

**MISSISSIPPI DEPARTMENT OF ENVIRONMENT & QUALITY**

Office of Pollution Control Laboratory  
 1542 Old Whitfield Road  
 Pearl, MS 39208  
 601-664-3900

**FILE COPY**

**MONITORING REPORT**

To: GRETCHEN ZOMITROVICH DAVE UPTHEGROVE		Date Collected: 7/19/01 Time collected: 9:35
Sample ID: AA08971 Facility Name: GULF STATES CREOSOTE Site ID: C0350014 Location ID: Sampling Loc: Discharge No. Lat: Long: County: 035		Sample Collector: D. UPTHEGROVE To Lab: SV Sample Type: SOIL Received By: TAMMY SAWYER Date Received: 07/20/01 Time Received: 0950 Project: 3853 Reporting Date: 8/24/01

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS DATE
ACENAPHTHENE		Not detected	ug/Kg	100	MSC	8/17/01
ACENAPHTHYLENE		Not detected	ug/Kg	100	MSC	8/17/01
ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(a)ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(a)PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(b)FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(g,h,i)PERYLENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(k)FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
CHRYSENE		Not detected	ug/Kg	100	MSC	8/17/01
DIBENZ(a,h)ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
FLUORENE		Not detected	ug/Kg	100	MSC	8/17/01
INDENO(1,2,3,cd)PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
NAPHTHALENE		Not detected	ug/Kg	100	MSC	8/17/01
PHENANTHRENE		Not detected	ug/Kg	100	MSC	8/17/01
PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
surr - 2,4,6-Tribromophenol		88%	ug/Kg		MSC	8/17/01
surr - 2-Fluorobiphenyl		88%	ug/Kg		MSC	8/17/01
surr - 2-Fluorophenol		93%	ug/Kg		MSC	8/17/01
surr - Nitrobenzene-d5		86%	ug/Kg		MSC	8/17/01
surr - p-Terphenyl-d14		95%	ug/Kg		MSC	8/17/01
surr - Phenol-d5		84%	ug/Kg		MSC	8/17/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
mg/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
>: greater than

**SAMPLE COMMENTS:**

NEED LOWEST DETECTION LIMIT POSSIBLE

The analysis of this sample was carried out at the Miss. State Chemical Lab

Approved By:



## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22257

Marked: GEO 86/8-10'

Matrix: SOIL

Compounds	Concentration	MLQ
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	93
phenol-d5	84
nitrobenzene-d5	86
2-fluorobiphenyl	88
2,4,6-tribromophenol	88
p-terphenyl-d14	95

ND = None Detected

MLQ = Minimum Quantifiable Level





**MISSISSIPPI DEPARTMENT OF ENVIRONMENT & QUALITY**

Office of Pollution Control Laboratory  
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 Pearl, MS 39208  
 601-664-3900

**FILE COPY**

**MONITORING REPORT**

To: GRETCHEN ZOMITROVICH DAVE UPTHEGROVE			Date Collected: 7/19/01 Time collected: 9:55
Sample ID: AA08972 Facility Name: GULF STATES CREOSOTE Site ID: C0350015 Location ID: Sampling Loc: Discharge No. Lat: Long: County: 035			Sample Collector: D. UPTHEGROVE To Lab: SV Sample Type: SOIL Received By: TAMMY SAWYER Date Received: 07/20/01 Time Received: 0950 Project: 3853 Reporting Date: 8/24/01

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS DATE
ACENAPHTHENE		Not detected	ug/Kg	100	MSC	8/17/01
ACENAPHTHYLENE		Not detected	ug/Kg	100	MSC	8/17/01
ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(a)ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(a)PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(b)FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(g,h,i)PERYLENE		Not detected	ug/Kg	100	MSC	8/17/01
BENZO(k)FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
CHRYSENE		Not detected	ug/Kg	100	MSC	8/17/01
DIBENZ(a,h)ANTHRACENE		Not detected	ug/Kg	100	MSC	8/17/01
FLUORANTHENE		Not detected	ug/Kg	100	MSC	8/17/01
FLUORENE		Not detected	ug/Kg	100	MSC	8/17/01
INDENO(1,2,3,cd)PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
NAPHTHALENE		Not detected	ug/Kg	100	MSC	8/17/01
PHENANTHRENE		Not detected	ug/Kg	100	MSC	8/17/01
PYRENE		Not detected	ug/Kg	100	MSC	8/17/01
surr - 2,4,6-Tribromophenol		85%	ug/Kg		MSC	8/17/01
surr - 2-Fluorobiphenyl		82%	ug/Kg		MSC	8/17/01
surr - 2-Fluorophenol		85%	ug/Kg		MSC	8/17/01
surr - Nitrobenzene-d5		98%	ug/Kg		MSC	8/17/01
surr - p-Terphenyl-d14		95%	ug/Kg		MSC	8/17/01
surr - Phenol-d5		99%	ug/Kg		MSC	8/17/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
ug/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
>: greater than

**SAMPLE COMMENTS:**

NEED LOWEST DETECTION LIMIT POSSIBLE

This analysis was carried out at the Miss. State Chemical Lab

Approved By:



## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22258

Marked: GEO 86/12-14'

Matrix: SOIL

Compounds	Concentration	MQL
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10
Anthracene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	85
phenol-d5	99
nitrobenzene-d5	98
2-fluorobiphenyl	82
2,4,6-tribromophenol	85
p-terphenyl-d14	95

ND = None Detected

MQL = Minimum Quantifiable Level

aa 08972

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

**I. GENERAL INFORMATION:** Facility Name Gulf States Creosote  
 County Code 035 NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 7-20-01  
 Sample Point Identification 6E0-86/12-14  
 Requested By Brethen Zmitrovich Data To Brethen Zmitrovich  
 Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By Dave Uthegrove  
 Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.	<u>SOIL</u>	<u>PATHs</u>	<u>—</u>	<u>7-19-01</u>	<u>0955</u>
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) RO Vehicle ( ) Other ( )

**V. LABORATORY:** Received By Sammy Sawyer Date 7-20-01 Time 0950  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks Need lowest detection limits possible.

\*Date of Test Initiation #1853

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Office of Pollution Control Laboratory  
 1542 Old Whitfield Road  
 Pearl, MS 39208  
 601-664-3900

**FILE COPY**

**MONITORING REPORT**


To: GRETCHEN ZOMITROVICH DAVE UPTHEGROVE			Date Collected: 07/19/01 Time collected: 10:20
Sample ID: AA08973 Facility Name: GULF STATES CREOSOTE Site ID: C0350016 Location ID: GEO-86/16-18' Sampling Loc: Discharge No.			Sample Collector: D. UPTHEGROVE  To Lab: SV Sample Type: SOIL Received By: TAMMY SAWYER Date Received: 07/20/01 Time Received: 0950 Project: 3853 Reporting Date: 08/27/01
Lat:	Long:	County: 035	

