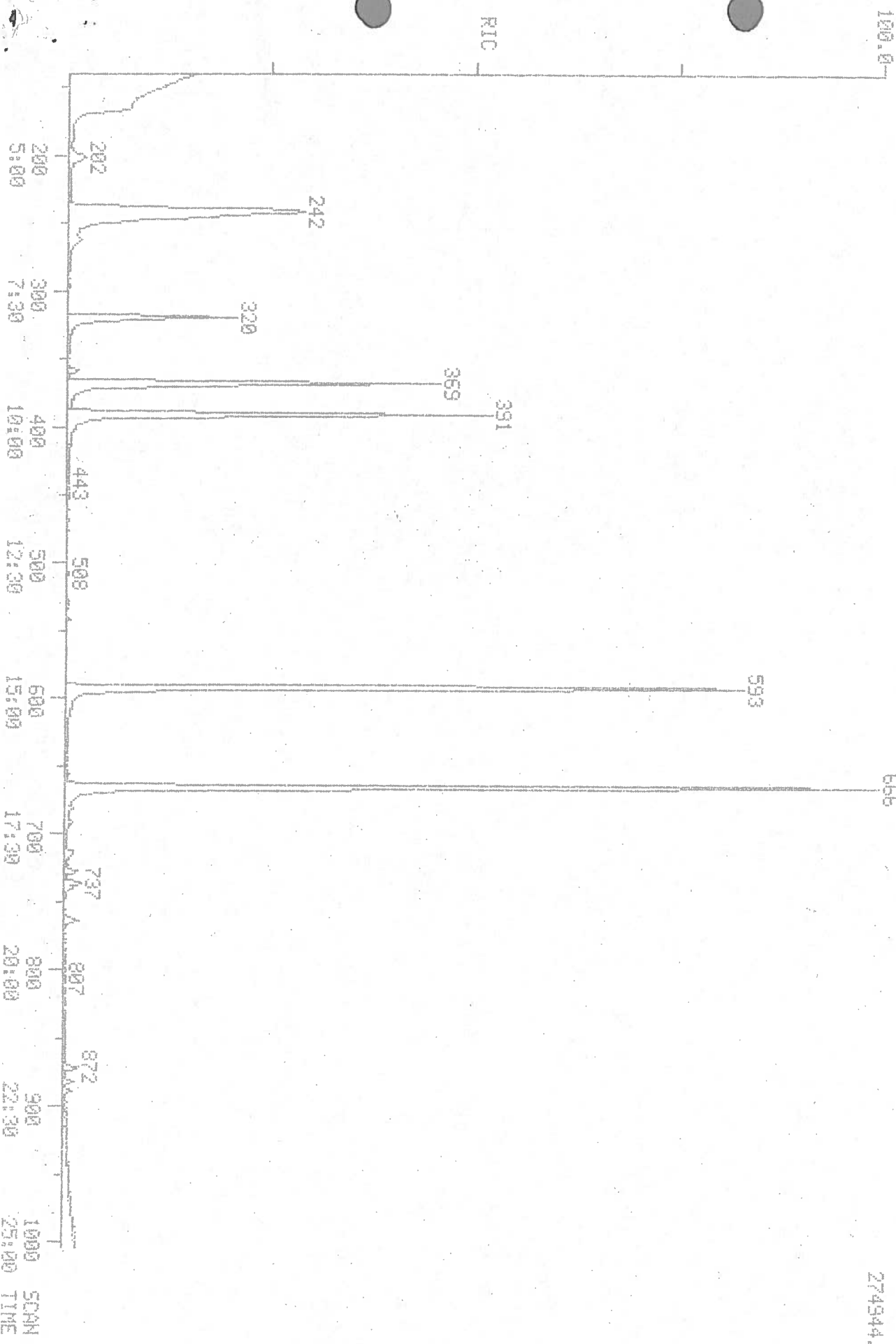
MW-63

COMPOUND	MOQ	ND	Micro g/L	COMPOUNDS	MOQ	ND	Micro g/L
Chloromethane	10	X		Benzene	5	X	
Bromomethane	10	X		Dibromochloromethane	5	X	
Vinyl Chloride	10	X		1, 1, 2-Trichloroethane	5	X	
Chloroethane	10	X		Tribromomethane	5	X	
Dichloromethane	5	X		cis- 1, 3-Dichloropropene	5	X	
1, 1-Dichloroethene	5	X		trans- 1, 3-Dichloropropene	5	X	
1, 1-Dichloroethane	5	X		Tetrachloroethene	5	X	
Trichloromethane	5	X		Toluene	5	X	
1, 2-Dichloroethane	5	X		1,1,2,2-Tetrachloroethane	5	X	
Acetone	10	X		Chlorobenzene	5	X	
2-Butanone (MEK)	10	X		Ethyl Benzene	5	X	
1, 2-Dichloroethene	5	X		Styrene	5	X	
1, 1, 1-Trichloroethane	5	X		Xylenes	5	X	
Tetrachloromethane	5	X		Vinyl Acetate	10	X	
Bromodichloromethane	5	X		Carbon Disulfide	5	X	
1, 2-Dichloropropane	5	X		4-Methyl-2-pentanone	10	X	
Trichloroethene	5	X		2-Hexanone	10	X	

SURROGATES	RECOVERY (%)
Bromofluoroethane	103
Dibromofluoromethane	98

ADDITIONAL UNREGULATED VOCs			
Bromobenzene	5	X	
o-Chlorotoluene	5	X	
p-Chlorotoluene	5	X	
Dibromomethane	5	X	

RIC
02/12/92 16:00:00
SAMPLE: OPC, KERR-MCGEE, MM63, 10 ML
COND.: GC-UD, 1200V EM, 25 ML TUBE, 10 ML
RANGE: G 1.1004 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3
DATA: 829953U #1
CALI: CALTAB #3
SCANS 140 TO 1004



274944.

PROCEDURE: TCA
DATA FILE: B29955V
REFERENCE: VM11

INITIALIZATION OPTION: 2 PROCESSING OPTION: 3

REPORT: RTVM

PROG	USED	POSS	RMS	PROC	USED	POSS	RMS	STANDARD/UNKNOWN
3	3	3	31	18	5	1	30	RTVM/VM3
3	3	3	31	14	3	1	31	RTVM/VM2
3	3	3	31	13	4	1	25	RTVM/VM1
3	3	3	31	9	9	72	80	RTVM/VM0
<--- STANDARDS ---> --- PLUS UNKNOWN ---> ---> --- LIST NAMES --->								

42 COMPOUNDS PROCESSED, 9 FOUND

COMPOUND SEARCH TOP DELTA PEAKS

NO	LIB	ENTRY	REF	PRED	SEL	DELTA	PEAKS	FIT	PEAKS	M/Z	UP	DELTA	PEAKS
1	VM	1	-240	242	242	978	179	242	242	179	242	179	242
2	VM	2	-381	391	391	994	84	391	391	84	391	84	391
3	VM	3	-573	593	593	982	117	592	592	117	592	117	592
4	VM	4	-314	320	320	996	47	320	320	47	320	47	320
5	VM	5	-359	368	368	996	111	369	369	111	369	111	369
6	VM	6	-644	667	666	999	95	666	666	95	666	95	666
7	VM	7	-147	144	144		50			50			
8	VM	8	-155	152	152		62			62			
9	VM	9	-174	172	172		94			94			
10	VM	10	-181	180	180		64			64			
11	VM	11	-230	232	232		61			61			
12	VM	12	-231	233	233		43	233	233	43	233	43	233
13	VM	13	-249	252	252		76			76			
14	VM	14	-260	263	263	893	84	263	263	84	263	84	263
15	VM	15	-299	304	304		63			63			
16	VM	16	-301	306	306		43			43			
17	VM	17	-333	340	340		43			43			
18	VM	18	-350	358	358		63	359	359	63	359	63	359
19	VM	19	-362	371	371		97	372	372	97	372	97	372
20	VM	20	-372	381	381		117			117			
21	VM	21	-383	393	393		78	392	392	78	392	78	392
22	VM	22	-383	393	393		62	391	391	62	391	62	391
23	VM	23	-419	431	431		130			130			
24	VM	24	-432	445	445		63			63			
25	VM	25	-447	460	460		83			83			
26	VM	26	-472	487	487		77			77			
27	VM	27	-332	339	339		61			61			
28	VM	28	-480	495	495		43			43			
29	VM	30	-492	508	508	899	92	508	508	92	508	92	508
30	VM	31	-503	520	520		75			75			
31	VM	32	-514	531	531		97			97			
32	VM	33	-524	542	542	865	166	542	542	166	542	166	542
33	VM	34	-528	546	546		43			43			
34	VM	41	-538	556	556		129			129			
35	VM	35	-575	595	595		91	601	601	91	601	91	601
36	VM	36	-580	601	601		91	633	633	91	633	91	633
37	VM	37	-612	635	635		104			104			
38	VM	38	-612	635	635		173			173			
39	VM	39	-624	647	647		146	736	736	146	736	146	736
40	VM	42	-710	738	738		146	742	742	146	742	146	742
41	VM	43	-715	743	743		146	766	766	146	766	146	

Quantitation Report

Fi 829955V

Data: 829955V.TI

02/12/92 16:00:00

Sample: OPC, KERR-MCGEE, MW63, 10 ML

Conds.: GC VO, 1200V EM, 25 ML TUBE, 10 ML

Formula: Instrument: FINN

Submitted by: Analyst: DAD

Weight: 0.000

Acct. No.:

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

Resp. fac. from average of whole .RL

No	Name
1	C102 DIBROMOTETRAFLUOROETHANE
2	C111 D6-BENZENE
3	C120 D5-CHLOROBENZENE (IS)
4	BROMOFLUOROETHANE(SURROGATE)
5	DIBROMOFLUOROMETHANE(SURROGATE)
6	CS10 BROMOFLUOROBENZENE (SURR)
7	CO10 CHLOROMETHANE
8	CO20 VINYL CHLORIDE
9	CO15 BROMOMETHANE
10	CO25 CHLOROETHANE
11	CO45 1,1-DICHLOROETHENE
12	CO35 ACETONE
13	CARBON DISULFIDE
14	CO30 METHYLENE CHLORIDE
15	CO50 1,1-DICHLOROETHANE
16	VINYL ACETATE
17	METHYL ETHYL KETONE
18	CO60 CHLOROFORM
19	C115 1,1,1-TRICHLOROETHANE
20	C120 CARBON TETRACHLORIDE
21	C165 BENZENE
22	CO65 1,2-DICHLOROETHANE
23	C150 TRICHLOROETHENE
24	C140 1,2-DICHLOROPROPANE
25	C130 BROMODICHLOROMETHANE
26	C 145 CIS-1,3-DICHLOROPROPENE
27	CO55 1,2-DICHLOROETHENE (TOTAL)
28	METHYL ISOBUTYL KETONE
29	C230 TOLUENE
30	C170 TRANS-1,3-DICHLOROPROPENE
31	C160 1,1,2-TRICHLOROETHANE
32	C220 TETRACHLOROETHENE
33	2-HEXANONE
34	DIBROMOCHLOROMETHANE
35	C235 CHLOROBENZENE
36	C240 ETHYLBENZENE
37	XYLENE
38	STYRENE
39	C180 BROMOFORM
40	1,3-DICHLOROBENZENE
41	1,4-DICHLOROBENZENE
42	1,2-DICHLOROBENZENE

Scan	Time	Area (Hght)	Amount	Name
242	6:03	141053	400.000 NG	C102 DIBROMOTETRAFLUOROETHA
391	9:46	222923	400.000 NG	C111 D6-BENZENE
592	14:48	213581	400.000 NG	C120 D5-CHLOROBENZENE (15)
320	8:00	63100	409.881 NG	BROMOFLUOROETHANE (SURRGATE)
369	9:13	136314	391.627 NG	DIBROMOFLUOROMETHANE (SURROGA
666	16:39	180847	392.955 NG	CS10 BROMOFLUOROBENZENE (SU
NOT FOUND				
NOT FOUND				
NOT FOUND				
NOT FOUND				
233	5:49	698	12.295 NG	CO35 ACETONE
263	6:34	2694	15.415 NG	CO30 METHYLENE CHLORIDE
NOT FOUND				
359	8:58	5013	12.335 NG	CO60 CHLOROFORM
372	9:18	360	0.975 NG	C115 1,1,1-TRICHLOROETHANE
NOT FOUND				
392	9:48	2338	3.955 NG	C165 BENZENE
391	9:46	1418	5.707 NG	CO65 1,2-DICHLOROETHANE
NOT FOUND				
508	12:42	600	1.453 NG	CO230 TOLUENE
542	13:33	565	1.782 NG	CO220 TETRACHLOROETHENE
547	13:40	121	0.851 NG	2-HEXANONE
NOT FOUND				
601	15:01	681	0.730 NG	CO240 ETHYLBENZENE
633	15:49	500	0.613 NG	XYLENE
NOT FOUND				
736	18:24	897	1.604 NG	1,3-DICHLOROBENZENE
742	18:33	928	1.792 NG	1,4-DICHLOROBENZENE
769	19:09	619	1.264 NG	1,2-DICHLOROBENZENE

TARGET COMPOUND LIST

SEMIVOLATILES DATA SHEET FOR WATERS

MSCL ANALYSIS NO. 829,955

MARKED Kerr-McGee, Columbus, MS

ANALYSIS OF Water

MW-63

COMPOUNDS	MQL*	Micro g/L
Phenol	10	Trace (4)
bis(2-Chloroethyl)ether	10	ND
2-Chlorophenol	10	ND
1,3-Dichlorobenzene	10	ND
1,4-Dichlorobenzene	10	ND
Benzyl alcohol	20	ND
1,2-Dichlorobenzene	10	ND
2-Methylphenol	10	ND
bis(2-Chloroisopropyl)ether	10	ND
4-Methylphenol	10	ND
N-Nitroso-di-n-dipropylamine	10	ND
Hexachloroethane	10	ND
Nitrobenzene	10	ND
Isophorone	10	ND
2-Nitrophenol	10	Trace (7)
2,4-Dimethylphenol	10	ND
Benzoic acid	20	ND
bis(2-Chloroethoxy)methane	10	ND
2,4-Dichlorophenol	10	ND
1,2,4-Trichlorobenzene	10	ND
Naphthalene	10	ND
4-Chloroaniline	20	ND
Hexachlorobutadiene	10	ND
4-Chloro-3-methylphenol	20	ND
2-Methylnaphthalene	10	ND
Hexachlorocyclopentadiene	10	ND
2,4,6-Trichlorophenol	10	ND
2,4,5-Trichlorophenol	10	ND
2-Chloronaphthalene	10	

COMPOUNDS	MQL*	Micro g/L
2,4-Dinitrophenol	50	ND
4-Nitrophenol	50	ND
Dibenzofuran	10	ND
2,4-Dinitrotoluene	10	ND
Diethylphthalate	10	ND
4-Chlorophenyl-phenyl ether	10	ND
Fluorene	10	ND
4-Nitroaniline	50	ND
4,6-Dinitro-2-methylphenol	50	ND
N-nitrosodiphenylamine	10	ND
4-Bromophenyl-phenylether	10	ND
Hexachlorobenzene	10	ND
Pentachlorophenol	50	ND
Phenanthrene	10	ND
Anthracene	10	ND
Di-n-butylphthalate	10	ND
Fluoranthene	10	ND
Pyrene	10	ND
Butylbenzylphthalate	10	ND
3,3'-Dichlorobenzidine	20	ND
Benzo(a)anthracene	10	ND
Chrysene	10	ND
bis(2-Ethylhexyl)phthalate	10	ND
Di-n-octylphthalate	10	ND
Benzo(b)fluoranthene	10	ND

LIBRARY SEARCH
 02/21/92 15:03:00 + 8:00
 SAMPLE: KERR-MCGEE, COLUMBUS, MS WATER MARKED MW-53, 1000ML TO 1.0ML
 COND.S.: DESO 1M, 1400 EM VOLTS, EI MODE, X11-5, 22 PSI
 ENHANCED (S 1SB 2N 0T)

DATA: 829955ABN # 480
 CALL: 829955ABN # 2
 BASE M/Z: 73
 RIC: 38079.

1000
 SAMPLE

08.H16.02

M AT 1000
 B PK 144
 RANK 88
 # 1
 PUR 6547
 944

HEXANOIC ACID, 2-ETHYL-

09.H18.02

M AT 1000
 B PK 138
 RANK 73
 # 2
 PUR 9230
 847

HEPTANOIC ACID, 2-ETHYL-

05.H12.02

M AT 1000
 B PK 116
 RANK 89
 # 3
 PUR 2554
 709

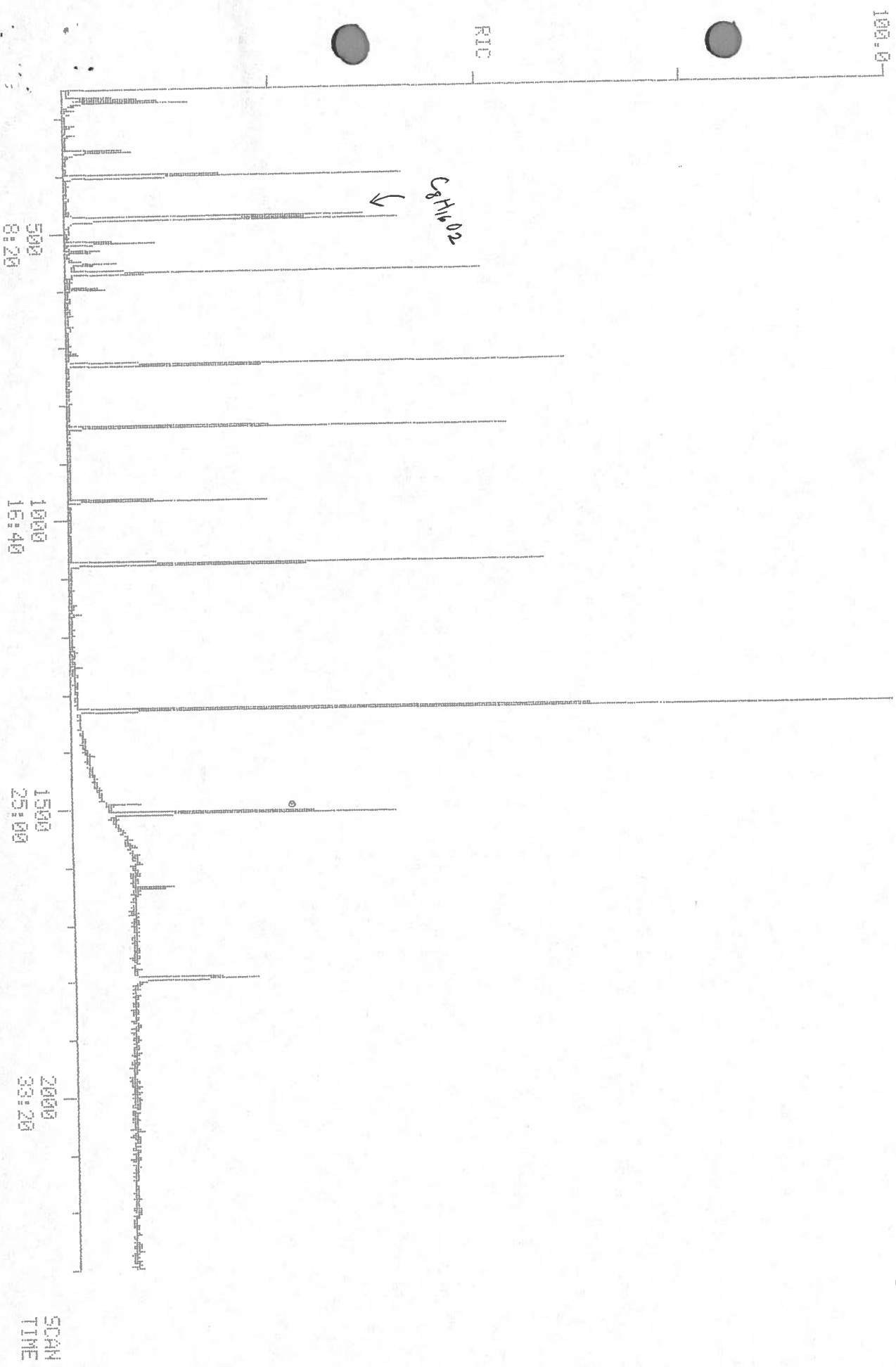
BUTANOIC ACID, 2-ETHYL-

M/Z

40 60 80 100 120 140

RIC
 02/21/92 16:09:00
 SAMPLE: KERR-MCGEE, COLUMBUS, MS WATER MARKED MH-63, 1000ML TO 1.0ML
 COND5.: DESO 1M, 1400 EM VOLTS, EI MODE, X11-5, 22 PSI
 RANGE: G 1, 2300 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: 829955ABN #1
 CALL: 829955ABN #2
 SCANS 250 TO 2300



PROCEDURE: TCA
DATA FILE: B29955ABN
REFERENCE: EX11
NAME LIST: EX
INITIALIZATION OPTION: 2
PROCESSING OPTION: 3
REPORT: RTEX2

<---- STANDARDS -----> <---- PLUS UNKNOWN ----> <---- LIST NAMES ---->
PROC USED POSS RMS PROC USED POSS RMS STANDARD/UNKNOWN

6	6	1	67	12	12	2	95	RTEX2/EX2
2	2	1	0	14	3	1	77	RTEX1/EX3
3	3	1	0	15	3	1	76	RTEX4/EX4
3	3	1	125	12	3	1	125	RTEX5/EX5
3	3	1	125	13	3	1	125	RTEX5/EX6
4	4	1	78	13	5	1	67	RTEX7/EX7
3	3	1	32	9	4	1	29	RTEX8/EX8
3	3	1	32	10	3	1	32	RTEX8/EX9

77 COMPOUNDS PROCESSED, 16 FOUND

< COMPOUND > < SEARCH -----> < SAT > < CHRO ----->

NO LIB ENTRY REF PRED SEL DELTA PEAKS FIT PEAKS M/Z TOP DELTA PEAKS

1	EX	1	-398	401	401	993	150	400	-1	1	1
2	EX	2	-568	571	570	994	136	570	-1	1	1
3	EX	3	-837	839	840	999	164	840	-1	1	1
4	EX	4	-1074	1075	1075	961	188	1075	-1	1	1
5	EX	5	-1507	1507	1507	960	240	1507	-1	1	1
6	EX	6	-1794	1794	1794	994	264	1794	-1	1	1
7	EX	7	-272	275	273	999	112	273	-1	1	1
8	EX	8	-355	358	357	994	99	357	-1	1	1
9	EX	9	-471	473	474	998	82	474	-1	1	1
10	EX	10	-728	730	730	999	172	730	-1	1	1
11	EX	11	-964	965	967	997	330	966	-1	1	1
12	EX	12	-1328	1329	1328	989	244	1328	-1	1	1
13	EX	13	-357	359	359	998	94	359	-1	1	1
14	EX	14	-367	369	381		93				
15	EX	15	-379	381	397		128				
16	EX	16	-395	397	402		146				
17	EX	17	-400	402	416		108				
18	EX	18	-414	416	426		146				
19	EX	19	-424	426	428		108				
20	EX	20	-426	428	432		45				
21	EX	21	-430	432	446		108				
22	EX	22	-444	446	451		108				
23	EX	23	-449	451	464		70				
24	EX	24	-462	464	476		117				
25	EX	25	-474	476	504		77				
26	EX	26	-502	504	519	993	82				
27	EX	27	-516	519	518		139	519		1	1
28	EX	28	-515	518	535		122	519		1	1
29	EX	29	-532	535	531		105				
30	EX	30	-528	531	550		93				
31	EX	31	-547	550	563		162				
32	EX	32	-560	563	574		180				
33	EX	33	-571	574	583		128	573		1	1
34	EX	34	-580	583	594		127				
35	EX	35	-591	594	651		225				
36	EX	36	-648	651	674		107				
37	EX	37	-671	674	705		142				
38	EX	38	-703	705	727		237				
39	EX	39	-718	720	747		198				
40	EX	40	-725	727	771		198				
41	EX	41	-747	748	797		162				
42	EX	42	-769	771			65				
43	EX	43	-795	797			163				

45	EX	45	-814	816				132		
46	EX	46	-835	837				65		
47	EX	47	-843	843				154		
48	EX	48	-849	851				184		
49	EX	49	-860	862				139		
50	EX	50	-867	869				168		
51	EX	51	-872	874				165		
52	EX	52	-905	907				149	907	1
53	EX	53	-922	924				166		
54	EX	54	-918	920				204		
55	EX	55	-938	940				138		
56	EX	82	-937	939				198		
57	EX	57	-938	940				169		
58	EX	59	-996	998				248		
59	EX	60	-1023	1025				284		
60	EX	61	-1052	1054				266		
61	EX	62	-1078	1080				178		
62	EX	63	-1085	1087				178		
63	EX	64	-1162	1163	1163	1	956	149	1163	1
64	EX	65	-1272	1273				202		
65	EX	66	-1310	1310				202		
66	EX	67	-1405	1405				149	1406	1
67	EX	68	-1504	1504				228		
68	EX	69	-1511	1511				228		
69	EX	70	-1492	1492	1492	1	921	149	1492	1
70	EX	81	-1498	1498				252		
71	EX	71	-1589	1589				149	1590	1
72	EX	72	-1703	1703				252		
73	EX	73	-1708	1708				252		
74	EX	74	-1780	1780				252		
75	EX	75	-2111	2110				276		
76	EX	76	-2108	2107				278		
77	EX	77	-2211	2210				276		

DATA: 829955ABN.TI

02/21/92 16:09:00

SAMPLE: KERR-MCGEE, COLUMBUS, MS WATER MARKED MM-63, 1000ML TO 1.0ML

COMDS: DESC 1M, 1400 EM VOLTS, EI MODE, X11-5, 22 PSI

INSTRUMENT: 4500

ANALYST: SMATHERS

WEIGHT: 0.000

ACCT. NO.: OPC

SUBMITTED BY: OPC

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

RESP. FAC. FROM AVERAGE OF WHOLE RL

No Name

1 D-4 DICHLOROBENZENE (INTERNAL STD)

2 D-8 NAPHTHALENE (INTERNAL STD)

3 D-10 ACENAPHTHENE (INTERNAL STD)

4 D-10 PHENANTHRENE (INTERNAL STD)

5 D-12 CHRYSENE (INTERNAL STD)

6 D-12 PERLYNE (INTERNAL STD)

7 2-FLUOROPHENOL (SURR.)

8 D-5 PHENOL (SURR.)

9 D-5 NITROBENZENE (SURR.)

10 2-FLUOROBIPHENYL (SURR.)

11 2,4,6-TRIBROMOPHENOL (SURR.)

12 D-14 TERPHENYL (SURR.)

13 PHENOL

14 BIS(2-CHLOROETHYL) ETHER

15 2-CHLOROPHENOL

16 M-DICHLOROBENZENE

17 P-DICHLOROBENZENE

18 BENZYL ALCOHOL

19 O-DICHLOROBENZENE

20 2-METHYL PHENOL

21 BIS(2-CHLORO ISOPROPYL) ETHER

22 4-METHYL PHENOL

23 N-NITROSODIPROPYLAMINE

24 HEXACHLOROETHANE

25 NITROBENZENE

26 ISOPHORONE

27 2-NITROPHENOL

28 2,4-DIMETHYLPHENOL

29 BENZOIC ACID

30 BIS(2-CHLOROETHOXY) METHANE

31 2,4-DICHLOROPHENOL

32 1,2,4-TRICHLOROBENZENE

33 NAPHTHALENE

34 4-CHLOROANILINE

35 HEXACHLOROCYCLOPENTADIENE

36 4-CHLORO-3-METHYLPHENOL

37 2-METHYLNAPHTHALENE

38 HEXACHLOROCYCLOPENTADIENE

39 2,4,6-TRICHLOROPHENOL

40 2,4,5-TRICHLOROPHENOL

41 2-CHLORONAPHTHALENE

42 2-NITROANILINE

43 DIMETHYLPHTHALATE

44 2,6-DINITROTOLUENE

45 ACENAPHTHYLENE

46 3-NITROANILINE

47 ACENAPHTHENE

48 2,4-DINITROPHENOL

49 4-NITROPHENOL

50 DIBENZOFURAN

400	6:40	40061.	20.000 NG/UL	D-4 DICHLOROBENZENE (INTERNA
570	9:30	82515.	20.000 NG/UL	D-8 NAPHTHALENE (INTERNAL STD
840	14:00	43008.	20.000 NG/UL	D-10 ACEN HTHENE (INTERNAL
1075	17:55	79418.	20.000 NG/UL	D-10 PHENANTHRENE (INTERNAL
1507	25:07	50180.	20.000 NG/UL	D-12 CHRYSENE (INTERNAL STD)
1794	29:54	34961.	20.000 NG/UL	D-12 PERLYENE (INTERNAL STD)
273	4:33	12340.	7.160 NG/UL	2-FLUOROPHENOL (SURR.) 29
357	5:57	7004.	3.535 NG/UL	D-5 PHENOL (SURR.) 14
474	7:54	39755.	20.357 NG/UL	D-5 NITROBENZENE (SURR.) 82
730	12:10	65843.	19.625 NG/UL	2-FLUOROBIPHENYL (SURR.) 80
966	16:06	10806.	26.573 NG/UL	2, 4, 6- TRIBROMOPHENOL (SURR.) 106
1328	22:08	112157.	30.323 NG/UL	D-14 TERPHENYL (SURR.) 121
359	5:59	9225.	4.092 NG/UL	PHENOL

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

$$\frac{4.092 \text{ ng/ul} \times 1000 \text{ ul}}{1000 \text{ ml}} = 4.092 \text{ (Trace)}$$

$$\frac{7.252 \text{ ng/ul} \times 1000 \text{ ul}}{1000 \text{ ml}} = 7.252 \text{ ng/ml} = \text{ug/L (Trace)}$$

519 8:39

6636.

7.252 NG/UL

2-NITROPHENOL

519 8:39

229.

0.148 NG/UL

2, 4-DIMETHYLPHENOL

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

573 9:33

1394.

0.287 NG/UL

NAPHTHALENE

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

NOT FOUND

QUANTITATION REPORT File: 829955ABN

DATA: 829955ABN.TI

02/21/92 16:09:00

SAMPLE: KERR-MCGEE, COLUMBUS, MS WATER MARKED MW-63, 1000ML TO 1.0ML

CONDS.: DESC 1M, 1400 EM VOLTS, EI MODE, XTI-5, 22 PSI

FORMULA:

INSTRUMENT: 4500

WEIGHT: 0.000

SUBMITTED BY: OPC

ANALYST: SMATHERS

ACCT. No.: OPC

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT)

RESP. FAC. FROM AVERAGE OF WHOLE RL

NO NAME

TCA FINISHED, 16 FOUND
FINISHED AT: 2/24/92 8:09:28

SCAN	TIME	AREA(HGHT)	AMOUNT	NAME
53	FLUORENE			
54	4-CHLOROPHENYL PHENYL ETHER			
55	4-NITROANILINE			
56	4,6-DINITRO-2-METHYLPHENOL			
57	N-NITROSO DIPHENYL AMINE(DIPHENYL AMINE)			
58	4-BROMOPHENYL PHENYL ETHER			
59	HEXACHLOROBENZENE			
60	PENTACHLOROPHENOL			
61	PHENANTHRENE			
62	ANTHRACENE			
63	DI-N-BUTYLPHTHALATE			
64	FLUOROANTHRENE			
65	PYRENE			
66	BUTYL BENZYL PHTHALATE			
67	BENZ(A)ANTHRACENE			
68	CHRYSENE			
69	BIS(2-ETHYLHEXYL)PHTHALATE			
70	3,3'-DICHLORO BENZIDENE			
71	DI-N-OCTYLPHTHALATE			
72	BENZO(B)FLUOROANTHRENE			
73	BENZO(K)FLUOROANTHRENE			
74	BENZO(A)PYRENE			
75	INDENO(1,2,3-CD)PYRENE			
76	DIBENZO(A,H)ANTHRACENE			
77	BENZO(GHI)PERYLENE			
907	15.07	494.	0.153 NG/UL	DIETHYLPHTHALATE BK
1163	19.23	1896.	0.304 NG/UL	DI-N-BUTYLPHTHALATE BK
1406	23.26	557.	0.256 NG/UL	BUTYL BENZYL PHTHALATE
1492	24.52	3454.	1.077 NG/UL	BIS(2-ETHYLHEXYL)PHTHALATE BK
1590	26.30	763.	0.177 NG/UL	DI-N-OCTYLPHTHALATE BK

**KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
(KMCC)**

**OFFER OF SEPTEMBER 27, 1991:
TO PURCHASE APPROXIMATELY 3.4 ACRES OF LAND**

- BUILD 6.0' WOODEN FENCE
ON 3 SIDES (KMCC)**
- BUILD ACCESS ROAD ALONG
SOUTHERN PROPERTY BOUNDARY (KMCC)**
- LEGAL/SURVEY EXPENSE (KMCC)**
- RETURN PROPERTY WHEN CLEANUP
COMPLETE AT NO COST**
- COMPENSATION FOR LAND \$34,000**
- COMPENSATION FOR
IMPROVEMENTS \$10,000**
- TOTAL COMPENSATION: \$44,000**

**KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
(KMCC)**

**TODAYS' OFFER: LEASE LAND AS SHOWN IN ATTACHED
FIGURE**

- BUILD 6.0' WOODEN FENCE ON 3 SIDES (KMCC)**
- BUILD ACCESS ROAD ALONG SOUTHERN
PROPERTY BOUNDARY (KMCC)**
- LEGAL/SURVEY EXPENSE IF REQUIRED (KMCC)**
- RETURN PROPERTY WHEN CLEANUP
COMPLETE AT NO COST**
- LEASE LAND FOR 10 YEARS FOR \$30,000**
- RENEWABLE OPTION FOR
ADDITIONAL 10 YEARS
IF REQUIRED FOR \$30,000**

TEN YEAR TOTAL:	\$30,000
TWENTY YEAR TOTAL:	\$60,000

RECEIVED

FEB 14 1992

Union Cemetery
Columbus Cemetery and Investment Co.
P. O. Box 1202
Columbus, MS 39701

KERR-McGEE CORP.
FOREST PRODUCTS DIV.

February 12, 1992

Mr. John Getz
Kerr-McGee Corporation
P. O. Box 906
Columbus, MS 39703

Dear Mr. Getz:

The Stockholders of Columbus Cemetery and Investment Company met on February 9, 1992 at Western Sizzlin Restaurant. At this meeting the following items were discussed and decisions made relative to area of contamination adjacent to Kerr-McGee.

1. The Stockholders reaffirmed their position to not sell the land to Kerr-McGee, but to offer a lease agreement for a period of ten (10) years compatible to option one (1) in your communication dated September 27, 1991. Which should read:

1. Lease 3.4 acres of land @ \$10,000 per acre for a ten year period. At expiration of lease if remediation has not been completed by the Mississippi Department of Environmental Quality Standards then renegotiate a new lease or agree upon an extension of existing lease.
2. Compensate Columbus Cemetery and Investment Company for past improvement to property.
3. Build a 6.0 fence along east, south, and west boundaries at KMCC-FPD expense.
4. Build road at KMCC-FPD expense.
5. Legal and survey at KMCC-FPD expense.

Total net compensation to the Columbus Cemetery and Investment Company \$44,000.

The stockholders trust that we can come to agreement on this issue so that remediation can begin as soon as possible. It is also the desire of this company that Kerr-McGee adequately displays sign or signs stating that the work means progress for our community and is being voluntarily done by your Company in the interest of health and welfare of all.

Respectfully Submitted,

A handwritten signature in dark ink, appearing to read 'W. L. Edwards', written in a cursive style.

W. L. Edwards
Sec./Treas., Board of Directors



KERR-McGEE CHEMICAL CORPORATION

P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

*File
Col
Consent Order*

December 03, 1991

RECEIVED

DEC - 6 1991

Mr. W. L. Edwards
Columbus Cemetery & Investment Co.
401 12th St. North
Columbus, MS 39701

KMCC-FOREST PRODUCTS DIVISION
ENVIRONMENTAL & QUALITY CONTROL

Dear Mr. Edwards,

In early October, I conveyed to you our updated and revised proposal to purchase approximately 3.7 acres of the cemetery property. Complete copies of that same proposal were also sent to a list of shareholders as provided by you.

During our last phone conversation in early November, you indicated that the proposal had not been discussed among you and the other principal shareholders as of yet.

We at Kerr McGee recognize that your main desire is to protect the heritage and tradition of the cemetery, and believe our proposal reflects that we share your concerns.

Please be assured that I am available at any time to discuss any and all aspects of the proposal, either with you or any and all members of the board, and hope that we can resolve the issue in a speedy manner, and to the mutual satisfaction of both Kerr McGee and the Columbus Cemetery and Investment Corporation.

In the meanwhile, if you or any of the members of the board have questions that I may be able to help you with, please feel free to call me at (601) 328-7551.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

John J. Getz
John J. Getz
Plant Manager

cc: N. Bock
R. Michel
J. Bull





KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

September 27, 1991

Mr. W. L. Edwards
Columbus Cemetery and Investment Company
401 12th Street North
Columbus, MS 39701

Dear Mr. Edwards:

As a followup to our discussions over the past year and our most recent meeting of September 18, 1991, Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) wishes to make an offer to purchase the western 400 feet of Union Cemetery with the exception of a forty foot strip along the southern boundary. This forty foot strip would be used to provide access to Union Cemetery from 22nd Street. I have enclosed a land survey performed by Oliver Mitchell & Associates, Inc. of that portion of the cemetery KMCC-FPD wishes to purchase. The forty foot access road is located within the surveyed plot. This parcel contains 3.7 acres.

KMCC-FPD wishes to purchase 3.4 acres within this survey plot of cemetery property to conduct groundwater remediation. This allows for a 40' x 400' strip for an access road to be retained by the Columbus Cemetery and Investment Company along the southern property line. The location of the access road and its connection to existing cemetery roads is shown in the attached drawing.

KMCC-FPD offered to purchase for \$10,000 an acre this parcel in a November 26, 1990 proposal. Based on discussions with you over the past year, it has come to my attention, the Columbus Cemetery and Investment Company's desire to retain ownership of this parcel for future expansion should high groundwater water table levels permit use of this area as burial plots.

Therefore, this offer to purchase 3.4 acres of cemetery land shall include a provision which reverts property ownership from KMCC-FPD to the Columbus Cemetery and Investment Company at the conclusion of groundwater remediation on this parcel. Groundwater remediation is being implemented in accordance with provisions of a post-closure permit issued by the Mississippi Department of Environmental Quality; consequently, groundwater remediation shall continue until the Mississippi Department of Environmental Quality grants permission to cease groundwater remediation. At that time, KMCC-FPD would remove all remediation structures (well enclosures, piping and electrical) and transfer ownership of the property from Kerr-McGee to the Columbus Cemetery and Investment Company.



Mr. W. L. Edwards
September 27, 1991
Page 2

In our meeting of September 18th you estimated the cemetery has expended approximately \$10,000 to make improvements to the western end of the cemetery. KMCC-FPD is agreeable to compensating the Columbus Cemetery and Investment Company for those improvements. I believe we both realize at the conclusion of remediation, as sanctioned by the State of Mississippi, both the property and improvements will be conveyed to the Columbus Cemetery and Investment Company.

KMCC-FPD will, at our expense, construct an access road within the forty foot strip retained by Union Cemetery and connect the access road to existing cemetery roads. Construction of this road will meet the quality of construction of existing cemetery roads and construction will be supervised by KMCC-FPD. The location of this access road is shown in the attached drawing.

KMCC-FPD will, at our expense, construct a 6.0' high wooden fence along the East, South and West property lines. As outlined in my August 27, 1991 letter to you, KMCC-FPD would install flush mount locking well enclosures as shown in the attached schematic. A wooden fence, we believe, would negatively impact the aesthetics. Therefore, we have proposed the following two options for consideration.

Option 1

- | | |
|--|-------------|
| 1) Land Purchase of 3.4 acres
with reverter clause (\$10,000.00/acre): | \$34,000.00 |
| 2) Compensation to Columbus Cemetery
and Investment Company for past
improvement to property | \$10,000.00 |
| 3) Build 6.0' wood fence along East,
South and West property boundaries
at KMCC-FPD expense (estimate \$10,000.00) | |
| 4) Build Road at KMCC-FPD expense
(estimate \$4,000.00) | |
| 5) Legal and Survey at KMCC-FPD
(expense estimate \$3,000.00) | |

Total Net Compensation to the Columbus
Cemetery and Investment Company.

\$44,000.00

Mr. W. L. Edwards
September 27, 1991
Page 3

Option 2

- | | |
|---|--------------------|
| 1) Land Purchase of 3.4 acres
with reverter clause (\$10,000.00/acre): | \$34,000.00 |
| 2) Compensation to Columbus Cemetery
and Investment Company for past
improvement to property | \$10,000.00 |
| 3) Provide the Columbus Cemetery and Investment
company with the estimated cost to construct
a 60' foot fence wood fence along the East,
South and West property boundaries. The
Cemetery Board may not wish to construct
a fence. | \$10,000.00 |
| 4) Build Road at KMCC-FPD expense
(estimate \$4,000.00) | |
| 5) Legal and Survey at KMCC-FPD
(expense estimate \$3,000.00) | |
| Total Net Compensation to the Columbus
Cemetery and Investment Company. | <u>\$54,000.00</u> |

I have enclosed at your request ten (10) additional copies of this proposal for distribution by you to appropriate board members.