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS DATE
ACENAPHTHENE		Not detected	ug/Kg	100	MSC	08/17/01
ACENAPHTHYLENE		Not detected	ug/Kg	100	MSC	08/17/01
ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(b)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(g,h,i)PERYLENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(k)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
CHRYSENE		Not detected	ug/Kg	100	MSC	08/17/01
DIBENZ(a,h)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORENE		Not detected	ug/Kg	100	MSC	08/17/01
INDENO(1,2,3,cd)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
NAPHTHALENE		Not detected	ug/Kg	100	MSC	08/17/01
PHENANTHRENE		Not detected	ug/Kg	100	MSC	08/17/01
PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
surr - 2,4,6-Tribromophenol		78%	ug/Kg		MSC	08/17/01
surr - 2-Fluorobiphenyl		89%	ug/Kg		MSC	08/17/01
surr - 2-Fluorophenol		84%	ug/Kg		MSC	08/17/01
surr - Nitrobenzene-d5		87%	ug/Kg		MSC	08/17/01
surr - p-Terphenyl-d14		103%	ug/Kg		MSC	08/17/01
surr - Phenol-d5		101%	ug/Kg		MSC	08/17/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
mg/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
  
>: greater than

**SAMPLE COMMENTS:**  
NEED LOWEST DETECTION LIMIT POSSIBLE  
  
This analysis was carried out at the Miss. State  
Chemical Lab

Approved: 

## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22259

Marked: GEO 86/16-18'

Matrix: SOIL

Compounds	Concentration	MLQ
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	84
phenol-d5	101
nitrobenzene-d5	87
2-fluorobiphenyl	89
2,4,6-tribromophenol	78
p-terphenyl-d14	103

ND = None Detected

MLQ = Minimum Quantifiable Level

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

I. GENERAL INFORMATION: Facility Name Gulf States Creosote  
County Code 035 NPDES Permit No. \_\_\_\_\_  
Discharge No. \_\_\_\_\_ Date Requested 7-20-01  
Sample Point Identification GEO-96/116-18'  
Requested By Gretchen Zmitrovich Data To Gretchen Zmitrovich  
Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
Environment Condition \_\_\_\_\_ Collected By Dave Upthegrove  
Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.	<u>SOIL</u>	<u>PAHs</u>	<u>_____</u>	<u>7-19-01</u>	<u>1020</u>
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( )  
V. LABORATORY: Received By Jenny Meyer Date 7-20-01 Time 0950  
Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks Need lowest detection limits possible



**MISSISSIPPI DEPARTMENT OF ENVIRONMENT & QUALITY**

Office of Pollution Control Laboratory  
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 Pearl, MS 39208  
 601-664-3900

**MONITORING REPORT**

**FILE COPY**

To: GRETCHEN ZOMITROVICH DAVE UPTHEGROVE			Date Collected: 07/19/01 Time collected: 11:20
Sample ID: AA08974 Facility Name: GULF STATES CREOSOTE Site ID: C0350017 Location ID: GEO-61A/16-18' Sampling Loc: Discharge No. Lat: Long: County: 035			Sample Collector: D. UPTHEGROVE To Lab: SV Sample Type: SOIL Received By: TAMMY SAWYER Date Received: 07/20/01 Time Received: 0950 Project: 3853 Reporting Date: 08/27/01

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS DATE
ACENAPHTHENE		Not detected	ug/Kg	100	MSC	08/17/01
ACENAPHTHYLENE		Not detected	ug/Kg	100	MSC	08/17/01
ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(b)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(g,h,i)PERYLENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(k)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
CHRYSENE		Not detected	ug/Kg	100	MSC	08/17/01
DIBENZ(a,h)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORENE		Not detected	ug/Kg	100	MSC	08/17/01
INDENO(1,2,3,cd)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
NAPHTHALENE		Not detected	ug/Kg	100	MSC	08/17/01
PHENANTHRENE		Not detected	ug/Kg	100	MSC	08/17/01
PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
surr - 2,4,6-Tribromophenol		77%	ug/Kg		MSC	08/17/01
surr - 2-Fluorobiphenyl		86%	ug/Kg		MSC	08/17/01
surr - 2-Fluorophenol		87%	ug/Kg		MSC	08/17/01
surr - Nitrobenzene-d5		93%	ug/Kg		MSC	08/17/01
surr - p-Terphenyl-d14		72%	ug/Kg		MSC	08/17/01
surr - Phenol-d5		104%	ug/Kg		MSC	08/17/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
mg/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
  
>: greater than

**SAMPLE COMMENTS:**

NEED LOWEST DETECTION LIMIT POSSIBLE

This analysis was carried out at the Miss. State  
Chemical Lab

Approved By:



## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22260

Marked: GEO 61A/16-18'

Matrix: SOIL

Compounds	Concentration	MLQ
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	87
phenol-d5	104
nitrobenzene-d5	93
2-fluorobiphenyl	86
2,4,6-tribromophenol	77
p-terphenyl-d14	72

ND = None Detected

MLQ = Minimum Quantifiable Level

aa08974

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

**I. GENERAL INFORMATION:** Facility Name Gulf States Crosssite  
 County Code 035 NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 7-20-01  
 Sample Point Identification GEO-601A/16-18'  
 Requested By Bretchen Zmitrovich Data To Bretchen Zmitrovich  
 Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By Dave Upthegrove  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Soil</u>	<u>PAHs</u>	_____	<u>7-19-01</u>	<u>1126</u>
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) RO Vehicle ( ) Other ( )

**V. LABORATORY:** Received By Sammy Sawyer Date 7-20-01 Time 0950  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks need lowest detection limits possible

**MISSISSIPPI DEPARTMENT OF ENVIRONMENT & QUALITY**

Office of Pollution Control Laboratory  
 1542 Old Whitfield Road  
 Pearl, MS 39208  
 601-664-3900

**FILE COPY**

**MONITORING REPORT**

To: GRETCHEN ZOMITROVICH DAVE UPTHEGROVE			Date Collected: 07/19/01 Time collected: 11:50
Sample ID: AA08975 Facility Name: GULF STATES CREOSOTE Site ID: C0350018 Location ID: GEO-63A/16-18' Sampling Loc: Discharge No.			Sample Collector: D. UPTHEGROVE To Lab: SV Sample Type: SOIL Received By: TAMMY SAWYER Date Received: 07/20/01 Time Received: 0950 Project: 3853 Reporting Date: 08/27/01
Lat:	Long:	County: 035	

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS DATE
ACENAPHTHENE		Not detected	ug/Kg	100	MSC	08/17/01
ACENAPHTHYLENE		Not detected	ug/Kg	100	MSC	08/17/01
ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(a)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(b)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(g,h,i)PERYLENE		Not detected	ug/Kg	100	MSC	08/17/01
BENZO(k)FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
CHRYSENE		Not detected	ug/Kg	100	MSC	08/17/01
DIBENZ(a,h)ANTHRACENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORANTHENE		Not detected	ug/Kg	100	MSC	08/17/01
FLUORENE		Not detected	ug/Kg	100	MSC	08/17/01
INDENO(1,2,3,cd)PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
NAPHTHALENE		Not detected	ug/Kg	100	MSC	08/17/01
PHENANTHRENE		Not detected	ug/Kg	100	MSC	08/17/01
PYRENE		Not detected	ug/Kg	100	MSC	08/17/01
surr - 2,4,6-Tribromophenol		90%	ug/Kg		MSC	08/17/01
surr - 2-Fluorobiphenyl		82%	ug/Kg		MSC	08/17/01
surr - 2-Fluorophenol		83%	ug/Kg		MSC	08/17/01
surr - Nitrobenzene-d5		101%	ug/Kg		MSC	08/17/01
surr - p-Terphenyl-d14		96%	ug/Kg		MSC	08/17/01
surr - Phenol-d5		101%	ug/Kg		MSC	08/17/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
mg/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
  