I will telephone you in early October to schedule a meeting at your convenience. In the interim, if you have questions, please contact me at (601) 327-7551.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

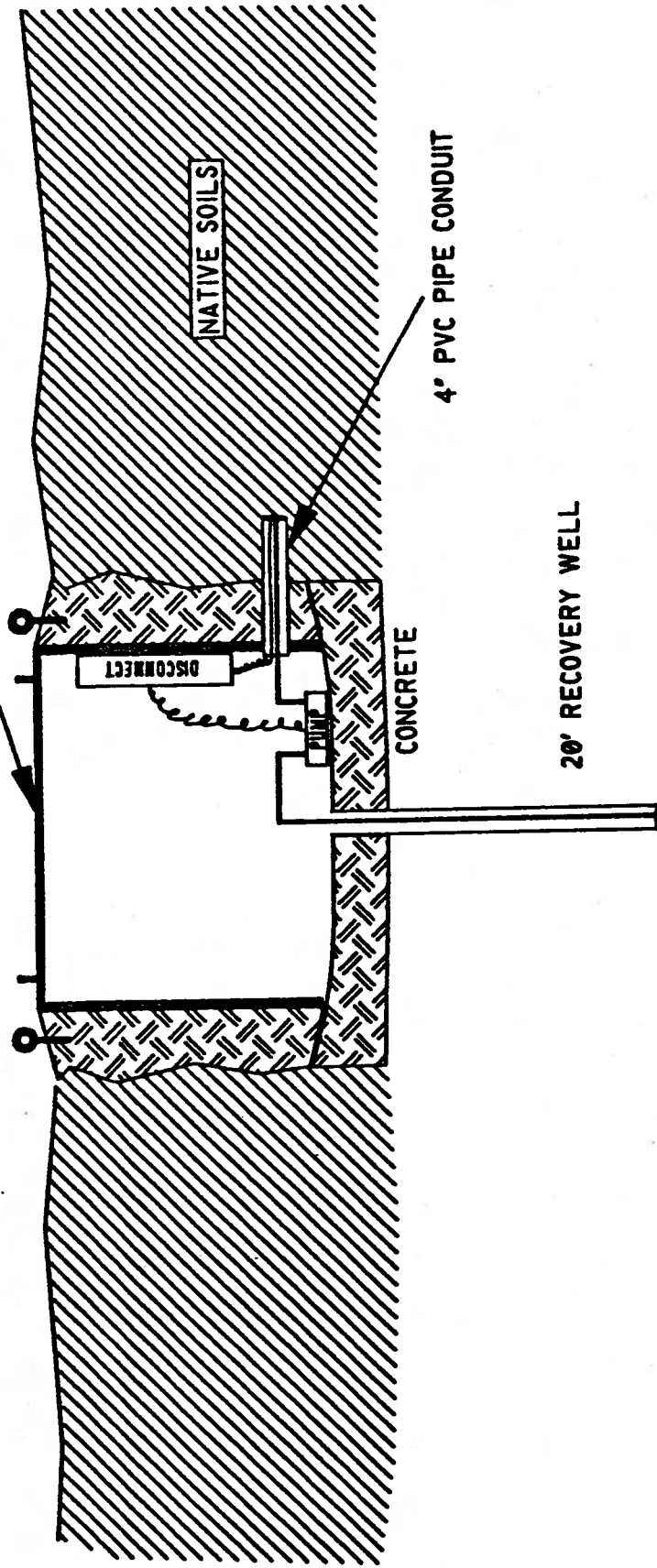

J. J. Getz

JJG:wpc

Enclosure (10 copies)

cc: N. Bock
B. Michel
J. Bull

LOCKED STEEL WELL ENCLOSURE
WITH REMOVABLE COVER



1. EXCAVATE
2. CUT OFF CASING
3. INSTALL 4" PVC PIPE CONDUIT
4. SET WELL ENCLOSURE, POUR PAD & WALLS
5. INSTALL PUMP AND ELECTRICAL

RECOVERY WELL INSTALLATION SCHEMATIC COLUMBUS, MS



KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

August 27, 1991

Mr. W. L. Edwards
Columbus Cemetery & Investment Company
401 12th Street North
Columbus, MS 39701

Dear Mr. Edwards:

In a July 25, 1991 letter to you, Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD), proposed to lease approximately 3.7 acres of land from the Columbus Cemetery & Investment Company. This proposal was based on an April 16th visit to the facility by you where you indicated, that you as the principle shareholder, desired to lease rather than sell that portion of the cemetery located directly south of the facility.

In a February 16, 1991 meeting at the Columbus plant, KMCC-FPD committed to you and the cemetery stockholders to construct a new cemetery access road and construction of a wood fence. These offers were made contemplating purchasing of approximately 3.4 acres.

When KMCC-FPD prepared a lease agreement for your review, I was remiss for not providing a complete and full explanation to you in regard to the terms which changed going from a sale of the property to a lease of the property. KMCC-FPD drafted this lease agreement with the following thoughts in mind:

- 1) KMCC-FPD would maintain the existing access road for unrestricted use by the community in its present location.
- 2) KMCC-FPD would install flush mount, locking recovery well enclosures. This would be more aesthetically pleasing and we believed a fence would be unnecessary and negatively impact on the looks of the property. A schematic drawing of a recovery well installation is provided for review.
- 3) KMCC-FPD would maintain the leased grounds in conditions as well or exceeding their present condition.
- 4) At the conclusion of the lease, KMCC-FPD will remove all well enclosures, piping and electrical.

KMCC-FPD is primarily interested in the purchase of the 3.4 acres of cemetery property and is agreeable to convey title to the cemetery at the conclusion of remediation as sanctioned by the State of Mississippi.

Mr. W. L. Edwards
August 27, 1991
Page 2

However, KMCC-FPD will lease the property if you and the cemetery board are unwilling to sell this property.

I would very much like to meet with you and/or your representatives and discuss in detail options which are most favorable to the future of Union Cemetery. I truly believe we can and will work out a mutually beneficial arrangement allowing KMCC-FPD to remediate the impacted area of the cemetery and Union Cemetery to be equitably compensated.

I will telephone you next week to schedule a meeting at your convenience. In the interim, if you have any questions, please contact me at (405) 270-2394.

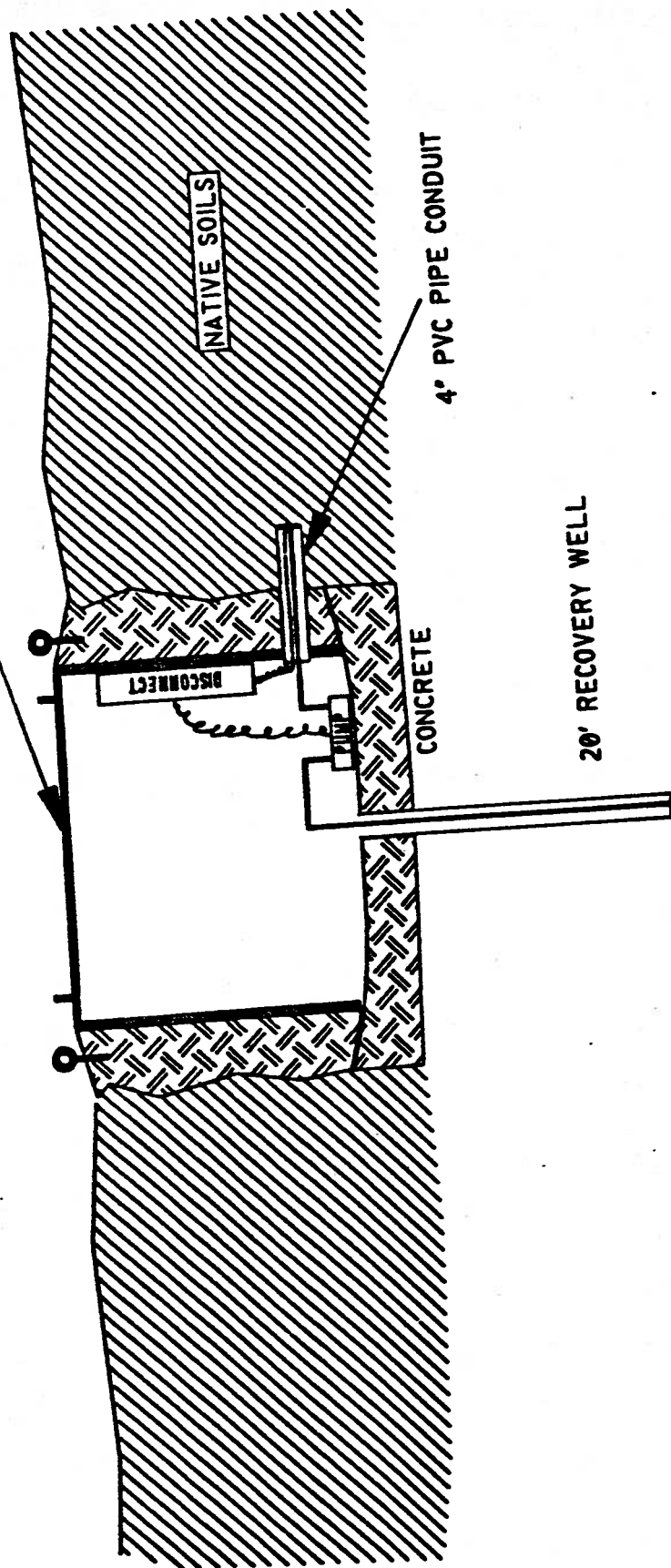
Sincerely,

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

J. J. Getz
PLANT MANAGER

NB:wpc

LOCKED STEEL WELL ENCLOSURE
WITH REMOVABLE COVER



1. EXCAVATE
2. CUT OFF CASING
3. INSTALL 4" PVC PIPE CONDUIT
4. SET WELL ENCLOSURE, POUR PAD & WALLS
5. INSTALL PUMP AND ELECTRICAL

20' RECOVERY WELL

RECOVERY WELL INSTALLATION SCHEMATIC

08/22/91

14:54

Union Cemetery
Columbus Cemetery and Investment Co.
P. O. Box 1202
Columbus, MS 39701

August 20, 1991

RECEIVED

AUG 22 1991

FORREST PRODUCTS DIV

Mr. John Getz
Kerr McGee Corporation
P. O. Box 906
Columbus, MS 39703

Dear Mr. Getz:

I have reviewed the lease agreement proposed by your organization which was hand-delivered to me by you.

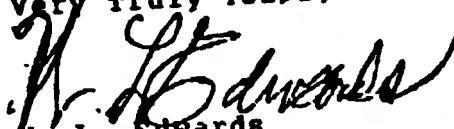
I find the agreement totally incompatible with the proposal made by our organization. A letter from your office dated April 16, 1991 adequately expresses the desires and terms that our organization offers.

Union Cemetery has expended nearly one-half the amount of money that a ten (10) year lease you are proposing will generate. This money was spent as an initial move to provide additional burial space, if needed, while remediation takes place in the western part of the cemetery through dirt construction and trees being uprooted and removed.

No mention is made in your proposal to provide passages of ingress and egress to and from the eastern part of the cemetery while remediation takes place in the western part. Nor is mention made of enclosing the remediation area with a wooden fence.

Please be aware, as we are, that the mere presence of equipment and the entire operation will more than likely make our burial ground less marketable and it runs the risk of temporary or permanent down-grading by being designated as undesirable. This, we hope, can be overcome.

Very Truly Yours,


W. L. Edwards
Secretary/Treasurer

cc: Board of Directors

CLAUDE A. CHAMBERLIN
ATTORNEY AT LAW
NORTH HICKORY STREET
P. O. BOX 78

AREA CODE 601-369-6417

ABERDEEN, MISSISSIPPI
39730

CC: NERB
J.T. Gately

August 1, 1991

Mr. Roger G. Addison
Law Department
Kerr-McGee Corporation
Kerr-McGee Center
Oklahoma City, Oklahoma 73225

Re: The Columbus Cemetery & Investment Co., Inc.

Dear Roger:

As I advised you on the phone today I went to Columbus yesterday and checked on the above property.

I found that the corporate charter of The Columbus Cemetery and Investment Co., Inc. expired June 19, 1970, however, under the provisions of Section 79-1-1 of the Mississippi Code of 1972, this charter was automatically extended for a period of ninety nine years from the date of the original charter and I am enclosing a copy of this statute for your information.

The plat of the cemetery was filed in Plat Book 1 at Page 17 on December 18, 1922, and there are no restrictions or covenants of any kind on the plat. The cemetery is identified on the plat as Union Cemetery and also as being the property of The Columbus Cemetery & Investment Co., Inc. in Section 10, Township 18, Range 18, but it is impossible to correlate the cemetery plat with the survey that you furnished me as there is no legal description of the cemetery; the plat merely stating that it is the property of The Columbus Cemetery & Investment Co., Inc. or Union Cemetery in Section 10, Township 18, Range 18.

Also as I advised you I was unable to find any conveyance in and to either The Columbus Cemetery & Investment Co. Inc. or Union Cemetery. However, this is not unusual with cemetery lands and I do not feel this would be any severe problem about the ownership of the land.

RECEIVED

AUG 06 1991

Page Two

Mr. Addison

August 1, 1991

One problem that might be more serious is the fact that there are eleven driveways criss-crossing the cemetery property on the plat and there is a very good possibility that this could be considered a dedication of these driveways. However, if the ingress and egress to and from the existing graves or lots that have been sold is not affected, this would probably not be a serious problem.

I would also point out that the charter of The Columbus Cemetery & Investments, Inc. recites that it is created to buy, own, sell, lease or otherwise dispose of real estate for burial purposes and other purposes (not to engage in any form of agriculture). I do not believe that this would restrict The Columbus Cemetery & Investments Co., Inc. from leasing the property for other than burial purposes; but whether it would or not, it is probably too late to inquire into that as Kerr-McGee subsidiary, T. J. Moss Tie Company bought a part of the cemetery land back a number of years ago.

Also, the enclosed deeds to the individuals do not contain any restrictive language insofar as The Columbus Cemetery & Investments, Inc. is concerned, and I am enclosing copies for your information of all the burial deeds that I found. As you will note these deeds do not state where in the cemetery these burial lots are located, therefore I strongly recommend that some of the local people at Moss Tie Company look the land over that is to be leased very carefully on the ground and determine for sure that there are no graves on the land to be leased.

It is my understanding that you do not wish me to do anything further on this project at this time and I am therefore enclosing my statement for my work.

If you need anything further in regard to this matter, please advise me.

Yours very truly,


Claude A. Chamberlin

CAC:mhk

Enclosures



KERR-MCGEE CHEMICAL CORPORATION

P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

May 30, 1991

W. L. Edwards
Columbus Cemetery & Investment Co.
401 12th Street North
Columbus, MS 39701

Dear Mr. Edwards:

Confirming our phone conversation of May 22nd, we are extremely interested in meeting with you and the Columbus Cemetery & Investment Company group to discuss your counter-proposal to our offer to purchase part of the cemetery property.

We are available to meet at your convenience.

Than you for your valuable assistance in this matter.

Sincerely,

John J. Getz
Plant Manager

cc: ~~_____~~
R. P. Michel

KMCC/FPD

JUN 3 1991

OPERATIONS & TIE PROCUREMENT



KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

April 26, 1991

Mr. W. L. Edwards
Columbus Cemetery & Investment Company
401 12th Street North
Columbus, Mississippi 39701

Dear Mr. Edwards:

On April 15, 1991, you advised our Ms. Tammy Jones that you would like to discuss the Cemetery owners' counter proposal. In my absence, our Mr. Tony Helms advised you on April 16, that I would be replying to the Cemetery's proposal upon my return and that the reply would be made during the week of April 29, 1991.

It is my understanding that the Cemetery owners desire to lease the 3.4 acres, copy of survey attached, for ten years and the total ten year paid-up rental would be \$35,000. In addition to the ten year lease rental, Kerr-McGee was to construct at its sole cost and expense an access road along the 3.4 acre parcel's south property line and a six foot high wooden fence along the east property line of the 3.4 acre parcel.

In order for Kerr-McGee to have the freedom and unrestricted use necessary for operating the remediation system required by state and federal agencies, and because a finite time to complete the corrective measures can not be defined and completely eliminate any liability to the cemetery owners, we believe a sale of the 3.4 acres is in the best interest of the cemetery owners.

I would like to meet with you and the Cemetery Board on Saturday, May 11, 1991, and see if we can resolve the issues to everyone's satisfaction and agreement. I will call you to arrange a time for the meeting that is to your and the Board's convenience. In the interim, if I can answer any question, please telephone me directly at 328-7551.

Best regards,

KERR-MCGEE CHEMICAL CORPORATION
Forest Products Division

John J. Getz
John J. Getz
Plant Manager

JJG:Wem119:1s91-3:wpc

bcc: N. E. Bock
J. N. Bull
A. L. Martin
W. E. McLean
R. P. Michel

RECEIVED
APR 29 1991
REAL ESTATE MGMT. DIV.

4391C

BOUNDARY DESCRIPTION

A TRACT OF LAND BEING SITUATED IN THE SOUTHWEST (SW1/4) OF SECTION 10, TOWNSHIP 18 SOUTH, RANGE 18 WEST, LOWNDES COUNTY, MISSISSIPPI, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

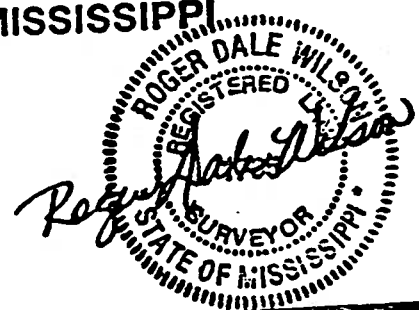
COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER (SE1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 10, TOWNSHIP 18 SOUTH, RANGE 18 WEST, LOWNDES COUNTY, MISSISSIPPI; THENCE NORTH 89° 00' EAST A DISTANCE OF 443 FEET TO AN IRON PIN ON THE EAST RIGHT-OF-WAY OF A CITY STREET AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED TRACT; THENCE NORTH 89° 00' EAST A DISTANCE OF 400.0 FEET TO A POINT; THENCE NORTH 389.20 FEET TO A POINT ON THE SOUTH PROPERTY LINE OF KERR-MCGEE CHEMICAL CORPORATION; THENCE SOUTH 86° 00' WEST ALONG THE SOUTH PROPERTY LINE OF KERR-MCGEE CHEMICAL CORPORATION A DISTANCE OF 481.92 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF CITY STREET; THENCE SOUTH 24° 54' EAST ALONG SAID RIGHT-OF-WAY A DISTANCE OF 51.2 FEET TO A POINT; THENCE SOUTH 20° 56' EAST ALONG SAID RIGHT-OF-WAY A DISTANCE OF 81.1 FEET TO A POINT; THENCE SOUTH 14° 21' EAST ALONG SAID RIGHT-OF-WAY A DISTANCE OF 52.4 FEET TO A POINT; THENCE SOUTH 5° 12' EAST ALONG SAID RIGHT-OF-WAY A DISTANCE OF 190.35 FEET TO THE POINT OF BEGINNING AND CONTAINING 3.7 ACRES MORE OR LESS.

NOTE:

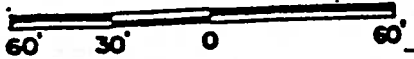
1. SURVEY CLASSIFICATION: CLASS "C" SURVEY
2. BASIS OF BEARINGS AND NORTH ARROW IS BY SURVEY OF PREVIOUS TRACT.
3. THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA. COMMUNITY PANEL NO. 280108 0005G MAP REVISED SEPTEMBER 28, 1990

SURVEY OF PART OF THE SOUTHWEST QUARTER OF SECTION 10, T-18S, R-18W, LOWNDES COUNTY, MISSISSIPPI

PREPARED BY:
OLIVER MITCHELL & ASSOCIATES, INC.
CONSULTING ENGINEERS
105 N. 5TH. ST.
COLUMBUS, MISSISSIPPI
FIELD WORK: FEBRUARY 13, 1991
OFFICE WORK: FEBRUARY 13, 1991



OMA-91-000



KERR-MEGEE CORP.

CHAIN LINK FENCE

481.92'

S 86° 00' W

S 24° 54' E 51.2'

S 20° 56' E 81.1'

12' GRAVEL DRIVE

S 14° 21' E 52.4'

3.7 Ac. ±

ROAD

PAVED

S 5° 12' E 190.33'

FND. I.P.

N 89° 00' E

443.0'

N 89° 00' E

400.0'

POINT OF BEGINNING

SW CORNER OF SE 1/4 OF SW 1/4 OF SECTION 10, T-10S, R-10W, LOWMEDES CO., MISSISSIPPI.

SANDERSON PLUMBING



KERR-MCGEE CHEMICAL CORPORATION

P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

March 25, 1991

Mr. W. L. Edwards
Columbus Cemetery & Investment Co.
401 12th Street North
Columbus, MS 39701

Dear Mr. Edwards:

I appreciate the time that you and the Cemetery board took in meeting with Nick Bock and myself on March 16th, to discuss Kerr-McGee's proposal to purchase part of the cemetery property.

We would certainly be happy to answer any questions that you or the board might have regarding our proposal, and look forward to hearing from you in the very near future.

Sincerely,

John J. Getz
Plant Manager

JJG/tjj

cc: Nick Bock

RECEIVED

APR 1 - 1991

**KMCC-Forest Products Division
Environmental & Quality Control**





KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

January 24, 1991

Mr. W. L. Edwards
Columbus Cemetery & Investment Company
401 12th Street North
Columbus, MS 39701

KMCC/FPD
JAN 28 1991
OPERATIONS & TIE PROCUREMENT

Dear Mr. Edwards:

In a November 26, 1990 letter to you, Kerr-McGee Corporation, Forest Products Division (KMCC-FPD), made an offer to purchase approximately 3.4 acres of Union Cemetery. This parcel was 400 feet of frontage located along the private access road of Sanderson Plumbing Products, Inc. A 40 foot strip parallel to, and along the private access road would be retained by Union Cemetery for construction of an access road to the cemetery at KMCC-FPD expense.

In a follow-up telephone conversation with you on January 23, 1990, you indicated that not all members of the Cemetery Board had been contacted due to the holidays and residing outside the Columbus area.

I understand your concern in regard to retaining sufficient property for future expansion. A strip approximately 200 feet wide currently not plotted would allow future expansion to the West of the cemetery. To locate the parcel that KMCC-FPD wishes to purchase, I will have a professional land surveyor stake the boundaries of the parcel. This will enable you and the Cemetery Board to exactly locate the parcel. I believe the portion of the cemetery that KMCC-FPD wishes to purchase is unsuitable for burial sites due to a high water table.

I will appreciate meeting with you and the Cemetery Board at your earliest convenience to discuss in detail your concerns regarding this matter. In the interim, if you or the Cemetery Board have any questions, please contact me at 328-7551.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

John J. Getz
Plant Manager

JJG:wpc

cc: N. E. Bock ✓
J. H. Bull
A. L. Martin
W. E. McLean
R. P. Michel





KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY OKLAHOMA 73125

November 26, 1990

Mr. W. L. Edwards
Columbus Cemetery & Investment Company
401 12th Street North
Columbus, MS 39701

Dear Mr. Edwards:

On October 29, 1990, Mr. Nick Bock and I of Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) met with you and discussed the results of our recent environmental assessment of Union Cemetery in Columbus, Mississippi.

Ongoing contaminant releases from the plant have been eliminated and contamination in the western 1/3 of the cemetery is predominantly 18 to 22 feet beneath the ground surface and therefore we believe the risk of public exposure is virtually nonexistent. Groundwater in this area is approximately two to three feet below the ground surface making this area undesirable for use as burial sites. During the 1980's KMCC-FPD installed creosote impervious surfaces throughout the plant to eliminate ongoing sources. This year we started corrective action by installing groundwater remediation along our southern property line to recover creosote and to prevent any additional offsite migration of contaminants. KMCC-FPD has concluded that corrective action (cleanup) of the western 1/3 of the cemetery should be implemented to recover contaminants released from historical plant operations.

To accomplish this necessary objective, KMCC-FPD wishes to purchase the western 400 feet of Union Cemetery (commencing from the southwestern property corner) with the exception of a forty foot strip along the southern boundary. This forty foot strip would be used to provide access to Union Cemetery from 22nd Street. I have enclosed a map of the area showing the area KMCC-FPD wishes to purchase.

I believe purchase of this parcel would not inhibit future growth of Union Cemetery. Union Cemetery would retain an area approximately 200 feet wide for westerly expansion. This area, immediately adjacent to existing burial sites, is not impacted by a high water table.

KMCC-FPD wishes to offer to purchase at \$10,000/acre a parcel of land approximately 339 feet by 400 feet in the western 1/3 of Union Cemetery for the purpose of implementing groundwater remediation. A description of this parcel is believed to be:

Commencing at the Southwest corner of the Southeast Quarter (SE/4) of the Southwest Quarter (SW/4) of Section 10, Township 18 South, Range 18 West, Columbus, Lowndes County, Mississippi; thence North 89



Mr. W. L. Edwards
November 26, 1990
Page 2

degrees East 443 feet to an iron pin on East right of way of a City Street being the Southwest corner of the Columbus Cemetery & Investment Company's property and thence North 40 feet to the point of beginning; thence North 89 degrees East 400 feet; thence North 339 feet to point on the South property line of Kerr-McGee Chemical Corporation; thence South 86 degrees West along the South property line of Kerr-McGee Chemical Corporation 488.8 feet to an iron pipe on the East right of way of a City Street; thence Southeasterly along said East right of way 130 feet to a point; thence South along said East right of way 228 feet to the point of beginning and containing

3.4 ~~4.00~~ acres more or less.

KMCC-FPD would, at our expense, construct an access road within the forty foot strip retained by Union Cemetery to connect to existing access roads. Construction of this access road would meet or exceed the quality of construction of the present roads. KMCC-FPD would retain a professional land surveyor to establish the property description, property boundaries and quantify the land area. This area is approximately 3.4 acres.

I would greatly appreciate submittal of this offer to the Union Cemetery Board of Directors for their review. In the interim, if you have any questions please contact me at (405) 270-2394 or John Getz at (601) 328-7551.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

John J. Getz
Plant Manager

JJG:wpc
Enclosure

cc: N. E. Bock
J. H. Bull
A. L. Martin
W. E. McLean



File Col
KERR-MCGEE CHEMICAL CORPORATION 6W 90
KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

October 26, 1990

Columbus Mr. W. L. Edwards
~~Union~~ Cemetery & Investment Company
1401 12th Street North
Columbus, MS 39701

Re: Kerr-McGee Chemical Corporation
Forest Product Division
Columbus Mississippi Facility
Preliminary Results of the Assessment
of Union Cemetery

Dear Mr. Edwards:

In July of this year Mr. John Getz from our Columbus Plant met with you and discussed an agreement which would allow Kerr-McGee Chemical Corporation, Forest Products Division access for an environmental investigation of Union Cemetery. Union Cemetery granted access for this purpose and Mr. Getz assured you that results of this assessment would be reported to you. At this time I would like to share with you the preliminary results of this assessment.

The Columbus, Mississippi Wood Treating facility had been in operation since the 1920's and Kerr-McGee Chemical Corporation, Forest Productions Division (KMCC-FPD) purchased the facility in 1964. In 1971 KMCC-FPD obtained access from Union Cemetery and removed all visual surface contamination associated with a bog and filled the area with clean fill. Throughout the 1970's KMCC-FPD made improvements to our facility to mitigate the impact to the environment from the Columbus Wood Treating operation. In the 1980's KMCC-FPD made additional improvements to the facility. These improvements included: closure of surface impoundments, upgrading of the production process water treatment system, installation of concrete tank farms and installation of a concrete drip track to collect drippage. All modifications and improvements to the Columbus facility were implemented to eliminate the potential for ongoing releases of creosote to the environment.

In the Fall of 1989, KMCC-FPD signed a voluntary agreement with the Mississippi Bureau of Pollution Control to assess the extent of contamination resulting from past operations and to provide corrective action (cleanup) of areas impacted by wood treating operations. KMCC-FPD was granted access to Union Cemetery to perform an assessment and committed to report the results to you.

TABLE 1.
Summary of Drilling Results
Union Cemetery
Columbus, Mississippi

<u>Boring/Well</u>	<u>Depth to Clay (feet)</u>	<u>Depth to Visual Contamination</u>	<u>Water Level (feet)</u>	<u>Analytical Data</u>
B18	20	None	---	---
B19	24	None	---	---
B21	23	12 (6')	8.0	---
B23	23	21 (2'M)	---	---
B28	18	10 (2')	---	---
B29	23	None	8.0	---
B30	23	None	7.0	---
B31	23	None	7.0	---
B33	23	19 (Sheen)	---	---
CMW51	22	22 (Sheen)	3.0'	---
		22 (1")	7.78	---
CMW52	21	17 (4')		Not yet Measured (Oct., 1990)
CMW53	20	None	3.30	Free product
CMW54	21	None	3.13	130 ppb
CMW55	23	None	3.32	ND
CMW56	18	None	6.38	ND
CMW57	24	None	2.85	205ppb
			6.40	ND

CMW51 - Columbus Monitoring Well Number 18
B18 - Boring Number 18
ppb - Part per billion
ND - Not detected

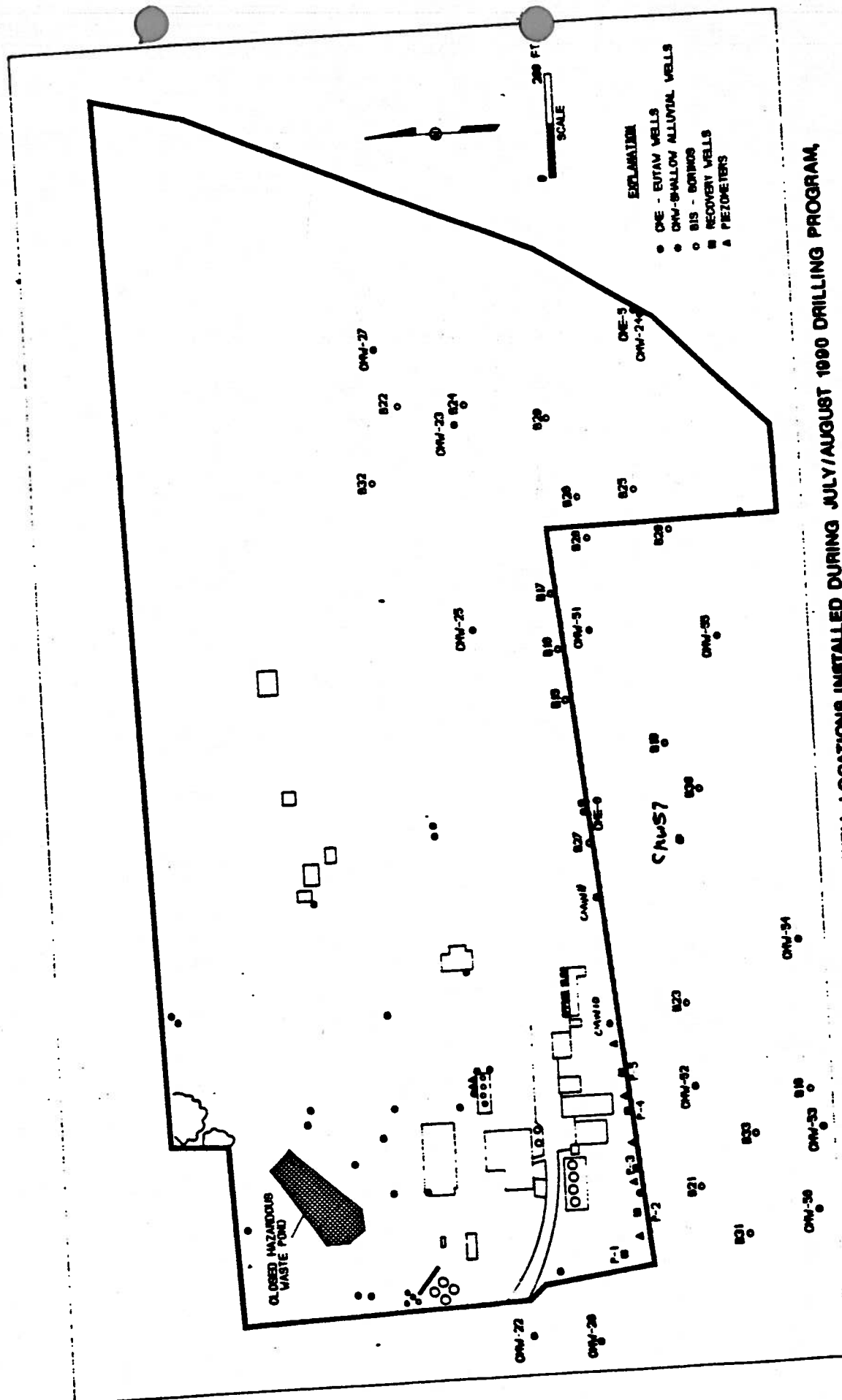


FIGURE 1: SOIL BORINGS AND MONITOR WELL LOCATIONS INSTALLED DURING JULY/AUGUST 1990 DRILLING PROGRAM, KERR-McGEE CHEMICAL CORP.-PPD, COLUMBUS, MS

RCRA Inspection Report

1. Inspector and Author of Report

Thad Hopper
Mississippi Office of Pollution Control (MOPC)

2. Facility Information

Kerr-McGee Chemical Corporation (KMCC)
Forest Products Division
P. O. Box 906
Columbus, Mississippi 39701
EPA I. D. No. MSD990866329

3. Responsible Company Official

Mr. John Getz, Plant Manager

4. Inspection Participants

Mr. Nick Bock, KMCC
Mr. Thad Hopper, MOPC

5. Date and Time of Inspections

October 30, 1990, 3:00 p.m., CST

6. Applicable Requirements

Mississippi Hazardous Waste Management Regulations (MHWMR) Parts 262, 264, 268, and the facility's Hazardous Waste Post-Closure Permit (MHWMP) No. HW-90-139-01.

7. Purpose of Inspection

A Comprehensive Monitoring Evaluation (CME) was performed. This report addresses the Compliance Evaluation Inspection (CEI) portion of the CME. The CEI was conducted to determine the facility's overall compliance with applicable Mississippi Hazardous Waste Management Regulations and the facility's Hazardous Waste Management Permit. Evaluation of the facility's compliance with applicable groundwater monitoring requirements of MHWMR Part 264, Subpart F, and MHWMP 88-543-01 accompanies the CEI.

8. Facility Description

The site now occupied by Kerr-McGee Chemical Corporation (KMCC) has been used as a wood treating facility since 1928. KMCC acquired the site in 1964 and continues to produce treated railroad ties, switch ties, crossings, and pilings using creosote as a preservative. Pentachlorophenol was also used as a preservative prior to 1976.

As part of the wastewater treatment system, KMCC operated two hazardous waste storage impoundments - an aeration impoundment and a sedimentation impoundment in which bottom sediment sludge from process wastewater accumulated. This sludge is classified as a K001 hazardous waste. KMCC certified closure of the impoundments on June 19, 1986. Prior to closure, the facility's production process oil/water separators were upgraded to recycle preservatives for reapplication within the production process. During process modification in 1988-1989, a concrete drip track was installed to collect excess preservative dripping from treated wood after removal from the pressure cylinder. Hazardous waste generated currently consists of contaminated soil from remedial activities, and sludge from work tanks. A less than ninety day storage area is operated for storage of these wastes (K001 and U051).

On September 21, 1987, KMCC notified the MOPC that K001 constituents had been detected in monitoring well CMW-4. Subsequently, groundwater assessments conducted at the site have revealed two contaminant plumes - one associated with the process area (and possibly the former surface impoundments) and the second, with a below ground loading dock near the southeastern facility boundary. A Post-closure Permit requiring corrective action activities for on-site and off-site contamination was issued by the Mississippi Department of Environmental Quality Permit Board on September 11, 1990. Corrective action was initiated on-site August 20, 1990. Off-site corrective action is to be finalized March 31, 1991.

9. Findings

All records, including inspections of the closed impoundments, manifests, groundwater monitoring data, personnel training, the contingency plan, and financial documents were available for review and were found to be in compliance with applicable regulations.

Inspection of the closed surface impoundments and monitoring system indicated that no erosion of the impoundment or damage to the monitoring wells had occurred. A six foot high chain link fence with warning signs provides security for the regulated unit.

10. Conclusions

The facility was in compliance with MHWMR 262, 264, and 268 on the day of the inspection.

11. Signed

Thad Hozson

3/4/91
Date

12. Approval

David C. Pentecost

3/4/91
Date

cc: Mr. James H. Scarbrough, EPA

*Review Of Documentation And Conditions
Regarding The Potential Environmental
Impacts On The Hunt Middle School Site
From Adjacent Industrial Activities*

Prepared For:
Columbus Municipal School District
Columbus, Mississippi

Prepared By:
H. M. Rollins Company, Inc.
P.O. Box 3471
Gulfport, MS 39503
(601) 832-1738

August 4, 1992

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BACKGROUND:

The Columbus Municipal School District, Columbus, Mississippi, operates the Hunt Middle School on property located between 20th and 22nd Street in Columbus, MS. This property is in Sections 10 and 15 of Township 18S, Range 18W in Lowndes County.

The School District acquired the property in the early 1950's. The site is situated on the north side of Columbus, in an area utilized for both residential and industrial activities. The industrial facilities in closest proximity to the Hunt Middle School are the facilities of Kerr-McGee Chemical Corporation (Kerr-McGee), and Sanderson Plumbing Products, Inc. (Sanderson). The Kerr-McGee facility manufactures railroad cross ties that are pressure treated with creosote to increase their resistance to decay organisms and insects. The Sanderson facility manufactures toilet seats from both wood and plastic.

The Kerr-McGee facility has been in operation since 1928, producing pressure treated products for the railroad industry. As part of regulatory requirements imposed by the Resource Conservation and Recovery Act, Kerr-McGee identified a significant area of subsurface contamination associated with historic operations. The investigations identified soluble constituents as well as a free oil phase with the characteristics of creosote at locations both on and off-site. During the continuing off-site investigations, Kerr-McGee sought permission from the School Board, and was granted access to school property, for investigation of subsurface

contamination. These investigations were conducted in early 1992, and confirmed the presence of wood preserving related contamination in an area on the northeast corner of the school property.

Given these conditions, the Board questioned the potential health and environmental significance of this subsurface contamination, and also raised questions about air quality issues associated with the proximity to these local industries.

In an effort to address these questions, and questions concerning actual or potential damages incurred to the property, the School Board employed legal counsel specializing in environmental law and an engineering firm with specialized knowledge and experience in these areas.

H. M. Rollins Company, Inc. was the engineering firm employed, and this report is intended to complete the initial review of site conditions as directed by the Board and its legal counsel.

ACTIVITIES COMPLETED:

H. M. Rollins Company, Inc. requested information from Kerr-McGee Chemical Corporation concerning: the subsurface contamination investigation being conducted; the Resource Conservation and Recovery Act Permit Application and Permit; plans for remediating the existing contamination; copies of the facility's Toxic Chemical Release Inventory Reports, (known as Form R's); and other related information as detailed in its letter of June 8, 1992 to Kerr-McGee.

Kerr-McGee was cooperative in providing the most recent information in the above areas, as well as in responding to additional questions as they arose. Approximately 1,000 pages of materials have been reviewed. This does not constitute a complete historic file review, but is believed to constitute a sufficient review for the purpose of this report.

In addition to the document review, a site visit was made on June 30, 1992. During this site visit, a visual inspection was made of the northern portion of school property, and a meeting was held with Kerr-McGee technical personnel regarding conditions at their site and discussing the environmental conditions. The Board was briefed on the project status on June 30, 1992.

Subsequent to the site visit, a conference call with Kerr-McGee technical personnel was conducted to attempt to answer some of the remaining technical questions.

H. M. Rollins Company, Inc. personnel spent July 8, 1992 at the offices of the Mississippi Department of Environmental Quality discussing site issues with MDEQ personnel, and reviewing the air compliance file of Sanderson Plumbing Products, Inc. In addition to the MDEQ file review, copies of the Form R's for both facilities have been obtained and reviewed for information on air releases.

All work was accomplished in close coordination with Mr. John Crawford, the Board's environmental counsel.

SUMMARY OF CONDITIONS:

The Kerr-McGee Chemical Corporation plant has caused significant subsurface contamination. There is sufficient evidence that it is associated with past operating practices, including the use of surface impoundments, and unlined pits and process areas. Knowledge of the exact historic source is not critical in the development of plans for future remediation.

Contaminants in both a soluble form and in a separate oil phase have been identified under a large area of the plant site. Soluble contaminants have been identified to the eastern property boundary of the Kerr-McGee site, and these constituents appear to be spreading in an easterly direction under the influence of the easterly groundwater flow. Another area of contamination, including both soluble and free phase product, has been identified to the south of the facility, with the area of soluble contamination being larger than the area containing a separate oil phase. Although the investigation of the off-site distribution is not yet completed, the southerly distribution appears to be 500 to 600 feet beyond the Kerr-McGee property line.

This area of contamination appears to extend westward to a point approximately 50 feet inside of the school property lines near the northeast corner of the property. This means that the extreme northeast corner of school property overlies an area of subsurface contamination. Based on the data presented, the contamination appears to be limited to a zone 20 feet or more below the land surface. The southern extent of contamination beneath school property requires further investigation.

At the time of the site visit, a visual inspection of the football field and surrounding grassed area was conducted. No evidence of surface contamination was observed, and the vegetation appeared to be healthy and normal.

During the site visit, prevailing winds were from the southwest, so no direct observations could be made regarding potential odor or air borne impacts at the school as a result of the industries to the north and east. However, a driving trip on public roads around both Kerr-McGee and Sanderson did not result in the observation of odors or visible off-site emissions from these facilities.

REGULATORY ENVIRONMENT:

The School Board's concerns focus on potential adverse impacts caused by subsurface soil and groundwater contamination as well as air pollution. There are specific governmental regulatory programs that regulate industrial facilities in these areas.

The Kerr-McGee facility is subject to the Resource Conservation and Recovery Act (RCRA) as a result of its past use of a surface impoundment for management of process wastewaters. This impoundment has been closed in accordance with the requirements of RCRA, and the facility has been issued a Post-Closure Permit which requires a minimum of 30 years of continued care and maintenance of the impoundment site. Under the provisions of RCRA, a facility is required to fully define, both horizontally and vertically, the extent of any groundwater contamination. Facilities are

then required to perform corrective action to remove the contaminants to natural background levels, or to other levels determined by the Agency to be protective of human health and the environment. Presently, cleanup standards for the wood preserving constituents identified are set at nondetectable levels.

The Hazardous and Solid Waste Amendments (HSWA) to RCRA added new provisions requiring investigation and cleanup of releases from solid waste management units and corrective action for off-site contamination from any source. The provisions of RCRA and its amendments will require that a facility prevent further migration of any contaminants released, and will require that corrective action be performed in a manner that assures protection of human health and the environment.

Presently, the State of Mississippi is authorized to enforce the provisions of RCRA, while the United States Environmental Protection Agency has enforcement responsibility for HSWA, pending authorization of the state for that program. Facilities face very severe civil and criminal penalties for violations of the requirements.