>: greater than

**SAMPLE COMMENTS:**  
NEED LOWEST DETECTION LIMIT POSSIBLE  
  
This analysis was carried out at the Miss. State  
Chemical Lab

Approved by *Phil*

## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22261

Marked: GEO 63A/16-18'

Matrix: SOIL

Compounds	Concentration	MQL
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	83
phenol-d5	101
nitrobenzene-d5	101
2-fluorobiphenyl	82
2,4,6-tribromophenol	90
p-terphenyl-d14	96

ND = None Detected

MQL = Minimum Quantifiable Level

aa08975

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

I. **GENERAL INFORMATION:** Facility Name Gulf States Creosote  
 County Code 035 NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 7-20-01  
 Sample Point Identification GEO-63A/16-18  
 Requested By Gretchen Zmitrovich Date To Gretchen Zmitrovich  
 Type of Sample:  Grab  Composite (Flow)  (Time)  Other

II. **SAMPLE IDENTIFICATION:** Environment Condition \_\_\_\_\_ Collected By Dave Lathgrave  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>soil</u>	<u>PAHS</u>	_____	<u>7-19-01</u>	<u>1150</u>
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. **FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. **TRANSPORTATION OF SAMPLE:**  Bus  RO Vehicle  Other   
 V. **LABORATORY:** Received By Sammy Sawyer Date 7-20-01 Time 0950  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks need lowest detection limits possible

\*Date of Test Initiation \_\_\_\_\_

#1853

8975





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

**FACSIMILE**

**OFFICE OF POLLUTION CONTROL LABORATORY**  
**1542 OLD WHITFIELD ROAD**  
**JACKSON, MS 39208**  
**HENRY FOLMAR, LABORATORY DIRECTOR**

**TO:** Brain Young  
**COMPANY:** MSDEQ  
**DATE:** 8-22-01  
**REF:** Sample # 8971-8975  
**FROM:** Tammy

**TELEPHONE # 601-664-3900      FAX # 601-664-3938**

**COMMENTS:**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NUMBER OF PAGES (Including cover sheet)** 7



**MISSISSIPPI  
STATE CHEMICAL LABORATORY**

**BOX CR — MISSISSIPPI STATE, MISSISSIPPI 39762**

**TELEPHONE: (662) 325-8599 FAX (662) 325-7807**

**DR. EARL G. ALLEY**  
State Chemist

**DR. LARRY G. LANE**  
Director, IAS Division

August 17, 2001

Analysis No. 22,257-261

Analysis of Soil

Marked:

Received on 7-25-01

from Office of Pollution Control Lab

ATTN: Henry Folmar

Address 1542 Old Whitfield Rd. Pearl, MS 39208

**RESULTS:**

Results are presented in the attached report for the analysis of five soil samples for semi-volatile organic compounds. These samples were received on July 26, 2001.

<u>MSCL No.</u>	<u>DEQ/OPC Sample ID</u>	<u>Date Reported</u>	<u>Analytical Cost</u>
22,257	GEO 86/8-10' <i>Mix</i>	8-17-01	\$ 450
22,258	GEO 86/12-14' <i>YARD</i>	8-17-01	450
22,259	GEO 86/16-18'	8-17-01	450
22,260	GEO 61A/16-18'	8-17-01	450
22,261	GEO 63A/16-18'	8-17-01	450
<b>TOTAL ANALYTICAL COST</b>			<b>\$2,250</b>

An invoice will be submitted through the Mississippi State University Business Office.

*Paul J. Bagnac, Jr.*

State Chemist

PLEASE GIVE NUMBER WHEN REFERRING TO THIS ANALYSIS

**POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)**

MSCL #: 22257

Marked: GEO 86/8-10'

Matrix: SOIL

Compounds	Concentration	MQL
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	93
phenol-d5	84
nitrobenzene-d5	86
2-fluorobiphenyl	88
2,4,6-tribromophenol	88
p-terphenyl-d14	95

ND = None Detected

MQL = Minimum Quantifiable Level

**POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)**

MSCL #: 22258

Marked: GEO 86/12-14'

Matrix: SOIL

Compounds	Concentration	MLQ
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10
Anthracene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	85
phenol-d5	99
nitrobenzene-d5	98
2-fluorobiphenyl	82
2,4,6-tribromophenol	85
p-terphenyl-d14	95

ND = None Detected

MLQ = Minimum Quantifiable Level

22258

**POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)**

MSCL #: 22259

Marked: GEO 86/16-18'

Matrix: SOIL

Compounds	Concentration	ML
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	84
phenol-d5	101
nitrobenzene-d5	87
2-fluorobiphenyl	89
2,4,6-tribromophenol	78
p-terphenyl-d14	103

ND = None Detected

ML = Minimum Quantifiable Level

**POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)**

MSCL #: 22260

Marked: GEO 61A/16-18'

Matrix: SOIL

Compounds	Concentration	MQL
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	87
phenol-d5	104
nitrobenzene-d5	93
2-fluorobiphenyl	86
2,4,6-tribromophenol	77
p-terphenyl-d14	72

ND = None Detected

MQL = Minimum Quantifiable Level

## POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)

MSCL #: 22261

Marked: GEO 63A/16-18'

Matrix: SOIL

Compounds	Concentration	MQL
	mg/kg	mg/kg
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benzo(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenz(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10

Surrogates	Recovery, %
2-fluorophenol	83
phenol-d5	101
nitrobenzene-d5	101
2-fluorobiphenyl	82
2,4,6-tribromophenol	90
p-terphenyl-d14	96

ND = None Detected

MQL = Minimum Quantifiable Level

2028945

















Sample Receipt

FILE COPY

Mississippi DEQ/OPC Laboratory

Sample I.D. AA08971  
Location code C0350014  
Location Description GULF STATES CREOSOTE  
Sample collector D. UPTHEGROVE  
Collection date: 07/19/01  
Lab submittal date: 07/20/01  
Due date: 07/20/01  
Matrix: SOIL

Login record file: 07201009

Collection time: 09:35  
Lab submittal time: 10:02

Division Code: 3853

Basin GUFT STATE CREOSOTE  
Permit\_No \_\_\_\_\_  
Discharge\_No \_\_\_\_\_  
Storet\_No \_\_\_\_\_  
Other\_No GEO-86/8-10'  
Sample\_Location \_\_\_\_\_  
County\_Code 035  
Requested\_By GRETCHEN ZMITROVICH

Analyses ordered	Method	Due Date
EPA 8270 SEMI-VOLATILE ORGANICS	EPA 8270	08/29/01

Sample I.D. AA08972  
Location code C0350015  
Location Description GULF STATES CREOSOTE  
Sample collector D. UPTHEGROVE  
Collection date: 07/19/01  
Lab submittal date: 07/20/01  
Due date: 07/20/01  
Matrix: SOIL