Air quality issues are addressed under provisions of the Federal Clean Air Act and similar state laws and regulations. Kerr-McGee and Sanderson both possess Air Pollution Control Permits. These permits cover the significant potential sources of air pollutants, such as fuel burning devices like boilers and furnaces, and point source emissions, such as the exhaust from filter bag houses or volatile solvent tanks.

Before an industrial facility can construct a device that will emit air pollutants, it must submit a permit application detailing the design of the device and expected emission rates. Depending upon the nature of the device and expected emissions and the environmental setting, the state will either issue a permit to construct or require additional work from the facility to document the potential impact on the surrounding population and air quality. The state will not issue a permit to construct until it determines that no violation of state or federal air standards will result, and these standards are intended to ensure that no significant risk to human health or the environment will result. ,

Facilities are required to renew permits on a periodic basis and, if air quality regulations have changed, the facilities will be required to upgrade their process or control technologies to meet the new standards.

The Clean Air Act Amendments of 1990 are now in the process of regulatory implementation. The requirements of this act will place additional control technology standards on facilities designated as major sources of hazardous air pollutants. Based upon their Form R data, it would appear that Sanderson will fall into the major source category. Although the Kerr-McGee Form R data does not show emissions meeting the major source category, the EPA has stated that it will be pursuing regulation of the wood preserving industry as a major source industry. Given this new regulatory direction, it can be expected that air emissions from both facilities will be declining in the future.

RESULTS OF INVESTIGATION:

The following discussion represents preliminary findings based upon the information made available to H. M. Rollins Company, Inc. through documents and discussions with state regulatory personnel, as well as local industry representatives.

The following general comments are provided:

Subsurface Contamination Issues:

1. Given the groundwater levels reported by Kerr-McGee, H. M. Rollins Company, Inc. agrees that the dominant groundwater flow direction is to the east or southeast.
2. The transport mechanism that resulted in the contaminants distributed south of the Kerr-McGee facility is uncertain.
3. The initial corrective action system installed by Kerr-McGee near the south property line did not result in hydrodynamic capture of the soluble plume as originally intended.
4. There was insufficient data available to assess the ability of the corrective action system additions planned by Kerr-McGee to stop soluble constituent migration.

5. The western extent of the soluble plume south of the Kerr-McGee facility needs better definition in order to determine the configuration of the plume on school property.
6. The monitoring wells installed in the Eutaw Formation are not installed in the Eutaw McShan Aquifer. The vertical delineation of contaminants remains somewhat uncertain.
7. Although some of the wood preserving constituents are known or suspected carcinogens, the subsurface contamination beneath school property should not present a significant risk to school personnel or students since there is no identified exposure pathway. Groundwater ingestion represents the primary potential exposure pathway, however, this pathway does not appear to create exposure because there is no local use of the surficial aquifer for drinking water. If Kerr-McGee conducts effective corrective action, and complies with state and federal requirements, such compliance may effectively control this potential exposure pathway.
8. State and EPA regulations require that the existing contamination and future activities concerning remediation be managed in a manner that is protective of human health and the environment. Kerr-McGee's compliance with these regulations is essential.

Air Pollution Issues:

1. No ambient air monitoring data is available. However, Kerr-McGee personnel advise that employee workplace monitoring shows no exposures above permissible limits.
2. Wind directions from the north and clockwise to the southeast could carry air contaminants from the Kerr-McGee or Sanderson facilities to the school. The wind at Columbus blows in these directions approximately 30.1 percent of the time.
3. The emission points at the Sanderson facility are a significant distance from school property.
4. Both facilities have State Air Pollution Control Permits and both facilities have good state compliance records.
5. Future air emissions can be expected to decline as a result of requirements being imposed by the Clean Air Act Amendments of 1990.
6. Environmental counsel for the School District has made requests to the Air Division, Mississippi Department of Environmental Quality for letters on the subject of air emissions exposures.

Alleged Dumping Issues:

1. It is assumed that any possible dumping activities would have been limited to the time period prior to construction of the school, since school officials would not have allowed this practice.
2. Aerial photographs taken in 1958 and 1985 show the football field area, and there is no observable evidence of a dump site.
3. The on-site visit reflects that the existing land surface was substantially cut to provide a level surface for the playing field. It can be postulated that this activity removed any surface materials that may have been deposited previously.
4. The site inspection did not reveal any evidence of surface contamination or indication of any prior dumping activities.
5. The monitoring wells installed by Kerr-McGee on school property, including the additional wells recommended to be installed, can be used to provide evidence of any significant historic disposal activities if such activities occurred in areas to the west of the wells. To date, these wells do not reflect any such impact from alleged disposal activities.

Property Damage Issues:

1. The subsurface contamination identified beneath school property may have affected the value of the property. Subsequent remediation and corrective action may affect the utility of certain areas of the property. Should the property be subject to sale or transfer in the future, the presence of this contamination may affect that transaction.

RECOMMENDATIONS:

The following recommendations are made:

1. At least one additional groundwater monitoring well should be installed to define the western extent of the soluble plume distributed south from the Kerr-McGee facility. This well should be located south of the two wells previously installed to determine if the plume of soluble contaminants extends westward to school property. This well is needed to fully define the impact on the school property. The MDEQ has already requested that Kerr-McGee install another well in this area.

Kerr-McGee must develop plans and implement measures to ensure that future migration of soluble or free phase contaminants does not occur.

The subsurface contamination associated with the Kerr-McGee facility must be carefully regulated by both state and EPA regulatory programs. A full and complete assessment of the contaminant distribution must be required, and corrective actions must be implemented. This will be a very long term project, and total cleanup to unaffected conditions may not be possible. State and EPA regulations require that the subsurface contamination be managed so that it does not pose a threat to people living, working, or attending school in the area. If a significant threat is identified by the regulatory agencies, they will be bound by the regulations to take immediate action to eliminate any imminent hazard to human health or the environment.

2. Based upon observations made at the site, discussions with MDEQ personnel, and a review of the documents provided, it would not appear to be necessary to conduct air monitoring or additional soil sampling at the site as explained below.

In response to requests made by the school district's environmental counsel, the personnel of the Air Branch, Office of Pollution Control, MDEQ have indicated their belief that no adverse risk to students or school employees exists as a result of air emissions from the Kerr-McGee facility. The agency has advised that a written statement to this effect will be furnished. The agency advised it is evaluating the Form R data from Sanderson, but anticipates providing a similar statement for Sanderson Plumbing Co.

No evidence of surface contamination has been identified by any party. Disposal activities on school property have not been established to date. The present groundwater monitoring wells and the additional wells to be installed on school property can detect groundwater impacts from any prior activities if fully analyzed. Assuming that any such disposal activities occurred long ago, the near surface soils could be expected to be near background conditions due to natural attenuation phenomena such as biodegradation, photodegradation, oxidation, and removal by rainfall run-off and infiltration. Therefore, a complete near surface soil investigation, while requiring significant resources, will not provide reliable data.

Given this combination of factors, it would not appear to be productive to undertake near surface soil investigations.

SUMMARY:

On behalf of the Columbus Municipal School District, H. M. Rollins Company, Inc. has accomplished a review of documents, a site visit, and liaison with regulatory personnel and one adjacent industry regarding the current environmental situation at the Hunt Middle School facility.

This investigation has been limited to a review of existing information. No sampling or analysis was conducted, and not all historic documentation regarding existing environmental conditions was reviewed. The document

review focused on the most recent information available.

The Hunt Middle School property has been impacted by subsurface contamination emanating from the Kerr-McGee facility located northeast of the campus. Additional work is suggested to fully define the extent of the contamination. The subsurface contamination does not appear to present any significant risk to the students, faculty, or administration at the school. The regulatory framework appears to be well defined. State and/or EPA agencies must continue to require compliance with all applicable regulations.

The value of the property and facilities may have been affected by the subsurface contamination, but the magnitude of any loss has not been determined.

To date, no reliable evidence of prior dumping activities has been identified, and no surface contamination was observed in the area of the football field.

There appears to be very little possibility of air pollutants from adjacent industries reaching school property at levels approaching regulatory thresholds.



STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

July 8, 1992

CERTIFIED MAIL NO. P 046 601 386

Mr. John Getz
Plant Manager
Kerr-McGee Chemical Corporation
P. O. Box 906
Columbus, Mississippi 39701

Re: Compliance Evaluation
Inspection, June 30, 1992
Kerr-McGee Chemical Corp.
Columbus, Mississippi

Dear Mr. Getz:

Enclosed please find an inspection report and checklist that was completed as a result of a Compliance Evaluation Inspection (CEI) at the above referenced facility. The inspection revealed that the facility was in compliance with the applicable regulations and the facility's Hazardous Waste Management Permit.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce Ferguson".

Bruce Ferguson
Hazardous Waste Division

enclosures

cc: Mr. G. Alan Farmer, EPA (w/enclosures)



FILE COPY

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

July 10, 1992

Mr. Nick Bock
Kerr-McGee Chemical Corporation
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Dear Mr. Bock:

Re: June 2, 1992
Proposed Off-Site Corrective Action
Kerr-McGee Chemical Corporation
Columbus, Mississippi

The Mississippi Office of Pollution Control (Office) has reviewed the above referenced proposal and the response to the initial comments on the proposal. The Office approves of the proposed off-site corrective action plan with the following conditions:

- 1) Additional groundwater monitoring wells shall be installed as follows:
 - a) A boundary control well shall be installed in the area between the existing wells CMW-54 and CMW-58.
 - b) A boundary control well shall be installed in the area between the existing wells CMW-63 and CMW-58.

These wells shall be placed such that groundwater samples taken from the wells are determined to be below method detection limits for the constituents of concern.

- 2) Final design of the corrective action shall be such that the dissolved portion of the contamination is contained. Should the trench be placed such that this is not achieved, additional corrective measures must be proposed and submitted to the Office upon making the determination.
3. All hazardous waste generated during the installation of the corrective action system shall be handled as hazardous waste and properly disposed.

Mr. Nick Bock
Page 2
July 10, 1992

4. A description of the management of the excavated soils shall be submitted to the Office and approved prior to implementing the field activities. For example, how will saturated soils be handled to prevent the release of potentially contaminated waters to the surface?
5. The Office shall be notified two weeks prior to the implementation of field activities.

Sincerely,

A handwritten signature in dark ink, appearing to read "Bruce Ferguson", with a long horizontal flourish extending to the right.

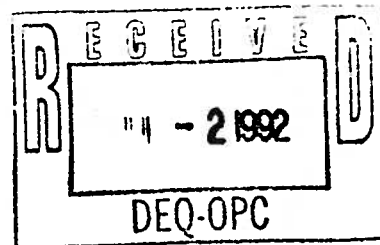
Bruce Ferguson
Hazardous Waste Division

BF:cd



KERR-McGEE CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125



ENVIRONMENT AND HEALTH MANAGEMENT DIVISION

June 29, 1992

Jerry B. Banks, P.E., Chief
RCRA Section
State of Mississippi
Department of Environmental Quality
Office of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

Dear Jerry,

As per our telephone conversation of June 26, Kerr-McGee Chemical Corporation's two Mississippi facilities are not covered for financial assurance under a corporate guarantee as per 40 CFR 264.147(g) but rather utilize the financial test as per 40 CFR 264.147(f). Therefore, the requested certifications as specified in your correspondence of June 19 under 40 CFR 264.151(h)(2) do not apply.

If I can answer any further questions, please contact me at 405-270-2529.

Sincerely,

Clay Trumpolt, P.E.
Staff Environmental Engineer

CWT:lr1

Attachment

xc: Nick Bock
Gayla DeGuisti
John Getz
Ben Harmon



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

RECEIVED

JUN 22 1992

KMCC-FOREST PRODUCTS DIVISION
ENVIRONMENTAL & QUALITY CONTROL

June 19, 1992

MSD081387730

KERR-MCGEE CHEMICAL CORP.
NICK E BOCK
P.O. BOX 25861

OKLAHOMA CITY, OK 73125

RECEIVED

JUN 26 1992

ENVIRONMENTAL SERVICES

Dear Sir:

Re: Use of Corporate Guarantee
for Liability Coverage

The use of a corporate guarantee to satisfy liability coverage per MHWMR 264.147(g)(2)(1) is a valid mechanism only after the Attorney General of the State in which the facility is located and in which the parent corporation is located issues a certification that the Corporate Guarantee, as described in Mississippi Hazardous Waste Management Regulation (MHWMR) 264.151(h)(2), is a valid and enforceable document in that state. If you are using the corporate guarantee for liability coverage, please provide a copy of the above required certifications by July 17, 1992.

If you have any questions concerning this request, please contact me at (601) 961-5221.

Sincerely,

Jerry B. Banks, P.E., Chief
RCRA Section

JBB-1:mes

Clay Can you Take Care of this?

*done 6-26-92
letter to state
cc N. Bock
Facilities
Carol Deane*

N E Bock

6-22-92



KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

June 26, 1992



Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
July 1, 1992

Dear Mr. Ferguson:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

KMCC is in receipt of your June 9, 1992 letter requesting follow-up information on KMCC's June 2, 1992 proposal to modify the groundwater recovery system. KMCC responded to your request on June 24, 1992. KMCC believes the response satisfactorily answered your questions and is proceeding with the modification of the recovery system as proposed. A pre-bid meeting for contractors will be held in Columbus, MS on June 29th.

KMCC-FPD has obtained access to property located directly (cemetery) south of the facility. A Lease Agreement was executed in mid-June which allows KMCC to install a groundwater recovery system. The Lease has a term of 15 years. A fence and cemetery access road should be completed during July, 1992.

KMCC-FPD has agreed to meet with Columbus School Corporation environmental consultants to discuss in detail the results of the phase II assessment and the facility's waste management program. A meeting with Martin Rollins has been scheduled in Columbus for June 30, 1992. On June 9, 1992, KMCC responded to Mr. Rollins' request to provide information.



4711C

Bruce Ferguson
June 26, 1992
Page 2

Second quarter corrective action groundwater monitoring was completed during the week of May 4, 1992, in accordance with the approved analytical schedule. In addition to monitoring wells on the approved analytical schedule, KMCC will sample wells CMW58, CMW61, and CMW62. KMCC is resampling monitoring wells CME4 and CMW58 during the week of June 22, 1992.

Third quarter corrective action monitoring is tentatively scheduled for the week of August 10, 1992.

The recovery system continues to perform well. The semi-annual report was submitted on March 1, 1992 and detailed the performance of the groundwater monitoring and recovery systems.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION

FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. Getz
R. Jones
R. Widmann
J.. Crawford, Esq.

*Review Of Documentation And Conditions
Regarding The Potential Environmental
Impacts On The Hunt Middle School Site
From Adjacent Industrial Activities*

Prepared For:
Columbus Municipal School District
Columbus, Mississippi

Prepared By:
H. M. Rollins Company, Inc.
P.O. Box 3471
Gulfport, MS 39503
(601) 832-1738

August 4, 1992

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BACKGROUND:

The Columbus Municipal School District, Columbus, Mississippi, operates the Hunt Middle School on property located between 20th and 22nd Street in Columbus, MS. This property is in Sections 10 and 15 of Township 18S, Range 18W in Lowndes County.

The School District acquired the property in the early 1950's. The site is situated on the north side of Columbus, in an area utilized for both residential and industrial activities. The industrial facilities in closest proximity to the Hunt Middle School are the facilities of Kerr-McGee Chemical Corporation (Kerr-McGee), and Sanderson Plumbing Products, Inc. (Sanderson). The Kerr-McGee facility manufactures railroad cross ties that are pressure treated with creosote to increase their resistance to decay organisms and insects. The Sanderson facility manufactures toilet seats from both wood and plastic.

The Kerr-McGee facility has been in operation since 1928, producing pressure treated products for the railroad industry. As part of regulatory requirements imposed by the Resource Conservation and Recovery Act, Kerr-McGee identified a significant area of subsurface contamination associated with historic operations. The investigations identified soluble constituents as well as a free oil phase with the characteristics of creosote at locations both on and off-site. During the continuing off-site investigations, Kerr-McGee sought permission from the School Board, and was granted access to school property, for investigation of subsurface

contamination. These investigations were conducted in early 1992, and confirmed the presence of wood preserving related contamination in an area on the northeast corner of the school property.

Given these conditions, the Board questioned the potential health and environmental significance of this subsurface contamination, and also raised questions about air quality issues associated with the proximity to these local industries.

In an effort to address these questions, and questions concerning actual or potential damages incurred to the property, the School Board employed legal counsel specializing in environmental law and an engineering firm with specialized knowledge and experience in these areas.

H. M. Rollins Company, Inc. was the engineering firm employed, and this report is intended to complete the initial review of site conditions as directed by the Board and its legal counsel.

ACTIVITIES COMPLETED:

H. M. Rollins Company, Inc. requested information from Kerr-McGee Chemical Corporation concerning the subsurface contamination investigation being conducted; the Resource Conservation and Recovery Act Permit Application and Permit; plans for remediating the existing contamination; copies of the facility's Toxic Chemical Release Inventory Reports, (known as Form R's); and other related information as detailed in its letter of June 8, 1992 to Kerr-McGee.

Kerr-McGee was cooperative in providing the most recent information in the above areas, as well as in responding to additional questions as they arose. Approximately 1,000 pages of materials have been reviewed. This does not constitute a complete historic file review, but is believed to constitute a sufficient review for the purpose of this report.

In addition to the document review, a site visit was made on June 30, 1992. During this site visit, a visual inspection was made of the northern portion of school property, and a meeting was held with Kerr-McGee technical personnel regarding conditions at their site and discussing the environmental conditions. The Board was briefed on the project status on June 30, 1992.

Subsequent to the site visit, a conference call with Kerr-McGee technical personnel was conducted to attempt to answer some of the remaining technical questions.

H. M. Rollins Company, Inc. personnel spent July 8, 1992 at the offices of the Mississippi Department of Environmental Quality discussing site issues with MDEQ personnel, and reviewing the air compliance file of Sanderson Plumbing Products, Inc. In addition to the MDEQ file review, copies of the Form R's for both facilities have been obtained and reviewed for information on air releases.

All work was accomplished in close coordination with Mr. John Crawford, the Board's environmental counsel.

SUMMARY OF CONDITIONS:

The Kerr-McGee Chemical Corporation plant has caused significant subsurface contamination. There is sufficient evidence that it is associated with past operating practices, including the use of surface impoundments, and unlined pits and process areas. Knowledge of the exact historic source is not critical in the development of plans for future remediation.

Contaminants in both a soluble form and in a separate oil phase have been identified under a large area of the plant site. Soluble contaminants have been identified to the eastern property boundary of the Kerr-McGee site, and these constituents appear to be spreading in an easterly direction under the influence of the easterly groundwater flow. Another area of contamination, including both soluble and free phase product, has been identified to the south of the facility, with the area of soluble contamination being larger than the area containing a separate oil phase.

Although the investigation of the off-site distribution is not yet completed, the southerly distribution appears to be 500 to 600 feet beyond the Kerr-McGee property line.

This area of contamination appears to extend westward to a point approximately 50 feet inside of the school property lines near the northeast corner of the property. This means that the extreme northeast corner of school property overlies an area of subsurface contamination. Based on the data presented, the contamination appears to be limited to a zone 20 feet or more below the land surface. The southern extent of contamination beneath school property requires further investigation.

At the time of the site visit, a visual inspection of the football field and surrounding grassed area was conducted. No evidence of surface contamination was observed, and the vegetation appeared to be healthy and normal.

During the site visit, prevailing winds were from the southwest, so no direct observations could be made regarding potential odor or air borne impacts at the school as a result of the industries to the north and east. However, a driving trip on public roads around both Kerr-McGee and Sanderson did not result in the observation of odors or visible off-site emissions from these facilities.

REGULATORY ENVIRONMENT:

The School Board's concerns focus on potential adverse impacts caused by subsurface soil and groundwater contamination as well as air pollution. There are specific governmental regulatory programs that regulate industrial facilities in these areas.

The Kerr-McGee facility is subject to the Resource Conservation and Recovery Act (RCRA) as a result of its past use of a surface impoundment for management of process wastewaters. This impoundment has been closed in accordance with the requirements of RCRA, and the facility has been issued a Post-Closure Permit which requires a minimum of 30 years of continued care and maintenance of the impoundment site. Under the provisions of RCRA, a facility is required to fully define, both horizontally and vertically, the extent of any groundwater contamination. Facilities are

then required to perform corrective action to remove the contaminants to natural background levels, or to other levels determined by the Agency to be protective of human health and the environment. Presently, cleanup standards for the wood preserving constituents identified are set at nondetectable levels.

The Hazardous and Solid Waste Amendments (HSWA) to RCRA added new provisions requiring investigation and cleanup of releases from solid waste management units and corrective action for off-site contamination from any source. The provisions of RCRA and its amendments will require that a facility prevent further migration of any contaminants released, and will require that corrective action be performed in a manner that assures protection of human health and the environment.

Presently, the State of Mississippi is authorized to enforce the provisions of RCRA, while the United States Environmental Protection Agency has enforcement responsibility for HSWA, pending authorization of the state for that program. Facilities face very severe civil and criminal penalties for violations of the requirements.

Air quality issues are addressed under provisions of the Federal Clean Air Act and similar state laws and regulations. Kerr-McGee and Sanderson both possess Air Pollution Control Permits. These permits cover the significant potential sources of air pollutants, such as fuel burning devices like boilers and furnaces, and point source emissions, such as the exhaust from filter bag houses or volatile solvent tanks.

Before an industrial facility can construct a device that will emit air pollutants, it must submit a permit application detailing the design of the device and expected emission rates. Depending upon the nature of the expected emissions and the environmental setting, the state will either issue a permit to construct or require additional work from the facility to document the potential impact on the surrounding population and air quality. The state will not issue a permit to construct until it determines that no violation of state or federal air standards will result, and these standards are intended to ensure that no significant risk to human health or the environment will result.

Facilities are required to renew permits on a periodic basis and, if air quality regulations have changed, the facilities will be required to upgrade their process or control technologies to meet the new standards.

The Clean Air Act Amendments of 1990 are now in the process of regulatory implementation. The requirements of this act will place additional control technology standards on facilities designated as major sources of hazardous air pollutants. Based upon their Form R data, it would appear that Sanderson will fall into the major source category. Although the Kerr-McGee Form R data does not show emissions meeting the major source category, the EPA has stated that it will be pursuing regulation of the wood preserving industry as a major source industry. Given this new regulatory direction, it can be expected that air emissions from both facilities will be declining in the future.

RESULTS OF INVESTIGATION:

The following discussion represents preliminary findings based upon the information made available to H. M. Rollins Company, Inc. through documents and discussions with state regulatory personnel, as well as local industry representatives.

The following general comments are provided:

Subsurface Contamination Issues:

1. Given the groundwater levels reported by Kerr-McGee, H. M. Rollins Company, Inc. agrees that the dominant groundwater flow direction is to the east or southeast.
2. The transport mechanism that resulted in the contaminants distributed south of the Kerr-McGee facility is uncertain.
3. The initial corrective action system installed by Kerr-McGee near the south property line did not result in hydrodynamic capture of the soluble plume as originally intended.
4. There was insufficient data available to assess the ability of the corrective action system additions planned by Kerr-McGee to stop soluble constituent migration.

5. The western extent of the soluble plume south of the Kerr-McGee facility needs better definition in order to determine the configuration of the plume on school property.

6. The monitoring wells installed in the Futaw Formation are not installed in the Futaw McShan Aquifer. The vertical delineation of contaminants remains somewhat uncertain.

7. Although some of the wood preserving constituents are known or suspected carcinogens, the subsurface contamination beneath school property should not present a significant risk to school personnel or students since there is no identified exposure pathway. Groundwater ingestion represents the primary potential exposure pathway, however, this pathway does not appear to create exposure because there is no local use of the surficial aquifer for drinking water. If Kerr-McGee conducts effective corrective action, and complies with state and federal requirements, such compliance may effectively control this potential exposure pathway.

8. State and EPA regulations require that the existing contamination and future activities concerning remediation be managed in a manner that is protective of human health and the environment. Kerr-McGee's compliance with these regulations is essential.

Air Pollution Issues:

1. No ambient air monitoring data is available. However, Kerr-McGee personnel advise that employee workplace monitoring shows no exposures above permissible limits.
2. Wind directions from the north and clockwise to the southeast could carry air contaminants from the Kerr-McGee or Sanderson facilities to the school. The wind at Columbus blows in these directions approximately 30.1 percent of the time.
3. The emission points at the Sanderson facility are a significant distance from school property.
4. Both facilities have State Air Pollution Control Permits and both facilities have good state compliance records.
5. Future air emissions can be expected to decline as a result of requirements being imposed by the Clean Air Act Amendments of 1990.
6. Environmental counsel for the School District has made requests to the Air Division, Mississippi Department of Environmental Quality for letters on the subject of air emissions exposures.

Alleged Dumping Issues:

1. It is assumed that any possible dumping activities would have been limited to the time period prior to construction of the school, since school officials would not have allowed this practice.
2. Aerial photographs taken in 1958 and 1985 show the football field area, and there is no observable evidence of a dump site.
3. The on-site visit reflects that the existing land surface was substantially cut to provide a level surface for the playing field. It can be postulated that this activity removed any surface materials that may have been deposited previously.
4. The site inspection did not reveal any evidence of surface contamination or indication of any prior dumping activities.
5. The monitoring wells installed by Kerr-McGee on school property, including the additional wells recommended to be installed, can be used to provide evidence of any significant historic disposal activities if such activities occurred in areas to the west of the wells. To date, these wells do not reflect any such impact from alleged disposal activities.

Property Damage Issues:

1. The subsurface contamination identified beneath school property may have affected the value of the property. Subsequent remediation and corrective action may affect the utility of certain areas of the property. Should the property be subject to sale or transfer in the future, the presence of this contamination may affect that transaction.

RECOMMENDATIONS:

The following recommendations are made:

1. At least one additional groundwater monitoring well should be installed to define the western extent of the soluble plume distributed south from the Kerr-McGee facility. This well should be located south of the two wells previously installed to determine if the plume of soluble contaminants extends westward to school property. This well is needed to fully define the impact on the school property. The MDEQ has already requested that Kerr-McGee install another well in this area.
- Kerr-McGee must develop plans and implement measures to ensure that future migration of soluble or free phase contaminants does not occur.

The subsurface contamination associated with the Kerr-McGee facility must be carefully regulated by both state and EPA regulatory programs. A full and complete assessment of the contaminant distribution must be required, and corrective actions must be implemented. This will be a very long term project, and total cleanup to unaffected conditions may not be possible. State and EPA regulations require that the subsurface contamination be managed so that it does not pose a threat to people living, working, or attending school in the area. If a significant threat is identified by the regulatory agencies, they will be bound by the regulations to take immediate action to eliminate any imminent hazard to human health or the environment.

2. Based upon observations made at the site, discussions with MDEQ personnel, and a review of the documents provided, it would not appear to be necessary to conduct air monitoring or additional soil sampling at the site as explained below.

In response to requests made by the school district's environmental counsel, the personnel of the Air Branch, Office of Pollution Control, MDEQ have indicated their belief that no adverse risk to students or school employees exists as a result of air emissions from the Kerr-McGee facility. The agency has advised that a written statement to this effect will be furnished. The agency advised it is evaluating the Form R data from Sanderson, but anticipates providing a similar statement for Sanderson Plumbing Co.

No evidence of surface contamination has been identified by any party. Disposal activities on school property have not been established to date. The present groundwater monitoring wells and the additional wells to be installed on school property can detect groundwater impacts from any prior activities if fully analyzed. Assuming that any such disposal activities occurred long ago, the near surface soils could be expected to be near background conditions due to natural attenuation phenomena such as biodegradation, photodegradation, oxidation, and removal by rainfall run-off and infiltration. Therefore, a complete near surface soil investigation, while requiring significant resources, will not provide reliable data.

Given this combination of factors, it would not appear to be productive to undertake near surface soil investigations.

SUMMARY:

On behalf of the Columbus Municipal School District, H. M. Rollins Company, Inc. has accomplished a review of documents, a site visit, and liaison with regulatory personnel and one adjacent industry regarding the current environmental situation at the Hunt Middle School facility.

This investigation has been limited to a review of existing information. No sampling or analysis was conducted, and not all historic documentation regarding existing environmental conditions was reviewed. The document

review focused on the most recent information available.

The Hunt Middle School property has been impacted by subsurface contamination emanating from the Kerr-McGee facility located northeast of the campus. Additional work is suggested to fully define the extent of the contamination. The subsurface contamination does not appear to present any significant risk to the students, faculty, or administration at the school. The regulatory framework appears to be well defined. State and/or EPA agencies must continue to require compliance with all applicable regulations.

The value of the property and facilities may have been affected by the subsurface contamination, but the magnitude of any loss has not been determined.

To date, no reliable evidence of prior dumping activities has been identified, and no surface contamination was observed in the area of the football field.

There appears to be very little possibility of air pollutants from adjacent industries reaching school property at levels approaching regulatory thresholds.



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

July 8, 1992

CERTIFIED MAIL NO. P 046 601 386
Mr. John Getz
Plant Manager
Kerr-McGee Chemical Corporation
P. O. Box 906
Columbus, Mississippi 39701

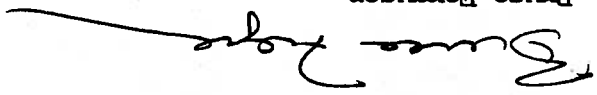
Re: Compliance Evaluation
Inspection, June 30, 1992
Kerr-McGee Chemical Corp.
Columbus, Mississippi

Dear Mr. Getz:

Enclosed please find an inspection report and checklist that was completed as a result of a Compliance Evaluation Inspection (CEI) at the above referenced facility. The inspection revealed that the facility was in compliance with the applicable regulations and the facility's Hazardous Waste Management Permit.

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

Sincerely,


Bruce Ferguson
Hazardous Waste Division

enclosures
cc: Mr. G. Alan Farmer, EPA (w/enclosures)

FILE COPY



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

JULY 10, 1992

Mr. Nick Bock
Kerr-McGee Chemical Corporation
Forest Products Division
Kerr-McGee Center
Oklahoma City, Oklahoma 73125
Dear Mr. Bock:

Re: June 2, 1992
Proposed Off-Site Corrective Action
Kerr-McGee Chemical Corporation
Columbus, Mississippi

The Mississippi Office of Pollution Control (Office) has reviewed the above referenced proposal and the response to the initial comments on the proposal. The Office approves of the proposed off-site corrective action plan with the following conditions:

1) Additional groundwater monitoring wells shall be installed as follows:

a) A boundary control well shall be installed in the area between the existing wells CMW-54 and CMW-58.

b) A boundary control well shall be installed in the area between the existing wells CMW-63 and CMW-58.

These wells shall be placed such that groundwater samples taken from the wells are determined to be below method detection limits for the constituents of concern.

2) Final design of the corrective action shall be such that the dissolved portion of the contamination is contained. Should the trench be placed such that this is not achieved, additional corrective measures must be proposed and submitted to the Office upon making the determination.

3. All hazardous waste generated during the installation of the corrective action system shall be handled as hazardous waste and properly disposed.

4. A description of the management of the excavated soils shall be submitted to the Office and approved prior to implementing the field activities. For example, how will saturated soils be handled to prevent the release of potentially contaminated waters to the surface?
5. The Office shall be notified two weeks prior to the implementation of field activities.

Sincerely,


Bruce Ferguson
Hazardous Waste Division

BF:cd

xc: Nick Bock
Gayla DeGusti
John Getz
Ben Harmon

Attachment

CWT:Id

Clay Trumpolt, P.E.
Staff Environmental Engineer



Sincerely,

If I can answer any further questions, please contact me at 405-270-2529.

As per our telephone conversation of June 26, Kerr-McGee Chemical Corporation's two Mississippi facilities are not covered for financial assurance under a corporate guarantee as per 40 CFR 264.147(g) but rather utilize the financial test as per 40 CFR 264.147(f). Therefore, the requested certifications as specified in your correspondence of June 19 under 40 CFR 264.151(h)(2) do not apply.

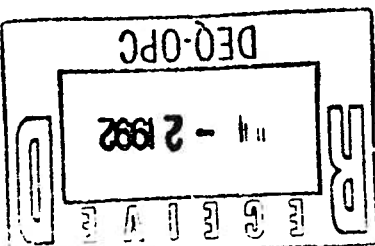
Dear Jerry,

Jerry B. Banks, P.E., Chief
RCRA Section
State of Mississippi
Department of Environmental Quality
Office of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

June 29, 1992

ENVIRONMENT AND HEALTH MANAGEMENT DIVISION

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





STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY

JAMES I. PALMER, JR.
EXECUTIVE DIRECTOR

June 19, 1992

MSD081387730

KERR-MCGEE CHEMICAL CORP.
NICK E BOCK
P.O. BOX 25861
OKLAHOMA CITY, OK 73125

Dear Sir:

Re: Use of Corporate Guarantee
for Liability Coverage

The use of a corporate guarantee to satisfy liability coverage per MHWMR 264.147(g)(2)(1) is a valid mechanism only after the Attorney General of the State in which the facility is located and in which the parent corporation is located issues a certification that the Corporate Guarantee, as described in Mississippi Hazardous Waste Management Regulation (MHWMR) 264.151(h)(2), is a valid and enforceable document in that state. If you are using the corporate guarantee for liability coverage, please provide a copy of the above required certifications by July 17, 1992.

If you have any questions concerning this request, please contact me at (601) 961-5221.

Sincerely,

James I. Palmer, Jr.

Jerry B. Banks, P.E., Chief
RCRA Section

JBB-1:mes

Why can you take care of this?

*done 6-26-92
let to state
cc N. Banks
RCRA Section
OFFICE OF POLLUTION CONTROL, P. O. BOX 10385, JACKSON, MS 39289-0385, (601) 961-5171
6-22-92*

RECEIVED
JUN 26 1992
ENVIRONMENTAL SERVICES

RECEIVED
JUN 22 1992
KMCC-FORREST PRODUCTS DIVISION
ENVIRONMENTAL & QUALITY CONTROL

Thompson

KMCC-FPD has agreed to meet with Columbus School Corporation environmental consultants to discuss in detail the results of the phase II assessment and the facility's waste management program. A meeting with Martin Rollins has been scheduled in Columbus for June 30, 1992. On June 9, 1992, KMCC responded to Mr. Rollins' request to provide information.

KMCC-FPD has obtained access to property located directly (cemetery) south of the facility. A Lease Agreement was executed in mid-June which allows KMCC to install a groundwater recovery system. The Lease has a term of 15 years. A fence and cemetery access road should be completed during July, 1992.

KMCC is in receipt of your June 9, 1992 letter requesting follow-up information on KMCC's June 2, 1992 proposal to modify the groundwater recovery system. KMCC responded to your request on June 24, 1992. KMCC believes the response satisfactorily answered your questions and is proceeding with the modification of the recovery system as proposed. A pre-bid meeting for contractors will be held in Columbus, MS on June 29th.

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

Dear Mr. Ferguson:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
July 1, 1992

Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385



June 26, 1992

KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125



Bruce Ferguson
June 26, 1992
Page 2

Second quarter corrective action groundwater monitoring was completed during the week of May 4, 1992, in accordance with the approved analytical schedule. In addition to monitoring wells on the approved analytical schedule, KMCC will sample wells CMW58, CMW61, and CMW62. KMCC is resampling monitoring wells CME4 and CMW58 during the week of June 22, 1992.

Third quarter corrective action monitoring is tentatively scheduled for the week of August 10, 1992.

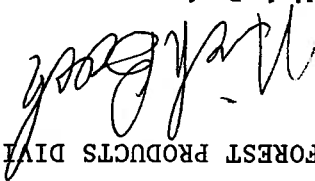
The recovery system continues to perform well. The semi-annual report was submitted on March 1, 1992 and detailed the performance of the groundwater monitoring and recovery systems.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION

FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

cc: J. Getz

R. Jones

R. Widmann

J.. Crawford, Esq.



STATE OF MISSISSIPPI

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

June 19, 1992

Dear Sir:

Re: Organic Air Emission Standards for
Hazardous Waste Treatment, Storage,
and Disposal Facilities

On June 21, 1990, EPA promulgated regulations for Organic Air
Emission Standards for Process Vents and Equipment leaks at
hazardous waste treatment, storage, and disposal facilities. The
regulations establish standards limiting organic emissions from:

(1) process vents (pipes, stacks, or other openings through
which emissions from a hazardous waste management unit
are released to the atmosphere either directly, through
a vacuum-producing system, or indirectly, through another
tank) associated with distillation, fractionation, thin
film evaporation, solvent extraction, and air or steam
stripping operations that manage hazardous wastes with 10
parts per million by weight (ppmw) or greater total
organics concentration, and

(2) leaks from equipment (valves, pumps, compressors,
pressure relief devices, open-ended valve or line, flange
or other connector, and associated air emission control
device or system) that contains or contacts hazardous
waste streams with 10 percent or more total organics by
weight.

The regulations set forth an implementation schedule for existing
facilities as follows:

- (1) Effective Date of Rule - December 21, 1990 - All facilities become subject to the new standards.

- (2) Compliance with the standard is not required on the effective date; however, the following is required to be placed in the operation record of each facility that does not have the control devices required by the standards in place and operating:

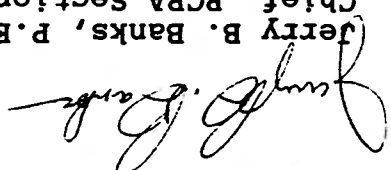
- (a) An implementation schedule indicating when the controls will be installed, or
(b) A process vent emission rate determination that documents that the emission rate limit is not exceeded (therefore, controls are not required).

- (3) No later than 18 months (June 21, 1992) - Any control devices required by the standards for process vents and equipment leaks must be installed at all facilities.

Enclosed is a copy of the regulations for your further review and determination of applicability to your facility. Please note that the final date for compliance is almost here as well as the requirement for documentation in the facility's operating record. Also, I request that you submit a copy of the documentation required in the facility's operating record.

If you have any questions please contact me at (601) 961-5221.

Sincerely,



Jerry B. Banks, P.E.
Chief, RCRA Section

JBB:cd
Enclosure



STATE OF MISSISSIPPI

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

June 19, 1992

Dear Sir:

Re: Use of Corporate Guarantee
for Liability Coverage

The use of a corporate guarantee to satisfy liability coverage per MHWMR 264.147(g)(2)(1) is a valid mechanism only after the Attorney General of the State in which the facility is located and in which the parent corporation is located issues a certification that the Corporate Guarantee, as described in Mississippi Hazardous Waste Management Regulation (MHWMR) 264.151(h)(2), is a valid and enforceable document in that state. If you are using the corporate guarantee for liability coverage, please provide a copy of the above required certifications by July 17, 1992.

If you have any questions concerning this request, please contact me at (601) 961-5221.

Sincerely,

Jerry B. Banks, P.E., Chief
RCRA Section

JBB-1:mes

RCRA NOTIFIERS LIST

FACILITY/ID
LEG. DIST

STATE MISSISSIPPI DATABASE

CONTACT - NAME

- PHONE

NOTIF. DATE

RUN 12.27.90 05/07/92

FACILITY TYPE
TSD GEN TRNS BBL REC

KEESLER AIR FORCE BASE FACIL.: DRMO - KEESLER MS2570024164 MAIL: 3380 CES/DEP	MARGARET SARTOR KEESLER AFB KEESLER AFB	(601)377-2548 MS 39534	12/12/89 HARRISON CO.	TSD	LOG	-	BBL	-
KERR-MCGEE CHEMICAL CORP. FACIL.: HIGHWAY 11 SOUTH MSD081387730 MAIL: P.O. BOX 25861	NICK E BOCK MERIDIAN OKLAHOMA CITY	(405)270-2394 MS OK	02/17/92 LAUDERDALE CO.	TSD	LOG	-	-	-
KERR-MCGEE CHEMICAL CORP. FACIL.: 2300 14TH AVE & 20TH STREET N MSD990866329 MAIL: P.O. BOX 906	ANTHONY HELMS COLUMBUS	(601)328-7551 MS 397010906	10/24/91 LOWNDES CO.	TSD	LOG	-	-	-
KIMBERLY-CLARK CORP. FACIL.: CORINTH MILLS MSD000623017 MAIL: KENDRICK ROAD ROUTE 9, KENDRICK ROAD	DAVID SCHNUELLE CORINTH CORINTH	(601)287-8011 MS 38834	03/12/90 ALCORN CO.	TSD	LOG	-	-	-
KOPPERS INDUSTRIES, INC. FACIL.: HIGHWAY 51 MSD007027543 MAIL: P.O. BOX 160	RONALD MURPHEY TIE PLANT TIE PLANT	(601)226-4584 MS 38960	05/23/91 GRENADA CO.	TSD	LOG	-	BBL	-
LEICA, INC. FACIL.: 2006 GOVERNMENT STREET MSD048816953 MAIL: 2006 GOVERNMENT STREET	ELAINE ALBERTS OCEAN SPRINGS OCEAN SPRINGS	(601)875-8146 MS 39564	08/28/91 JACKSON CO.	-N-	SQG	-	-	-
MASTER-BILT PRODUCTS FACIL.: HIGHWAY 15 NORTH MSD081338832 MAIL: P.O. BOX 59	PHILLIP CRISWELL NEW ALBANY NEW ALBANY	(601)534-9066 MS 38652	02/25/87 UNION CO.	TSD	LOG	-	-	-
MISS ARMY AMMUNITION FACIL.: BSAAP MS6210020560 MAIL: BUILDING 9110	DAVID TOWLE STEMNIS SPACE CENTER STEMNIS SPACE CENTER	(601)689-8813 MS 39529	12/19/91 HANCOCK CO.	TSD	LOG	-	BBL	-
MORTON INTERNATIONAL, INC. FACIL.: ELDER FERRY ROAD MSD008186587 MAIL: P.O. BOX 666	JOSEPH MAGAZZU MOSS POINT MOSS POINT	(601)475-2121 MS 39563	11/06/90 JACKSON CO.	TSD	LOG	-	-	-
NASA YELLOW CREEK PRODUCTION FACILITY FACIL.: 1 NASA DRIVE MS4640031155 MAIL: 1 NASA DRIVE	PAUL DAVIS TUKA TUKA	(601)423-0304 MS 388528900	10/22/90 TISHOMINGO CO.	TSD	LOG	-	-	-
PENICK FOREST PRODUCTS FACIL.: OLD HIGHWAY 45 NORTH 457037486941 MAIL: P.O. BOX 479	EUGENE PENICK MACON MACON	(601)726-5224 MS 39341	02/03/83 NOXURIE CO.	TSD	-	-	-	-
PINE-BILT MOOD PRESERVING COMPANY FACIL.: HIGHWAY 15 SOUTH, I-59 MSD991277195 MAIL: P.O. BOX 4007	WAYNE PARKER LAUREL LAUREL	(601)428-8430 MS 39440	09/21/80 JONES CO.	TSD	-N-	-	-	-
PSC ENVIRONMENTAL MANAGEMENT FACIL.: 315 INDUSTRIAL PARK DRIVE MSD985967389 MAIL: 6348 QUINN DRIVE	BILL CRAWFORD LIBERTY BATON ROUGE	(504)291-2765 MS 70817	01/08/92 AMITE CO.	-N-	-N-	-N-	-	-



- 2) As mentioned above, it is anticipated at this point that the trench systems will be operated for both free phase and dissolved constituents recovery.
- 1) The trenches are being located in areas of free product contamination, with the initial emphasis on free product recovery. The trench system will, however, be operated so as to maintain constant drawdown in and around the trenches. It may take several quarters of performance monitoring to demonstrate that the system has optimized free product and dissolved phase remediation through hydrodynamic control of the alluvial aquifer.