Login record file: 07201009

Collection time: 09:55  
Lab submittal time: 10:03

Division Code: 3853

Basin GUFT STATE CREOSOTE  
Permit\_No \_\_\_\_\_  
Discharge\_No \_\_\_\_\_  
Storet\_No \_\_\_\_\_  
Other\_No GEO-86/12-14'  
Sample\_Location \_\_\_\_\_  
County\_Code 035  
Requested\_By GRETCHEN ZMITROVICH

Analyses ordered	Method	Due Date
EPA 8270 SEMI-VOLATILE ORGANICS	EPA 8270	08/29/01

FILE COPY

Sample I.D. AA08973  
Location code C0350016  
Location Description GULF STATES CREOSOTE  
Sample collector D. UPTHEGROVE  
Collection date: 07/19/01  
Lab submittal date: 07/20/01  
Due date: 07/20/01  
Matrix: SOIL

Login record file: 07201009

Collection time: 10:20  
Lab submittal time: 10:04

Division Code: 3853

Basin GUFT STATE CREOSOTE  
Permit\_No \_\_\_\_\_  
Discharge\_No \_\_\_\_\_  
Storet\_No \_\_\_\_\_  
Other\_No GEO-86/16-18'  
Sample\_Location \_\_\_\_\_  
County\_Code 035  
Requested\_By GRETCHEN ZMITROVICH

Analyses ordered	Method	Due Date
EPA 8270 SEMI-VOLATILE ORGANICS	EPA 8270	08/29/01

Sample I.D. AA08974  
Location code C0350017  
Location Description GULF STATES CREOSOTE  
Sample collector D. UPTHEGROVE  
Collection date: 07/19/01  
Lab submittal date: 07/20/01  
Due date: 07/20/01  
Matrix: SOIL

Login record file: 07201009

Collection time: 11:20  
Lab submittal time: 10:05

Division Code: 3853

Basin GUFT STATE CREOSOTE  
Permit\_No \_\_\_\_\_  
Discharge\_No \_\_\_\_\_  
Storet\_No \_\_\_\_\_  
Other\_No GEO-61A/16-18'  
Sample\_Location \_\_\_\_\_  
County\_Code 035  
Requested\_By GRETCHEN ZMITROVICH

Analyses ordered	Method	Due Date
EPA 8270 SEMI-VOLATILE ORGANICS	EPA 8270	08/29/01

Sample I.D. AA08975  
Location code C0350018  
Location Description GULF STATES CREOSOTE  
Sample collector D. UPTHEGROVE  
Collection date: 07/19/01  
Lab submittal date: 07/20/01  
Due date: 07/20/01  
Matrix: SOIL

Login record file: 07201009

Collection time: 11:50  
Lab submittal time: 10:06

Division Code: 3853



Basin **GUFT STATE CREOSOTE**

Permit\_No \_\_\_\_\_

Discharge\_No \_\_\_\_\_

Storet\_No \_\_\_\_\_

Other\_No **GEO-63A/16-18'**

Sample\_Location \_\_\_\_\_

County\_Code **035**

Requested\_By **GRETCHEN ZMITROVICH**

**FILE COPY**

**Analyses ordered**

**Method**

**Due Date**

-----  
EPA 8270 SEMI-VOLATILE ORGANICS

-----  
EPA 8270

-----  
08/29/01

Please refer to the indicated sample I.D. numbers when making inquiries.

Received by: \_\_\_\_\_

**MISSISSIPPI DEPARTMENT OF ENVIRONMENT QUALITY**

Office of Pollution Control Laboratory  
 1542 Old Whitfield Road  
 Pearl, MS 39208  
 601-664-3900

**MONITORING REPORT**

To: G. ZMITROVICH		Date Collected: 3/1/01
		Time collected: 13:45
		Sample Collector: G. ZMITROVICH
Sample ID: AA07741	To Lab: SV	
Facility Name: GULF STATE CREASOTE	Sample Type: SOIL	
Site ID: C0350009	Received By: TAMMY SAWYER	
Location ID:	Date Received: 03/02/01	
Sampling Loc: GEO-70/4-8'	Time Received: 0945	
Discharge No.	Project: 3853	
Lat: Long: County: 035	Reporting Date: 8/10/01	

ANALYTE	EPA METHOD	RESULT	UNIT	MDL	ANALYST	ANALYSIS
						DATE
1,2,4-Trichlorobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
1,2-Dichlorobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
1,3-Dichlorobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
1,4-Dichlorobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
2,4,5-Trichlorophenol	EPA 8270	void	ug/kg	1600	JES	4/14/01
2,4,6-Tribromophenol	EPA 8270	void	ug/kg	19-122	JES	4/14/01
2,4,6-Trichlorophenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2,4-Dichlorophenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2,4-Dimethylphenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2,4-Dinitrophenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2,4-Dinitrotoluene	EPA 8270	void	ug/kg	1600	JES	4/14/01
2,6-Dinitrotoluene	EPA 8270	void	ug/kg	330	JES	4/14/01
2-Chloronaphthalene	EPA 8270	void	ug/kg	330	JES	4/14/01
2-Chlorophenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2-Fluorobiphenyl	EPA 8270	void	ug/kg	30-115	JES	4/14/01
2-Fluorophenol	EPA 8270	void	ug/kg	25-121	JES	4/14/01
2-Methylnaphthalene	EPA 8270	void	ug/kg	330	JES	4/14/01
2-Methylphenol	EPA 8270	void	ug/kg	330	JES	4/14/01
2-Nitroaniline	EPA 8270	void	ug/kg	1600	JES	4/14/01
2-Nitrophenol	EPA 8270	void	ug/kg	330	JES	4/14/01
3,3'-Dichlorobenzidine	EPA 8270	void	ug/kg	660	JES	4/14/01
3-Nitroaniline	EPA 8270	void	ug/kg	1600	JES	4/14/01
4,6-Dinitro-2-methylphenol	EPA 8270	void	ug/kg	1600	JES	4/14/01
4-Bromophenyl-phenylether	EPA 8270	void	ug/kg	330	JES	4/14/01
4-Chloro-3-methylphenol	EPA 8270	void	ug/kg	330	JES	4/14/01
4-Chloroaniline	EPA 8270	void	ug/kg	330	JES	4/14/01
4-Chlorophenyl-phenylether	EPA 8270	void	ug/kg	330	JES	4/14/01
4-Methylphenol	EPA 8270	void	ug/kg	330	JES	4/14/01
4-Nitroaniline	EPA 8270	void	ug/kg	1600	JES	4/14/01
4-Nitrophenol	EPA 8270	void	ug/kg	1600	JES	4/14/01
Acenaphthene	EPA 8270	void	ug/kg	330	JES	4/14/01
Acenaphthylene	EPA 8270	void	ug/kg	330	JES	4/14/01
Anthracene	EPA 8270	void	ug/kg	330	JES	4/14/01
Benzo[a]anthracene	EPA 8270	void	ug/kg	330	JES	4/14/01
Benzo[a]pyrene	EPA 8270	void	ug/kg	330	JES	4/14/01

Benzo[b]fluoranthene	EPA 8270	void	ug/kg	330	JES	4/14/01
Benzo[g,h,i]perylene	EPA 8270	void	ug/kg	330	JES	4/14/01
Benzo[k]fluoranthene	EPA 8270	void	ug/kg	330	JES	4/14/01
Benzoic Acid	EPA 8270	void	ug/kg	1600	JES	4/14/01
Benzyl alcohol	EPA 8270	void	ug/kg	330	JES	4/14/01
bis(2-Chloroethoxy)methane	EPA 8270	void	ug/kg	330	JES	4/14/01
bis(2-Chloroethyl)ether	EPA 8270	void	ug/kg	330	JES	4/14/01
bis(2-chloroisopropyl)ether	EPA 8270	void	ug/kg	330	JES	4/14/01
bis(2-Ethylhexyl)phthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Butylbenzylphthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Carbazole	EPA 8270	void	ug/kg	330	JES	4/14/01
Chrysene	EPA 8270	void	ug/kg	330	JES	4/14/01
Di-n-butylphthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Di-n-octylphthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Dibenz[a,h]anthracene	EPA 8270	void	ug/kg	330	JES	4/14/01
Dibenzofuran	EPA 8270	void	ug/kg	330	JES	4/14/01
Diethylphthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Dimethylphthalate	EPA 8270	void	ug/kg	330	JES	4/14/01
Fluoranthene	EPA 8270	void	ug/kg	330	JES	4/14/01
Fluorene	EPA 8270	void	ug/kg	330	JES	4/14/01
Hexachlorobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
Hexachlorobutadiene	EPA 8270	void	ug/kg	330	JES	4/14/01
Hexachlorocyclopentadiene	EPA 8270	void	ug/kg	330	JES	4/14/01
Hexachloroethane	EPA 8270	void	ug/kg	330	JES	4/14/01
Indeno[1,2,3-cd]pyrene	EPA 8270	void	ug/kg	330	JES	4/14/01
Isophorone	EPA 8270	void	ug/kg	330	JES	4/14/01
N-Nitroso-di-n-propylamine	EPA 8270	void	ug/kg	330	JES	4/14/01
n-Nitrosodiphenylamine	EPA 8270	void	ug/kg	330	JES	4/14/01
Naphthalene	EPA 8270	void	ug/kg	330	JES	4/14/01
Nitrobenzene	EPA 8270	void	ug/kg	330	JES	4/14/01
Nitrobenzene-d5	EPA 8270	void	ug/kg	23-120	JES	4/14/01
p-Terphenyl-d14	EPA 8270	void	ug/kg	18-137	JES	4/14/01
Pentachlorophenol	EPA 8270	void	ug/kg	660	JES	4/14/01
Phenanthrene	EPA 8270	void	ug/kg	330	JES	4/14/01
Phenol	EPA 8270	void	ug/kg	330	JES	4/14/01
Phenol-d5	EPA 8270	void	ug/kg	24-113	JES	4/14/01
Pyrene	EPA 8270	void	ug/kg	330	JES	4/14/01

ug/L: micrograms/Liter  
mg/L: milligrams/Liter  
mg/kg: milligrams/kilogram  
ug/kg: micrograms/kilogram  
ug/g: micrograms/gram  
ppm: parts per million  
ppb: parts per billion

<: less than  
MCL: Maximum Contaminant Level  
MDL: Method Detection Limit  
LSPC: result less than lower specification  
USPC: result greater than upper specification  
TIE: Tentatively Identified or Estimated  
>: greater than

**SAMPLE COMMENTS:**

Void - Due to instrument malfunction.

Approved By:

*Conf. Phil*

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

I. GENERAL INFORMATION: Facility Name Gulf State Creosote  
County Code Forest NPDES Permit No. \_\_\_\_\_  
Discharge No. \_\_\_\_\_ Date Requested 3-02-01  
Sample Point Identification GEO-70/4-E1  
Requested By Oretcher, Unitrich Data To Oretcher, Unitrich  
Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>SPT</u>	<u>PAHs</u>		<u>3-01-01</u>	<u>1345</u>
2. _____	_____	_____	_____	_____
3. _____	_____	<u>Sample is hot</u>	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( ) \_\_\_\_\_

V. LABORATORY: Received By Jerry Sauge Date 3-02-01 Time 1015 <sup>78</sup>  
Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_ 0945

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	_____ *
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_

\*Date of Test Initiation \_\_\_\_\_

#1853

7741



MISSISSIPPI DEPARTMENT  
OF ENVIRONMENTAL QUALITY

# CHAIN OF CUSTODY RECORD

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

MSD

PROJECT LEADER  
*Brethlen Mitrovic*

REMARKS

PROJECT NAME/LOCATION  
*Gulf States Crest*

SAMPLER  
*Dave Wtthe grave*

ESD SAMPLE TYPES

1. SURFACE WATER
2. GROUND WATER
3. POTABLE WATER
4. WASTEWATER
5. LEACHATE
6. SOLID/SEDIMENT
7. SLUDGE
8. WASTE
9. AIR
10. FISH
11. OTHER

SAMPLER

*Dave Wtthe grave*

DATA TO: *Brethlen Mitrovic*

CIRCLE/ADD  
parameters  
desired.  
List no. of  
containers  
submitted.

ANALYSIS

TOTAL CONTAINERS  
VOA  
Semi Volatile OR GCS  
Pest/PCBs  
METALS  
CYANIDE  
PILLS

TAG NO./REMARKS  
*sample is not*

Custody Seals Intact at Lab  
Seals Not Intact Upon Receipt by Lab

LAB  
USE  
ONLY

STATION NO.

SAMPLE TYPE

DATE

TIME

COMP LAB

STATION LOCATION/DESCRIPTION

*6070*

*68-1*

*1345*

*481*

1

*sample is not*

*7741*

RELINQUISHED BY: *Brethlen Mitrovic*

DATE/TIME  
*3-22-01*

RECEIVED BY: *Tommy Sawyer*

RELINQUISHED BY:

DATE/TIME

RECEIVED BY:

RELINQUISHED BY:

DATE/TIME

RECEIVED BY:

RELINQUISHED BY:

DATE/TIME

RECEIVED BY:



**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

**I. GENERAL INFORMATION:** Facility Name CITTA STATE WASTE  
 County Code 00000 NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 3-02-01  
 Sample Point Identification 2/1  
 Requested By \_\_\_\_\_ Data To \_\_\_\_\_  
 Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( )

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
 Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.					
2.					
3.					
4.					
5.					

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )			
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	( )			
Flow	(074060)	( )			

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) RO Vehicle ( ) Other ( )  
**V. LABORATORY:** Received By \_\_\_\_\_ Date 3-02-01 Time 10:45  
 Recorded By \_\_\_\_\_ Date Sent to State Office 0145

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l		*
COD <sub>5</sub>	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	( )	mg/l		
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	( )	colonies/100 ml		*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_

# Sample Receipt

Mississippi DEQ/OPC Laboratory

Sample I.D. AA07741  
Location code C0350009  
Location Description GULF STATE CREASOTE  
Sample collector G. ZMITROVICH  
Collection date: 03/01/01  
Lab submittal date: 03/02/01  
Due date: 03/02/01  
Matrix: SOIL

Login record file: 03020941

Collection time: 13:45  
Lab submittal time: 09:37

Division Code: 3853

Basin \_\_\_\_\_  
Permit No \_\_\_\_\_  
Discharge No \_\_\_\_\_  
Storet No \_\_\_\_\_  
Other No \_\_\_\_\_  
Sample Location GEO-70/4-8'  
County Code 035  
Requested By G. ZMITROVICH

Analyses ordered

-----  
EPA 8270 SEMI-VOLATILE ORGANICS

Method

-----  
EPA 8270

Due Date

-----  
04/11/01

Please refer to the indicated sample I.D. number when making inquiries.