In response to each of your specific questions:

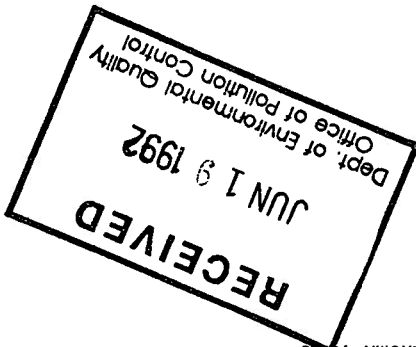
Kerr-McGee Chemical Corporation, Forest Products Division wishes to respond to each of your five questions/comments in your June 9 letter as they relate to the proposed changes KMCC-FPD is contemplating to the groundwater recovery program at the Columbus, Mississippi facility. In general, however, KMCC-FPD proposes to locate the trench system very close to the southern extent of free oil contamination (south of the production process area and on cemetery property). The exact location of the trench will be determined in the field, based on a series of "spot" excavations or holes. Further, KMCC-FPD realizes that a lateral excavation or recovery well south of the dewatering gallery may be required if the free oil phase has migrated south of the selected location of the dewatering gallery.

Dear Mr. Ferguson:

Re: June 9, 1992 letter from Bruce Ferguson to Nick Bock on the proposed revisions to the groundwater recovery program at Columbus, MS.

Mr. Bruce Ferguson
Office of Pollution Control
Hazardous Waste Division
P. O. Box 10385
Jackson, Mississippi 39289-0385

June 16, 1992



KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125



3) The trench system will be installed in areas of free product, and nearby piezometers will be installed to monitor the effectiveness of recovery. It may be required, during trench installation, to continue the length of the trench further than what is proposed because of the presence of free product. Likewise, if it seems prudent to install additional trenches at right angles to the main proposed one, then KMCC-FPD will be prepared to do so. Much will be determined on-site in the field as the trenches are being installed.

4) It is estimated, using the last 12 months of data, that groundwater and free product recovery is occurring at a rate of approximately 5 gpm. Installation of the proposed recovery trenches may add another 20 gpm or so, for a total recovery of about 25 gpm. Performance monitoring will be done after installation of the system to more fully document the operation of the system.

5) KMCC-FPD will dispose of all excavated soils in accordance with applicable state and federal regulations. All hazardous waste will be properly disposed of as hazardous waste.

KMCC-FPD appreciates working with you in the design of an effective groundwater remediation system for the Columbus facility. Please don't hesitate to call me at (405) 270-2394 if you have any more questions.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist



FILE COPY

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

June 15, 1992

Ms. Gayla Degusti
Kerr-McGee Chemical Corporation
Kerr-McGee Center
Oklahoma City, OK 73125

Re: Financial Assurance Requirements
Columbus Facility (MSD990866329)
Meridian Facility (MSD081387730)

Dear Ms. Degusti:

The financial documents submitted in March of 1992 were reviewed by EPA and considered to be adequate to meet the requirements and the applicable regulations. No additional information is required.

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

Sincerely,

Bruce Ferguson
Hazardous Waste Division

BF:cd

To my knowledge, there have been no CERCLA activities, major spills, risk assessments or ambient air monitoring at the site. I have not had the opportunity at this time to determine if rainfall analyses exist for the Columbus area.

- SARA Form R's for 1988, 1989 and 1990
- June 2, 1992 - Proposal to Revise Groundwater Recovery System
- April 23, 1992 - Phase II, Off-site Groundwater Assessment Report
- March 1, 1992 - Annual/Semi-Annual Performance Report - 1990 (Semi-Annual - July 1991 to December 1991)
- March 28, 1991 - Post-Closure Permit Application, Volume III
- Oct. 30, 1990 - Post-Closure Permit Application, Part B, Volume II
- April 12, 1990 - Post-Closure Permit Application, Part B Hazardous Waste Permit No. HW-90-329-01 (Permit) and was issued September 11, 1990.

I have enclosed the following documents previously submitted to the Mississippi Bureau of Pollution Control:

In response to your June 8, 1992 letter, Kerr-McGee Chemical Corporation (KMCC) has made copies of information developed for our Columbus, MS facility. I am sure you can appreciate that a great deal of information has been developed over the past 10 years for the facility.

Dear Mr. Rollins:

Re: Kerr-McGee Chemical Corporation
Columbus, MS Wood Treating Facility
Facility Information

Martin Rollins
11594 Lorraine Road
P.O. Box 3471
Gulfport, MS 39503

June 9, 1992

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-McGEE CHEMICAL CORPORATION



I believe the receipt of these documents will provide you with the information required to review the hydrogeologic environment at our Columbus facility. Based on our telephone conversation of June 8, 1992, I have scheduled a meeting at Columbus with you on June 29th and June 30th to conduct a site inspection, review facility records, and to discuss information I forwarded to you.

In the interim, if you have questions, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION



Nick Bock

Staff Environmental Specialist

NB:wpc
Attachments

cc w/o attachments: J. H. Bull
J. A. Crawford, Esquire
B. Ferguson
J. J. Getz
J. Poor

FILE COPY



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

June 9, 1992

Mr. Nick Bock
Kerr-McGee Chemical Corporation
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Re: Proposal to Revise Groundwater
Recovery Program
Kerr-McGee Chemical Corporation
Columbus, Mississippi

Dear Mr. Bock:

The Mississippi Office of Pollution Control has reviewed the
above referenced document and has the following questions and
concerns:

- 1) The proposal does not appear to address the dissolved
phase of contamination. Will the trench be able to
contain the plume and prevent it from increasing in size?
- 2) Is there a second phase of the plan to address the
dissolved phase once the DNAPL has been removed?
- 3) How much of the DNAPL plume is downslope of the proposed
trench location? How will the trench be effective in
removing this portion of the plume?
- 4) At what rates will the groundwater be removed?
- 5) Excavated soils which are hazardous waste must be
disposed of as hazardous waste.

Please address these items and respond to me at the address

below.

*Mr. Nick Bock
Kerr-McGee
6/10/92*

Sincerely,
Bruce Ferguson
Bruce Ferguson
Hazardous Waste Division

BF:cd



KMCC has been negotiating with off-site property owners to gain access for construction of the expansion of the recovery system. KMCC believes an agreement has been reached with the Columbus Cemetery and Investment Company and anticipates the lease agreement will be formally executed in June/July 1992. Work will begin immediately after the lease agreement has been executed.

(SWMU) east of the production process area. south of the process area and for the Solid Waste Management Unit wells. These gallery/trench designs are proposed for the area rather than the originally proposed two series of six recovery de-watering gallery and a system of trenches for corrective action the approved recovery system. KMCC-FPD is proposing to install a Volume III, Post-Closure Permit Application) and desires to modify off-site and on-site recovery system (proposed in Section 10 of KMCC-FPD has utilized this additional assessment data to review the

these assessments were reported to you April 23, 1992. Facility, during January and February of 1992. The results of KMCC-FPD conducted additional assessment activities to verify the extent of contamination, both south and east of the Columbus

letter. Mississippi Bureau of Pollution Control (MBPC) in a July 19, 1991 Facility. This proposal was subsequently approved by the Post-Closure Permit Application for the Columbus, Mississippi Division (KMCC-FPD) proposed an extension of the existing ground water corrective action in Section 10, Volume III of the On March 28, 1991 Kerr-McGee Chemical Corporation - Forest Product

Dear Mr. Ferguson,

Re: Kerr-McGee Chemical Corporation Forest Product Division
Columbus, Mississippi
Proposal to Revise Groundwater Recovery Program

Mr. Bruce Ferguson
Bureau of Pollution Control
P.O. Box 10385
Jackson Mississippi 39289-0385

June 2, 1992



KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

Corrective Action Goals

An on-site assessment of the Columbus Facility delineated the horizontal migration of free oil along the interface of the alluvium and the Eutaw formation at an approximate depth of 20 feet below ground surface. In addition, this assessment also delineated the horizontal extent of dissolved wood preservative constituents.

Based on this assessment and MBPC approval, a recovery system was designed and constructed south of the process area. This was proposed in Section IV - Engineering Feasibility of the Appendix B, Permit Application Volume II (4/12/90). This system was operational on August 20, 1990 to initiate corrective action for product removal and to prevent offsite groundwater migration. Remedial goals for the corrective action were based on:

Performance - Corrective measurements most effective at performing their intended function and maintaining the performance over extended periods of time.

Reliability - Corrective measures which do not require frequent or complex operation and maintenance activities and that have proven effective under similar situations at other KMCC-FPD facilities.

Implementability - Corrective measures which can be constructed and operated to attain applicable clean-up standards in the shortest period of time.

Safety - Corrective measurements which pose the least threat to safety of nearby residents and the environment as well as to workers during implementation.

Human Health - Corrective action measurements must comply with existing U.S. EPA criteria, standards or guidelines for the protection of human health. Corrective measurement which provide the minimum level of exposure to contaminants and the maximum reduction in exposure with time.

Environmental - Corrective measure that poses the greatest improvement over a reasonable time on the environment.

The Present Corrective Action

The present recovery system consists of five (5) recovery wells at the southern facility boundary. The recovery wells were constructed of 8" diameter stainless-steel casing with 5 feet of 0.03" (30 slot) wire-wrap stainless-steel screen. Two (2) inch piezometers have been installed midway between these wells to measure the total effect from pumping the alluvial aquifer. Each recovery well is fitted with a suction lift pump with the intake placed at the contact of the alluvium with the underlying Eutaw formation. Two conductivity probes are placed at 15 feet and 20 feet below grade which allows the fluid well in the well to recover a maximum of 5 feet before the pump cycles on and evacuates the fluid. Static groundwater in this area would be expected to be 5 feet below grade without the groundwater recovery system.

The results and effectiveness of the initial pumping program have been described in the Post-Closure Permit Application, Part B, Volume II (10/30/1990), in the Post Closure Permit Application, Part B, Volume III (3/28/91) and in the succeeding Semi-Annual Reports, (10/1/1991 and 3/1/92).

An extension to this on-site recovery system was proposed March 28, 1991 in the Post-Closure Permit Application, Part B, Volume III, Attachment 1 (Figure 10-1) is the map which shows the location of the proposed recovery wells in relation to those presently installed.

Proposed Extension of the Present Corrective Action

The recovery system will be extended to insure groundwater/free oil recovery in (1) the on-site SWMU and (2) off-site of the production process area. The extension was modeled utilizing the first six months of operating data from the existing groundwater recovery system. The effects of anticipated seasonal increase in groundwater recharge, design and well construction and performance criteria for the extension of the recovery system were discussed previously in Volume III of the Post-Closure Permit Application. (3/28/91).

The proposed extension consisted of 6 recovery wells placed south of the production process area (south of the present recovery system). In addition, 6 recovery wells were proposed in the SWMU in the black tie storage area of the facility.

Proposal to Revise the Extension of the Corrective Action System

The initial corrective action program has been in operation for almost two years. Over this time, the system has been evaluated. KMCC-FPD feels that this recovery system is operating effectively, however it could be more efficient for the following reasons:

* Operation and maintenance on this system is costly and time consuming. The tank volume meter and the individual hour meters on each well pump are read daily. Water levels in the recovery wells, the piezometers, and in the surrounding monitor wells are measured weekly to insure that the system is properly functioning.

Mechanical problems are corrected as soon as possible. Mechanical overhauls require downtime for a recovery well which is acting as an integral part of the system. If a well is not performing, the cone of depression recovers and groundwater migration through this area is not mitigated.

* Seasonal groundwater effects occur which reduce the operational capability of the pumping system. The groundwater recharge by surface infiltration may exceed the pumping ability of the system during the heavy spring rains.

A large diameter gallery and trench system has been installed at the KMCC-FPD Texarkana, Texas Wood Treating facility. KMCC-FPD feels that this type of recovery system could also benefit the Columbus Facility. A location of the proposed collection gallery and the trenches has been submitted as Attachment 2. The collection gallery, as constructed on Attachment 3, would be placed at the T-intersection of the two trenches in the SMMU area. The collection gallery south of the production process area would be placed in the erosional low of the Eutaw formation. The trenches are excavated to the impermeable Eutaw formation. Trench construction is shown on Attachment 4.

As was recommended in the Post-Closure Permit Application, Volume III, the existing recovery wells RW3, RW4, RW5, RW6, RW7, and RW8 will be operated for free product recovery. These wells will not be utilized for groundwater control and therefore will be pumped on an intermittent basis.

This system has proven to be more effective than the recovery wells in assuring containment and recovery of impacted groundwater for the following reasons:

- * System Reliability - Six recovery well pumps would be reduced to two pumps. The two pumps would be placed in each four to five feet diameter collection gallery. Due to the ability to easily switch over to a standby pump, there would be no downtime due to mechanical failures of the primary pump. Operation and maintenance costs will be reduced.
- Sand and fines can be removed easily from the gallery, should they accumulate.
- Visual reinforcement of the gallery pump effectiveness can be observed by looking into the gallery well.
- * Increased Recovery Area - The recovery wells have a borehole annulus of approximately 14 inches. The trench will be approximately 8 feet wide at the base and filled with washed gravel. This increased collection area will increase creosote capture/recovery.
- * Increased Monitoring Abilities - Piezometers will be installed at appropriate intervals in the trench to measure the potentiometric surface and product thickness along the trench.
- * More Efficient Hydraulic Barrier - The trench will be constructed perpendicular to groundwater flow direction. Attachment 5 shows the proposed recovery system on the potentiometric map constructed on 11/5/91. The groundwater flow through the trench will insure ground water capture. The seasonal groundwater effects would be of a lesser influence to the trench than to the recovery wells.
- * Ability for Future Expansion - The system can be easily expanded by continuing the trench as required. Additional pumps can also be added, or their capacity increased if additional pumping volume is required.
- Some difficulties and disadvantages may be associated with this type of collection gallery/trench recovery system.
- * The construction cost is approximately 2 times the cost of the proposed recovery wells.
- * The system will take approximately 1 month longer to construct than recovery wells.

Mr. Bruce Ferguson
June 2, 1992
Page 6

* Contractors with specialized experience and equipment are required.

* The contaminated excavated soils will be used as backfill and placed on top of the gravel or geotechnical fabric.

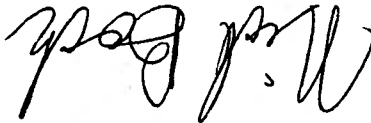
* Excessive caving of the alluvial sands and gravel may occur during excavation. Because of the unobstructed access, the recovery system will be first installed on cemetery property to insure that the desired depth of excavation can be reached.

The SWMU is in the facility heavy traffic area. The area is overlain by several sets of railroad tracks. Plant production will be virtually at a stand-still during installation of the recovery trenches. If excessive alluvial caving occurs during the excavation process in the cemetery, the six (6) recovery wells, originally proposed in Section 10 of Volume III, Post-Closure Permit Application, will then be installed in the SWMU area, instead of installing the gallery system.

KMCC-FPD looks forward to undertaking this innovative form of recovery system. The revised recovery system can be implemented in late July or August of 1992, pending a lease agreement with the cemetery investment group. If you have any questions or if I may be of further assistance, please contact me at (405)270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORP.
FOREST PRODUCT DIVISION



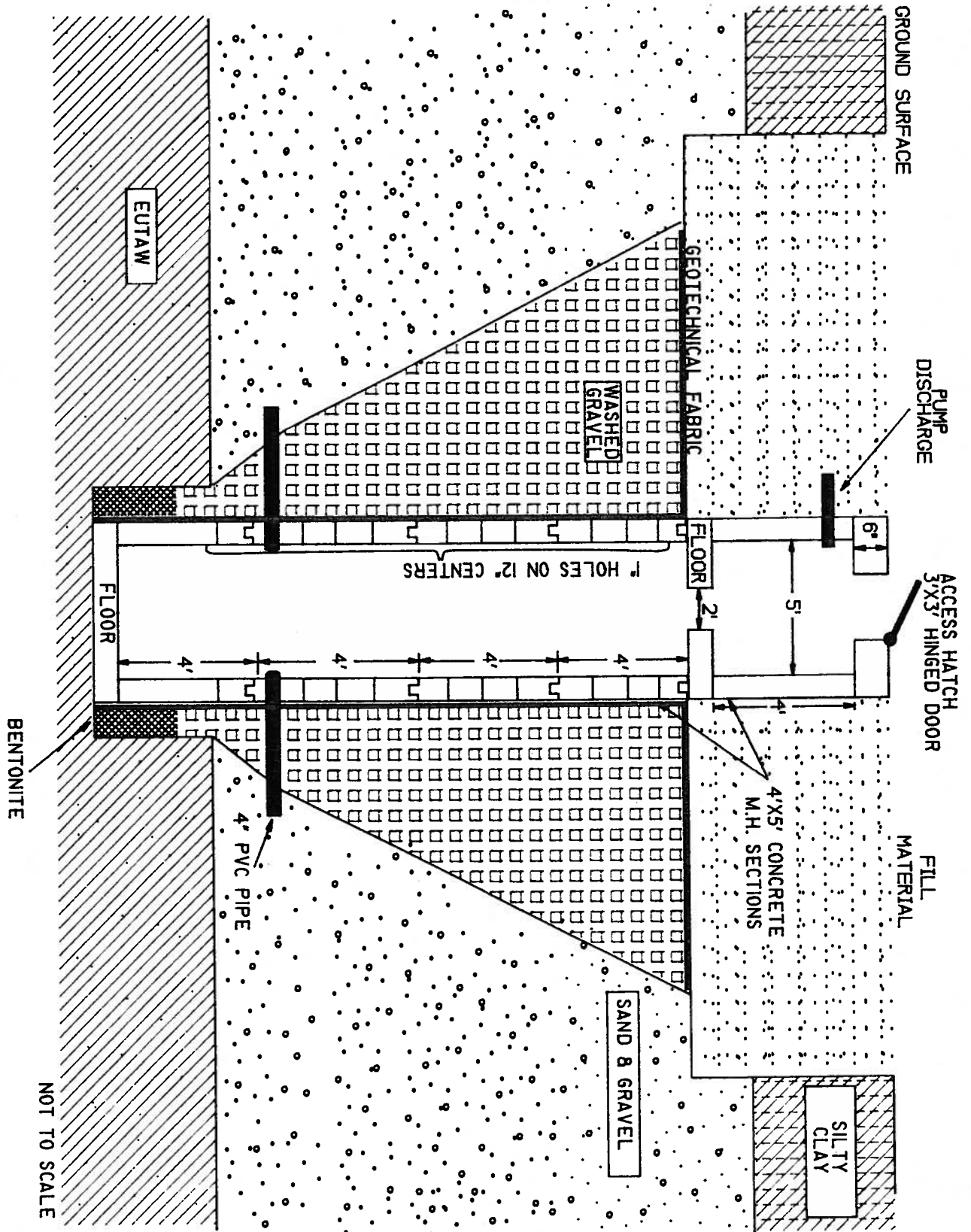
NICK BOCK

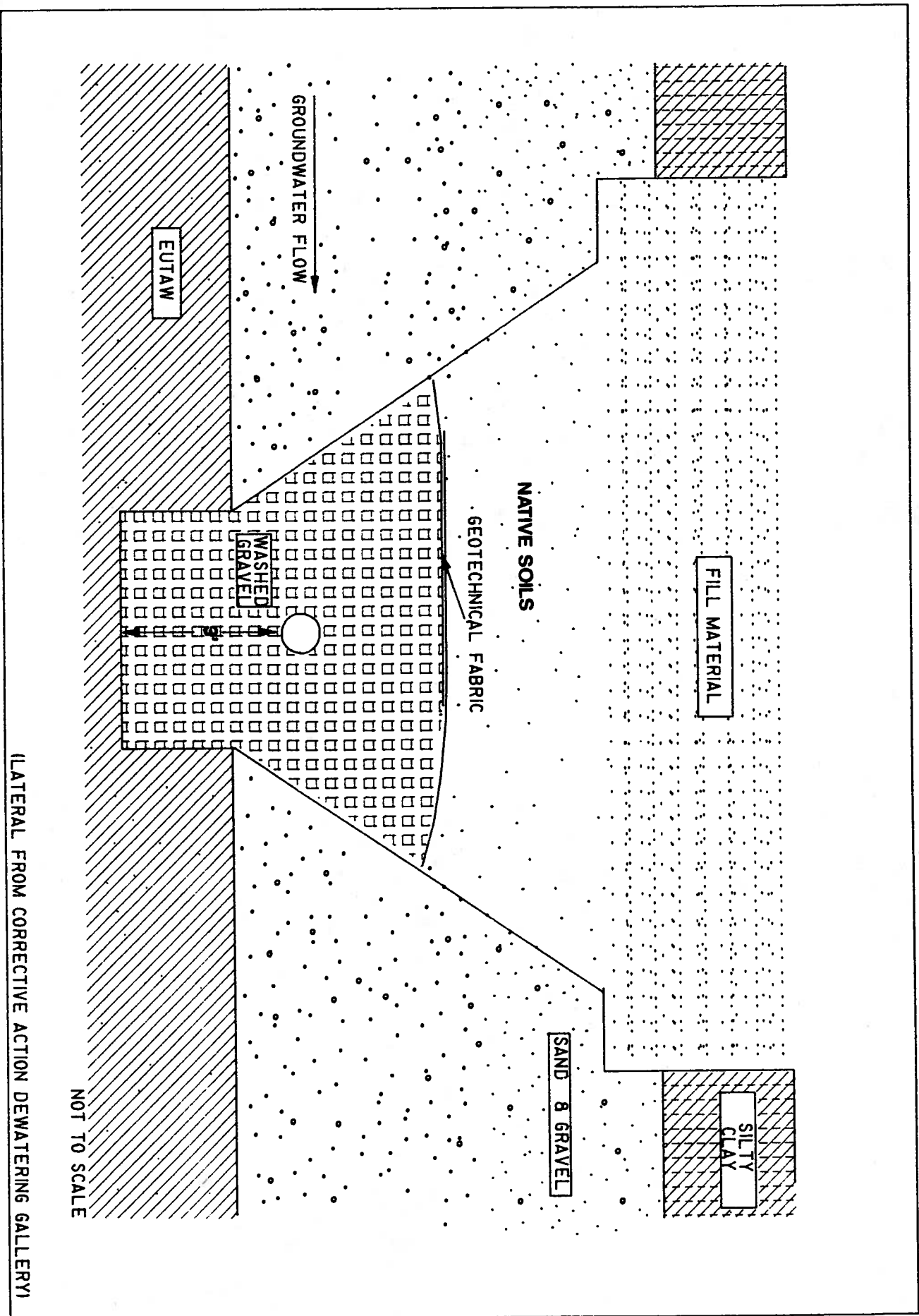
Staff Environmental Specialist

NB/JP

CC: J.J. Getz
J.M. Poor
J.H. Bull

CORRECTIVE ACTION DEWATERING GALLERY

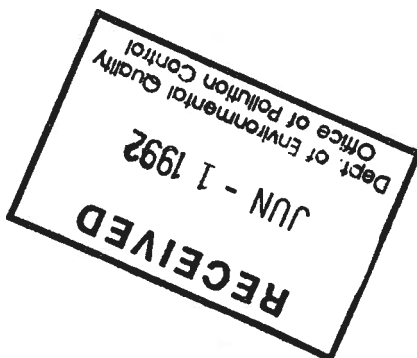




CORRECTIVE ACTION CONTAINMENT TRENCH
KMCC-FPD, COLUMBUS, MS

**BUTLER, SNOW
& CANNADA**
ATTORNEYS AT LAW

May 29, 1992



(601) 949-4534

WRITERS DIRECT NUMBER

17TH FLOOR
DEPOSIT GUARANTY PLAZA
P.O. BOX 22567
JACKSON, MS 39225-2567
(601) 948-5711
TELECOPIER: (601) 949-4555

VIA TELECOPIER AND U.S. MAIL

Mr. Jeffrey H. Bull
Manager, Environmental, Quality,
and Technical Services
KERR-MCGEE CHEMICAL CORPORATION
Oklahoma City, Oklahoma 73125

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Offsite Contamination

Dear Jeff:

We received your letter of May 11, 1992 with the enclosure. We did not respond sooner since we were working with the School District in the selection of an environmental consultant.

The School District has employed H. Martin Rollins of H. M. Rollins Company, Inc., P. O. Box 3471, Gulfport, Mississippi 39505; telephone number (601) 832-1738. We recommend that Martin Rollins coordinate directly with you and others at Kerr-McGee in reviewing and analyzing post-closure care, corrective action, offsite contamination and air quality issues. It will be very helpful to the School District and to us for you to add H. M. Rollins company to the mailing list so that future fillings can be furnished to Rollins. Our need to receive copies will continue.

We want to meet with you and others at Kerr-McGee; however, we believe that the conference will be much more productive if Martin Rollins has had an opportunity to review the RCRA and Air Quality fillings and has made a site visit.

ROBERT C. CANNADA
DAN McCULLEN
HAROLD D. MILLER, JR.
LAWRENCE J. FRANK
C. EUGENE McROBERTS, JR.
JOHN A. CRAWFORD
D. CARL BLACK, JR.
LAUCH M. MAGRUDER, JR.
HUGH C. MONTGOMERY, JR.
JAMES W. OMARA
JAY A. TRAVIS, III
LEE DAVIS THAMES
CHARLES L. BROCATO
KENNETH W. BARTON
CHARLES F. JOHNSON, III
STEPHEN W. ROSENBLATT
JAMES S. OVERSTREET, JR.
HERBERT C. EHRLARDT
CHRISTY D. JONES
DON B. CANNADA
PHIL B. ABERNETHY
W. EUGENE MAGEE
THOMAS E. WILLIAMS
EDWARD A. WILMESHERR
R. BARRY CANNADA
THOMAS C. LACEY, JR.
JOHN C. HENEGAN
J. CARTER THOMPSON, JR.
DANIEL G. HISE
JEFFREY A. WALKER
PAUL N. DAVIS
J. PAUL VARNER
J. STEVENSON RAY
E. MARCUS WIGGS, III
JAMIE PLANCK MARTIN
PAULA A. GRAVES
LESLIE JOYNER BOBO
ANNE V. WINTER
ANN FORTINBERRY CORSO
ROBERT M. FREY
GILBERT C. VAN LOON
THOMAS A. WEBB
A. CAMPBELL HENICK
RONALD G. TAYLOR
J. COLLINS WOMNER, JR.
DONNA BROWN JACOBS
H. MONROE SIMPINS
J. CAL MAYO, JR.
GEORGE R. THOMAS
J. LEE WOODRUFF
SELBY A. REILAND
E. BARRY BRIDGFORKE
WILLIAM M. GAGE
MICHAEL E. McWILLIAMS
STEPHANIE P. McGEE
ARTHUR D. SPRATLIN, JR.
NANCY MORSE PARKES
BROOKS R. BUCHANAN

GEO. BUTLER (1948)
J. MORGAN STEVENS (1951)
CHAS. B. SNOW (1960)
JUNIOR OMARA (1986)

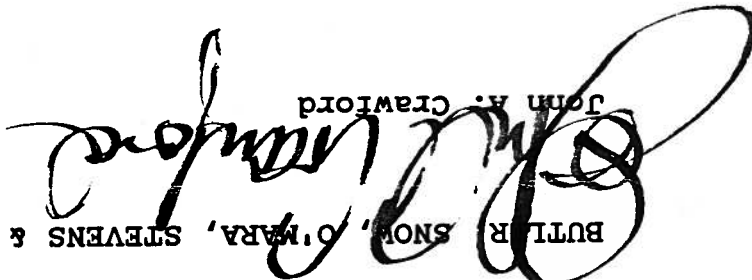
Mr. Jeffrey H. Bull
May 29, 1992
Page 2

By copy of this letter to Martin Rollins we request
that he contact you to establish a line of communication
to arrange to review previous filings and to visit the
Kerr-McGee site when he travels to Columbus for his
inspection of the Hunt Middle School property.

Very truly yours,

BUTLER SNOW, O'ARA, STEVENS & CANNADA

John A. Crawford



JAC:KK
2115\G3173

cc: W. David Dunn, Esquire
Mr. H. Martin Rollins (Via Telecopier and U.S. Mail)
Mr. Bruce Ferguson (DEQ)



STATE OF MISSISSIPPI

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

May 28, 1992

Mr. O. Kendall Moore
Butler, Snow, O'Mara, Stevens & Cannada
P. O. Box 22567
Jackson, MS 39225-2567

Re: Letter of April 8, 1992
Kerr-McGee Chemical Corp.
Columbus, Mississippi

Dear Mr. Moore:

The Mississippi Office of Pollution Control (Office) has received the above referenced letter. The answers below are numbered as the respective question.

- 1) The Mississippi Office of Pollution Control feels that the plume of contamination has been adequately defined to the east. The Office feels that additional wells will be necessary to define the southern boundaries of the plume. Namely the areas between MW-58 and MW-63 and between MW-58 and MW-54.
- 2) As stated in item 1 the Office will require additional assessment.
- 3) Kerr-McGee will be required to conduct complete cleanup operations on-site and off-site of the facility.
- 4) Kerr-McGee will be required to clean up to background or the lowest achievable laboratory method detection limit.
- 5) Refer to item 4.
- 6) Off-site corrective action efforts will begin as soon as access to the cemetery has been granted. It appears that the Cemetery Board and Kerr-McGee have come to and

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agreement, however, lease agreements have not yet been signed.

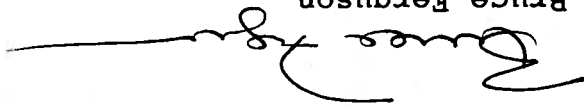
7) Cleanups of this nature are lengthy projects. A rough estimate would be approximately 30 years.

8) Groundwater pump and treat and bioremediation are likely choices. Pump and treat has already been initiated on-site and will be installed off-site. Once the DNAPL plume has been removed, bioremediation will most probably be used in conjunction with pump and treat.

9) As mentioned previously, an off-site access agreement appears to have been reached. As soon as the legalities are settled, Kerr-McGee will initiate field activities within the month.

Should you have any additional inquiries, please contact me.

Sincerely,



Bruce Ferguson
Hazardous Waste Division

cc: B. Harman
R. Widmann w/o enclosed

Enclosure

NB:wpc

Nick Bock
Staff Environmental Specialist

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

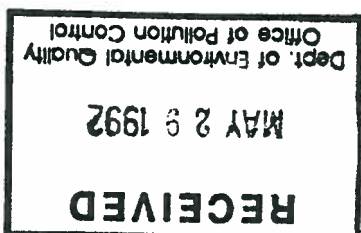
Sincerely,

As a followup to our telephone conversation on May 19, 1992, I have enclosed a copy of the final Post-Closure Care Plan for the Kerr-McGee Chemical Corporation (KMCC) Meridian, Mississippi facility. This is in response to the April 24, 1992 draft permit for the Meridian facility. In addition, I would like to confirm our meeting in Jackson, Mississippi, scheduled for June 3, 1992 at 8:30 AM. If you have any questions, please telephone me at (405) 270-2394.

Dear Mr. Ferguson:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Meridian Mississippi Facility
Draft Permit

Mr. Bruce Ferguson
Office of Pollution Control
Hazardous Waste Division
P. O. Box 10385
Jackson, MS 39289-0385



May 21, 1992

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

KERR-MCGEE CHEMICAL CORPORATION

FOREST PRODUCTS DIVISION

MERIDIAN, MISSISSIPPI FACILITY

EPA I.D. NO. MSD 081387730

HAZARDOUS WASTE SURFACE IMPOUNDMENT:

POST-CLOSURE CARE PLAN

JUNE 2, 1992

Revised:
Hazardous Waste Management Permit HW01
3/22/88

POST-CLOSURE CARE PLAN
CLOSED SURFACE IMPOUNDMENTS
MERIDIAN, MISSISSIPPI

This section describes the post-closure care plan KMCC-FPD will follow for at least 30 years, unless approval is received from the MBPC and the EPA to discontinue the program. Post-closure care has been provided since the spring of 1988 for the closed surface impoundment. Therefore 26 years are remaining in the post-closure care period. The plan is organized into six areas: inspection and maintenance, security, training, recordkeeping, corrective groundwater monitoring, and financial assurance.

The post-closure care plan will be implemented by the Site Hazardous Waste Coordinator. Table 1-1 presents a summary of the responsibilities of the coordinator. The KMCC-FPD Hazardous Waste Program Coordinator will provide assistance to the plan whenever necessary. The Hazardous Waste Program Coordinator is a division staff position responsible for the development of hazardous waste programs at all KMCC-FPD sites. One copy of the post-closure plan will be kept at the site, and one at the division headquarters office in Oklahoma City, OK.

INSPECTION AND MAINTENANCE

The area containing the closed impoundment will be inspected for the following items:

Erosion damage. The impoundment cap and cover are designed to minimize erosion. They will be inspected for growth of cover, sloughing, growth of nuisance plants, and any other signs of disturbance. Grass will be mowed, fertilized, and re-seeded as needed; sloughing will be remedied as soon as it is discovered; nuisance plant growth will be controlled.

Security devices. The fence surrounding the impoundment, and any locks on the fence, will be inspected for any breaks or signs of damage. All warning signs will be checked for legibility and evidence of damage and replaced as required.

Run-on/run-off control system. The dome-shaped cap of the impoundment is designed to act as run-on/run-off control. Pooling of water in any part of the impoundment cap will be used to indicate failure of this system, and will be remediated within five days of discovery.

Groundwater monitoring system. All monitoring wells will be inspected for the presence of a locked cap, integrity of the above-ground well casing, and the condition of the concrete collar at the base of the well casing.

Remedial action will be implemented within five days of any inspection which reveals areas requiring attention. The results of each inspection, and any related remedial maintenance will be recorded on the form presented in Figure 1-1. Table 1-2 indicates the frequency of inspections.

In addition to these routine inspections, an engineering site survey will be performed by an outside professional engineer whenever routine inspections indicate failure of the run-on/run-off control systems as evidenced by the pooling of water on the impoundment cap and cover. This engineering survey would primarily address the issue of subsidence, but the engineer will make a general inspection of the site as well.

FIGURE 1-1

POST-CLOSURE CARE INSPECTION REPORT
 KERR-MCGEE CHEMICAL CORPORATION
 FOREST PRODUCTS DIVISION
 MERIDIAN, MISSISSIPPI

INSPECTION TEAM	CONDITION () Needs Attention (Describe)		MAINTENANCE PERFORMED
<u>IMPOUNDMENT CAP AND COVER</u> Top Soil/Clay Growth of Plants Ground Cover Presence of Standing Water			
<u>SECURITY DEVICES</u> Fence Locks Warning Signs			
<u>GROUNDWATER MONITORING WELLS</u> Cap Casing Concrete Collar Locks			

REMARKS _____

 DATE

 SIGNATURE TIME

Two inspections per month are required or after 2" rain in a 12 hour period.

Principal hazardous waste coordinator, responsible for all facility operations with the authority to commit the resources needed to carryout the post-closure care plan, including inspection and maintenance, security, recordkeeping, and reporting.

SITE HAZARDOUS WASTE COORDINATOR

FACILITY HAZARDOUS WASTE COORDINATOR

TABLE 1-1

* In addition, the General Areas, Groundwater Monitoring Wells and Security shall be inspected when rainfall exceeds 2 inches in any 12 hour period.

ITEM		FREQUENCY
*INSPECTION		
General Area		
Groundwater Monitoring Wells		
Security		
Engineering Survey		
Twice/month		
Twice/month		
Twice/month		
As necessary		
MAINTENANCE		
Erosion/Subsidence Backfill		
Gravel Replacement		
Remedial Maintenance		
As necessary		
As necessary		
As necessary		

POST-CLOSURE INSPECTION AND MAINTENANCE SCHEDULE

TABLE 1-2

SECURITY

The closure procedures were conducted such that they effectively isolated the facility workers and surrounding community from exposure to any potentially hazardous situation created by the closed facility. In addition, KMCC-FPD will maintain a locked fence around the closed impoundment to limit access to the area. Warning signs which advise people of all potential dangers in the closure area will be placed on the fence.

TRAINING

As part of the KMCC-FPD safety program, all personnel exposed to potentially hazardous situations are trained annually in how to minimize the risk of those situations to human health. The program includes a separate training session for the on-site hazardous waste coordinator.

An outline of the hazardous waste training program is given in Table 1-3. The training program will be conducted by qualified personnel from KMCC-FPD or Kerr-McGee Corporation, Division of Environment and Health Management. A record of the attendees and their performance during the training session will be maintained on-site.

RECORDKEEPING

All records associated with the Post-Closure Care Program will be maintained at the plant site. These records will be available to MBPC and EPA officials upon their request and verification of their identification. The retention period for all records is given in Table 1-4. The site hazardous waste coordinators will be responsible for recordkeeping.

GROUNDWATER MONITORING

The post-closure groundwater monitoring program of the closed surface impoundments is designed to measure the effectiveness of the impoundment closure with regard to K001 waste constituents.

The Post-Closure Care groundwater monitoring program of the closed surface impoundment shall consist of compliance wells MW2A and MW4A to monitor the effectiveness of impoundment closure. Monitoring well MW3A, adjacent to a solid waste management unit (sewer line), is part of the facility groundwater monitoring program. Monitoring well MW1B is the background monitoring well. The P-series piezometers were installed to determine the configuration of the potentiometric surface of the alluvial aquifer. Location of all wells is shown in Figure 1-1.

Groundwater monitoring and reporting requirements for the Meridian facility are contained in Module II of post-closure permit MSD081387730. This permit was originally issued March 22, 1988 as permit HW01.

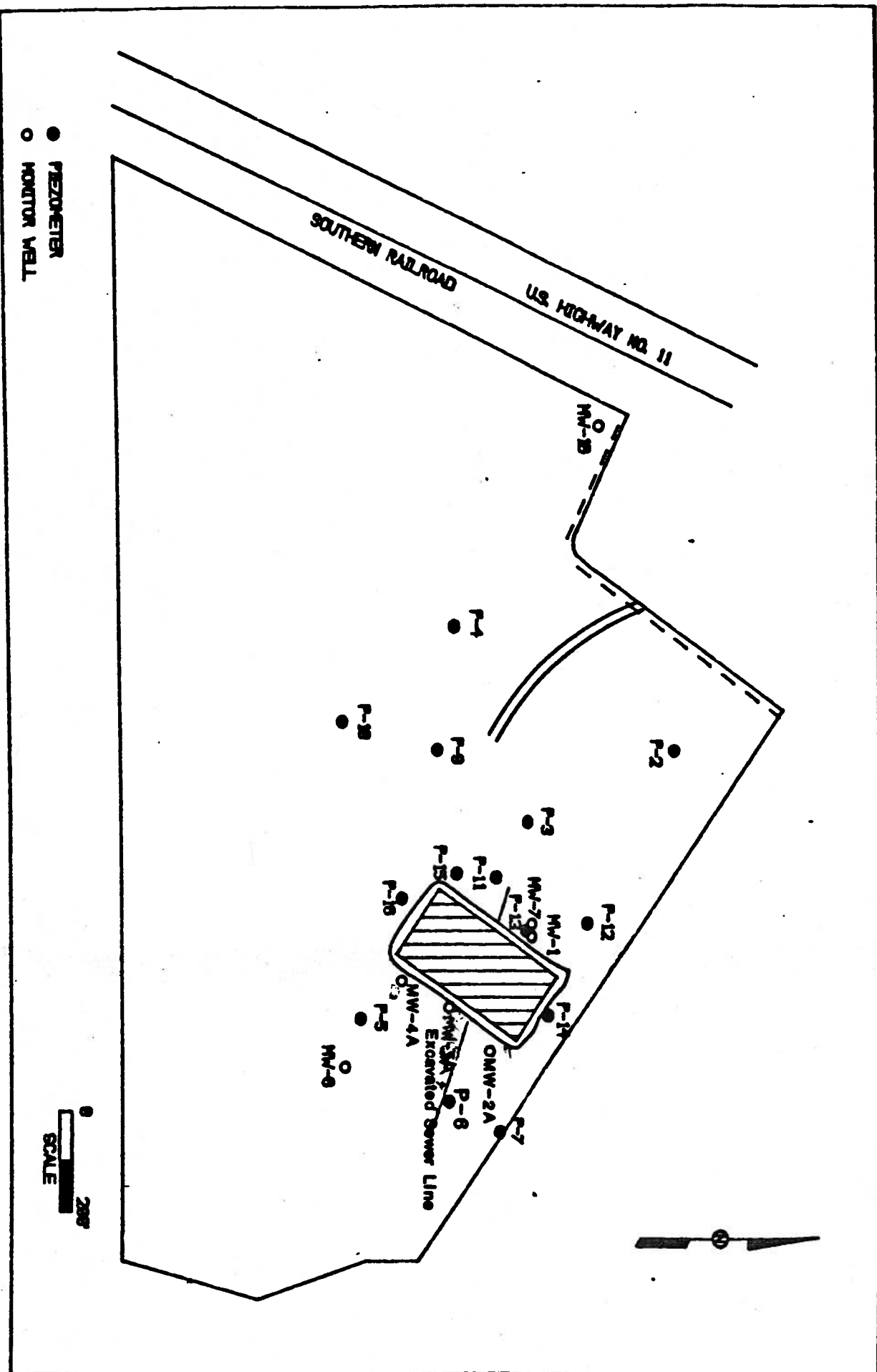


Figure-1: Map Showing Sewer Line Location

FINANCIAL ASSURANCE

KMCC has projected an annual cost of the Post-Closure Care Program to be \$16,300.00. A breakdown of the total cost estimate is given in Table 1-5. Financial documents which provide for 30 years of post-closure care are submitted annual by March 1 of each year.