Received by: \_\_\_\_\_



**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No.: 6064  
Cost Code: 3858

**I. GENERAL INFORMATION:**

Facility Name: Gulf State Creosote  
County Code: Forrest  
Discharge No:  
Sample Point Identification: GEO - 536W  
Requested By: Gretchen Zmitrovich  
Type of Sample: Grab:            Composite:    Flow:

NPDES Permit No.:  
Date Requested: 8-31-00

Data To: Gretchen Zmitrovich  
Time:            Other:

**II. SAMPLE IDENTIFICATION:**

Environment Condition:  
Where Taken:

Collected By: D. Uptegrove

	Type	Parameters	Preservative	Date	Time
1.	Grab	PAH		8-30-00	1455
2.					
3.					
4.					
5.					
6.					

**III. FIELD:**

Analysis	Computer Req Code	Results	Analyst	Date
----------	----------------------	---------	---------	------

PH	000400			
D.O.	000300			
Temperature	000010			
ResidualChlorine	050060			
Flow	074060			

**IV. TRANSPORTATION OF SAMPLE:**

Bus:                            RO Vehicle:                            Other :

**V. LABORATORY:**

Received by: Megan McCardle  
Recorded by: T. Sawyer

Date: 8-31-00                            Time: 1145  
Date Sent to State Office: 10-24-00

**VI. Remarks: Need drinking water standards**

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

I. GENERAL INFORMATION: Facility Name Gulf State Creosote  
County Code Forrest NPDES Permit No. \_\_\_\_\_  
Discharge No. \_\_\_\_\_ Date Requested 8-31-00  
Sample Point Identification GEO-536W  
Requested By Grethen Zmitraich Data To Grethen Zmitraich  
Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
Environment Condition \_\_\_\_\_ Collected By D. Upthegrove  
Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.	<u>GW</u>	<u>PATTS</u>	_____	<u>8-30-00</u>	<u>1755</u>
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( ) \_\_\_\_\_

V. LABORATORY: Received By Megan McCardle Date 8-31-00 Time 1145  
Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____
		( )	_____	_____	_____

Remarks Need drinking water standards

\*Date of Test Initiation #1858 6064

**TARGET COMPOUND LIST  
SEMI-VOLATILE ORGANIC COMPOUNDS  
IN WATER**

OPCL NO.: 6064 MARKED: Gulf State Creosote  
ANALYSIS OF: Water DATE RECEIVED: 8-31-00

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	ND	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	ND
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	ND
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	ND
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	ND
2-Methylphenol	10	ND	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphylene	10	ND	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	ND	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	ND	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	*0.47	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	ND	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	ND	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND			
Naphthalene	10	ND	4,6-Dinitro-2-methylphenol	50	ND			
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND			
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES      RECOVERY (%)      LIMITS

2-Fluorophenol	78	21-100
Phenol-d5	85	10-194
Nitrobenzene-d5	84	35-114
2-Fluorobiphenyl	95	43-116
2,4,6-Tribromophenol	105	10-123
p-Terphenyl-d14	111	33-141

Date Extracted: 9 / 5 / 2000  
Date Injected: 9 / 18 / 2000  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell

Lower Detection Level = MQL X 1 = 10,20,50 µg/L

No peaks above 40% of internal standard.

Peaks above 40% of internal standard on EPA Appendix IX were identified.\*

Peaks above 40% of internal standard not on EPA Appendix IX.\*\*

Peaks above 40% of internal standard not on EPA Appendix IX were not identified.

Additional peaks were observed, but not examined.

COMMENTS: \*This value is far below the MQL for Method 8270 and far below the lowest point on the calibration curve. This analysis is for PAH's only but none of the other target (20ug/L) compounds listed above could be identified.





MISSISSIPPI DEPARTMENT  
OF ENVIRONMENTAL QUALITY

# CHAIN OF CUSTODY RECORD

OFFICE OF  
POLLUTION CONTROL  
P. O. Box 10395  
Jackson, Mississippi 39289-0385

MSD

PROJECT LEADER  
*Stephen Twittrick*

REMARKS

PROJECT NAME/LOCATION  
*Golf Strke Course Hattiesburg, MS*

ESD SAMPLE TYPES

- SURFACE WATER
- GROUND WATER
- POTABLE WATER
- WASTEWATER
- LEACHATE
- OTHER
- SOIL/SEDIMENT
- SLUDGE
- WASTE
- AIR
- FISH

SAMPLER  
*D. Upton/gym*

DATA TO: *Stephen Twittrick*

CIRCLE/ADD parameters desired. List no. of containers submitted.

TOTAL CONTAINERS

- VOA
- Semivolatile org. com.
- METALS
- CYANIDE
- PESTICIDES

ANALYSIS

TAG NO./REMARKS

Custody Seals Intact at Lab  
Seals Not Intact Upon Receipt by Lab

LAB USE ONLY

STATION NO.	SAMPLE TYPE	DATE	TIME	COMP	LAB	STATION LOCATION/DESCRIPTION	RECEIVED BY:		RELINQUISHED BY:		DATE/TIME	DATE/TIME	RECEIVED BY:		RELINQUISHED BY:	
							(SIGN)	(PRINT)	(SIGN)	(PRINT)			(SIGN)	(PRINT)	(SIGN)	(PRINT)
98-012R	R-30	1990	1:55													

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

I. GENERAL INFORMATION: Facility Name Calf State Waste  
County Code 1401 NPDES Permit No. \_\_\_\_\_  
Discharge No. \_\_\_\_\_ Date Requested 8-31-00  
Sample Point Identification CF0-536W  
Requested By John J. Conroy Data To Customer Location  
Type of Sample: Grab ( ) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
Environment Condition \_\_\_\_\_ Collected By D. Updegraff  
Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>GW</u>	<u>pH</u>	_____	<u>8-31-00</u>	<u>10:55</u>
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( ) \_\_\_\_\_

V. LABORATORY: Received By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_

\*Date of Test Initiation 8-31-00

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

**Lab Bench No: 2611**  
**Cost Code: 3853**

**FILE COPY**

**I. GENERAL INFORMATION:**

**Facility Name:** Gulf State Creosote  
**County Code:**  
**Discharge No:**  
**Sample Point Identification:** MW 09  
**Requested By:**  
**Type of Sample:** Grab: X Composite: Flow: Time: Other:

**NPDES Permit No.:**  
**Date Requested:**

**Data To:** Ken Whitten

**II. SAMPLE IDENTIFICATION:**

**Environment Condition:**  
**Where Taken:**

**Collected By:** K. Whitten

Type	Parameters	Preservative	Date	Time
1.	Groundwater	SVOC(drinking water)	Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub>	10/13/98 1630
2.				
3.				
4.				
5.				
6.				