HAZARDOUS WASTE TRAINING OUTLINE

TABLE 1-3

I)	Regulations Review	A) Purpose of RCRA	B) Basic Operating Standards Applicable to Post-Closure Care	C) Recent Modifications Applicable to Post-Closure Care	
II)	Reporting Procedures	A) Spill/Emergency Response	B) Waste Generator Report	C) Groundwater Reports	D) Manifest Preparation
III)	Record Keeping				
IV)	Post-Closure Care Plan	A) Inspection and Maintenance	B) Security	C) Record Keeping	D) Groundwater Monitoring
V)	Emergency Response Program				
VI)	New Regulations				

Item	Retention Period
Inspection Records	3 years
General Maintenance Records	5 years
Training Records	Indefinitely (until employee termination)
Groundwater Monitoring Records	30 years
Remedial Maintenance Records	10 years

RETENTION PERIOD FOR POST-CLOSURE CARE RECORDS

TABLE 1-4

POST-CLOSURE CARE COST ESTIMATE

June, 1992

TABLE 1-5

ITEM		ANNUAL COST
<u>INSPECTION</u>		
a) Bi-Monthly inspection: 1 hour/month, 12 months/year, \$20/hour		\$ 300.00
<u>MAINTENANCE</u>		
A) Routine Maintenance including fence, sign, weed control, monitoring well, 2 hours/week, 100 hours/year, \$10/hour		\$ 1,000.00
b) Emergency:		\$ 1,000.00
<u>GROUNDWATER MONITORING</u>		
a) Quarterly sampling for K001 constituents: 4 wells, \$750/well, 4 times/year		\$12,000.00
<u>ADMINISTRATION</u>		
a) Record Keeping: 1 hour/month, 12 months/year, \$25/hour		\$ 300.00
b) Annual Report: 40 hours, \$50/hour		\$ 2,000.00
Total Annual Cost		16,300.00
27 year Cost Estimate		\$440,100.00



cc: J. J. Getz (w/o enc.)
N. E. Bock (w/o enc.)
B. Ferguson (w/o enc.)
J. Poor (w/o enc.)

JHB/lw
Enclosure

Jeffrey H. Bull
Manager, Environmental, Quality,
& Technical Services

KERR-McGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Sincerely,

In response to your April 30, 1992 letter, enclosed is a copy of the 1992 Phase II Offsite Groundwater Assessment report for the Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD), Columbus, Mississippi facility. This report details the assessment results for activities conducted on Columbus Municipal School District property during January and February of 1992. As previously discussed, KMCC-FPD proposes that we meet and discuss matters related to the groundwater contamination in the vicinity of our Columbus, Mississippi facility. Please contact me at 405/270-2391 to arrange a meeting so that we may discuss these matters in detail.

Dear Mr. Crawford:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Phase II Offsite Assessment Rept.

Mr. John A. Crawford
Butler, Snow, Mara, Stevens & Canada
Attorneys-at-Law
17th Floor, Deposit Guaranty Plaza
P. O. Box 22567
Jackson, MS 39225-2567

May 11, 1992

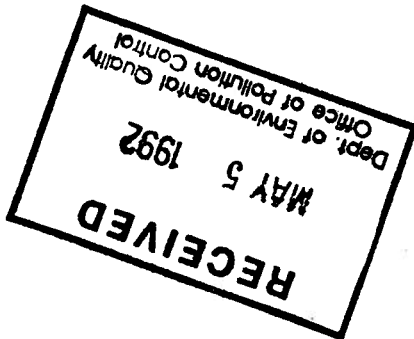
 **KERR-McGEE CHEMICAL CORPORATION**

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

May 1, 1992



Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
May 1, 1992

Dear Mr. Ferguson:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

KMCC-FPD submitted the phase II offsite groundwater assessment report on April 23, 1992. This report detailed assessment activities during January and February 1992. The results of these investigations did not significantly change the extent of known contamination, a structure map or potentiometric surface maps developed from previous investigations. However, a greater confidence level was achieved in regarding the conclusions of previous investigations. This report concluded that the 1) impact of contamination on school property is of very limited extent 2) the potential for further impact of school property is extremely small due to groundwater flow direction and the bedrock surface (Eutaw) sloping away from the school property 3) the area of impact on school property is limited to the top of the Eutaw formation at a depth of 23 feet below ground surface, and 4) the extent South and East of the facility has been defined by the installation of additional monitoring wells.

KMCC-FPD continues efforts to obtain access to property located directly (cemetery) south of the facility. KMCC-FPD met with Cemetery Board on April 14 and made proposals to lease or purchase the impacted area. The Cemetery Board has made a counter proposal and KMCC-FPD is reviewing the proposal.

KMCC-FPD has agreed to meet with Columbus School Corporation representatives and discuss in detail of the results of the phase II assessment.

Must Copy to EPA 5/15/92 EOT



Bruce Ferguson
May 1, 1992
Page 2

Second quarter corrective action groundwater monitoring is scheduled for the week of May 4, 1992, in accordance with the approved analytical schedule. In addition to monitoring wells on the approved analytical schedule, KMCC will sample wells CMW58, CMW61, and CMW62.

The recovery system continues to perform well. The semi-annual report was submitted on March 1, 1992 and detailed the performance of the groundwater monitoring and recovery systems.

KMCC-FPD received a draft HSWA Permit for the Columbus facility on October 14, 1991. KMCC-FPD met with U.S. EPA and the MBPC at the Columbus facility on March 24th.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. Getz
R. Jones
R. Widmann

**BUTLER, SNOW,
& CANNADA**
ATTORNEYS AT LAW

GEO. BUTLER (1948)
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CHAS. B. SNOW (1960)
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NANCY MORSE PARKES
BROOKS R. BUCHANAN
PHINEAS STEVENS
GEORGE H. BUTLER
OF COUNSEL

April 30, 1992

(601) 949-4534

17TH FLOOR
DEPOSIT GUARANTY PLAZA
P.O. BOX 22567
JACKSON, MS 39225-2567
TELECOPIER: (601) 949-4555
WRITERS DIRECT NUMBER

Ms. Nancy Bethune
United States Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi

Dear Ms. Bethune:

This firm represents the Columbus Municipal School District which operates Hunt Junior High School, Columbus, Mississippi.

We request that the undersigned be listed as representing the District as a party of record in any RCRA permitting including, but not limited to, the HSWA permit which may be processed by Kerr-McGee Chemical Corporation, Forest Products Division, Columbus, Mississippi.

If you have any question or any other requirement in this regard, please advise.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

John A. Crawford

JAC/mms

211S.C3162

cc: W. David Dunn, Esquire
Mr. John Gertz, Kerr-McGee Chemical Corporation
Mr. Bruce Ferguson, Mississippi Department of Environmental Quality

**BUTLER, SNOW
& CANNADA**
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April 30, 1992

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(601) 948-5711
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WRITER'S DIRECT NUMBER

Mr. John Gertz
Plant Manager
Kerr-McGee Chemical Corporation
Forest Products Division
Post Office Box 906
Columbus, Mississippi 39704
Re: Hunt Junior High School
Columbus Municipal School District
Dear John:

As we discussed, Butler Snow is associated with David Dunn, Esquire, in representing the Columbus Municipal School District in issues arising from the Hunt Junior High School properties.

We understand that we are to communicate directly with you or with other officials at Kerr-McGee until such time as you instruct us to communicate through your attorneys. Please place the undersigned on your mailing list so that you can provide us with copies of all reports, correspondence and other written communication with the Department of Environmental Quality or with others if these documents are to become a part of the public file.

In the future, we will appreciate your communicating directly with the undersigned, or in my absence, with Kendall Moore of this firm on matters relating to environmental issues and concerns arising from the Kerr-McGee operations and relating to Hunt Junior High School or the Columbus Municipal School District. Please do not deal directly with the Superintendent or the School Board since this blurs the line of communication.

Among other issues, the District is investigating and analyzing the presence of soil and groundwater contamination affecting the Hunt Junior High School property which was revealed for the first time in reports filed by Kerr-McGee during the first quarter of 1992. As a part of its analysis the District intends to analyze

Mr. John Gertz
April 30, 1992
Page 2

and to file comments, where appropriate, on the post-closure activities and the corrective action aspects of the Part B filling and any subsequent HSWA permit. Please be certain that this firm is served with all filings and is shown as the attorneys of record for the Columbus Municipal School District.

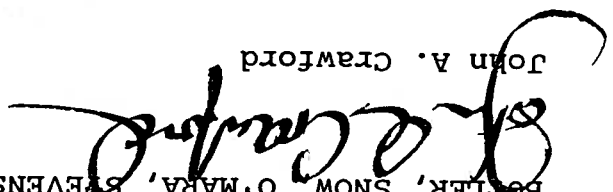
In addition to the need for assurances that air emissions and other releases to the environment do not adversely affect the health, safety and welfare of the students and faculty, the District is greatly concerned that the plume of contamination may have damaged and will otherwise interfere with the use of the property and facilities.

We look forward to meeting with representatives of Kerr-McGee in an effort to reach satisfactory resolution of the various environmental issues.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

John A. Crawford



JAC/mms
211S.C3160

cc: W. David Dunn, Esquire
Mr. Bruce Ferguson
Mr. Don Watts

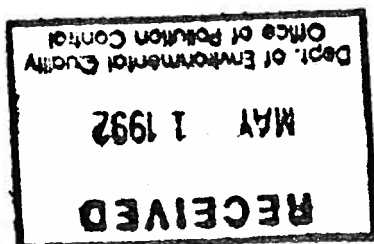
LAW DEPARTMENT

April 28, 1992

Writer's Direct No.
(405) 270-2848



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



CERTIFIED - RETURN RECEIPT REQUESTED

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

Re: Notice of Violation/Letter Dated 4/20/92

Dear Mr. Ferguson:

I have discussed with David Shafter, Assistant Corporate Controller, your letter dated April 20, 1992 regarding violations concerning our financial assurance letters for our Columbus and Meridian, Mississippi facilities. Per your request we are taking the following action as specified in your letter:

(1) "Actions that have been taken to correct the violations"

David Shafter requested clarification of the information to be provided when he spoke with you on April 24, 1992. You advised you will contact the EPA to clarify the regulations pertaining to the alleged violations.

(2) "Schedule for correcting the violations"

We plan to resolve the issue within 30 days after you notify us concerning the clarification of the regulations.

Mr. Bruce Ferguson
April 28, 1992
Page 2

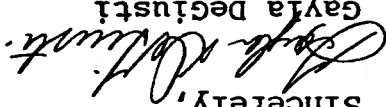
(3) "Reasons that you believe the violations did not exist"

The letters submitted by our independent auditors have been the same since 1986 stating that Kerr-McGee Chemical Corporation is a nonpublic entity and therefore not subject to the requirements of FASB Statement No. 14, "Financial Reporting for Segments of a Business Enterprise". No question has been raised concerning this information in prior years.

The remaining information indicates we are well above the minimum requirements of the financial test.

Please contact me at 405/270-2848 as soon as you have spoken with the EPA and advise of any consideration which may be given in this matter.

Sincerely,


Gayla Decusati
Legal Assistant



Environmental and Quality Control
Staff Specialist

Nick Bock
Sincerely,
Nick Bock

KMCC-FPD continues discussions with off-site property owners (south of the production process) to gain access to this property for installation of the groundwater recovery wells. This system was proposed in Volume III of the Post-Closure Permit Application submitted on March 28, 1991 and subsequently approved by the MBPC. KMCC-FPD has kept you apprised of the progress of these discussions. KMCC-FPD believes that the implementation of the proposed off-site recovery system will remediate contamination delineated adjacent to 22nd Street.

The results of this investigation do not significantly modify the known extent of contamination, the Eutaw structure map, or the potentiometric surface maps developed from previous investigations. However, the results do supplement existing hydrogeological information adjacent to the Columbus facility and increase the confidence of the conclusions reported to the MBPC from previous investigations.

Kerr-McGee Chemical Corporation - Forest Product Division (KMCC-FPD) conducted an off-site groundwater assessment during January and February of 1992 at our Columbus, Mississippi wood preserving plant. This assessment was a result of discussions between KMCC-FPD and the Mississippi Bureau of Pollution Control (MBPC). The resulting installation of soil borings/groundwater monitoring wells was used to verify contaminant plumes maps which were submitted to the MBPC in previous assessment reports.

Dear Mr. Ferguson,

Re: Kerr McGee Chemical Corporation
Forest Product Division
Columbus, Mississippi Facility
Submittal of "Phase II, Off-site
Groundwater Assessment" Report

Mr. Bruce Ferguson
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39209

April 23, 1992

KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125



FILE COPY



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

April 20, 1992

CERTIFIED MAIL NO. P 685 416 707
Ms. Gayla Degusti
Legal Assistant
Kerr-McCee Chemical Corporation
Kerr-McCee Center
Oklahoma City, Oklahoma 73125

Re: Notice of Violation
Financial Requirements
Kerr-McCee Chemical Corp.
Forest Products Division
Columbus, Mississippi
Meridian, Mississippi

Dear Ms. Degusti:

The Mississippi Office of Pollution Control has received the Financial Test for the above referenced facilities. Review of the submitted documents has revealed the following apparent violations:

1) MHWMR 264.147(F) (3) (iii) (B) - In comparing the financial officer's letter to the independent auditor's report, no matters came to his attention which caused him to believe that the specified data should be adjusted.

2) MHWMR 264.147(F) (1) (i) (c) - Assets in the U. S. amounting to either: (1) at least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

We request that you respond to these apparent violations within 10 days of receipt of this letter. This response should contain: (1) actions that have been taken to correct the violations, (2) schedule for correcting the violations, or (3) reasons that you believe the violations did not exist. The Office will review this information before determining if further action including a penalty is warranted. Section 17-17-29 of the Mississippi Code Annotated (Sup 1989) allows assessments of penalties not more than \$25,000 per day per violation. Failure to submit this information may result in enforcement action.

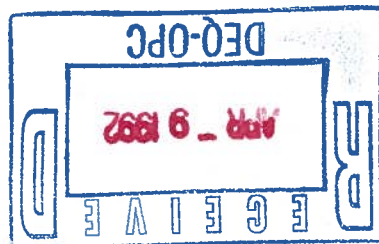
If you have any questions, do not hesitate to contact me at (601) 961-5141.

Sincerely,



Bruce Ferguson
Hazardous Waste Division

**BUTLER, SNOW
& CANNADA**
ATTORNEYS AT LAW



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April 8, 1992

(601) 949-4546

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MICHAEL E. MCWILLIAMS
STEPHANIE F. MCGEE
ARTHUR D. SPRATLIN, JR.
PHINEAS STEVENS
GEORGE H. BUTLER
OF COUNSEL

Dear Steve:

Thank you for taking time out of your schedule to meet with John Crawford and me yesterday concerning the Columbus Municipal School District's concerns about contamination from the Kerr-McGee facility.

As we discussed, the District would appreciate your responding to the following inquiries:

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- (2) If the extent of contamination has not been adequately defined, what other actions need to be taken by the Department or Kerr-McGee to define the full extent of the contamination, and when can the District expect these activities to be completed?
- (3) Will Kerr-McGee be required by the Department to conduct complete cleanup operations on the school property?

Mr. Steve Spengler
April 8, 1992
Page 2

(4) Assuming that the background level of creosote, constituents of creosote and other contaminants in the environment is zero, will Kerr-McGee be required to clean up the property to that extent?

(5) What standard will be used to determine whether the site has been cleaned, i.e., will the standard be 1 ppb (as per the Safe Drinking Water Standards), or will the standard be 50 ppm (the MGL or PGL of the State testing laboratory)?

(6) When can the District expect cleanup operations to commence?

(7) What is the expected duration of the cleanup activities on-site?

(8) What options are available for remediation, and which of these is the likely choice?

(9) Can any action be taken by the District, the Department or Kerr-McGee to speed the process?

Please direct your response to either John Crawford or me.

Thank you for your attention to the District's request.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

O. Kendall Moore

OKM/mms
227S.M825

cc: Mr. Sam Mabry
~~Mr. Bruce Ferguson~~
W. David Dunn, Esquire

MISSISSIPPI STATE UNIVERSITY

MISSISSIPPI
STATE CHEMICAL LABORATORY

BOX CR - MISSISSIPPI STATE, MISSISSIPPI 39262

TELEPHONE (601) 325-3324

April 14, 1992

DR. EARL G. ALLEY
State Chemist
DR. LARRY G. LANE
Director, IAS DivisionMS Office of Pollution Control
ATTN: Bruce FergusonReceived on 2-5-92
from P.O. Box 10385 Jackson, MS 39209

Address

Analysis of Groundwater
Analysis No. 829,954-955

RESULTS:

Lower levels of detection for gc/mass spec analyses of two groundwater samples (MW-62 & MW-63) for VOCs, ABNs, and pentachlorophenol are presented in the table below. The initial report of March 6, 1992 presented results from these gc/ms analyses.

LOWER LEVELS OF DETECTION

MSCL No.	MS DEQ-OPC Identification	VOCs	ABNs	Pentachlorophenol
829,954	MW-62, Monitor Well on Football Field	1	3	5
829,955	MW-63, Monitor Well on Football Field	1	3	5

VOCs = Volatile Organic Compounds

ABNs = Acid/Base Neutrals (Semi-volatile Organic Compounds)

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

State Chemist

**BUTLER, SNOW
& CANNADA
ATTORNEYS AT LAW**

GEO. BUTLER (1948)
CHAS. B. SNOW (1960)
J. MORGAN STEVENS (1951)
JUNIOR OMARA (1986)

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SELBY A. RIELAND
E. BARRY BRIDGFORTH
WILLIAM M. GAGE
MICHAEL E. McWILLIAMS
STEPHANIE P. MCGEE
ARTHUR D. SPRATLIN, JR.
PHINEAS STEVENS
GEORGE H. BUTLER
OF COUNSEL

April 8, 1992

(601) 949-4546

Mr. Steve Spengler

Section Chief

RCRA Section

Office of Pollution Control

Department of Environmental Quality

Post Office Box 10385

Jackson, Mississippi 39289-0385

Re: Kerr-McGee Corporation

Columbus, Lowndes County, MS

Dear Steve:

Thank you for taking time out of your schedule to meet with John Crawford and me yesterday concerning the Columbus Municipal School District's concerns about contamination from the Kerr-McGee facility.

As we discussed, the District would appreciate your responding to the following inquiries:

(1) Has the contamination on the Hunt High School property from the Kerr-McGee facility been adequately delineated? As we discussed, we have some concerns that the wells placed on the corner of the property will not give a complete and specific delineation of either the plume of the DNAPL or of the extent of groundwater contamination. We have further concerns that the sampling and analysis may not have been broad enough. For example, was a full spectrum GC/MS run on soil and water samples?

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Mr. Steve Spengler
April 8, 1992
Page 2

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Please direct your response to either John Crawford or me.

Thank you for your attention to the District's request.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

O. Kendall Moore

OKM/mms
227S.M825

cc: Mr. Sam Mabry
Mr. Bruce Ferguson
W. David Dunn, Esquire

FILE COPY



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

April 2, 1992

Mr. John A Crawford
Butler, Snow, O'Mara, Stevens & Cannada
P. O. Box 22567
Jackson, Mississippi 39225-2567

Re: Kerr-McGee Corporation
Monitor Well Sampling
Hunt High School
Columbus, Mississippi

Dear Mr. Crawford:

The answers to you inquiries on the above referenced sampling are as follows:

1) Which EPA methodology was used in running the target compound list?

EPA Test Methods for Evaluating Solid Waste (SW-846) was used as guidance. The volatile compounds were reported using Method 8240 and the semi-volatile compounds were reported using Method 8270. Enclosed are copies of these methods for your review.

2) What was the basis for the use of 50 ppm as the MQL for pentachlorophenol?

Mississippi State University uses MQL (minimum quantitation limit) interchangeably with PQL (practical quantitation limit) which is used in the guidance. The MQL or PQL is the lowest concentration of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by indicated methods under routine laboratory operating conditions. The chemist determines the MQL based on the background interference of the sample.

As you can see from the reported quantities of phenol and 2-Nitrophenol from monitor well MW-63, levels below the MQL can be detected, however, these numbers are estimates and are not reliable.

3) Why is pentachlorophenol not shown on the target compound list for volatile organic compounds?

Method 8240, which was used for volatile compounds, can be used to quantify most volatile compounds that have boiling points below 200 degrees Celsius. Pentachlorophenol has a boiling point of 310 degrees Celsius.

Should you have any further questions, please contact me.

Sincerely,

Bruce Ferguson

Bruce Ferguson
Hazardous Waste Division

**BUTLER, SNOW,
& CANNADA**
ATTORNEYS AT LAW

March 31, 1992

(601) 949-4534

17TH FLOOR
DEPOSIT GUARANTY PLAZA
P.O. BOX 22567
JACKSON, MS 39225-2567
(601) 948-5711
TELECOMPUTER: (601) 949-4555
WRITERS DIRECT NUMBER



GEO. BUTLER (1948)
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PHINEAS STEVENS
GEORGE H. BUTLER
OF COUNSEL

JAC/mms
211S.C3140
cc: W. David Dunn, Esquire
Mr. Thomas Cooley

John A. Crawford

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

Very truly yours,

We thank you in advance for your assistance in this regard.

To assist us in understanding these matters, will you please advise which EPA methodology was used in running the target compound list? Next, in setting the MGL, what was the basis for the use of 50 ppm as the MGL for pentachlorophenol? By way of further question, we wonder why pentachlorophenol is not shown on the target compound list for volatile organic compounds in drinking water.

We appreciated receiving copies of your March 16, 1992 letter along with enclosures relating to MW-62 and MW-63, monitor wells on the football field.

Dear Bruce:

Re: Kerr-McGee Corporation
Monitor Well Sampling
Hunt High School
Columbus, Mississippi

Mr. Bruce Ferguson
Hazardous Waste Division
Office of Pollution Control
Department of Environmental Quality
Post Office Box 10385
Jackson, Mississippi 39289-0385

FILE COPY



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

March 12, 1992

Mr. John A. Crawford
Butler, Snow, O'Mara, Stevens & Canada
P. O. Box 22567
Jackson, Mississippi 39225-2567

Re: Kerr-McGee Chemical Corp.
Columbus, Mississippi

Dear Mr. Crawford:

The Mississippi Office of Pollution Control (Office) has received your request for information on the above referenced site. It is my understanding that you want only information generated by the Office.

Enclosed are copies of correspondence generated since the date of your request. In the future copies of all correspondence issued by the Office will be sent to you.

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

Sincerely,


Bruce Ferguson
Hazardous Waste Division

On February 1 and 2, 1992, seven soil borings were completed to the bedrock surface (Eutaw formation) to an approximate depth of 22 feet on the school athletic field (B-45, B-46, B-47, B-48, B-49, MW-62 and MW-63). During this investigation, Mr. Bruce Ferguson, of the MBPC; Mr. Gary Bailey, School Architect; and interested community members observed assessment protocols.

Assessment Results

1992 and whose results are presented below. investigation of the school athletic field which was completed February 2, the MBPC. Based upon these discussions, KMCC-FPD proposed to conduct the KMCC-FPD discussed the results of the earlier investigation, in detail, with during the week of January 20, 1992 to discuss the results. In addition, the school architectural engineer, the news media and interested parties KMCC-FPD subsequently met with the School Board, the school administration,

proposed well would not demonstrate the maximum extent of contamination. a depth of approximately 23 feet below the ground surface indicating that the at the interface of the alluvium and the Eutaw formation (bedrock surface) at located east of 22nd Avenue. However, KMCC-FPD observed visual contamination was Bureau of Pollution Control (MBPC) that the extent of contamination was the installation of a monitoring well (B-43) to demonstrate to the Mississippi investigation on the western edge of 22nd Avenue. The investigations included In early January 1992, KMCC-FPD completed a subsurface soil boring

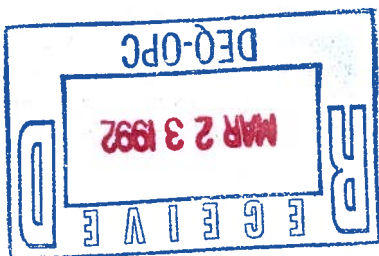
Background

completed the investigation as presented below. the athletic field along 22nd Avenue in a timely fashion. KMCC-FPD has agreement allowed KMCC-FPD to conduct an assessment of the eastern 150 feet of Corporation's quick response to Kerr-McGee's request for an assessment an assessment on February 1 and 2, 1992 on school property. The School like to take this opportunity to thank you for allowing Kerr-McGee to conduct Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD), would

Dear Ms. Bigelow:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi
Assessment Results

Ms. Jean Bigelow
157 Steeplechase
Columbus, MS 39701



March 16, 1992

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-MCGEE CHEMICAL CORPORATION



- 4) The area of impact is limited to the top of the Eutaw formation at a depth of approximately 23 feet below ground surface. With contamination located at a depth of 23 feet below ground surface, exposure by humans is considered extremely improbable.
- 3) The potential to impact additional areas of school property is extremely small. This is based upon and confirmed by the bedrock surface sloping away from the school property, thus preventing the migration of contamination and the general groundwater flow direction away from the school.
- 2) The groundwater flow direction is to the southeast preventing further contamination of school property.
- 1) The area of impact of contamination on school property is of very limited extent as shown in the enclosed figure.

Based on the results of the assessment conducted on February 1 and February 2, 1992, on the athletic field, KMCC has made the following conclusions:

Conclusions

In addition, KMCC-FPD collected and analyzed soil samples from the interface of the alluvium and bedrock at monitoring well locations MW-62 and MW-63. The purpose for collection of these samples was another way to verify that contamination has not impacted soils/groundwater at these locations. All soil samples were free of wood preservatives.

KMCC-FPD also installed two monitoring wells, MW-62 and MW-63 in the school athletic field. Water samples from these wells were split between KMCC-FPD contract laboratory and the MBPC Contract Laboratory. Both samples from these wells were free of wood preserving constituents and confirmed the results of water samples from soil boring samples.

KMCC-FPD is in receipt of the analytical data collected as a result of the subsurface investigation in the school athletic field. KMCC collected water samples from four soil borings, B-45, B-46, B-48 and B-49, and analyzed these samples for the chemical constituents of wood preservatives. All samples from these borings showed constituent levels below the method detection limit (BMDL). The BMDL is based on the EPA approved analytical method. The results indicate that the aquifer has not been impacted by wood preservatives as defined by criteria established by the scientific/regulatory community.

Members of the School Board and Administration also visited the site during soil boring. Two of these borings were completed as monitoring wells screened across the interface of the alluvium and the Eutaw formation. Soil Boring B-47, located approximately 20 feet east of 22nd Avenue, showed traces of visual contamination at the Eutaw interface. No visual contamination was observed in any other soil boring at any depth. A site map, analytical results and soil boring are enclosed for your review.

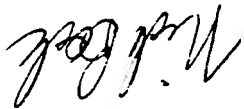
Ms. Jean Bigelow
March 16, 1992
Page 2

Ms. Jean Bigelow
March 16, 1992
Page 3

5) Remediation of school property can be accomplished with a system located east of 22nd Avenue. KMCC-FPD will propose and the MBPC will approve of the remediation system for the area east of 22nd Avenue. If you desire additional information, please contact John Getz at 328-7551 or me at 405/270-2394.

Sincerely,

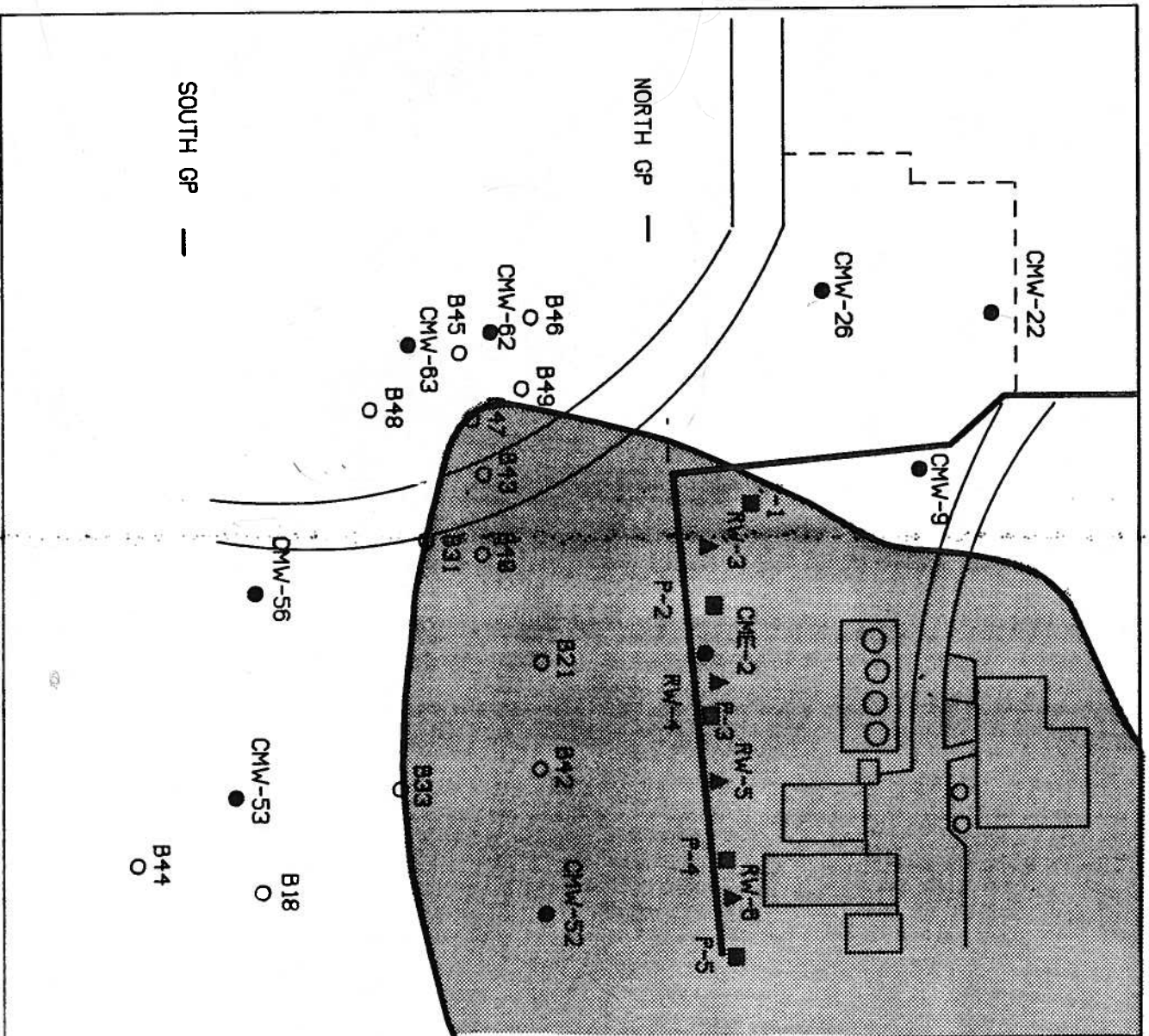
KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: B. Ferguson, MBPC
J. J. Getz, Plant Manager
J. Poor



CMW-22

CMW-26

CMW-9

NORTH GP —

SOUTH GP —

CMW-82

CMW-63

B48

CMW-56

CMW-53

B44

B18

B46

B49

B47

B43

B41

B21

B42

CMW-52

B33

RW-3

CHE-2

P-2

RW-4

P-1

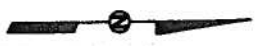
P-5

RW-5

RW-6

- EXPLANATION**
- CME - EUTAW WELLS
 - CMW-SHALLOW ALLUVIAL WELLS
 - BIS - BORINGS
 - RECOVERY WELLS
 - ▲ PIEZOMETERS

0 100 FT
SCALE



Southwest Laboratory of Oklahoma, Inc. Data Summary Report

DATE: 03/04/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCEPDCOL

Parameters	Units	Sample Point-> Sample Date-> SULOH->	B45 01/02/92 8624.01	B46 01/02/92 8624.02	B48 01/02/92 8624.03	B49 01/02/92 8624.04	GMCMH62 02/03/92 8631.01	GMCMH63 02/03/92 8631.02	
ACID EXTRACTABLES									
2-CHLOROPHENOL	ug/l		10	10	10	10	10	10	u
2,4-DIMETHYLPHENOL	ug/l		u	u	u	u	u	u	u
2,4-DINITROPHENOL	ug/l		50	50	50	50	50	50	u
P-CHLORO-M-CRESOL	ug/l		10	10	10	10	10	10	u
PENTACHLOROPHENOL	ug/l		10	10	10	10	10	10	u
PHENOL	ug/l		10	10	10	10	10	10	u
2,4,6-TRICHLOROPHENOL	ug/l		10	10	10	10	10	10	u
2,3,4,6-TETRACHLOROPHENOL	ug/l		10	10	10	10	10	10	u
BASE/NEUTRAL EXTRACTABLES									
ACENAPHTHYLENE	ug/l		10	10	10	10	10	10	u
BENZO(A)ANTHRACENE	ug/l		10	10	10	10	10	10	u
BENZO(B)FLUORANTHENE	ug/l		10	10	10	10	10	10	u
BENZO(K)FLUORANTHENE	ug/l		10	10	10	10	10	10	u
DIBENZ(A,H)ANTHRACENE	ug/l		10	10	10	10	10	10	u
FLUORANTHENE	ug/l		10	10	10	10	10	10	u
INDENO(1,2,3,-CD)PYRENE	ug/l		10	10	10	10	10	10	u
NAPHTHALENE	ug/l		10	10	10	10	10	10	u
PHENANTHRENE	ug/l		10	10	10	10	10	10	u
CARBAZOLE	ug/l		10	10	10	10	10	10	u
BENZO(A)PYRENE	ug/l		10	10	10	10	10	10	u
MISC PARAMETER									
FIELD CONDUCTIVITY	um/cm		-	-	-	-	271	243	
FIELD CONDUCTIVITY	um/cm		-	-	-	-	258	245	
FIELD CONDUCTIVITY	um/cm		-	-	-	-	282	245	
FIELD CONDUCTIVITY	um/cm		-	-	-	-	260	256	
FIELD PH	s.u.		-	-	-	-	6.30	6.00	u
FIELD PH	s.u.		-	-	-	-	6.30	6.00	u

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 03/04/92
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Sample Point-> Sample Date-> SLOH->	B45 01/02/92 8624.01	B46 01/02/92 8624.02	B48 01/02/92 8624.03	B49 01/02/92 8624.04	GMCHW62 02/03/92 8631.01	GMCHW63 02/03/92 8631.02	
Parameters FIELD PH FIELD PH FLOATERS SINKERS	Units g.u. in in	- - -	- - -	- - -	6.30 6.20 0.00 U	5.88 6.10 0.00 U	

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 03/04/92
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCEPPDCOL

Parameters	Sample Point-> Sample Date-> SLOH->	CHW62 22.8-23 02/02/92 8624.05	CHW63 24.5-25 02/02/92 8624.06	CHW63 26.5-27 02/02/92 8624.07	CHW62 24.2-25 02/02/92 8624.08			
Unite								
ACID EXTRACTABLES								
2-CHLOROPHENOL	ug/kg	430	420	420	430	U		
2,4-DIMETHYLPHENOL	ug/kg	430	420	420	430	U		
2,4-DINITROPHENOL	ug/kg	2150	2100	2100	2150	U		
P-CHLORO-N-CRESOL	ug/kg	430	420	420	430	U		
PENTACHLOROPHENOL	ug/kg	430	420	420	430	U		
PHENOL	ug/kg	430	420	420	430	U		
2,4,6-TRICHLOROPHENOL	ug/kg	430	420	420	430	U		
2,3,4,6-TETRACHLOROPHENOL	ug/kg	430	420	420	430	U		
BASE/NEUTRAL EXTRACTABLES								
ACENAPHTHYLENE	ug/kg	430	420	420	430	U		
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BENZO(B)FLUORANTHENE	ug/kg	430	420	420	430	U		
BENZO(K)FLUORANTHENE	ug/kg	430	420	420	430	U		
DIBENZ(A,H)ANTHRACENE	ug/kg	430	420	420	430	U		
FLUORANTHENE	ug/kg	430	420	420	430	U		
INDENO(1,2,3-CD)PYRENE	ug/kg	430	420	420	430	U		
NAPHTHALENE	ug/kg	430	420	420	430	U		
PHENANTHRENE	ug/kg	430	420	420	430	U		
CARBAZOLE	ug/kg	430	420	420	430	U		
BENZO(A)PYRENE	ug/kg	430	420	420	430	U		

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

KERR-MCGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

DRILLING INFORMATION:

1. Borehole Diameter = 8 1/4 inches.

2. Were Drilling Additives Used? Yes ☐ No ☒

Revert ☐ Bentonite ☐ Water ☐

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 ☐

2. Type of Casing Joints: Screw-Couple ☒ Other ☐

3. Type of Well Screens: PVC ☐ Galvanized ☐ Stainless ☐ Couple ☐ Other ☐

4. Diameter of Casing and Well Screens _____ inches.

5. Slot Size of Screens 0.01" _____ inches, Screen 2' _____ inches.

6. Type of Screen Perforations: Factory Slotted ☒

7. Installed Protector Pipe w/ Locks: Yes ☒ No ☐

8. How was Well Developed? Bailing ☐ Pumping ☐

9. Air Surging (Air or Nitrogen) ☐ Other ☐

10. Time Spent on Well Development? _____ Minutes/Hours

11. Approximate Water Volume Removed? 50 Gallons

12. Water Clarity Before Development? Clear ☒ Turbid ☐

13. Water Clarity After Development? Clear ☒ Turbid ☐

14. Did Water have any Color? Yes ☐ No ☒

15. If Yes, Describe _____

16. Did Water have any Color? Yes ☐ No ☒

17. If Yes, Describe _____

18. Water Level Summary (From Top of Casing) _____

19. Date Installed 2/2/92

20. Drill Rig Type CHETS

21. Well No. CURTIS LEE

22. Driller/Firm TTL

23. Others _____

24. Caved Material ☐

25. Grout ☐

26. Overdrilled Material Backfill ☐

27. Bottom Plug Yes ☐ No ☐

28. Dense Phase Sampling Cup 192 ft.

29. Sand Size _____

30. Others _____

31. Pea Gravel ☐

32. Washed Sand ☐

33. Silica Sand ☐

34. FILTER PACK MATERIAL

35. Above Screen

36. Filter Pack

37. Pellets ☐ Slurry ☐

38. Bentonite Seal

39. Others _____

40. Cement/Bentonite Grout Mix

41. 5.5 Gallons Water to 94 lb. Bag Cement & 3-5 lb. Bentonite Powder

42. Concrete

43. Depth

44. FROM TOP OF CASING

45. BELOW GRADE

46. 27.0

47. 26.42

48. 24.5

49. 14.76

50. 13.0

51. 11.0

52. 10.5 ft.

53. 2.0 ft.

54. 1.76 ft.

55. 9.74 ft.

56. 5.8 ft.

57. 27.0

South of
C MW 62

KERR-MCGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

CMW 62

DRILLING INFORMATION:

1. Borehole Diameter = 8 1/4 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 Screens _____ inches. Screen _____ inches. Casing _____ inches.

5. Slot Size of Screens 0.01"
6. Type of Screen Perforations: Factory Slotted ☒ Hack saw ☐ Drilled ☐ Other ☐
7. Installed Protector Pipe w/ Locks: Yes ☒ No ☐

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed? Bailing ☐ Pumping ☒ Air Surging (Air or Nitrogen) ☐ Other ☐

2. Time Spent on Well Development? 1 hr. Minutes/Hours

3. Approximate Water Volume Removed? 70 Gallons

4. Water Clarity Before Development? Clear ☐ Turbid ☒ Opaque ☐
5. Water Clarity After Development? Clear ☒ Turbid ☐ Opaque ☐
6. Did Water have Odor? Yes ☐ No ☒
7. Did Water have any Color? Yes ☐ No ☒

If Yes, Describe _____

WATER LEVEL INFORMATION:

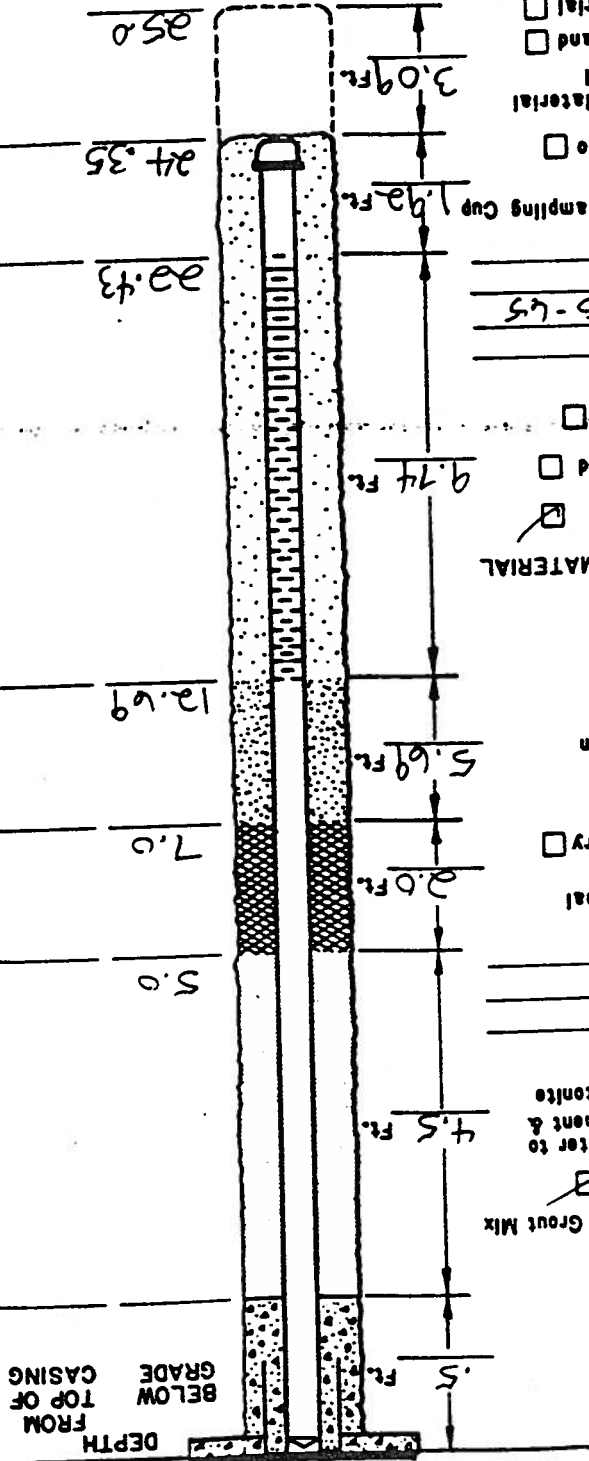
Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____

Before Development _____ Ft. Date _____

After Development _____ Ft. Date _____

FROM TOP OF CASING
BELOW GRADE
DEPTH



Concrete

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

Bentonite Seal
☒ Pellets
☐ Slurry

Filter Pack
Above Screen

Filter Pack Material
☒ Silica Sand
☐ Washed Sand
☐ Pea Gravel
Others: 5

Sand Size 55-45

Dense Phase Sampling Cup
Yes ☒ No ☐
Bottom Plug

Overdrilled Material
Backfill
☐ Grout
☐ Sand
☐ Caved Material

Others: _____

Driller/Firm

Drill Crew

Drill Rig Type

Well No.

Kerr-McGee
Hydrologist

Date Installed

CMW 62

TTL Inc

C. Lee

2/2/92

CMW 62

Well No.

Kerr-McGee
Hydrologist

Date Installed

CMW 62

TTL Inc

C. Lee

2/2/92

CMW 62

KERR-MCGEE CORPORATION
Hydrology Dept. Engineering Services

Columbus-FPD
School Field

BORING NUMBER CHW 62

LOCATION

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	NO.	TYPE	DEPTH	REC.	REMARKS OR FIELD OBSERVATIONS
---------------------	------------------------	----------------	------------------------------------	----------------------	--------------	-----	------	-------	------	----------------------------------

Clay: soft, lt gray, med. w/ orange
sandy, med. plast., tr. gvl.

Sand: tan/orange, fr. vln, tr. gvl.
10% silt

Gravel: < 6" ss, subrd, fr. vln, tr. gvl.
tr. clay

Snd: w/ orange, fr. vln, tr. gvl.
10% silt

Snd: w/ orange, fr. vln, tr. gvl.
10% silt

Gvl: subrd, 20% gvl, tr. gvl.
Snd: w/ orange, fr. vln, tr. gvl.

Snd: w/ orange, fr. vln, tr. gvl.
10% silt

Gvl: x sand, < 1/2",
weathered, fr. vln, tr. gvl.

Green, fr. vln, tr. gvl.
silt, w/ orange, fr. vln, tr. gvl.

TD. 25.0'

3	0	1	X	9.0	1.6
7	0	2	X	11.0	1.8
13	0	3	X	14.0	2.0
16	0	4	X	16.0	2.0
22	0	4	X	16.0	2.0
35	0	5	X	19.0	1.2
62	0	5	X	19.0	1.2
3	0	6	X	21.0	2.0
15	0	6	X	21.0	2.0
25	0	7	X	24.0	2.0
53	0	7	X	24.0	2.0
27				25.0	1.0

Flush Augers

soils collected for analyses

GRAPHIC LOG LEGEND

	CLAY		SILT
	SANDY CLAY		SILTY CLAY
	GRAVEL		CLAYEY SAND
	SAND		CLAYEY SILT
	ORGANIC FILL		DEBRIS

	Water Table (24 Hour)		Photoionization Detection (ppm)
	Identifies Sample by Number		Sample Collection Method
	TYPE		AUGER
	SPLIT-BARREL		CONTINUOUS SAMPLER
	THIN-WALLED TUBE		NO RECOVERY
	DEPTH		ROCK CORE

EXPLANATION

DATE DRILLED	2/2/92	DRILLING METHOD	HSA
LOGGED BY	C. Lee-TTL, Inc.	EXISTING GRADE ELEVATION (FT. AMSL)	5.00
LOCATION OR GRID COORDINATES			

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

GRAPHIC LOG LEGEND		DATE DRILLED		PAGE	
☒	CLAY	☐	2/1/92	☐	1
☒	SAND	☐	HSA	☐	
☒	GRAVEL	☐	DRILLING METHOD	☐	
☒	SILT	☐	LOGGED BY	☐	
☒	CLAYEY SAND	☐	C. Lee - TIL	☐	
☒	CLAYEY SILT	☐	J. Poor	☐	
☒	CLAYEY GRAVEL	☐	EXISTING GRADE ELEVATION (FT. AMSL)	☐	
☒	CLAYEY SAND	☐	LOCATION OR GRID COORDINATES	☐	

LITHOLOGIC DESCRIPTION		GRAPHIC LOG		UNIFIED SOIL CLASS.		BLOWS PER FOOT		PID (ppm)		NO.		TYPE		DEPTH		REC.		REMARKS OR FIELD OBSERVATIONS	
Sand and Gravel: Gravel about 15% gt 2, rdd > 1/4", < 1/2" coarse sand		GW		GW		11		0		1		X		16.0		1.2			
Sand and Gravel, gtz		GW		GW		30		0		2		X		18.0		0.2			
Sand and Gravel sand: v. fn, white med-grs, gvl Weathered Eutaw 21.35' in sand, silty, orange Green Eutaw 23.3' in sand silt & clay, dms. green		SH		SH		7		0		3		X		21.0		1.5			
		SH		SH		30		0		4		X		23.0		1.6			
TD 25'		NH		NH		55		0		5		X		25.0		1.7			

KERR-MCGEE CORPORATION		Hydrology Dept. Engineering Services		Columbus - FPD School field		BORING NUMBER		1349	
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KERR-MCGEE CORPORATION
Hydrology Dept. Engineering Services

KMCC - FPD
KM SUBSIDIARY

LOCATION
Columbus MS
BORING NUMBER
B48

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PD (ppm)	NO	TYPE	DEPTH	REC.	REMARKS OR FIELD OBSERVATIONS
---------------	------------------------	-------------	---------------------------	----------------	----------	----	------	-------	------	-------------------------------

10	AUGER TO 15'									
15	Gravel w/ ccs sd to clay silty at top 10% u/c - 7% well graded	0.0-0.5	GM	14			X	14-16	1.5	
20	SD/Gravel > 3mm 58 (20) v ccs sd Silty clay 10% u/c - 4% Homog. 58 (20) - 200 Sand ccs - v ccs w/ thin fl. lams	0.0-0.5	GM	6			X	15-21	0.9	
25	FINE SD w/ mica 2.5% SD silty 7.5% u/c to 10% u/c w/ few thin fl. laminae Silty clay 2.5% u/c v ccs sd FINE SILT 2.5% u/c w/ rust colored lams Silt SDY 13% u/c to 20% u/c	0.0-0.5	GM	25			X	22-24	2	
30		0.0-0.5	ML	45			X	24-26	1.8	

35										
40										
45										
50										
55										
60										
65										
70										
75										
80										
85										
90										
95										
100										

No odor thru out

1/ weathered EUMM 22.5'

1/ gran EUMM 25.5'

Photo Taken Frame 34, 35, 36

DATE DRILLED 2-1-92

PAGE 1 of 1

DRILLING METHOD +SA

DRILLED BY TTC

LOGGED BY J. Crawford

EXISTING GRADE ELEVATION (FT AMSL)

LOCATION OR GRID COORDINATES

GRAPHIC LOG LEGEND

	CLAY		SILT
	SILTY CLAY		GRAVEL
	SANDY CLAY		SAND
	ORGANIC PEAT		FILL
	DEBRIS		CLAYEY SILT

EXPLANATION

	Water Table (Time of Boring)		AUGER
	Photoionization Detection (ppm)		ROCK
	Identifies Sample by Number		CORE
	Sample Collection Method		CONTINUOUS SAMPLER
	Depth Top and Bottom of Sample in feet		NO RECOVERY

KERR-MCGEE CORPORATION Hydrology Dept. Engineering Services		Columbus - FPD		School		BORING NUMBER B47	
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	NO.	TYPE
				SOIL SAMPLE			
				DEPTH			
				REC.			
REMARKS OR FIELD OBSERVATIONS							
5	Clay: plastic, med, firm, organic : soft, plastic : hd, dns, tr. sand lt gray, v. m. fm		CL	2	0	1	2.0
				3	0	1	2.0
				W.H.	0	2	4.0
				6	0	3	6.0
				2	0	3	1.5
10	Sand: v. m. fm, lt gray : 7.5 gr 7.0, p. gr, v. fm		SM	7	0	4	9.0
				1	0	4	11.0
				6	0	5	14.0
				12	0	5	1.6
15	Clay: hd, dns : fm, v. fm. Sand: gvl, v. s. med, frad, clay, subrd, 7.5 gr 7/6 gvl, 10.4 R 6/10, fine clast subrd 8 7/8, m. med, 30.2		SW	40	0	6	16.0
				30	0	6	14
				2	0	7	19.0
				3	0	7	0.5
20	Gvl: v. fm Sand: v. fm Gvl: subrd, clast		GW	4	0	8	21.0
				15	0	8	0.3
				45	0	9	24.0
25	Gvl: sand, fine clast, fr. sand Weathered Eutaw ss. g		MH	20	0	9	2.0
				45	0	9	2.0

EXPLANATION		GRAPHIC LOG LEGEND		DATE DRILLED		PAGE				
SPIT BARREL THIN-WALLED TUBE CONTINUOUS SAMPLER AUGER NO RECOVERY ROCK CORE REC. ACTUAL LENGTH OF RECOVERED SAMPLE IN FEET DEPTH: Depth Top and Bottom of Sample NO. IDENTIFIES SAMPLE BY NUMBER PID PHOTOGRAPHIC DETECTION (PPM) WATER TABLE (TIME OF BORING) WATER TABLE (24 HOUR)	CLAY SILT SAND GRAVEL SANDY CLAY CLAYEY SAND CLAY ORGANIC MAT. DEBRIS FILL	DATE DRILLED 2-1-52 DRILLING METHOD 454 DRILLED BY TTC LOGGED BY J. Crawford EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES	1 of 1							
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL CLASS.	BLOWS PER FOOT	PID (PPM)	NO.	TYPE	DEPTH	REC.	REMARKS OR FIELD OBSERVATIONS
0	BLK SILT ST. moist w/ organics		ML	5			X	1.4		
1	SAND w/ SILT & clay moist		GC	1			X	1.9		
2	Fast-Med. dilat. 10% L/S - 6/8		GC	1			X	1.9		
3	SD and 10% clay w/ DEBRIS		GC	1			X	1.9		
4	M. GRADE 20% GRAVEL 50% CLAY		GC	1			X	1.9		
5	GRAVEL SAND w/ 5% CLAY 10% GRAVEL		GC	1			X	1.9		
6	GRAVEL SAND M-CAS 50%		GC	1			X	1.9		
7	GRAVEL SAND w/ 5% CLAY 10% GRAVEL		GC	1			X	1.9		
8	GRAVEL SAND w/ 5% CLAY 10% GRAVEL		GC	1			X	1.9		
9	GRAVEL SAND w/ 5% CLAY 10% GRAVEL		GC	1			X	1.9		
10	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
11	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
12	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
13	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
14	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
15	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
16	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
17	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
18	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
19	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
20	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
21	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
22	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
23	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
24	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
25	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
26	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
27	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
28	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
29	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
30	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
31	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
32	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
33	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
34	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
35	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
36	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
37	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
38	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		
39	GRAVEL w/ M-CAS SAND 10% GRAVEL		GC	1			X	1.9		

**BUTLER, SNOW,
& CANNADA**
ATTORNEYS AT LAW

GEO. BUTLER (1948)
J. MORGAN STEVENS (1951)
CHAS. B. SNOW (1960)
JUNIOR O'MARA (1986)

ROBERT C. CANNADA
DAN McCULLEN
HAROLD D. MILLER, JR.
C. EUGENE McROBERTS, JR.
JOHN A. CRAWFORD
D. CARL BLACK, JR.
LAUCH M. MAGRUDER, JR.
JAMES W. O'MARA
W. SCOTT WELCH, III
JAY A. TRAVIS, III
LEE DAVIS THAMES
CHARLES L. BROCATO
KENNETH W. BARTON
CHARLES F. JOHNSON, III
STEPHEN W. ROSENBLATT
W. WAYNE DRINKWATER, JR.
JAMES S. OVERSTREET, JR.
HERBERT C. EHRHARDT
CHRISTY D. JONES
DON B. CANNADA
PHIL B. ABERNETHY
W. EUGENE MAGEE
THOMAS E. WILLIAMS
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J. STEVENSON RAY
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JAMIE PLANK MARTIN
PAULA A. GRAVES
LESLIE JOYNER BOBO
ANN V. WINTER
ANN FORTENBERY CORSO
O. KENDALL MOORE
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A. CAMILLE HENICK
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WILLIAM M. GAGE
MICHAEL E. McWILLIAMS
STEPHANIE P. McGEE
ARTHUR D. SPRATLIN, JR.

PHINEAS STEVENS
GEORGE H. BUTLER
OF COUNSEL

February 28, 1992

(601) 949-4534

Mr. Steve Spengler
Section Chief
RCRA Section
Office of Pollution Control
Department of Environmental Quality
Post Office Box 10385
Jackson, Mississippi 39289-0385

Re: Kerr-McGee Corporation
Columbus, Lowndes County, Mississippi

Dear Steve:

This firm is associated with W. David Dunn of Dunn, Webb, McEwen & Studdard, P.A., attorneys at law, of Columbus, Mississippi, who serve as counsel for the Columbus Municipal School District. The District supervises and has responsibility for the Hunt High School.

We will appreciate your placing the undersigned's name on the service list for all notices and other correspondence which is issued by DEQ to Kerr-McGee as it relates to hazardous waste issues.

The District intends to actively participate in all aspects of proceedings which relate to the Department of Environmental Quality.

We look forward to working with you, Bruce Ferguson and others in the Office of Pollution Control.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

John A. Crawford

JAC/mms
211S.C3112
cc: W. David Dunn, Esquire

Copies
mailed
3/2/92
to EPA

FILE COPY

17TH FLOOR
DEPOSIT GUARANTY PLAZA
P.O. BOX 22567
JACKSON, MS 39225-2567
TELECOPIER: (601) 949-4555
WRITERS DIRECT NUMBER

Mailed
to EPA
3/11/92

KMCC-FPD continues efforts to obtain access to property located directly (cemetery) south of the facility. KMCC-FPD has proposed, and the MBPC has approved, the installation of six recovery wells on this property. A meeting is scheduled with a representative of the Cemetery Board on February 27, 1992.

On January 21 through 23, KMCC-FPD conducted a series of meetings to explain the results of previous assessments, site history, and proposed corrective measures resulting from impacted groundwaters. Meetings were held with concerned citizens, the news media, school officials and plant personnel. KMCC-FPD kept the MBPC informed of these activities as they developed during the week of January 20, 1992.

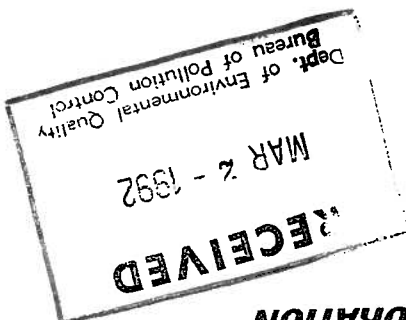
KMCC-FPD installed monitoring wells CMW58 and CMW59 during the week of January 15, 1992. As a result of the presence of creosote in boring B-43 adjacent to school property, KMCC-FPD conducted further investigations on February 1 and February 2. Seven soil borings were completed on school property and two borings were completed as monitoring wells CMW62 and CMW63. In addition, monitoring wells CMW60 and CMW61 were completed offsite to the east of the facility. KMCC-FPD plugged and abandoned well CMW59 on February 1, 1992. Bruce Ferguson from the Mississippi Bureau of Pollution Control (MBPC) observed all activities on February 1 and February 2. KMCC has sampled all newly installed monitoring wells and will submit an assessment report detailing the assessment results.

The following bimonthly progress report is submitted in compliance with the Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

Dear Mr. Ferguson:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
March 1, 1992

Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385



February 28, 1992

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-MCGEE CHEMICAL CORPORATION



Bruce Ferguson
February 28, 1992
Page 2

First quarter corrective action groundwater monitoring was conducted the week of February 10, 1992, in accordance with the approved analytical schedule. In addition to monitoring wells on the approved analytical schedule, KMCC sampled wells CMW58, CMW60, CMW61, CMW62 and CMW63. Second quarter corrective action groundwater monitoring is tentatively scheduled for the week of May 11, 1992 in accordance with the approved analytical schedule.

The recovery system continues to perform well. The semi-annual report will be submitted on March 1, 1992 and will detail the performance of the groundwater monitoring and recovery systems.

KMCC-FPD received a draft HSWA Permit for the Columbus facility on October 14, 1991. KMCC-FPD has discussed with U.S. EPA and the MBPC to arrange a site visit to the Columbus facility in preparation of permitting. KMCC-FPD anticipates a meeting will be scheduled for March 24th and 25th, 1992. On November 5, 1991, KMCC-FPD notified the MBPC and U.S. EPA under 40 CFR 264, Subpart W that KMCC-FPD intended to upgrade an existing drip pad to conform with Subpart W standards. On December 13, 1991, an independent registered professional engineer conducted an inspection of the drip pad. On January 31, 1992, KMCC-FPD notified U.S. EPA and the MBPC of our full compliance with federal drip pad standards.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. Getz
R. Jones
R. Widmann

February 27, 1992

Mr. Steve Spangler
Mississippi Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

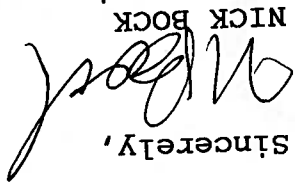
Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Mississippi Facility
1991 Annual/Semi-Annual Performance
and Groundwater Monitoring Report
HW 90-329-01

Dear Mr. Spangler:

Enclosed are three copies of the Annual/Semi-Annual Performance Evaluation and Groundwater Monitoring Report as referenced in provision IV.H.11. of the Permit. The permit requires a semi-annual report on the performance of the corrective action to be submitted by March 1 of each year, and an annual report on the corrective action ground-water monitoring progress. This submittal does not interpret the data collected from soil borings and monitor wells which were installed January to February of 1992, however, it does include the locations of such on the submitted maps, and also updates the monitor well inventory in Table 1. The Sampling and Analyses Plan (SAP) has been updated to reflect the change in analytical laboratories which occurred in the second quarter, 1991. Three copies of the SAP are also enclosed.

If you have any questions or require additional information concerning the contents of this report, please do not hesitate to contact me at (405) 270-2394.

Sincerely,



NICK BOCK
Staff Environmental Specialist

*to Spangler
3/2/92*

NB/JMP/r1a

Enclosures

cc: J.J. Getz
J.M. Poor



KMCC-FPD has reviewed EPA listed hazardous wastes and has determined that the tank bottoms will be applicable to the F034 listing when adopted by Mississippi. With the promulgation of the new listings on December 6, 1990, the subsequent administrative stay on June 13, 1991, technical corrections on July 1, 1991, and proposed amendments to 40 CFR 264 Subpart W Standard on December 5, 1991, KMCC-FPD believes that the F034 hazardous waste listing is not applicable to tank bottoms of creosote in Mississippi. KMCC-FPD understands that 40 CFR 264, Subpart W Standard have not been adopted in Mississippi and therefore, these standards are not effective.

Process residual in these tanks have undergone extensive reclamation to recover to the greatest extent possible wood preservative for reuse within the production process. The remaining residual (tank bottoms) are predominantly sawdust, soils, and debris contaminated with creosote. Samples collected from the tank after reclamation demonstrated no additional creosote product can be economically recycled from these tank bottoms.

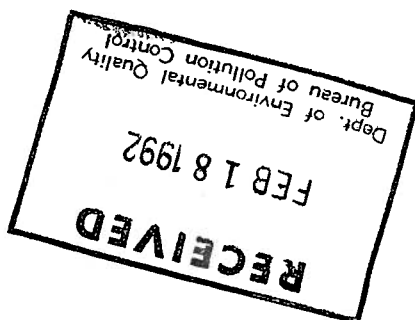
KMCC-FPD intends to, prior to Mississippi adopting the new listings for the wood treating industry (December 6, 1990), decommission up to four production process storage tanks. Tank decommission is in part the result of Mississippi Toxic Use and Hazardous Waste Reduction Act effective this past December 31. In addition, the recent promulgation of the Mississippi Comprehensive Multimedia Waste Minimization Act of 1990 commits industry to recycle, reduce generation, reduce toxicity, and reduce disposal of waste generated in Mississippi by 25% in the coming years.

As we discussed in Jackson, Mississippi on February 10, 1992 Kerr-McGee Chemical Corporation, Forest Products Division, (KMCC-FPD) is seeking confirmation of an RCRA waste determination for our Columbus, Mississippi wood treating facility.

Dear Mr. Spengler:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Waste Classification

Steve Spengler, RCRA TSD Coordinator
Bureau of Pollution Control
P.O. Box 10385
Jackson, Mississippi 39209



February 11, 1992

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



KMCC has conducted characteristic waste testing protocols (40 CFR 261, Subpart C) to waste streams essentially the same as tank bottoms and has never exceeded the criteria for ignitability, corrosivity, reactivity, or toxicity. KMCC-FPD believes these tank bottoms will not exhibit characteristics of a hazardous waste. However, KMCC-FPD is collecting representative samples of tank bottoms and will apply 40 CFR 261, Subpart C testing protocol. If tank bottoms do not meet characteristic waste protocols, KMCC-FPD intends to dispose of tank bottoms as a RCRA non-regulated waste.

KMCC-FPD will handle, store and dispose of tank bottoms consistent with management practices for a hazardous waste. For example, tank bottoms would be manifest as a non-regulated waste, using hazardous waste transporters. KMCC is currently investigating the burning of tank bottoms for energy recovery at cement kilns/industrial boilers. We believe this option will greatly reduce the volume and toxicity of the tank bottoms and provide a much more suitable option than traditional landfilling. Of course, KMCC-FPD's interest is to find environmentally acceptable alternative disposal options while reducing future potential liabilities.

Your concurrence with KMCC-FPD's determination that production process tank bottoms are a Mississippi RCRA non-regulated waste would be greatly appreciated. KMCC-FPD anticipates implementing disposal of tank bottoms in mid-March. If I can answer any questions, please telephone me at (405)270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. H. Bull
C. Trumpolt
J. J. Getz

FILE COPY

Summary of Department of Environmental Quality
Records on Kerr-McGee and Sanderson Plumbing

Air Division

Kerr-McGee

Kerr-McGee operates a creosote wood treating plant at Columbus and holds a permit to operate. The plant is in compliance with the permit emission limitations. In addition to the pollutants addressed by the operating permit, the plant has reported in the Toxics Release Inventory the emission of relatively small quantities of creosote-derived organic compounds.

Sanderson Plumbing

Sanderson Plumbing operates a commode seat manufacturing plant and holds a permit to operate. The company also has two new emission-related projects under review for a construction permit. The company's emissions include both particulate matter and volatile organic compounds (VOC).

Hazardous Waste Division

Kerr-McGee

Kerr-McGee operated two wastewater surface impoundments in series at the Columbus facility. These impoundments were closed under the approval of the Mississippi Bureau of Pollution Control in June of 1986. The facility is authorized to conduct post-closure and groundwater corrective activities under its hazardous waste permit. Under this permit the company must remediate groundwater contamination emanating from the process area and a below ground level tie loading dock. No sampling to date has confirmed a release from the surface impoundments.

Groundwater contamination has been detected offsite at the southwest portion of the site and the eastern portion of the site. Properties affected by the contamination are the adjacent cemetery and the northeast corner of the school grounds. Upon receiving the analytical results from sampling conducted February 1, 1992, it will be determined if the full extent of offsite contamination has been characterized. At the present time Kerr-McGee is operating an on-site groundwater recovery system. Offsite recovery systems have not been constructed because access to the offsite properties has not been acquired.

Sanderson Plumbing

Sanderson Plumbing, a RCRA large quantity generator, is a manufacturer of toilet seats. Wastes generated at the site consist of solvent and paint wastes from the painting operations of the seats, solvents used to clean paint lines, hooks that convey the seats through the plant, methylene chloride from the finishing operation, and spent petroleum naphtha used for cleaning and degreasing in maintenance and tooling operations. At present there is no known hazardous waste related contamination emanating from Sanderson Plumbing.



DAVID OWEN 0284 ATTORNEY AT LAW DL 427-94-4505 P O BOX 27 PH 328-2651 COLUMBUS, MS 39703-0027		PAY TO THE ORDER OF <i>Ms St. 7 Moore</i> <i>Light 8 75/m</i>		FOR	
DAVID OWEN, ATTORNEY AT LAW <i>[Signature]</i>		Eastover Eastover Bank For Savings Columbus, MS 39701		"004875" :065302510: 2300201675"	
DOLLAR		\$ 54.75			
19 92		2/7			
4875		85-251/653			

Photo 2 - View from the corner of the
proposed school expansion looking towards
Sanderson Plumbing.



Photo 1 - View from the corner of the
proposed school expansion looking towards
Kern-McGee.



SUBJECT

To: KERR-McGEE Columbus File

From: Bruce Ferguson

Subject: Off-site Runoff Characterization

Date: February 6, 1992

On February 1st and 2nd I observed Kerr-McGee
~~install~~ six soil borings and install two
 monitor wells. Of the six soil borings, one showed
 visible evidence of leachate contamination (see photo's
 and 6).

The monitor wells were placed outside the limits
 of visible contamination and were sampled on
 February 3. The splits taken by the state were
 sent to the MSU Lab.



Photo 5. Split spoon sample from the third boring taken on school property. Free product can be seen on the right end of the sample



Photo 6. Split spoon sample from the third boring taken from school property. A crescent sheen appears to be present at the interface of the Eutaw and the Alluvium (center of the sample)

To the best of our knowledge, your state has the authority for the new regulations; however, the state has not adopted 40 CFR 264, Subpart W standards. Kerr-McGee is requesting any information you can provide in regard to proposed standards, public participation or implementation schedule for 40 CFR 264 Subpart W standards. At the same time, Kerr-McGee is implementing our program as if the state had adopted the EPA regulations.

Effective June 6, 1991 (FR Vol. 56, No. 114), U. S. EPA announced an administrative stay for listed hazardous wastes F032, F034 and F035 in process areas and conditionally extended the effective date for Subpart W drip pad management standards. In accordance with the provisions of the administrative stay, all wood preserving facilities must notify the applicable authorized state/Regional Office of their intended course of action.

On December 6, 1990 (FR Vol. 55, No. 235) U. S. EPA amended The Hazardous Waste Regulations by listing as hazardous wastes various residuals from wood preserving operations and promulgated the Subpart W standards for drip pads. KMCC-FPD's wood preserving operation at this location is subject to the listing of creosote residuals, F034, and the Subpart W standards.

Kerr-McGee Chemical Corporation, Forest Products Division (Kerr-McGee), operates a wood treatment facility in Mississippi. This facility manufactures treated wood railroad products using creosote exclusively as the wood preservative.

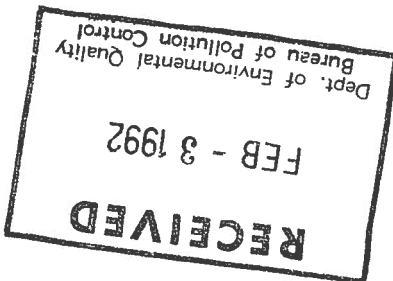
Gentlemen:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Plant
MSD 094228988
Subpart W. Notification
Third Notice

Mississippi Hazardous Waste Division
Bureau of Pollution Control
Dept. of Environmental Quality
P.O. Box 10385
Jackson, MS 39289-0385

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 31, 1992



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



Therefore, in accordance with the EPA regulations, Kerr-McGee provided notification on August 6, 1991 that the aforementioned wood treating facility using creosote as a wood preservative had previously installed a drip pad in 1988 (prior to the regulation promulgated December 6, 1990) and intended to upgrade the existing drip pad to meet the Subpart W standard. Kerr-McGee's pad design meets all the requirements of 40 CFR 264, Subpart W with the exception of surface coating and certification. Upon receipt of the provisions of the stay in June, 1991, Kerr-McGee undertook a program to coat all drip pads. This program was completed in the summer of 1991.

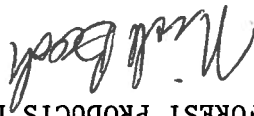
On November 5, 1991, Kerr-McGee notified you in a second notice required under the Federal regulations that the facility was compliant with all drip pad standards with the exception of professional engineer certification. Kerr-McGee also committed, in accordance with Federal regulations, that pads would be certified by February 6, 1992, and Kerr-McGee would then notify the Regional Administrator and state authority of our compliance status.

This serves as the third notification required under the Federal regulations that the facility is compliant with all drip pad standards. The professional engineer certification inspection of the facility's drip pad and appurtenances was conducted in mid-December. The professional engineer has certified that the facility's drip pad exceeds the requirements of 40 CFR 264.571 standards. Kerr-McGee therefore has fulfilled all federal requirements of 40 CFR 264, Subpart W standards for existing drip pads prior to state adoption of these standards.

If you desire additional information, please contact the plant manager, J. J. Getz at (601) 328-7551 or me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

Enclosures

cc: Facility
J. H. Bull
J. J. Getz
R. Jones

U.S. EPA Region IV
Hazardous Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365



4773C

FOREST PRODUCTS

Nick Bock
Staff Environmental Specialist

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Nick Bock

Sincerely,

se telephone me at 405/270-2394.
may answer any questions or provide you with additional information,
sumes timely execution of access agreements and drilling contracts.
estigation will be conducted on February 1-2, 1992. Of course, this
is to inform you that KMCC-FPD anticipates that the aforementioned
contamination along the eastern edge of the contaminate plume.

Based on telephone conversations with you on January 23rd and discussions with
school officials on January 22nd, KMCC-FPD has tentatively scheduled
rings and up to two monitoring wells be required to define the extent of
contamination along the eastern edge of the contaminate plume.
estigation will be conducted on February 1-2, 1992. Of course, this
may answer any questions or provide you with additional information,
se telephone me at 405/270-2394.

completed.

(B44) was also completed south of the Alluvium and the Butaw formation (22.6 feet

below ground surface), creosote product was observed. A detailed report of

property. At the interface of the Alluvium and the Butaw formation (22.6 feet

In addition, a soil boring (B43) was logged west of 22nd Street on city

at our Columbus, Mississippi wood treating facility.

during the week of January 6, 1992 to further delineate the contaminate plume

monitoring well (CMW-59) east of the facility. These south of the facility and one

installed monitoring wells (CMW-58) of the facility. These south of the facility and one

December, Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD)

March 26, 1991, and my subsequent telephone conversations with you in

as a follow-up to Volume III of the Post-Closure Permit Application dated

at our Columbus, Mississippi wood treating facility.

during the week of January 6, 1992 to further delineate the contaminate plume

monitoring well (CMW-59) east of the facility. These south of the facility and one

installed monitoring wells (CMW-58) of the facility. These south of the facility and one

December, Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD)

March 26, 1991, and my subsequent telephone conversations with you in

as a follow-up to Volume III of the Post-Closure Permit Application dated

Dear Mr. Ferguson:

Mr. Bruce Ferguson
Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

January 24, 1992

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



Dept. of Environmental Quality
Bureau of Pollution Control

RECEIVED

JAN 27 1992

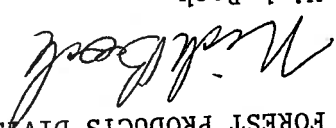
Steve Spengler
October 31, 1991
Page 2

On October 24, 1991 KMCC-FPD sent two facility representatives to a Mississippi Department of Environmental Quality sponsored Waste Minimization Workshop. KMCC-FPD is writing a Facility Waste Minimization Plan.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

Enclosures

cc: J. Getz
R. Jones
R. Widmann

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 10/31/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Units	Sample Point-> Sample Date-> SWLO#->	GMCM6 08/14/91 6992.01	GMCM7 08/14/91 6992.02	GMCM8 08/14/91 6992.03				
FIELD CONDUCTIVITY	um/cm		424	381	330				
FIELD CONDUCTIVITY	um/cm		407	377	329				
FIELD CONDUCTIVITY	um/cm		403	386	329				
FIELD CONDUCTIVITY	um/cm		412	384	346				
PH	S.U.		6.00	6.20	5.60				
FIELD PH	S.U.		6.00	6.20	5.60				
FIELD PH	S.U.		6.00	6.20	5.60				
FIELD PH	S.U.		6.00	6.20	5.60				
FREE PRODUCT	in		0.00	0.00	0.00				
FLOATERS	in		0.00	0.00	0.00				
SINKERS	in		0.00	0.00	0.00				
BTEX	ug/l		1.00	1.00	27.2				
Benzene	ug/l		1.00	1.00	86.8				
Total Xylenes	ug/l		1.00	1.00	86.8				
ACID EXTRACTABLES	ug/l		10	10	500				
2-CHLOROPHENOL	ug/l		10	10	500				
2,4-DIMETHYLPHENOL	ug/l		10	10	500				
2,4-DINITROPHENOL	ug/l		50	50	2500				
P-CHLORO-M-CRESOL	ug/l		10	10	500				
PENTACHLOROPHENOL	ug/l		10	10	500				
PHENOL	ug/l		10	10	500				
2,4,6-TRICHLOROPHENOL	ug/l		10	10	500				
2,3,4,6-TETRACHLOROPHENOL	ug/l		10	10	500				
BASE/NEUTRAL EXTRACTABLES	ug/l		10	10	70				
ACENAPHTHYLENE	ug/l		10	10	70				

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE
J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 10/31/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCEPDCOL

Parameters	Sample Point-> Sample Date-> SWID#->	GMMCW6 08/14/91 6992.01	GMMCW7 08/14/91 6992.02	GMMCW8 08/14/91 6992.03				
BENZO(A)ANTHRACENE	ug/l	10	10	500	U			
BENZO(B)FLUORANTHENE	ug/l	10	10	500	U			
BENZO(K)FLUORANTHENE	ug/l	10	10	500	U			
DIBENZ(A,H)ANTHRACENE	ug/l	10	10	500	U			
BENZO(A)PYRENE	ug/l	10	2.00	500	U			
FLUORANTHENE	ug/l	10	2.00	500	U			
INDENO(1,2,3,-CD)PYRENE	ug/l	10	10	500	U			
NAPHTHALENE	ug/l	10	10	4470	J			
PHENANTHRENE	ug/l	10	1.00	176	J			
CARBAZOLE	ug/l	10	10	400	J			

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE



**OFFICE OF
POLLUTION CONTROL
P. O. Box 10385
Jackson, Mississippi 39289-0385**

APPROX SCALE



Monterey, Calif. / Santa Barbara
14th DIVISION

FILE COPY



STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

January 2, 1992

Mr. Nick Bock
Staff Environmental Specialist
Kerr-McGee Chemical Corporation
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Re: Kerr-McGee Chemical Corp.
Forest Products Division
Columbus, Mississippi
Bi-monthly Progress Report

Dear Mr. Bock:

The Mississippi Office of Pollution Control (Office) has received the above referenced document and has the following comments:

- 1) Monitor well CMW-13 shall be decommissioned in accordance with "Surface Water and Ground Water Use and Protection Regulation", Mississippi Office of Land and Water, as amended April, 1990 (enclosed). Documentation of the plugging and abandonment procedures which are followed shall be submitted to the Office.
- 2) The Office intends to observe the installation of the monitor wells to be installed the week of January 13, 1992. The Office should be notified a week in advance of the actual date field activities are to begin.

All questions and comments should be directed to me at the address below.

Sincerely,

Bruce Ferguson
Bruce Ferguson
Hazardous Waste Division

enclosure

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
Bureau of Land and Water Resources

P.O. Box 10631
 Jackson, Mississippi 39289-0631
 WATER WELL PLUGGING
 DECOMMISSIONING

PERMIT NUMBER	
NAME OF DRILLING FIRM	

COUNTY WELL LOCATED	
WELL NUMBER	CODED
DATE WELL PLUGGED	

NAME & MAILING ADDRESS OF LANDOWNER	
WELL LOCATION	
SEC	TOWNSHIP
RANGE	
DISTANCE	
DIRECTION	
NEAREST TOWN	
OTHER LANDMARK	
WELL PURPOSE Home, Irrigation, Municipal, Industrial, Fish Pond, etc	

NAME OF WELL CONTRACTOR WHO DRILLED THE WELL	
NAME OF LANDOWNER WHEN WELL WAS DRILLED	
WELL DATA	
Well Depth	Casing Diameter (in)
Casing Length (ft)	
Type of Casing	Hole Depth
Depth to Static Water Level	
DATE WELL COMPLETED	

DESCRIBE HOW THE WELL OR HOLE WAS PLUGGED (AMOUNT OF CASING AND/OR SCREEN THAT WAS REMOVED, OR LEFT IN HOLE, MATERIAL USED IN PLUGGING, ETC.)

I CERTIFY THAT THE WELL WAS PLUGGED OR ABANDONED IN ACCORDANCE WITH THE STATE OF MISSISSIPPI REGULATIONS
SIGNATURE
DATE



KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-McGEE CHEMICAL CORPORATION

DEQ-OPC

DEC 23 1991

December 19, 1991

Mailed copy to EPA
12/31/91

Bruce Ferguson
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
January 1, 1992

Dear Mr. Ferguson:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

KMCC-FPD has obtained access for drilling on property east (City of Columbus), south (Sanderason Plumbing) and west of the facility. The enclosed map shows the approximate locations of stainless steel alluvial monitoring wells CMW 58, CMW 59, CMW 60 and CMW 61 which will be installed during the week of January 13, 1992. In addition, Monitoring Well CMW 13 has been broken beneath ground level. This well is not part of the corrective action monitoring and will be plugged and abandoned in accordance with the sampling and analyses plan.

On September 27, 1991, KMCC-FPD proposed to purchase 3.4 acres of land from the Columbus Cemetery Board for a total net compensation of \$54,000. This land would be returned to the Columbus Cemetery Board for a total net compensation of \$54,000. This land would be returned to the Columbus Cemetery Board at no cost at the conclusion of remediation. In a follow-up letter on December 3, 1991, KMCC-FPD restated KMCC-FPD's desire to meet with the Cemetery Board and discuss this offer. To date, the Cemetery Board has not responded.

Fourth quarter corrective action groundwater monitoring was conducted the week of November 4, 1991, in accordance with the approved analytical schedule; the results are enclosed. First quarter corrective action groundwater monitoring is tentatively scheduled for the week of February 3, 1992 in accordance with the approved analytical schedule.



The recovery system continues to perform well. The semi-annual report, was submitted and detailed the performance of the groundwater monitoring and recovery systems. The MBPC had two comments on this report to which KMCC-FPD has responded.

KMCC-FPD received a draft HSWA Permit for the Columbus facility on October 14, 1991. KMCC-FPD has discussed with U.S. EPA and the MBPC to arrange a site visit to the Columbus facility in preparation of permitting. KMCC-FPD anticipates a meeting in early 1992.

On November 5, 1991, KMCC-FPD notified the MBPC and U.S. EPA under 40 CFR 264, Subpart W that KMCC-FPD intended to upgrade an existing drip pad to conform with Subpart W standards. On December 13, 1991, an independent registered professional engineer conducted an inspection of the drip pad. The inspection report will be out in January 1992.

On November 19, 1991, KMCC-FPD received notification from the MBPC the Compliance Evaluation Inspection had indicated the facility was in compliance.