**III. FIELD:**

**Analysis**                          **Computer Req Code**                          **Results**                          **Analyst**                          **Date**

<b>pH</b>	<b>000400</b>			
<b>D.O.</b>	<b>000300</b>			
<b>Temperature</b>	<b>000010</b>			
<b>ResidualChlorine</b>	<b>050060</b>			
<b>Flow</b>	<b>074060</b>			

**IV. TRANSPORTATION OF SAMPLE:**

**Bus:**                          **RO Vehicle:**                          **Other:**

**V. LABORATORY:**

**Received by:** Jackie Key  
**Recorded by:** Dot Lewis

**Date:** 10/14/98                          **Time:** 0745  
**Date Sent to State Office:** 11-10-98

**VI. Remarks:**

**TARGET COMPOUND LIST  
VOLATILE ORGANIC COMPOUNDS  
IN WATER**

**FILE COPY**

OPCL NO.: 2611  
ANALYSIS OF: Water

MARKED: Gulf States Cresosote MW-09  
DATE RECEIVED: 10/14/98

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	397*	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	45.7
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	ND
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	ND
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	ND
2-Methylphenol	10	ND	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphylene	10	trace	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	ND	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	182	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	110	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	ND	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	81.4	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND			
Naphthalene	10	304*	4,6-Dinitro-2-methylphenol	50	ND	Carbazole	10	152
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND	T.I.C. - SEE BELOW		
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES                      RECOVERY (%)    LIMITS

2-Fluorophenol	77	21-100
Phenol-d5	72	10-194
Nitrobenzene-d5	82	35-114
2-Fluorobiphenyl	77	43-116
2,4,6-Tribromophenol	97	10-123
p-Terphenyl-d14	81	33-141

Date Extracted: 10/20/1998  
Date Injected: 10/26/1998  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

No peaks above 40% of internal standard.

Peaks above 40% of internal standard on EPA Appendix IX were identified.\*

Peaks above 40% of internal standard not on EPA Appendix IX.\*\*

Peaks above 40% of internal standard not on EPA Appendix IX were not identified.

Additional peaks were observed, but not examined.

COMMENTS: \*Reported as "Approximate Value" because the instrumental value exceeds the highest point on the calib. curve. T.I.C.'s: (1) 1-Methyl-2-(1-methylethyl) Benzene - estimated conc. = 55.9 ug/L. (2) Indane - est. conc = 113 ug/L. (3) Unknown - est. conc. = 221 ug/L (4) 1-methylNaphthalene - est. conc.= 256ug/L. (5) 2-ethenylnaphthalene - 44.5 ug/L.







# CHAIN OF CUSTODY RECORD

**PROJECT NAME:** 6th State Creeper

**LOCATION:** Hattiesburg

**SAMPLE TYPES:**  
 1. SURFACE WATER  
 2. GROUND WATER  
 3. POTABLE WATER  
 4. WASTEWATER  
 5. LEACHATE  
 11. OTHER

**SAMPLES (SIGN):**  
 A. Spide w/ Kemper  
 B. David Opler  
 C. \_\_\_\_\_  
 D. \_\_\_\_\_

**STATION LOCATION/DESCRIPTION:**  
Montgomery well 10  
12  
6  
9

SITE NO.	DATE	TIME	SAMPLE TYPE	199K		COMPS	REMARKS	LAB USE ONLY
				DATE	TIME			
MW-10	10/13	1330						
MW-12		1420						
MW-6		1550						
MW-9		1630						

**SHIPPED TO:** \_\_\_\_\_

**DATA TO:** Kay White

CIRCLE/ADD parameter desired. List no. of containers submit.		ANALYSIS		REMARKS
TOTAL CONTAINERS	BOB SOLIDS	METALS (Total) (MLP)	PHOSPHORUS (Total) (MLP)	
4				
4				
2				
2				

**RECEIVED BY:** JACKIE KEY (SIGN) DATE/TIME: 10/13 7:45

**RELINQUISHED BY:** Kay White (SIGN) DATE/TIME: \_\_\_\_\_

FILE COPY

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

**FILE COPY**

I. GENERAL INFORMATION: Facility Name C. B. S. Co. (Coversite)  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 12/13/98  
 Sample Point Identification MLW-09  
 Requested By \_\_\_\_\_ Data To \_\_\_\_\_  
 Type of Sample: Grab  Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By K. L. H. H.  
 Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.	<u>Grab</u>	<u>Temp, pH, Diss. O<sub>2</sub>, etc.</u>	<u>Ag<sub>2</sub> S<sub>2</sub>O<sub>8</sub></u>	<u>12/30</u>	<u>12/13/98</u>
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( )  
 V. LABORATORY: Received By [Signature] Date 12/15/98 Time 1:45  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_  
 \*Date of Test Initiation 3:53 (1850)

76/

BUREAU OF POLLUTION CONTROL  
 SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

FILE COPY

I. GENERAL INFORMATION: Facility Name Gulfs State Cruise  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested Nov 19 1988  
 Sample Point Identification NW-06  
 Requested By \_\_\_\_\_ Data To Nov 20 1988  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
 Where Taken \_\_\_\_\_

	Type	Parameters	Preservative	Date	Time
1.	<u>Grab</u>	<u>GEN TOC</u>	<u>Na2S2O5</u>	<u>10/19/88</u>	<u>15:50</u>
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( ) \_\_\_\_\_

V. LABORATORY: Received By \_\_\_\_\_ Date 11-20-88 Time 1:00  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_

\*Date of Test Initiation 8/25/88 (1530) 26010

BUREAU OF POLLUTION CONTROL  
 SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

**FILE COPY**

I. GENERAL INFORMATION: Facility Name Goldstone Concrete  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 10/14/98  
 Sample Point Identification NW-12  
 Requested By \_\_\_\_\_ Data To Ko White  
 Type of Sample: Grab (x) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By Ko White  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Grab</u>	<u>DOC (disturbance)</u>	<u>HCl</u>	<u>10/13/98</u>	<u>1420</u>
2. _____	<u>Ammonia (disturbance)</u>	<u>Na<sub>2</sub>S<sub>2</sub>O<sub>5</sub></u>	<u>16</u>	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( ) \_\_\_\_\_

V. LABORATORY: Received By J. H. White Date 10/14/98 Time 0745  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	<u>colonies/100 ml</u>	_____	*
Fecal Coliform(2)	(074055)	( )	<u>colonies/100 ml</u>	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____

Remarks \_\_\_\_\_

\*Date of Test Initiation \_\_\_\_\_

2609

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

**FILE COPY**

**I. GENERAL INFORMATION:** Facility Name Gold State Recycling  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 10/14/98  
 Sample Point Identification MU-10  
 Requested By \_\_\_\_\_ Data To Ken White  
 Type of Sample: Grab (X) Composite (Flow) (Time) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By Split Sample  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Unfiltered</u>	<u>NH<sub>3</sub>-N</u>	<u>Na<sub>2</sub>S<sub>2</sub>O<sub>2</sub></u>	<u>10/13/98</u>	<u>1520</u>
2. _____	<u>Some unfiltered (dip)</u>	<u>HCL</u>	<u>10/13/98</u>	<u>1520</u>
3. _____	<u>width</u>	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) RO Vehicle ( ) Other ( )

**V. LABORATORY:** Received By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_

**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No.: 2608  
Cost Code: 3833

**FILE COPY**

**I. GENERAL INFORMATION:**

Facility Name: Gulf State Creosote  
County Code:  
Discharge No:  
Sample Point Identification: MW 10  
Requested By:  
Type of Sample: Grab: X Composite: Flow: Time: Other:

NPDES Permit No.:  
Date Requested: 10/14/98

Data To: Ken Whitten

**II. SAMPLE IDENTIFICATION:**

Environment Condition:  
Where Taken:

Collected By: Split sample

	Type	Parameters	Preservative	Date	Time
1.	Groundwater	VOC	HCl	10/13/98	1320
2.	Groundwater	SVOC	Na <sub>2</sub> S <sub>2</sub> O <sub>2</sub>	10/13/98	1320
3.					
4.					
5.					
6.					