On October 24, 1991 KMCC-FPD sent two facility representatives to a Mississippi Department of Environmental Quality sponsored Waste Minimization Workshop. KMCC-FPD is writing a Facility Waste Minimization Plan and will be available on December 31, 1991.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

Enclosures

cc: J. Getz
R. Jones
R. Wildmann

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SWLCH->	GMCMCH5 11/06/91 7908.01	GMCMCH4 11/06/91 7908.02	GMCMCH6 11/06/91 7908.03	GMCMCH3 11/06/91 7908.04	GMCMCH4 11/06/91 7908.05	GMCMCH24 11/06/91 7908.06	GMCMCH11 11/05/91 7908.07
ACID EXTRACTABLES								
2-CHLOROPHENOL	ug/l	10	10	10	10	10	10	10
2,4-DIMETHYLPHENOL	ug/l	10	10	10	10	10	10	10
2,4-DINITROPHENOL	ug/l	50	50	50	50	50	50	50
P-CHLORO-N-CRESOL	ug/l	10	10	10	10	10	10	10
PENTACHLOROPHENOL	ug/l	10	10	10	10	10	10	10
PHENOL	ug/l	10	10	10	10	10	10	10
2,4,6-TRICHLOROPHENOL	ug/l	10	10	10	10	10	10	10
2,3,4,6-TETRACHLOROPHENOL	ug/l	10	10	10	10	10	10	10
BASE/NEUTRAL EXTRACTABLES								
ACENAPHTHYLENE	ug/l	10	3.00	10	10	60	10	10
BENZO(A)ANTHRACENE	ug/l	10	10	10	12	10	10	10
BENZO(B)FLUORANTHENE	ug/l	10	10	10	8.00	10	10	10
BENZO(K)FLUORANTHENE	ug/l	10	10	10	10	10	10	10
DIBENZ(A,H)ANTHRACENE	ug/l	10	10	10	10	10	10	10
BENZO(A)PYRENE	ug/l	10	10	10	88	25	18	10
FLUORANTHENE	ug/l	10	10	10	88	25	18	10
INDENO(1,2,3,-CD)PYRENE	ug/l	10	10	10	10	10	17	10
NAPHTHALENE	ug/l	10	10	10	44	10	10	10
PHENANTHRENE	ug/l	10	6.00	10	114	116	10	107
CARBAZOLE	ug/l	10	20	10	11	75	2.00	21
GAS CHROMATOGRAPHY								
BENZENE	ug/l	1.00	1.00	1.00	1.30	7.90	-	16.2
TOTAL XYLENES	ug/l	1.00	1.30	1.00	2.20	42.4	-	5.10
FIELD CONDUCTIVITY								
FIELD CONDUCTIVITY	um/cm	260	289	325	600	297	180	275
FIELD CONDUCTIVITY	um/cm	255	302	321	599	290	172	283
FIELD CONDUCTIVITY	um/cm	265	300	323	601	288	190	279
FIELD CONDUCTIVITY	um/cm	274	303	328	598	298	195	279

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SMLOH->	GMCMCH5 11/06/91 7908.01	GMCMCH4 11/06/91 7908.02	GMCMCH6 11/06/91 7908.03	GMCMCH3 11/06/91 7908.04	GMCMCH4 11/06/91 7908.05	GMCMCH24 11/06/91 7908.06	GMCMCH11 11/05/91 7908.07
PH	Units							
FIELD PH	S.U.	9.40	8.24	7.87	6.27	5.48	6.16	6.24
FIELD PH	S.U.	9.46	8.29	7.87	6.30	5.50	6.14	6.24
FIELD PH	S.U.	9.34	8.25	7.88	6.30	5.51	6.11	6.28
FIELD PH	S.U.	9.26	8.27	7.89	6.29	5.52	6.17	6.30
FREE PRODUCT								
FLOATERS	in	0.00	0.00	0.00	0.00	0.00	-	0.00
SINKERS	in	0.00	0.00	0.00	0.00	0.00	-	0.00

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCEPDDCOL

Parameters	Sample Point-> Sample Date-> SMLO#->	GMCMH10 11/05/91 7908.08	GMCMH56 11/05/91 7908.09	GMCMH53 11/05/91 7908.10	GMCMH9 11/06/91 7908.11	GMCMH3 11/06/91 7922.01	GMCMH16 11/06/91 7922.02	GMCMH22 11/06/91 7922.03
ACID EXTRACTABLES	Units							
2-CHLOROPHENOL	ug/l	10	10	10	10	10	10	10
2,4-DIMETHYLPHENOL	ug/l	10	10	117	10	10	10	10
2,4-DINITROPHENOL	ug/l	50	50	50	50	50	50	50
P-CHLORO-H-CRESOL	ug/l	10	10	10	10	10	10	10
PENTACHLOROPHENOL	ug/l	10	33	10	10	10	10	10
PHENOL	ug/l	10	10	10	10	10	10	10
2,4,6-TRICHLOROPHENOL	ug/l	10	10	10	10	10	10	10
2,3,4,6-TETRACHLOROPHENOL	ug/l	10	10	10	202	10	10	10
BASE/NEUTRAL EXTRACTABLES								
ACENAPHTHYLENE	ug/l	10	10	6.00	69	10	10	10
BENZO(A)ANTHRACENE	ug/l	10	10	10	65	10	10	10
BENZO(B)FLUORANTHENE	ug/l	10	10	10	55	10	10	10
BENZO(K)FLUORANTHENE	ug/l	10	10	10	10	10	10	10
DIBENZ(A,H)ANTHRACENE	ug/l	10	10	10	10	10	10	10
BENZO(A)PYRENE	ug/l	10	10	10	160	10	10	10
FLUORANTHENE	ug/l	10	10	10	10	10	10	10
INDENO(1,2,3,-CD)PYRENE	ug/l	10	10	10	10	10	10	10
NAPHTHALENE	ug/l	54	10	67	10	10	10	10
PHENANTHRENE	ug/l	10	19	25	10	10	10	10
CARBAZOLE	ug/l	14	28	154	83	10	10	10
GAS CHROMATOGRAPHY								
BENZENE	ug/l	6.20	-	-	6.20	1.00	1.00	1.00
TOTAL XYLENES	ug/l	1.00	-	-	262	1.00	1.00	1.00
FIELD CONDUCTIVITY								
FIELD CONDUCTIVITY	um/cm	500	430	713	302	602	279	278
FIELD CONDUCTIVITY	um/cm	501	432	705	305	591	281	273
FIELD CONDUCTIVITY	um/cm	499	430	720	306	588	288	276
FIELD CONDUCTIVITY	um/cm	500	431	725	311	589	285	276

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SLO#->	GMCMH10 11/05/91 7908.08	GMCMH56 11/05/91 7908.09	GMCMH53 11/05/91 7908.10	GMCMH9 11/06/91 7908.11	GMCMH3 11/06/91 7922.01	GMCMH16 11/06/91 7922.02	GMCMH22 11/06/91 7922.03
PH	Units							
FIELD PH	s.u.	6.61	5.80	6.53	5.75	7.17	5.25	5.47
FIELD PH	s.u.	6.62	5.81	6.57	5.79	7.26	5.30	5.49
FIELD PH	s.u.	6.63	5.81	6.53	5.84	7.22	5.34	5.52
FIELD PH	s.u.	6.64	5.80	6.55	5.81	7.28	5.30	5.54
FREE PRODUCT								
FLOATERS	in	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SINKERS	in	0.00	0.00	0.00	0.00 T	0.00	0.00	0.00

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCFCPPDCOL

Parameters	Units	Sample Point-> Sample Date-> SULOH->	GMCMH1AR 11/07/91 7922.04	GMCMH14 11/07/91 7922.05	GMCMH6 11/07/91 7922.06	GMCMH7 11/07/91 7922.07	GMCMH8 11/07/91 7922.08		
ACID EXTRACTABLES									
2-CHLOROPHENOL	ug/l		10	10	10	10	100	U	
2,4-DIMETHYLPHENOL	ug/l		10	10	10	10	20	U	
2,4-DINITROPHENOL	ug/l		50	50	50	50	500	U	
P-CHLORO-M-CRESOL	ug/l		10	10	10	10	100	U	
PENTACHLOROPHENOL	ug/l		10	10	10	10	100	U	
PHENOL	ug/l		10	10	10	10	100	U	
2,4,6-TRICHLOROPHENOL	ug/l		10	10	10	10	100	U	
2,3,4,6-TETRACHLOROPHENOL	ug/l		10	10	10	10	100	U	
BASE/NEUTRAL EXTRACTABLES									
ACENAPHTHYLENE	ug/l		10	10	10	10	62	J	
BENZO(A)ANTHRACENE	ug/l		10	10	10	10	100	U	
BENZO(B)FLUORANTHENE	ug/l		10	10	10	10	100	U	
BENZO(K)FLUORANTHENE	ug/l		10	10	10	10	100	U	
DIBENZ(A,H)ANTHRACENE	ug/l		10	10	10	10	100	U	
BENZO(A)PYRENE	ug/l		10	10	10	10	40	J	
FLUORANTHENE	ug/l		10	10	10	10	40	J	
INDENO(1,2,3,-CD)PYRENE	ug/l		10	10	10	10	100	U	
NAPHTHALENE	ug/l		10	10	10	10	4530		
PHENANTHRENE	ug/l		10	10	10	10	366		
CARBAZOLE	ug/l		10	10	10	10	500		
GAS CHROMATOGRAPHY									
BENZENE	ug/l		1.00	1.00	1.00	1.00	16.8		
TOTAL XYLENES	ug/l		1.00	1.00	1.00	1.00	67.9		
FIELD CONDUCTIVITY									
FIELD CONDUCTIVITY	um/cm		258	495	465	454	354		
FIELD CONDUCTIVITY	um/cm		256	485	469	455	357		
FIELD CONDUCTIVITY	um/cm		253	505	484	451	356		
FIELD CONDUCTIVITY	um/cm		257	495	478	443	355		

U: ANALYZED BUT NOT DETECTED
8: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 12/06/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SLOH->	GMCMH1AR 11/07/91 7922.04	GMCMH14 11/07/91 7922.05	GMCMH6 11/07/91 7922.06	GMCMH7 11/07/91 7922.07	GMCMH8 11/07/91 7922.08		
pH	Units							
FIELD pH	S.U.	4.81	6.10	6.10	6.17	5.78		
FIELD pH	S.U.	4.82	6.12	6.18	6.19	5.74		
FIELD pH	S.U.	4.80	6.15	6.15	6.25	5.79		
FIELD pH	S.U.	4.84	6.18	6.16	6.20	5.80		
FREE PRODUCT								
FLOATERS	in	0.00	0.00	0.00	0.00	0.00		
SINKERS	in	0.00	0.00	0.00	0.00	0.00		

U: ANALYZED BUT NOT DETECTED
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T: TRACE



Kerr-McGee Chemical Corporation, Forest Products Division (Kerr-McGee), operates a wood treatment facility in Columbus, Mississippi. This facility manufactures treated wood railroad products using creosote exclusively as the wood preservative.

On December 6, 1990 (FR Vol. 55, No. 235) U. S. EPA amended The Hazardous Waste Regulations by listing as hazardous wastes various residuals from wood preserving operations and promulgated the Subpart W standards for drip pads. KMCC-FPD's wood preserving operation at this location is subject to the listing of creosote residuals, F034, and the Subpart W standards.

Effective June 6, 1991 (FR Vol. 56, No. 114), U. S. EPA announced an administrative stay for listed hazardous wastes F032, F034 and F035 in process areas and conditionally extended the effective date for Subpart W drip pad management standards. In accordance with the provisions of the administrative stay, all wood preserving facilities must notify the applicable authorized state/Regional Office of their intended course of action.

To the best of our knowledge, your state has the authority for the new regulations; however, the state has not adopted 40 CFR 264, Subpart W standards. Kerr-McGee is requesting any information you can provide in regard to proposed standards, public participation or implementation schedule for 40 CFR 264 Subpart W Standards. At the same time, Kerr-McGee is implementing our program as if the state had adopted the EPA regulations.

Gentlemen:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Plant
MSD 094228988
Subpart W. Notification
Second Notice

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

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

November 5, 1991

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



November 5, 1991
Page 2

Therefore, in accordance with the EPA regulations, Kerr-McGee provided notification on August 6, 1991 that the aforementioned wood treating facility using creosote as a wood preservative had previously installed a drip pad in 1988 (prior to the regulation promulgated December 6, 1990) and intended to upgrade the existing drip pad to meet the Subpart W standard. Kerr-McGee's pad design meets all the requirements of 40 CFR 264, Subpart W with the exception of surface coating and certification. Upon receipt of the provisions of the stay in June, 1991, Kerr-McGee undertook a program to coat all drip pads. This program was completed in the summer of 1991.

This serves as the second notification required under the Federal regulations that the facility now is compliant with all drip pad standards with the exception of professional engineer certification. The estimated cost of professional engineer certification for the drip pad is \$6,000.00. Based on this estimate, Kerr-McGee will not require financing and has budgeted and funded this expense out of current operations. In accordance with Federal regulations, the pads will be certified by February 6, 1992. At that time Kerr-McGee will notify the Regional Administrator and state authority of our compliance status.

If you desire additional information, please contact the plant manager, J. J. Getz at (601) 328-7551 or me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

Enclosures

cc: Facility

U.S. EPA Region IV
Hazardous Waste Management Div.
345 Courtland Street, NE
Atlanta, GA 30365

KMCC-FPD received a draft HSWA Permit for the Columbus facility on October 14, 1991.

The recovery system continues to perform well. The semi-annual report, was submitted and detailed the performance of the groundwater monitoring and recovery systems. The MBAC had two comments on this report to which KMCC-FPD has responded.

Third quarter corrective action groundwater monitoring was conducted the week of August 12, 1991, in accordance with the approved analytical schedule; the results are enclosed. KMCC has also signed an access agreement with Sandesson Plumbing Products. Fourth quarter corrective action groundwater monitoring is tentatively scheduled for the week of November 4, 1991 in accordance with the approved analytical schedule.

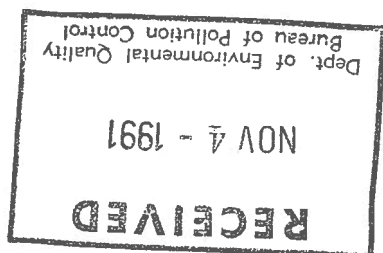
KMCC-FPD continues to discuss a proposal to obtain access to cemetery property for installation of a groundwater recovery system with the Columbus Cemetery Board. KMCC-FPD has drafted a proposal to purchase and submitted the offer to the Cemetery Board for their review on September 27, 1991. KMCC-FPD has obtained access to property east of the facility and from the city to install a monitoring well on city property to determine western-most extent of dissolved creosote constituents.

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

Dear Mr. Spengler:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
November 1, 1990

Steve Spengler
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385



October 31, 1991

Steve Spengler
October 31, 1991
Page 2

On October 24, 1991 KMCC-FPD sent two facility representatives to a Mississippi Department of Environmental Quality sponsored Waste Minimization Workshop. KMCC-FPD is writing a Facility Waste Minimization Plan.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

Enclosures

cc: J. Getz
R. Jones
R. Widmann

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 10/31/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDDCOL

Parameters	Units	Sample Point-> Sample Date-> SWID#->	GMCM6 08/14/91 6992.01	GMCM7 08/14/91 6992.02	GMCM8 08/14/91 6992.03				
FIELD CONDUCTIVITY	um/cm		424	381	330				
FIELD CONDUCTIVITY	um/cm		407	377	329				
FIELD CONDUCTIVITY	um/cm		403	386	329				
FIELD CONDUCTIVITY	um/cm		412	384	346				
pH									
FIELD pH	S.U.		6.00	6.20	5.60				
FIELD pH	S.U.		6.00	6.20	5.60				
FIELD pH	S.U.		6.00	6.20	5.60				
FREE PRODUCT									
FLOATERS	in		0.00	0.00	0.00				
SINKERS	in		0.00	0.00	0.00				
BTEX									
Benzene	ug/l		1.00	1.00	27.2				
Total Xylenes	ug/l		1.00	1.00	86.8				
ACID EXTRACTABLES									
2-CHLOROPHENOL	ug/l		10	10	500				
2,4-DIMETHYLPHENOL	ug/l		10	10	500				
2,4-DINITROPHENOL	ug/l		50	50	2500				
P-CHLORO-M-CRESOL	ug/l		10	10	500				
PENTACHLOROPHENOL	ug/l		10	10	500				
PHENOL	ug/l		10	10	500				
2,4,6-TRICHLOROPHENOL	ug/l		10	10	500				
2,3,4,6-TETRACHLOROPHENOL	ug/l		10	10	500				
BASE/NEUTRAL EXTRACTABLES									
ACENAPHTHYLENE	ug/l		10	10	70				

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report

DATE: 10/31/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Sample Point-> Sample Date-> SMLO#->	GMCMG6 08/14/91 6992.01	GMCMG7 08/14/91 6992.02	GMCMG8 08/14/91 6992.03				
BENZO(A)ANTHRACENE	ug/l	10	10	500	U			
BENZO(B)FLUORANTHENE	ug/l	10	10	500	U			
BENZO(K)FLUORANTHENE	ug/l	10	10	500	U			
DIBENZ(A,H)ANTHRACENE	ug/l	10	10	500	U			
BENZO(A)PYRENE	ug/l	10	2.00	500	U			
FLUORANTHENE	ug/l	10	2.00	500	U			
INDENO(1,2,3,-CD)PYRENE	ug/l	10	10	500	U			
NAPHTHALENE	ug/l	10	10	4470	U			
PHENANTHRENE	ug/l	10	1.00	176	J			
CARBAZOLE	ug/l	10	10	400	J			

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

October 21, 1991



Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Comments on Semiannual
Performance Report

Dear Mr. Ferguson:

The following answers are submitted to address your October 4th, 1991 comments on the Semiannual Performance Report submitted September 27, 1991. As per your October 9th conversation with Ms. Jami Poor, the response to your October 4, 1991, letter was extended from October 19 to October 21, 1991.

1) Module IV., condition H.11 of Mississippi Hazardous Waste Permit No. HW-90-329-01 requires the effectiveness report to contain at least annually, isocentration maps showing plumes for each major constituent in Module IV., condition E. The report has maps showing the estimated extent of contamination, however, the concentration distribution is not shown.

As previously agreed with MBPC, KMCC-FPD understood contaminant plumes were to be constructed on the basis of free product, and also on the presence of dissolved constituents. The reasoning is as follows:

MBPC and KMCC-FPD recognizes that when free product is present in the well, there is not a need for analytical to be performed. Therefore the concentration values in the central plume are unquantified and assumed to approach 100 percent of the solubility of individual compounds.

Only the three compliance wells (CMW6, CMW7, and CMW8) are sampled each quarter for semi-volatiles, benzene and total xylene. A schedule of the 1991 quarterly sampling summary, (exerted from Table 4, page 10), illustrates that each of the compliance monitor wells has been analyzed consistently each quarter for each constituent.

Boundary monitor wells are in compliance with the groundwater protection standard for the 2nd quarter of 1991. These wells illustrate the limit of the contaminant plumes.

FOREST PRODUCTS



There is also no need to sample each effectiveness well each quarter for semivolatiles, benzene, and total xylene until these wells have been in compliance for three consecutive years. Therefore, the permit required that these wells are sampled only biennially (scheduled 4th quarter 1991) for the semivolatiles, benzene and total xylene. Groundwater is collected from the effectiveness wells (semi-annually) during 2nd and 4th quarters to monitor the presence of total phenols, acenaphthylene, acenaphthene and naphthalene contaminants. Acenaphthylene, acenaphthene and naphthalene are the most soluble of the polynuclear aromatic compounds (see Table 6., p. 13), and are the first constituents to be detected in the groundwater. Since these three compounds are quantified in all facility wells, the very best that can be expected is to construct isocentration maps for these compounds. The methods used to quantify the full suite of semivolatiles scheduled for the fourth quarter is EPA 625/SW 8270. Analyses for Naphthalene, acenaphthylene and acenaphthene is by SW8100 (MOD) method.

For the reasons stated above, a delineation map has been constructed on the presence of total phenols, acenaphthylene, acenaphthene and naphthalene rather than on the concentrations. The isocentration maps are not included on this map, because there is not enough data to construct isocentration maps for individual constituents. The importance in determining the effectiveness of the recovery system to reduce the contaminant concentrations over time will not be overlooked in future reports. An isocentration map will, in the future, be constructed biennially on 4th quarter data and submitted with the following Semiannual Performance Evaluation Report if sufficient data exists.

2. Module IV., Condition E lists the constituents to be analyzed along with the approved method of sample analyses and preparation. Since the groundwater protection standards have been set at the method detection limit, it is necessary to show the method used when analyzing the groundwater samples. No statement was seen in the report showing what method was used to analyze the samples. Also, the May sampling round showed no analyses for benzo(a)pyrene.

Enclosed with this letter are copies of the analyses which show not only the detection limits for each constituent but also the method used for analyses. Because the analytical data tends to get lengthy and multiple pages, tables (Tables 1A-1E) have been constructed to condense this information. Future reports will contain not only the analytical sheets but also a table of concentration detected, detection limit, and the analytical method for each submitted quarter.

Mr. Bruce Ferguson
October 21, 1991
Page Three

KMCC-FPD changed laboratories between the 1991 1st and 2nd quarterly sampling. The new laboratory failed to quantify benzo(a)pyrene during the second quarter. The laboratory reviewed all data from the second quarter and was able to quantify benzo(a)pyrene concentrations from archives. All future analyses will include quantification of benzo(a)pyrene where applicable.

If I may answer additional questions, please telephone me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCT DIVISION



Nick Bock
Staff Environmental Specialist

NB/JMP/r1a

Enclosures

cc: J. Getz
R. Jones
R. Widmann
J. Poor



STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR

October 4, 1991

Mr. Nick Bock
Environmental & Quality Control
Kerr-McGee Chemical Corporation
Kerr-McGee Center
Oklahoma City, Oklahoma 73125

Re: Semiannual Performance
Evaluation Report
Forest Product Division
Columbus, Mississippi

Dear Mr. Bock:

The Mississippi Office of Pollution Control (Office) has received and reviewed the above referenced report. The Office has the following comments on the report:

- 1) Module IV., Condition H.11 of Mississippi Hazardous Waste Permit No. HW-90-329-01 requires the effectiveness report to contain at least annually isocconcentration maps showing plumes for each major constituent in Module IV., Condition E. The report has maps showing the estimated extent of contamination, however, the concentration distribution is not shown.

- 2) Module IV., Condition E lists the constituents to be analyzed along with the approved method of sample analysis and preparation. Since the Groundwater Protection Standards have been set at the method detection limit, it is necessary to show the method used when analyzing the groundwater samples. No statement was seen in the report showing what method was used to analyze the samples. Also, the May sampling round showed no analysis for benzo(a)pyrene.

The Office requests that these comments be addressed within 10 days of receiving this letter.

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

Sincerely,

Bruce Ferguson

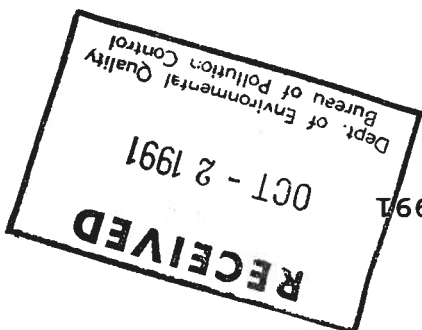
BUREAU OF POLLUTION CONTROL, P.O. BOX 10385, JACKSON, MS 39289-0385, (601) 961-5171



KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

September 27, 1991



Mr. Steve Spengler
Mississippi Bureau of Pollution Control
2380 Highway 80 West
Jackson, MS 39204

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
October, 1991 Semi-Annual
Performance Report
HW 90-329-01

Dear Mr. Spengler:

Enclosed are three copies of the Semi-Annual Corrective Action Effectiveness Report as referenced in provision IV.H.11. of the Permit which requires semi-annual reports on the performance of the corrective action. This submittal represents the second in a series of semi-annual performance reports containing groundwater analytical and monitoring data, and corrective action measures at the site. The required performance period for this corrective action is a six month interval from January 1 to June 31, 1991, however, an additional two months (July and August) of collected data is also included.

If you have any questions or require additional information concerning the contents of this report, please do not hesitate to call me at (405) 270-2394.

Sincerely,

Nick Bock

NICK BOCK
Staff Specialist
Environmental & Quality Control

NB/JMP/r1a

Enclosures

cc: J. J. Getz
J. M. Poor



09/18/91

TELEPHONE CONVERSATION — KERR-McGEE-Columbus

TELEPHONE CONVERSATION BETWEEN J.J. GETZ AND MYSELF 09/18/91

HE STATED THAT SANDERSON PLUMBING HAD CONTACTED HIM AND VERBALLY AGREED TO A WELL PLACED ON THEIR PROPERTY. PAPERWORK TO FOLLOW THIS WEEK.

ALSO STATED THAT HE WOULD MEET WITH CEMETARY PEOPLE WITHIN THE WEEK. IF NO RESOLUTION TO STANDSTILL IS REACHED HE WILL CONTACT ME.

DKR



STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MARBUS
GOVERNOR

September 9, 1991

CERTIFIED MAIL NO. P 444 543 448

Mr. Jim Leitheliser
Manager, Environmental Affairs
Sanderson Plumbing Products, Inc.
P. O. Box 1367
Columbus, MS 39703

Dear Mr. Leitheliser:

On August 1, 1991, several members of Sanderson Plumbing's management staff met with representatives of the Mississippi Department of Environmental Quality to discuss various issues dealing with access to Sanderson property for placement of a monitor well. At the conclusion of this meeting you conveyed to MDEQ a list of questions related to various technical aspects of Kerr-McGee's remediation project and the potential impact that these issues may have on the adjacent Sanderson property. The following is a listing of the questions that we were asked to address, and MDEQ's subsequent response to each of the questions:

(g) Groundwater flow direction? Flow Velocity?

(A) Kerr-McGee's Columbus facility, as well as the surrounding area, is underlain by 14 to 26 feet of alluvial sediments consisting of interbedded clays, sands, and gravels. These sediments were deposited directly onto the unconformable surface of the Butaw formation, which is made up of a series of fine-grain silt, sands, and clays. Potentiometric maps of the alluvial aquifer show the groundwater flow direction to generally be in a southeasterly direction. Two factors that exhibit some influence, and may cause some deviation from this dominant flow direction are precipitation and the subsurface relief at the alluvial-Butaw interface. Potentiometric maps at the Butaw formation show groundwater flow direction as being east to southeast. Groundwater velocities in both the alluvial and the underlying Butaw formation were calculated to predict the migration velocity of the potential contamination in each aquifer. Hydraulic conductivity values of 7 gpd/ft², 22 gpd/ft², and 30 gpd/ft² were calculated for the alluvial by performing slug tests on

three separate monitor wells. An aquifer test, performed June 20, 1989, revealed a hydraulic conductivity on the alluvial formation of 10.7 gpd/ft². An average of the four hydraulic conductivities, 17.4 gpd/ft² was used to determine the groundwater velocity in the alluvium at the Columbus facility. Groundwater velocities in the shallow alluvial aquifer were calculated for all four quarters of 1990 which are summarized in Attachment 1. A velocity value for the Butaw formation was determined using the fourth quarter potentiometric map. The hydraulic conductivity value is 0.23 gpd/ft². The velocity is calculated at 3.04×10^{-3} feet/day (9.27 cm/day). The groundwater velocity in the Butaw formation is significantly lower than that of the alluvial formation.

(c) Point source or diffuse source contamination? Type and concentration of contaminants?

(A) Kerr-McGee has operated its wood preserving facility, located in Columbus, since 1946. During that time the wood treating process has involved the use of creosote and/or pentachlorophenol. Attachment 2 is a listing of the constituent compounds that make up creosote, and all of these compounds could be expected to appear in contaminated groundwater samples (in various degrees). Concentration of contaminants range from readings that detected compounds below limits that could be quantitatively measured, to samples that contain "free product" or creosote that has settled below the water in the alluvial aquifer.

contamination at the facility emanated from two point sources. One source was identified as being a below-ground railroad loading dock that loaded newly treated ties. The primary source of contamination has been identified as being associated with the production process area. This source appears to be the one that has had the largest influence on the southernmost contamination plume.

(c) Extent of vertical and lateral dispersion?

(A) Both the direction and extent of both the primary, as well as the secondary plumes, can be seen in Attachment #3. The horizontal extent of the contamination plume has been controlled by two factors, density of the contaminants and permeability of the Butaw sediments. Because both creosote and pentachlorophenol have densities greater than water, they tend to sink below the water table in the alluvial sediments and the horizontal extent of the plume is defined by the structural lows (erosional features) at the Butaw surface.

- (Q) Solubility data available on contaminants?
- (A) Pentachlorophenol: 14 ppm (water solubility)
- (Q) Density data (as it relates to water, i.e., sg) of contaminants?
- (A) Creosote: 1.05 - 1.09 @ 15 degrees C
Pentachlorophenol: 1.98 @ 15 degrees C
- (Q) Location and depth of existing wells?
- (A) See Attachments #4 and #5.
- (Q) Sampling methodology? (Especially, detection methods, detection levels, and % error possible with sampling methods).
- (A) Groundwater sampling for contamination at Kerr-McGee's Columbus facility is conducted on a quarterly basis. Procedures that are used in both the collection of the groundwater samples and the laboratory analysis of these samples follow MDEQ-approved procedures, as set forth in Kerr-McGee's Post-Closure Permit. Attachment #6 is a detailed narrative of the sampling procedures and a listing of the testing methodologies employed at the facility in question.
- (Q) Permeability data on soil? Alkalinity levels of soils?
- (A) A permeability test was performed on Butaw sediments in 1990. Using the standard test method, SWA 9100, permeability was determined to be 1.1×10^{-5} cm/sec. Using an average of the hydraulic conductivities for the four 1990 quarters, permeability in the shallow alluvial aquifer was calculated to be 8.2×10^{-5} cm/sec.
- Two distinct soil series are recognized near the Columbus facility. They are classified as the Prentiss-Urban land complex (PW) and the Rosella silt loam (RO). Prentiss soils are made up of an upper layer of yellowish brown loam, to a depth of 26 inches. The lower part, to a depth of 73 inches, is a fragipan of sandy loam and loam mottled in shades of brown, gray, and red. Prentiss soils are strongly acid or very strongly acid. The Rosella silt loam (RO) is a grayish brown loam, interbedded with tongues of light gray, very fine sand. This soil is strongly acid to very strongly acid.

(c) Corrective action to stop current and/or prevent future contamination?

(A) Work processes at today's regulated wood-treating facilities have changed substantially from practices employed in the past. Presently, Kerr-McKees' wood-treating operations are conducted in large enclosed pressure cylinders. Once the product has been treated under pressure, the cylinder is placed in a vacuum condition to draw off any excess creosote in the wood. After removal from the cylinder the product is placed on a cement drip pad for a specified period of time to insure that any "kick back drip" can be collected in a proper manner. Today's regulations also require that all wood-treating facilities adopt a contingency plan that would be implemented in the event of an unexpected release to the environment. Strict regulations are also in place to insure that the proper storage, handling, and treatment of hazardous material at every facility is conducted in the appropriate manner.

(c) What measures are in place to prevent further migration of the plume boundary?

(A) Corrective action that has been initiated to prevent further migration of the free creosote product south of the production process area includes the installation of six recovery wells, located along the facility's southern boundary. The recovery of free creosote product and dissolved constituents from alluvial groundwater was initiated August 20, 1990. Each well, placed approximately 100 feet apart, was installed with 5 feet of 0.03" screen placed at the contact of the Butaw formation and the overlying alluvial. Further work is needed to assess the full extent of the plume that may exist beneath adjoining properties so that corrective action may be addressed.

(c) How close to plume boundary must recovery well be to reverse flow?

(A) The ability of a recovery system to reverse groundwater flow will be dependent upon characteristics of both the reservoir (i.e. permeability, gradient, etc.) and the wells themselves (i.e. length of screen, casing size, pump capacity, etc.). The approach that Kerr-McGee has taken is that the removal of free produce (source of compounds found in dissolved plume) should retard the expansion of the plume boundary, and to some extent create an area of depression that may cause the contaminants at the outer edges of the plume to migrate toward the recovery wells.

(Q) Treatment method is withdrawal? Is returned to the well once treated, or some other fate?

(A) Fluids pumped from all six recovery wells are initially pumped into a 2000 gallon storage tank. This tank has a level control which automatically cycles the tank pump when the high level set point is energized. Free produce (creosote) from this tank is diverted back to Kerr-McGee's process operation, while the remaining fluid is directed to a primary production process oil/water separator. Water separated during this process is then released into city sewerage system where the final treatment will be done by Columbus' wastewater treatment facility.

(Q) Surface or subsurface trench feasible to intercept groundwater flow?

(A) Several factors that are present at the Columbus facility render the trench method for contaminant remediation inappropriate. First and foremost is the area geology. The base of the alluvial aquifer over the site ranges from 20 to 30 feet. Since the contaminants in question are dense non-aqueous phase liquids (DNAPL) and tend to accumulate at the Alluvial-Butaw interface, depth for a trench would be impractical not only from a technical standpoint, but also a financial standpoint. Size of the plume would also be a prime deterrent to this methodology.

(Q) Any evidence of, or data available on, "cone of depression" confined or unconfined aquifer?

(A) Since pumping of the recovery wells was only initiated in August, 1990, it is still too early to accurately estimate what effect the wells are producing on the aquifer system. Since the alluvial aquifer is greatly impacted by precipitation it would be characterized as an unconfined aquifer.

(Q) Evidence of any microbial activity, and/or chemical changes or decomposition?

(A) Although much documentation exist that discusses the various chemical changes and microbial activity that hydrocarbon-based organic compounds can undergo under aerobic conditions, no studies have been conducted at this facility along these lines.

Mr. Jim Leitheiser
September 9, 1991
Page 6

- (2) Any other detection methods used (e.g., soil gas analysis, VOC analysis, etc.)?

- (A) The above mentioned testing procedures are normally considered best suited for reconnaissance where prior contamination is unknown, or limits of contamination are uncertain. In a remediation project as extensive as the one being undertaken at Kerr-McGee's Columbus facility, where numerous monitor points are available, groundwater monitoring is the most accurate and dependable method to determine impacted area.

If you require further clarification or have additional questions please feel free to contact me at (601) 961-5220.

Sincerely,

David R. Peacock

David Peacock
Hazardous Waste Division

DP:lfc

Attachments

August 14, 1991

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR



FILE COPY

Everett Livingston
Director of Manufacturing
Sanderson Plumbing Products, Inc.
P. O. Box 1367
Columbus, Mississippi 39703

Dear Mr. Livingston:

This letter is in response to inquiries directed to Mr. Dave Pentecost and myself during our meeting with you of August 1, 1991.

We initiated this meeting with the hope of accomplishing two main objectives. First, we felt a need to ascertain the fact that Kerr-McGee had made every effort to secure access to the property in question. Comments relayed to us by those members of Sanderson's management team present during the meeting indicated that Kerr-McGee's past efforts had indeed been thorough and conducted in good faith. The second proposed objective of the meeting was to identify and address Sanderson's questions concerning the impact, of both an aesthetic and technical nature, that the placement of a well on the property would create.

Following a cursory visual inspection of Sanderson's property it was our expressed contention that the installation of a monitor well on the property could be accomplished with minimal adverse impact to the existing landscaping. Further assurances were given that upon completion, the well itself should be visually unobtrusive, consisting of a small cement pad installed at ground level.

Questions concerning aspects of Kerr-McGee's clean-up operations were discussed with an emphasis placed on the technical rationale for the need of an additional monitor well to be located on Sanderson's property. Chemical analysis of the shallow groundwater conducted in August, 1990, revealed that Kerr-McGee's southernmost monitor well, CMW-53, contained the compounds pentachlorophenol and naphthalene at levels above the limits allowed by the Mississippi Hazardous Waste Management Regulations. These regulations require that any firm engaged in a RCRA hazardous waste clean-up project establish a point of no detection, or zero contamination limit. This requirement necessitates that Kerr-McGee place an additional monitor well to the south of their existing monitoring system. Once this point of no

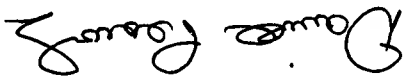
Everett Livingston
August 14, 1991
Page 2

detection has been determined, the effectiveness of Kerr-McKee's remediation efforts can be properly evaluated over time. A detailed listing of technical questions was presented to MDEQ representatives during the August 1, 1991 meeting. Response to these questions is presently being compiled and will be forwarded to Mr. Jim Leithaiser, Manager Environmental Affairs for Sanderson, as soon as possible.

In summary, it is the Mississippi Department of Environmental Quality's firm belief that Sanderson's approval for placement of a monitor well on its property would produce a negligible impact to the appearance of the site, and at the same time, serve both the best interests of Sanderson Plumbing and the citizens of Mississippi.

If you should have any questions regarding the enclosed information, or should you require any additional information, please contact me at (601) 961-5220.

Sincerely,



David Peacock
Hazardous Waste Division

DP:lfc

cc: Nick Bock - Kerr McGee (Oklahoma City)
James H. Scarborough, EPA

KERR-MCGEE CHEMICAL CORPORATION
 KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125
 August 6, 1991

CERTIFIED MAIL
 RETURN RECEIPT REQUESTED

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

Re: Kerr-McGee Chemical Corporation
 Forest Products Division
 Columbus Plant
 MSD 094228988
 Subpart W Notification

RECEIVED
 AUG 9 - 1991
 Dept. of Environmental Quality
 Bureau of Pollution Control

Gentlemen:

Kerr-McGee Chemical Corporation, Forest Products Division (Kerr-McGee), operates the wood treatment facility in Columbus, Mississippi. This facility manufactures treated wood railroad products using creosote exclusively as the wood preservative.

On December 6, 1990 (FR Vol. 55, No. 235) U.S. EPA amended The Hazardous Waste Regulations by listing as hazardous wastes various residuals from wood preserving operations and promulgated the Subpart W standards for drip pads. KMCC-FPD's wood preserving operation at this location is subject to the listing of creosote residuals, F034, and the Subpart W standards.

Effective June 6, 1991 (FR Vol. 56, No. 114), U.S. EPA announced an administrative stay for listed hazardous wastes F032, F034 and F035 in process areas and conditionally extended the effective date for Subpart W drip pad management standards. In accordance with the provisions of the administrative stay, all wood preserving facilities must notify the applicable authorized state/Regional Office of their intended course of action.

This serves as notification that the aforementioned wood treating facility using creosote as a wood preservative had previously installed a drip pad in 1988 (prior to the regulation promulgated December 6, 1990) and intends to upgrade the existing drip pad to meet the Subpart W standard. Kerr-McGee's pad design meets all the requirements of 40 CFR 264, Subpart W with the exception of surface coating and certification. Upon receipt of the

DIVISION OF SOLID WASTE
 REVIEWED BY *DK*
 DATE *08/13/91*
 COMMENTS



August 6, 1991
Page Two

provisions of the stay in June, 1991, Kerr-McGee undertook a program to coat all drip pads. This program is ongoing, and is scheduled for completion in August 1991. Subsequently, the pads will be certified by November 6, 1991. At that time KMCC-FPD will notify the Regional Administrator and state authority of our compliance status well in advance of the February 6, 1992 deadline.

If you desire additional information, please contact the plant manager, J. J. Getz at (601) 328-7551 or me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Nick Bock
Staff Environmental Specialist

NB:wpc

cc: Facility

U. S. EPA Region IV
Hazardous Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365

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Kerr-McGee Chemical Corporation, Forest Products Division (Kerr-McGee), manufactures treated wood railroad products using creosote exclusively as the wood preservative.

Gentlemen:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Plant
MSD 094228988
Subpart W Notification

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

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

August 6, 1991

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-MCGEE CHEMICAL CORPORATION



DEO-GPC

Aug - 5 1991

REG IVE

August 6, 1991
Page Two

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If you desire additional information, please contact the plant manager, J. J. Getz at (601) 328-7551 or me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION

FOREST PRODUCTS DIVISION



Nick Bock

Staff Environmental Specialist

NB:wpc

cc: Facility

U. S. EPA Region IV
Hazardous Waste Management Division
345 Courtland Street, NE
Atlanta, GA 30365

The stay applies only to those facilities that intend to comply with the drip pad management standards and that make a bona fide effort to do so during the stay period. On or before August 6, 1991, wood preserving facilities affected by the stay must notify EPA of their intent to follow one of the following courses of action: upgrade an existing pad by February 6, 1992; install a new pad by May 6, 1992; operate with an existing pad in compliance with the management standards; or cease operations by August 7, 1991. If these rules are applicable to your facility, such notification should be made to the attention of Brian Donaldson at the above address.

An administrative stay effective on June 5, 1991, and published in the Federal Register on July 13, 1991, at page 27332 (see enclosures), conditionally extended the effective date of the drip pad management standards promulgated in the December 6, 1990, final rule. Specifically, the stay provided that activities that would otherwise constitute disposal of the newly listed wastes into the process areas, or onto existing drip pads in these areas, are not covered by the listings during the duration of the stay.

On December 6, 1990, the U.S. Environmental Protection Agency ("EPA") promulgated a final rule that lists wastes from wood preserving processes as hazardous, making the management of these wastes subject to regulation under Subtitle C of RCRA. This rule, published in the Federal Register on December 6, 1990, at page 50450 (see enclosures), lists as hazardous three categories of wastes from wood preserving facilities that use chromium) preservatives. The listings include wastewater, process residuals, preservative dripage, and spent preservatives from wood preserving processes. The rule also establishes standards for management of these hazardous wastes on drip pads and establishes construction and design standards for these pads. The effective date of this rule was June 6, 1991.

Dear Mr. Creekmore:

Subject: Resource Conservation and Recovery Act (RCRA)
Compliance Dates for Wood Preserving Listings

Mr. E. Creekmore
Kerr-McGee Chemical Corp.
P.O. Box 906
Columbus, Mississippi 39701-0906

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

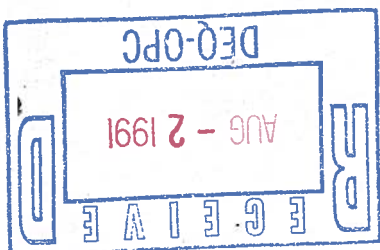
4WD-RCRAFFB

JUL 25 1991

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

REGION IV

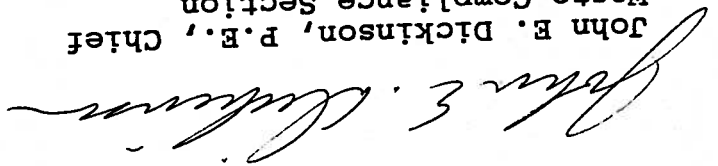
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



If you fail to make such notification, your facility must cease operation of the drip pad area on or before August 7, 1991. Continued operation of this area without such notification could result in a violation of RCRA and the assessment of penalties.

If you have any questions concerning this matter, please contact Brian Donaldson at (404) 347-7603.

Sincerely,


John E. Dickinson, P.E., Chief
Waste Compliance Section
RCRA and Federal Facilities Branch

Enclosures

cc: Sam Mabry, MDEQ

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

JUL 25 1991

4WD-RCRAFFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Nick E. Bock

Kerr-McGee Chemical Corp.

P.O. Box 25861

Oklahoma City, Oklahoma 73125

Subject: Resource Conservation and Recovery Act (RCRA)
Compliance Dates for Wood Preserving Listings

Dear Mr. Bock:

On December 6, 1990, the U.S. Environmental Protection Agency ("EPA") promulgated a final rule that lists wastes from wood preserving processes as hazardous, making the management of these wastes subject to regulation under Subtitle C of RCRA. This rule, published in the Federal Register on December 6, 1990, at page 50450 (see enclosures), lists as hazardous three categories of wastes from wood preserving facilities that use chlorophenolic, creosote and/or inorganic (arsenical and chromium) preservatives. The listings include wastewaters, process residuals, preservative dripage, and spent preservatives from wood preserving processes. The rule also establishes standards for management of these hazardous wastes on drip pads and establishes construction and design standards for these pads. The effective date of this rule was June 6, 1991.

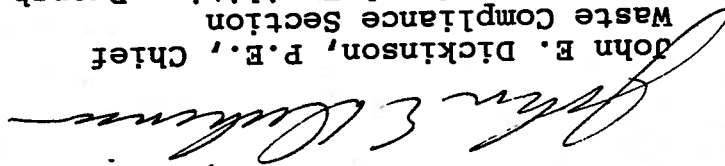
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The stay applies only to those facilities that intend to comply with the drip pad management standards and that make a bona fide effort to do so during the stay period. On or before August 6, 1991, wood preserving facilities affected by the stay must notify EPA of their intent to follow one of the following courses of action: upgrade an existing pad by February 6, 1992; install a new pad by May 6, 1992; operate with an existing pad in compliance with the management standards; or cease operations by August 7, 1991. If these rules are applicable to your facility, such notification should be made to the attention of Brian Donaldson at the above address.

If you fail to make such notification, your facility must cease operation of the drip pad area on or before August 7, 1991. Continued operation of this area without such notification could result in a violation of RCRA and the assessment of penalties.

If you have any questions concerning this matter, please contact Brian Donaldson at (404) 347-7603.

Sincerely,


John E. Dickinson, P.E., Chief
Waste Compliance Section
RCRA and Federal Facilities Branch

Enclosures

cc: Sam Mabry, MDEQ

The formal Post Closure Permit - Part B Modification process that these revisions will necessitate will not be initiated until the additional wells are drilled and the revised system is operational.

After careful staff review, we concur with the additional monitoring wells and the groundwater remediation system revisions that were detailed in the above-mentioned document. As previous meetings and telephone conversations between yourself and members of this staff have indicated, in addition to KMCC-FPD's revisions it is felt that to better define the limits of the southernmost plume an additional well needs to be added to the proposed system. Final approval as to the placement of this well will be determined after access to the property is obtained.

A revision to the previously established corrective action plan for Kerr-McGee's Columbus, Mississippi facility was received by this office in the document titled "Post Closure Permit Application, Part B, Volume III", dated March 29, 1991.

Dear Mr. Bock:

Re: Revision to groundwater remediation system Post Closure Permit - Part B Modification EPA I.D. MSD 990866329

Mr. Nick Bock
Kerr-McGee Chemical Corporation
Kerr-McGee Center
P. O. Box 25861
Oklahoma City, Oklahoma 73125

CERTIFIED MAIL NO. P 675 195 868

July 19, 1991

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MARBUS
GOVERNOR



*David
Hendrick*

Mr. Nick Bock
JULY 19, 1991
Page 2

If you have any questions regarding this matter please contact me at
(601) 961-5220.

Sincerely,

David K. Peacock

David Peacock
Hazardous Waste Division

DP:lfc

cc: Mr. James Scarborough, EPA



FILE COPY

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS
GOVERNOR

June 26, 1991

CERTIFIED MAIL NO. P 675 195 855

Mr. Nick Bock
Staff Environmental Specialist
Kerr-McGee Chemical Corp., Forest Products Division
Kerr-McGee Center
P. O. Box 25861
Oklahoma City, Oklahoma 73125

Re: Comprehensive Monitoring
Evaluation at Kerr-McGee
Meridian, MS

Dear Mr. Bock:

Enclosed is the groundwater monitoring evaluation portion of the Comprehensive Monitoring Evaluation performed at Kerr-McGee's Meridian Facility in November, 1990. No violations were noted on the day of the inspection.

The results of the assessment conducted to evaluate contamination in MW-3 and MW-3A indicate that the source is residual contamination resulting from a 1981 spill into the sewer line, running beneath the closed impoundment. Remedial steps taken during the assessment to remove the sewer line and to plug the portion remaining under the closed impoundment will hopefully remove or further reduce contamination from this source. Continued monitoring of MW-3A annually is recommended to access the effectiveness of these actions regarding SMMU 27 (the sewer line). MW-6 is proposed as the detection monitoring replacement well for MW-3A.

If you have comments or questions regarding this matter, please contact me at (601) 961-5171. Your continued cooperation is appreciated.

Sincerely,
David Pentecost

David Pentecost
Hazardous Waste Division

DP:lfc

Enclosure

COMPREHENSIVE GROUNDWATER
MONITORING EVALUATION
KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION
MERIDIAN, MISSISSIPPI
NOVEMBER, 1990
AUTHOR: THAD HOPPER



REVIEWED BY DK
 DATE 07/17/91
 COMMENTS Copy sent to EPA 07/18/91

DIVISION OF SOLID WASTE

The second quarter groundwater sampling was conducted April 29 through May 2, 1991. In addition to sampling the corrective action monitoring wells (CMW3, CMW4, CMW6, CMW7, CMW8, CMW9, CMW10, CMW11, CMW14, CMW16, CMW22, CME3, CME4, CME5, and CME6) off-site wells CMW51, CMW24, and CMW56 were added to the 2nd quarter schedule by KMCC-FPD. I have enclosed these results for your review. Third quarter corrective action groundwater monitoring is scheduled for the week of August 12, 1991, in accordance with the approved analytical schedule.

The Post-Closure Permit Application, Part B, Volume III was submitted to the Mississippi Bureau of Pollution Control on March 29, 1991 and KMCC-FPD awaits approval of the application. After MBPC approves the permit application addendum of March 29, 1991, the installation of the recovery systems will begin. KMCC-FPD has selected a contractor to install these wells.

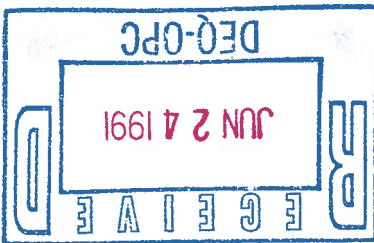
KMCC-FPD continues to discuss a proposal to obtain access to cemetery property for installation of a groundwater recovery system with the Columbus Cemetery Board. KMCC-FPD has obtained access to property east of the facility and has proposed to the city installing monitoring wells on city property to determine western-most extent of dissolved creosote constituents.

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

Dear Mr. Spengler:

Re: Kerr-McGee Chemical Corporation
 Forest Products Division
 Columbus, Mississippi Facility
 Bimonthly Progress Report -
 Consent Order 1636-89
 July 1, 1990 Report

Steve Spengler
 RCRA TSD Coordinator
 Mississippi Bureau of Pollution Control
 P.O. Box 10385
 Jackson, MS 39289-0385



June 21, 1991

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-McGEE CHEMICAL CORPORATION



File

Steve Spengler
June 21, 1991
Page 2

I have enclosed a preliminary Potentiometric map of the alluvial and Eutaw Formations for the second quarter of 1991. These maps will be finalized in the next semi-annual report.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

JMP/NB:wpc
Enclosures

cc: N. Bock
J. Getz
R. Jones
R. Widmann
J. Poor

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Units	Sample Point-> Sample Date-> SML#->	GM/MCM6 05/01/91 5892.01	GM/MCM7 05/01/91 5892.02	GM/MCM8 05/01/91 5892.03	GM/MCM3 05/01/91 5892.04	GM/MCM16 05/01/91 5892.05	Trip Blank A 05/01/91 5892.06	GM/MCM14 05/01/91 5892.07
ACID EXTRACTABLES									
2-Chlorophenol	ug/l		10	10	1000	10	10	-	10
2,4-Dimethylphenol	ug/l		10	10	1000	10	10	-	10
2,4-Dinitrophenol	ug/l		10	10	1000	10	10	-	10
p-chloro-m-cresol	ug/l		10	10	1000	10	10	-	10
Pentachlorophenol	ug/l		10	10	1000	10	10	-	10
Phenol	ug/l		10	10	1000	10	10	-	10
2,4,6-Tetrachlorophenol	ug/l		10	10	1000	10	10	-	10
2,3,4,6-Tetrachlorophenol	ug/l		10	10	1000	10	10	-	10
BASE/NEUTRAL EXTRACTABLES									
Acenaphthylene	ug/l		10	10	50	10	10	-	10
Benzo(a)anthracene	ug/l		10	1.00	1000	10	10	-	10
Benzo(b)fluoranthene	ug/l		10	1.00	1000	10	10	-	10
Benzo(k)fluoranthene	ug/l		10	10	1000	10	10	-	10
Dibenz(a,h)anthracene	ug/l		10	10	1000	10	10	-	10
Fluoranthene	ug/l		10	2.00	1000	10	10	-	10
Indeno(1,2,3-cd)pyrene	ug/l		10	10	5800	1.00	10	-	10
Naphthalene	ug/l		10	10	250	10	10	-	10
Phenanthrene	ug/l		10	10	1000	10	10	-	10
Carbazole	ug/l		10	10	1000	10	10	-	10
BENZENE, TOLUENE, ETHYLBENZENE, XYLENE									
Benzene	ug/l		1.00	1.00	36.9	1.00	1.00	1.00	1.00
Toluene	ug/l		1.00	1.00	1.90	1.00	1.00	1.00	1.00
Total Xylenes	ug/l		1.00	1.00	115	1.00	1.00	1.00	1.00
POLYNUCLEAR AROMATIC HYDROCARBONS									
Naphthalene	ug/l		-	-	-	-	-	-	-
Acenaphthylene	ug/l		-	-	-	-	-	-	-
Acenaphthene	ug/l		-	-	-	-	-	-	-
MISC PARAMETER									
Total Phenols	mg/l		-	-	-	-	-	-	-

U: ANALYZED BUT NOT DETECTED

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Units	Sample Point-> Sample Date-> SLO#->	GMCM22 05/01/91 5892.08	GMCM56 05/01/91 5892.09	GMCM53 05/01/91 5892.10	GMCM5 05/01/91 5892.11	GMCM24 05/01/91 5892.12	Trip Blank B 05/01/91 5892.13	GMCM3 05/02/91 5907.01
ACID EXTRACTABLES									
2-Chlorophenol	ug/l		10	10	10	10	10	-	-
2,4-Dimethylphenol	ug/l		10	10	10	10	10	-	-
2,4-Dinitrophenol	ug/l		10	10	10	10	10	-	-
p-chloro-m-cresol	ug/l		10	10	60	10	10	-	-
Pentachlorophenol	ug/l		10	10	10	10	5.00	-	-
Phenol	ug/l		10	10	10	10	10	-	-
2,4,6-Tetrachlorophenol	ug/l		10	10	10	10	10	-	-
2,3,4,6-Tetrachlorophenol	ug/l		10	10	10	10	10	-	-
BASE/NEUTRAL EXTRACTABLES									
Acenaphthylene	ug/l		10	10	2.00	10	1.00	-	-
Benzo(a)anthracene	ug/l		10	10	10	10	5.00	-	-
Benzo(b)fluoranthene	ug/l		10	10	10	10	4.00	-	-
Benzo(k)fluoranthene	ug/l		10	10	10	10	10	-	-
Dibenz(a,h)anthracene	ug/l		10	10	10	10	10	-	-
Fluoranthene	ug/l		10	10	1.00	10	33	-	-
Indeno(1,2,3-cd)pyrene	ug/l		10	11	10	10	1.00	-	-
Naphthalene	ug/l		10	2.00	161	2.00	7.00	-	-
Phenanthrene	ug/l		10	10	10	10	15	-	-
Carbazole	ug/l		10	10	10	10	10	-	-
BENZENE, TOLUENE, ETHYLBENZENE, XYLENE									
Benzene	ug/l		1.00	-	-	1.00	-	1.00	-
Toluene	ug/l		1.00	-	-	1.00	-	1.00	-
Total Xylenes	ug/l		1.00	-	-	1.00	-	1.00	-
POLYNUCLEAR AROMATIC HYDROCARBONS									
Naphthalene	ug/l		-	-	-	-	-	-	25
Acenaphthylene	ug/l		-	-	-	-	-	-	25
Acenaphthene	ug/l		-	-	-	-	-	-	25
MISC PARAMETER									
Total Phenols	mg/l		-	-	-	-	-	-	0.010

U: ANALYZED BUT NOT DETECTED

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCFFPCOL

Parameters	Units	Sample Point-> Sample Date-> SML#->	GMCMW6 05/01/91 5892.01	GMCMW7 05/01/91 5892.02	GMCMW8 05/01/91 5892.03	GMCMW3 05/01/91 5892.04	GMCMW16 05/01/91 5892.05	Trip Blank A 05/01/91 5892.06	GMCMW14 05/01/91 5892.07
FIELD CONDUCTIVITY									
Field Conductivity	um/cm		427	413	342	518	276	-	420
Field Conductivity	um/cm		422	416	343	537	279	-	420
Field Conductivity	um/cm		435	414	344	539	282	-	427
Field Conductivity	um/cm		427	414	342	540	283	-	436
pH									
Field pH	s.u.		5.94	6.02	5.60	7.10	5.25	-	6.15
Field pH	s.u.		5.94	6.03	5.64	7.12	5.25	-	6.16
Field pH	s.u.		5.94	5.98	5.63	7.11	5.28	-	6.12
Field pH	s.u.		5.97	6.02	5.66	7.10	5.23	-	6.13
FREE PRODUCT									
Floaters	in		0.00	0.00	0.00	0.00	0.00	-	0.00
Sinkers	in		0.00	0.00	0.00	0.00	0.00	-	0.00

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE
J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDDCOL

Parameters	Sample Point-> Sample Date-> SML#->	GMCMW22 05/01/91 5892.08	GMCMW56 05/01/91 5892.09	GMCMW53 05/01/91 5892.10	GMCMW5 05/01/91 5892.11	GMCMW24 05/01/91 5892.12	Trip Blank B 05/01/91 5892.13	GMCMW3 05/02/91 5907.01
FIELD CONDUCTIVITY	Units							
Field Conductivity	um/cm	246	4.00	608	189	220	-	400
Field Conductivity	um/cm	249	397	627	189	226	-	399
Field Conductivity	um/cm	258	400	602	193	215	-	402
Field Conductivity	um/cm	257	399	633	207	212	-	408
pH								
Field pH	S.U.	5.28	5.58	6.14	8.99	6.07	-	5.98
Field pH	S.U.	5.30	5.60	6.18	9.00	6.06	-	6.01
Field pH	S.U.	5.29	5.60	6.17	9.00	6.04	-	6.00
Field pH	S.U.	5.30	5.62	6.20	9.05	6.09	-	5.98
FREE PRODUCT								
Floaters	in	0.00	0.00	0.00	0.00	0.00	-	0.00
Sinkers	in	0.00	0.00	0.00	0.00	0.00	-	0.00

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 1

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCFCPPCOL

Parameters	Units	Sample Point-> Sample Date-> SMLO#->	GMCM4 05/02/91 5907.02	GMCM6 05/02/91 5907.03	GMCM4 05/02/91 5907.04	GMCM11 05/02/91 5907.05	GMCM10 05/02/91 5907.06	GMCM9 05/02/91 5907.07	Trip Blank 05/02/91 5907.08
ACID EXTRACTABLES									
2-Chlorophenol	ug/l	-	10	U	10	U	-	-	-
2,4-Dimethylphenol	ug/l	-	10	U	10	U	-	-	-
2,4-Dinitrophenol	ug/l	-	10	U	10	U	-	-	-
p-chloro-m-cresol	ug/l	-	10	U	10	U	-	-	-
Pentachlorophenol	ug/l	-	10	U	10	U	-	-	-
Phenol	ug/l	-	10	U	10	U	-	-	-
2,4,6-Tetrachlorophenol	ug/l	-	10	U	10	U	-	-	-
2,3,4,6-Tetrachlorophenol	ug/l	-	10	U	10	U	-	-	-
BASE/NEUTRAL EXTRACTABLES									
Acenaphthylene	ug/l	-	10	U	10	U	-	-	-
Benzo(a)anthracene	ug/l	-	10	U	10	U	-	-	-
Benzo(b)fluoranthene	ug/l	-	10	U	10	U	-	-	-
Benzo(k)fluoranthene	ug/l	-	10	U	10	U	-	-	-
Dibenz(a,h)anthracene	ug/l	-	10	U	10	U	-	-	-
Fluoranthene	ug/l	-	10	U	10	U	-	-	-
Indeno(1,2,3-cd)pyrene	ug/l	-	10	U	57	U	-	-	-
Naphthalene	ug/l	-	10	U	10	U	-	-	-
Phenanthrene	ug/l	-	10	U	10	U	-	-	-
Carbazole	ug/l	-	10	U	10	U	-	-	-
BENZENE, TOLUENE, ETHYLBENZENE, XYLENE									
Benzene	ug/l	-	1.00	U	1.00	U	-	-	1.00
Toluene	ug/l	-	1.00	U	1.00	U	-	-	1.00
Total Xylenes	ug/l	-	1.00	U	1.00	U	-	-	1.00
POLYNUCLEAR AROMATIC HYDROCARBONS									
Naphthalene	ug/l	3730	-	-	-	2080	25	10000	-
Acenaphthylene	ug/l	222	-	-	-	180	25	223	-
Acenaphthene	ug/l	25	U	-	-	25	U	25	U
MISC PARAMETER									
Total Phenols	mg/l	0.050	-	-	-	0.35	0.020	0.15	-

U: ANALYZED BUT NOT DETECTED

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION

Southwest Laboratory of Oklahoma, Inc.
Data Summary Report
By Episode

DATE: 06/07/91
PAGE: 2

Client: KERR-MCGEE CHEMICAL CORPORATION

Project: KMCCFPDCOL

Parameters	Units	Sample Point-> Sample Date-> SMLO#->	GMCM4 05/02/91 5907.02	GMCM6 05/02/91 5907.03	GMCM4 05/02/91 5907.04	GMCM11 05/02/91 5907.05	GMCM10 05/02/91 5907.06	GMCM9 05/02/91 5907.07	Trip Blank 05/02/91 5907.08
FIELD CONDUCTIVITY									
Field Conductivity	um/cm		291	303	271	310	410	280	-
Field Conductivity	um/cm		293	304	281	311	413	275	-
Field Conductivity	um/cm		292	302	283	310	407	281	-
Field Conductivity	um/cm			299	300	318	410	290	-
pH									
Field pH	S.U.		5.32	7.80	8.42	6.20	6.37	5.53	-
Field pH	S.U.		5.29	7.72	8.35	6.24	6.41	5.57	-
Field pH	S.U.		5.28	7.73	8.42	6.20	6.41	5.54	-
Field pH	S.U.		5.33	7.77	8.36	6.26	6.40	5.56	-
FREE PRODUCT									
Floaters	in		0.00	0.00	0.00	0.00	0.00	0.00	-
Sinkers	in		0.00	0.00	0.00	0.00	0.00	0.00	-

U: ANALYZED BUT NOT DETECTED
B: ANALYTE DETECTED IN BLANK AS WELL AS SAMPLE

J: ESTIMATED VALUE: CONCENTRATION BELOW LIMIT OF QUANTITATION
T: TRACE

- 1) The on-site groundwater recovery system is functioning as designed.
- 2) The groundwater recovery system south of the production process can be expanded providing hydrodynamic control and product recovery by installing six off-site recovery wells (see Figure 1).
- 3) Three on-site recovery wells RW3, RW4 and RW5 can be operated to recover free phase product and are not required to maintain hydrodynamic control.
- 4) Six groundwater recovery wells will be required to maintain hydrodynamic control and product recovery for the on-site Solid Waste Management Unit. Three of these wells will function predominantly for product recovery (RW15, RW16 & RW17).

A March 26, 1991 meeting with yourself, Mr. Thad Hopper, David Pentacost and KMC-CFPD representatives was conducted to discuss the groundwater remediation system results and the proposed corrective action groundwater remediation system proposed in the Post-Closure Permit Application, Part B, Volume III. Volume III reached the following conclusions:

KMCC-FPD representatives met with the Columbus Cemetery Board on March 23, 1991 to discuss a proposal to obtain cemetery property for installation of a groundwater recovery system. KMCC-FPD has obtained access to property east of the facility and has proposed to install monitoring wells to determine western-most extent of dissolved creosote constituents.

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental Quality.

Dear Mr. Spengler:

Re: Kerr-McGee Chemical Corporation
 Forest Products Division
 Columbus, Mississippi Facility
 Bimonthly Progress Report -
 Consent Order 1636-89
 May 1, 1990 Report

Steve Spengler
 RCRA TSD Coordinator
 Mississippi Bureau of Pollution Control
 P.O. Box 10385
 Jackson, MS 39289-0385



April 30, 1991

Steve Spengler
April 30, 1991
Page 2

5) Piezometers will be installed in the vicinity of groundwater recovery wells to demonstrate system performance.

6) KMCC-FPD has proposed the installation of two (2) groundwater monitoring wells east of the facility boundary on private property to establish the eastern extent of the dissolved constituent plume. These wells will be installed provided ground conditions permit.

7) KMCC-FPD is attempting to gain access to property west of the southern plume for the installation of an additional groundwater monitoring well.

The Post-Closure Permit Application, Part B, Volume III was submitted to the Mississippi Bureau of Pollution Control on March 29, 1991.

KMCC-FPD has previously contacted Sanderson Pumping to obtain an access agreement in order to determine the southern-most limit of the dissolved creosote constituents. A chronology of the occurrences and approximate dates was submitted to MBPC in late March.

The second quarter groundwater sampling is scheduled for April 29 through May 2, 1991. In addition to sampling the corrective action monitoring wells (CMW1AR, CMW3, CMW4, CMW6, CMW7, CMW8, CMW9, CMW10, CMW11, CMW14, CMW16, CMW22, CME3, CME4, CME5, and CME6) off-site wells CMW51, CMW53, and CMW56 have been added to the schedule by KMCC-FPD.

After MBPC approves the permit application addendum of March 29, 1991, the installation of the recovery systems will begin.

If you have any questions regarding the bimonthly report or the facility's waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

JMP/NB:wpc
Enclosures

cc: J. Getz
R. Jones
R. Widmann
J. Poor

REVISION OF SOLID WASTE
REVIEWED BY TH
DATE 5-10-91
COMMENTS Mail
to SFA.

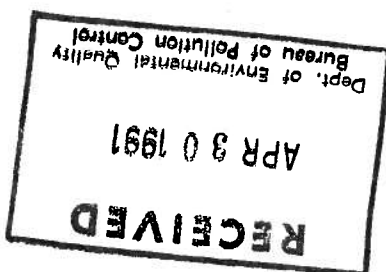


KERR-MCGEE CHEMICAL CORPORATION



P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

April 23, 1991



Mr. Thad Hooper
Mississippi Bureau of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, MS Facility

Dear Mr. Hooper:

This letter is in response to our recent conversation concerning the alleged storage of pentachlorophenol waste at the Kerr-McGee Chemical Corporation, Forest Products Division (KMCC/RPD), Columbus, MS facility. As we discussed, KMCC/RPD manufactures railroad products treated with creosote. Pentachlorophenol is not used as a treating solution at the facility. As such, KMCC/RPD does not store, handle, or dispose of any waste associated with the manufacturing of wood treated with pentachlorophenol wood preservatives.

In 1964 Kerr-McGee purchased the Columbus facility from Moss The Company. At that time the facility manufactured railroad products treated with creosote as well as utility poles treated with pentachlorophenol. In September, 1974, the facility discontinued the manufacture of utility poles treated with pentachlorophenol. All pentachlorophenol was shipped to other facilities continuing to manufacture utility poles treated with pentachlorophenol. Prior to 1974, wastes generated by the pentachlorophenol treating process were handled in the facility's impoundment system. The impoundments were closed in 1986 in accordance with the Mississippi Bureau of Pollution Control approved closure plan. The closure plan included the removal of all wastes from the impoundment and the subsequent disposal of the wastes at an approved off site disposal facility.

DISPOSAL OF SOLID WASTE

VISITED BY

TH

5-1-90

DATE

COMMENTS

Copy to SA

M. B. Ry

Should you or any other person(s) have questions or require additional information concerning KMCC/FPD's environmental management programs, do not hesitate to contact either Tony Helms, Assistant Plant Manager, at 601/328-7551 or Jeffery Bull at 405/270-2391.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



John J. Getz
Plant Manager

JJG/tjj

cc: J. H. Bull



STATE OF MISSISSIPPI

DEPARTMENT OF ENVIRONMENTAL QUALITY

RAY MABUS

GOVERNOR

MEMORANDUM

TO: File
FROM: Thad Hopper
SUBJECT: Documents Sent to EPA
DATE: April 9, 1991

The following documents were sent to Nancy Bethune on the above date:

Sewer Line and Slug Test Assessment Results
Kerr-McGee Chemical Corporation - Meridian (11-15-90)

Post-Closure Permit Application, Part B
Volume III (3-28-91) - ~~Columbus~~

Evaluation of Corrective Action in the Eutaw Formation - Columbus
Annual/Semiannual Performance Evaluation Report for 1990-Columbus
Annual Groundwater Monitoring Report for 1990 - Meridian

RECEIVED BY
4-5-91
MAIL ROOM
to EPA.

KMCC-FPD believes, as we stated in our March 26th meeting, that trace constituent levels observed in monitoring wells CMW53 and CMW56 are at the fringe of the impacted area. This belief is based on the levels of dissolved contamination observed and a groundwater flow direction 90 degrees to the east and perpendicular to the Sanderson property. In addition, KMCC-FPD believes installation and operation of the proposed recovery system will demonstrate reduced levels of contaminants in monitoring wells CMW53 and CMW56 over time.

During our March 26th meeting, you imposed additional documentation of KMCC-FPD efforts to gain access to private property located directly south of the Columbus Cemetery. KMCC-FPD understands that the MBPC is considering taking the position that the horizontal extent of contamination has not been fully defined south of the production process.

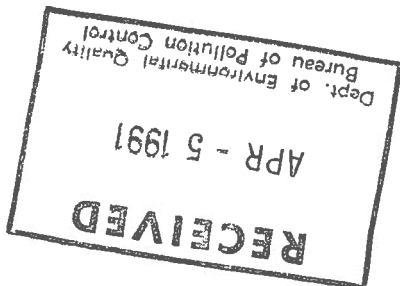
Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) met with Mr. Steve Spengler, Mr. David Pentacost and you on March 26, 1991 to discuss Consent Agreement 1636-89 requires KMCC-FPD to define the nature and extent of groundwater contamination and to propose corrective action as required by MHWMR 270.14. Specifically, KMCC-FPD presented the results of the groundwater quality assessment and proposed a plan for groundwater corrective action submitted to the Mississippi Bureau of Pollution Control (MBPC) for approval on March 28, 1991.

Dear Mr. Hopper:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus Mississippi Facility
Consent Order 1636-89

Attention: Mr. Thad Hopper

Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385



April 2, 1991

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



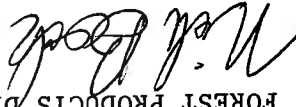
Mr. Thad Hopper
April 2, 1991
Page 2

I have enclosed in Attachment 1 documentation provided to me by Mr. John Getz, Columbus Plant Manager, of the activities and the approximate dates of his efforts to obtain access to private property located south of the Columbus Cemetery.

If you have any questions, please telephone me at (405) 270-2394, or John Getz at (601) 328-7551.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

Enclosure

cc: E. Livingston
J. Getz
R. Michel

I visited Everett Livingston to ask for documentation of his refusal to grant access for our investigatory groundwater drilling project. Documentation was provided on 3/20/91. Mr. Livingston again stated that he would not give us access to drill.

March 14, 1991

Nick Bock and I visited Mr. Everett Livingston at Sanderson and discussed the preliminary plume map with him. The map showed that the plume potentially impacted Sanderson property. We again requested access for drilling, and to use Sanderson's entrance road, as an access road to the cemetery. Both requests were denied. He stated that the owner would not allow the drilling to be performed and the Sanderson access road could not be used as an access road to the cemetery.

October 31, 1990

Mr. Everett Livingston stated that we could not get access at this time. He said he would reconsider after we had completed our preliminary plume map and demonstrated that the plume appeared to leave the cemetery property and impacted Sanderson property.

Early August, 1990

The first contact with Mr. Everett Livingston at Sanderson's was in July of 1990. I indicated to him that we were working with the State of Mississippi trying to determine the extent of our off-site groundwater contamination. He stated that he would present our proposal to the owner of the company and get back with us.

Mid-July, 1990

ATTACHMENT I



cc: N. Bock w/attachments
R. P. Michel w/o attachments

JJC/tjj

Plant Manager

J. J. Getz

J. J. Getz

Sincerely,

DIVISION OF SOLID WASTE

REVIEWED BY *JK*

DATE *3-22*

COMMENTS *Mild Reg. L*

3/9

Please advise if you have any questions, or require any further information.

When the plant manager from Sanderson, Everett Livingston, delivered the documentation to me today, he stated that their biggest objection was that they did not believe that there was a threat to human life, health, or the environment and that we (Kerr-McGee) would have to prove to them that there was before they would allow us to put in a well.

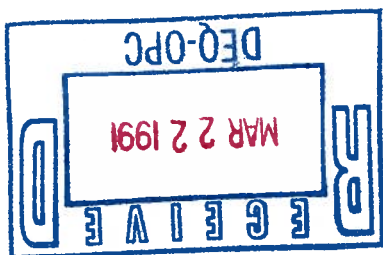
While we have been successful in securing access to the private property located across the railroad right-of-way at the east end, and have still be unable to secure access from Sanderson Plumbing Products.

Please find attached the documentation you requested in your letter of March 4, 1991 concerning our efforts to secure permission for access to private properties both south and east of our plant site, for the purposes of groundwater investigation and corrective action of the same.

Dear Mr. Hopper:

RE: Kerr-McGee Chemical Corp.
Forest Products Division
Columbus, MS Facility
Off Site Corrective Action Plan

Mr. Thad Hopper
Hazardous Waste Division
Mississippi Bureau of Pollution Control
P. O. Box 10385
Jackson, MS 39289-0385



March 20, 1991

KERR-McGEE CHEMICAL CORPORATION



P.O. BOX 906 • COLUMBUS, MISSISSIPPI 39703-0906

409-270
2/22

GROUNDWATER TESTING LICENSE

KNOW ALL MEN BY THESE PRESENTS:

THAT the undersigned Lee Sanders (S&N Wood Products) (hereinafter called "owner"), hereby grants to Kerr-McGee Chemical Corporation, a Delaware corporation, its successors and assigns, (hereinafter called "licensee"), a license and permission to enter upon owner's property described as:

Parcel # 61W05-01-138 and 56W20-02-014

S & N Wood Products

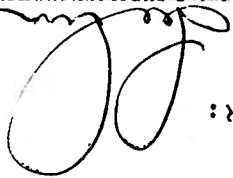
for the purpose of conducting groundwater investigations, including the drilling, maintenance and periodic sampling of one or more groundwater monitoring wells. All activities conducted under this license shall be performed in compliance with all applicable laws, regulations and orders of governmental bodies having jurisdiction.

Upon conclusion of licensee's testing and monitoring activities hereunder, licensee shall remove all its equipment and plug and abandon the groundwater monitoring wells in accordance with all applicable laws and regulations, and shall take all reasonable steps to restore the surface of the property as close to its condition existing prior to licensee's entry on the property as is practical.

As part of the consideration for this license, licensee agrees to indemnify and hold owner harmless from and against any and all liability, losses, damages, claims, suits, costs and expenses for injury to or death of persons or damage to or destruction of property caused by or arising out of licensee's exercise of the rights granted by this license, provided that the drilling, testing, maintenance and sampling of monitoring wells, as authorized by this license, shall not be considered as causing damage to the property.

IN WITNESS WHEREOF, this instrument is executed this 13th day of March, 1991.

OWNER:



3/13/91

S&N Wood Products



March 18, 1991

Mr. John Getz, Plant Manager
Kerr McGee Chemical Corp.
Forest Products Division
P.O. Box 906
Columbus, MS 39701

Dear Mr. Getz,

In regards to placing a shallow well in the front yard of the main office, we are not able to agree on the wording of your agreement submitted to us and we; therefore, decided to wait until we could evaluate the results from other shallow well samples. Your map of the findings from the shallow alluvial wells shows our property to be in , what you term, a dissolved plume. The readings of the shallow well number 53 are elevated in three chemicals and shallow well 54, which is a short distance East, shows no presence of these three chemicals.

In order to agree upon the digging of a well on our well landscaped property, we would need more information and an opinion of the toxicity of the levels at CMW-53. We are not refusing to allow the digging, but would want to do so only upon actual need.

Sincerely,

Everett Livingston
Director of Manufacturing

Mr. John Getz and I met with the adjacent property owners' representative south of Cemetery property for the purpose of obtaining access for a drilling program on private property south of the Columbus Cemetery. KMCC-FPD's request for access was denied. Both John Getz and I contacted the owners' representative upon receipt of your March 4, 1991 letter and requested the documentation you seek.

As you noted in your March 4, 1991 letter, monitoring well CMW-56 south of the production process contained low levels of wood preservatives. There was no evidence of visual soil contamination found during the GWQA along the southern boundary of the Columbus Cemetery property. KMCC-FPD believes that the contamination observed south of the production process and CMW-56 is not aerally extensive. This is based on a groundwater flow direction to the east and the resultant analytical concentrations observed in monitoring wells CMW-53, CMW-54, CMW-55, CMW-57 and CMW-51. KMCC-FPD believes that the expansion of the existing groundwater recovery system south of the production process will mitigate contamination observed at CMW-56. This will be evident in future groundwater analyses. KMCC-FPD has scheduled analyses of monitoring wells CMW-24, CMW-53, and CMW-56 as part of the second quarter 1991 groundwater sampling event.

KMCC-FPD has conducted an offsite Groundwater Quality Assessment (GWQA) and will submit the results of this assessment and a plan for corrective action by March 31, 1991. In addition, KMCC-FPD has in bi-monthly progress reports kept the Mississippi Bureau of Pollution Control (MBPC) informed of the progress of the GWQA. KMCC-FPD has scheduled a meeting with the MBPC on March 26th to discuss in detail the results of the GWQA and the plan for corrective action both onsite and offsite.

Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD), had a RCRA Comprehensive Monitoring Inspection at our Columbus, Mississippi facility on October 30, 1990. KMCC-FPD was pleased to receive notification that no violations were noted during the inspection.

Dear Mr. Hopper:

Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Off-Site Corrective Action Plan

Mr. Thad Hopper
Hazardous Waste Division
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

March 13, 1991

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

KERR-McGEE CHEMICAL CORPORATION



Mr. Thad Hopper
March 13, 1991
Page 2

I believe the owners' representative will provide this documentation and I will forward the documentation to you upon receipt.

KMCC-FPD had intended to propose additional groundwater monitoring wells in the vicinity of KMCC-FPD's eastern property boundary as part of the addendum to the Part B Permit. This area is limited in access due to an active railroad right-of-way and low lying areas on private property as you noted in your March 4, 1991 letter.

Based upon our telephone discussion March 13, 1991, KMCC-FPD will discuss, in detail at our March 26th meeting, assessment strategies and appropriate drilling locations.

If I may answer questions prior to our March 26th meeting, please telephone me at (405) 270-2394.

Sincerely,

Kerr-McGee Chemical Corporation
Forest Products Division



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: J. Bull
J. Getz
J. Poor

DIVISION OF SOLID WASTE
REVIEWED BY JH
DATE 3-18-91
COMMENTS with copy to EPA



NEB/JMP/ww
Enclosure

Nick Bock
Staff Environmental Specialist

Kerr-McGee Chemical Corporation
Forest Product Division

Sincerely,

DIVISION OF SOLID WASTE
REVIEWED BY
7/11

If you have any questions, please feel free to contact me at (405) 270-2394.

Re-evaluation of fourth quarter 1990 potentiometric map (previously submitted March 1, 1991 in the 1990 Annual/Semiannual Report) and first quarter 1991 water level data has concluded that the groundwater in the Eutaw formation does indeed flow eastward towards the Luxapallila Creek. Both potentiometric maps for 1990 fourth quarter and 1991 first quarter sampling have been included in this submitted report.

Enclosed are three (3) copies of the report entitled Evaluation of Corrective Action in the Eutaw Formation, as is required by Hazardous Waste Permit HW-90-329-01.

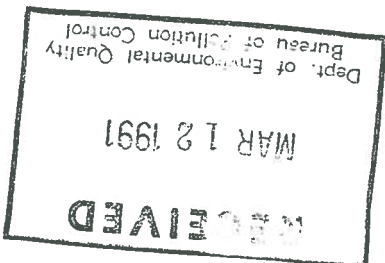
Dear Mr. Spengler,

Re: Kerr-McGee Chemical Corporation
Forest Product Division
Columbus, Mississippi Facility
Evaluation of Corrective Action in The
Eutaw Formation
EPA I.D. No. MSD990866329
Permit HW-90-329-01

Mr. Steve Spengler
Mississippi Bureau of Pollution Control
2380 Highway 80 West
Jackson, Mississippi 39204

Certified Mail - Return Receipt Requested

March 8, 1991



KERR-MCGEE CHEMICAL CORPORATION

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125



No violations were noted on the date of the inspection. However, our understanding that access to the east is limited by a marshy area on railroad right of way, and access to the south has been denied by the property owner. Within ten (10) working days from receipt of this letter, please submit documentation of efforts made to gain access to and/or sample these off-site areas.

Enclosed please find an inspection report and checklist that was completed as a result of a Comprehensive Monitoring Evaluation (CME) inspection at Kerr-McGee Chemical Corporation, Columbus, Mississippi on October 30, 1990. The CME consists of a Compliance Evaluation Inspection (CRI) to determine the facility's overall compliance with applicable Mississippi Hazardous Waste Management Regulations (HWMR) and a groundwater monitoring evaluation inspection specifically addressing Subpart F of HWMR Part 264. Compliance with Kerr-McGee's Mississippi Hazardous Waste Management Permit No. HW-90-139-01 was also evaluated.

Re: RCRA Comprehensive Monitoring Evaluation

Dear Mr. Getz:

Mr. John Getz, Plant Manager
Kerr-McGee Chemical Corporation
Forest Products Division
P. O. Box 906
Columbus, Mississippi 39701

CERTIFIED MAIL NO. P 444 543 446

March 4, 1991

STATE OF MISSISSIPPI
DEPARTMENT OF ENVIRONMENTAL QUALITY
RAY MABUS
GOVERNOR



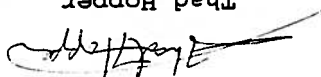
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Street and No.	
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Special Delivery Fee	
Restricted Delivery Fee	
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Return Receipt showing to whom, Date, and Address of Delivery	
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Mark or Date	

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)
P 444 543 446

Mr. John Getz
February 27, 1991
Page 2

If you have any questions, do not hesitate to contact me at (601)
961-5171.

Sincerely,



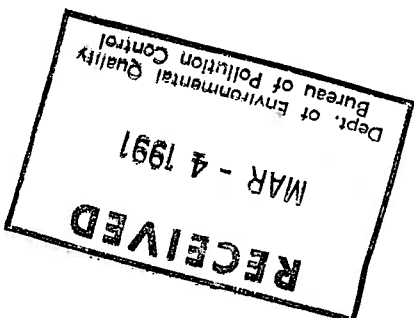
Thad Hopper
Hazardous Waste Division

lr
Enclosures
cc: Mr. James H. Scarbrough, EPA (w/enclosures)

KERR-McGEE CHEMICAL CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

February 26, 1991



Re: Kerr-McGee Chemical Corporation
Forest Products Division
Columbus, Mississippi Facility
Bimonthly Progress Report -
Consent Order 1636-89
March 1, 1991

Steve Spengler
RCRA TSD Coordinator
Mississippi Bureau of Pollution Control
P.O. Box 10385
Jackson, MS 39289-0385

Dear Mr. Spengler:

The following bimonthly progress report is submitted in compliance with the August 21, 1989 agreed consent order between Kerr-McGee Chemical Corporation, Forest Products Division (KMCC-FPD) and the Mississippi Commission on Environmental quality.

Corrective Action Groundwater Monitoring - During the week of February 4, 1991, first quarter corrective action groundwater monitoring was conducted in compliance with the facility permit. The second quarter 1991 event is scheduled for the week of April 29, 1991.

Annual Report/Semi-Annual Performance Evaluation Report - The 1991 annual report and the March 1, 1991 semi-annual performance review were submitted in accordance with the schedule in the permit.

Recovery System Operations - The recovery system continues to operate. The recovery date is contained in the March 1, 1991 semi-annual performance review.

Community Relations - KMCC-FPD continues to keep property owners informed and has tentatively scheduled a mid-March meeting with the Columbus Cemetery and Investment Board.

Eutaw Aquifer - KMCC-FPD will submit a corrective action plan for the Eutaw aquifer on March 10, 1991, as provided by permit condition IV.H.9.

RCRA Part "B" Permit Application - KMCC-FPD will submit a proposal to amend the RCRA Part "B" Permit, incorporating groundwater corrective action for the solid waste management unit in the eastern one half of the facility and offsite, south of the production process. This permit modification is due March 31, 1991.



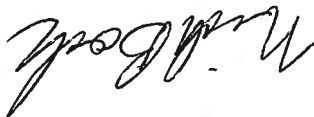
Steve Spengler
February 26, 1991
Page 2

Request for a Meeting - KMCC-FPD requests a meeting be held with the MBPC during the week of March 25, 1991, to discuss the 1990 Annual Report, Semi-Annual Performance Evaluation Report and the RCRA Part "B" permit modification. I will telephone you next week to schedule a meeting for the week of March 25, 1991.

If you have any questions regarding the March 1, 1991 bimonthly progress report or the facility waste management program, please contact me at (405) 270-2394.

Sincerely,

KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION



Nick Bock
Staff Environmental Specialist

NB:wpc

cc: Jeff Bull
J. Getz
R. Jones
J. Poor
C. Trumpolt
R. Widmann

DIVISION OF SOLID WASTE

REVIEWED BY *TH*

DATE

3-4

COMMENTS

Mail copy to EPA



REVIEWED BY JA
DATE 2/11/91
COMMENTS Mail copy to 2/11

cc: Robin Gough

NB/RKW/ww
Enclosure

Nick Bock
Staff Environmental Specialist

Nick Bock
KERR-MCGEE CHEMICAL CORPORATION
FOREST PRODUCTS DIVISION

Sincerely,

Dear Mr. Spengler:
Enclosed are three copies of the 1990 Annual Report for the
Kerr-McGee Chemical Corporation, Forest Products Division,
Meridian, Mississippi Facility.
Please call me at (405) 270-2394 if you have any questions.

RE: Kerr-McGee Chemical Corporation
Forest Products Division
Meridian, Mississippi Facility
1990 Annual Report

Mr. Steve Spengler
Mississippi Bureau of Pollution Control
2380 Highway 80
Jackson, Mississippi 39204

FEDERAL EXPRESS

February 28, 1991



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