**III. FIELD:**

Analysis	Computer Req Code	Results	Analyst	Date
pH	000400			
D.O.	000300			
Temperature	000010			
ResidualChlorine	050060			
Flow	074060			

**IV. TRANSPORTATION OF SAMPLE:**

Bus: RO Vehicle: Other:

**V. LABORATORY:**

Received by: Jackie Key  
Recorded by: Dot Lewis

Date: 10/14/98 Time: 0745  
Date Sent to State Office: 11-10-98

**VI. Remarks:**

TARGET COMPOUND LIST  
VOLATILE ORGANIC COMPOUNDS  
IN WATER

**FILE COPY**

OPCL NO.: 2608  
ANALYSIS OF: Water

MARKED: Gulf States Cresosote MW-10  
DATE RECEIVED:

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	ND	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	ND
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	ND
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	ND
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	ND
2-Methylphenol	10	ND	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphylene	10	ND	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	ND	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	ND	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	ND	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	ND	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	ND	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND	T.I.C. - SEE BELOW		
Naphthalene	10	ND	4,6-Dinitro-2-methylphenol	50	ND			
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND			
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES                      RECOVERY (%)      LIMITS

2-Fluorophenol	77	21-100
Phenol-d5	71	10-194
Nitrobenzene-d5	85	35-114
2-Fluorobiphenyl	68	43-116
2,4,6-Tribromophenol	99	10-123
p-Terphenyl-d14	75	33-141

Date Extracted: 10/ 20/1998  
Date Injected: 10/26/1998  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

No peaks above 40% of internal standard.

Peaks above 40% of internal standard on EPA Appendix IX were identified.\*

Peaks above 40% of internal standard not on EPA Appendix IX.\*\*

Peaks above 40% of internal standard not on EPA Appendix IX were not identified.

Additional peaks were observed, but not examined.

COMMENTS: (1) Oleic Acid - estimated conc = 24.9 ug/L. (2) Unknown compound - estimated conc.

= 39.5 ug/L.



**Mississippi Department of Environmental Quality  
Office of Pollution Control Laboratory  
1542 Old Whitfield Road  
Pearl, Mississippi 39208**

**FILE COPY**

**Volatile Analysis of Water  
By Method 8260**

Sample Name            **2608**  
Misc Info               **Gulf States Creosote MW-10**  
Date Analyzed         **10/14/98 15:25**  
Operator               **Jackie Key**  
Date Collected       **10/13/98**  
Charge Code           **3853**

Name	Amount	Units	MQL	Name	Amount	Units	MQL
Dichlorodifluoromethane	NOT DETECTED	5 ppb	5 ppb	1,1,1,2-Tetrachloroethane	NOT DETECTED	5 ppb	5 ppb
Chloromethane	NOT DETECTED	5 ppb	5 ppb	Ethylbenzene	NOT DETECTED	5 ppb	5 ppb
Vinyl Chloride	NOT DETECTED	5 ppb	5 ppb	m & p -Xylene	NOT DETECTED	5 ppb	5 ppb
Bromomethane	NOT DETECTED	5 ppb	5 ppb	Styrene	NOT DETECTED	5 ppb	5 ppb
Chloroethane	NOT DETECTED	5 ppb	5 ppb	o - Xylene	NOT DETECTED	5 ppb	5 ppb
Trichlorofluoromethane	NOT DETECTED	5 ppb	5 ppb	Bromoform	NOT DETECTED	5 ppb	5 ppb
Acetone	NOT DETECTED	25 ppb	25 ppb	1,1,2,2-Tetrachloroethane	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	Isopropylbenzene	NOT DETECTED	5 ppb	5 ppb
Methylene Chloride	NOT DETECTED	5 ppb	5 ppb	1,2,3-Trichloropropane	NOT DETECTED	5 ppb	5 ppb
trans-1,2-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	Bromobenzene	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloroethane	NOT DETECTED	5 ppb	5 ppb	n-Propylbenzene	NOT DETECTED	5 ppb	5 ppb
2-Butanone (MEK)	NOT DETECTED	25 ppb	25 ppb	2-Chlorotoluene	NOT DETECTED	5 ppb	5 ppb
cis-1,2-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	4-Chlorotoluene	NOT DETECTED	5 ppb	5 ppb
2,2-Dichloropropane	NOT DETECTED	5 ppb	5 ppb	1,3,5-Trimethylbenzene	NOT DETECTED	5 ppb	5 ppb
Chloroform	NOT DETECTED	5 ppb	5 ppb	tert-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
Bromochloromethane	NOT DETECTED	5 ppb	5 ppb	1,2,4-Trimethylbenzene	NOT DETECTED	5 ppb	5 ppb
1,1,1-Trichloroethane	NOT DETECTED	5 ppb	5 ppb	sec-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
1,2-Dichloroethane	NOT DETECTED	5 ppb	5 ppb	1,3-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloropropene	NOT DETECTED	5 ppb	5 ppb	4-Isopropyltoluene	NOT DETECTED	5 ppb	5 ppb
Carbon Tetrachloride	NOT DETECTED	5 ppb	5 ppb	1,4-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Benzene	NOT DETECTED	5 ppb	5 ppb	1,2-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Trichloroethene	NOT DETECTED	5 ppb	5 ppb	n-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
1,2-Dichloropropane	NOT DETECTED	5 ppb	5 ppb	1,2-Dibromo-3-chloropropane	NOT DETECTED	5 ppb	5 ppb
Dibromomethane	NOT DETECTED	5 ppb	5 ppb	1,2,4-Trichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Bromodichloromethane	NOT DETECTED	5 ppb	5 ppb	Naphthalene	NOT DETECTED	5 ppb	5 ppb
4-Methyl-2-pentanone (MIBK)	NOT DETECTED	5 ppb	5 ppb	Hexachlorobutadiene	NOT DETECTED	5 ppb	5 ppb
cis-1,3-Dichloropropene	NOT DETECTED	5 ppb	5 ppb	1,2,3-Trichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Toluene	NOT DETECTED	5 ppb	5 ppb				
trans-1,3-dichloropropene	NOT DETECTED	5 ppb	5 ppb				
1,1,2-Trichloroethane	NOT DETECTED	5 ppb	5 ppb				
2-Hexanone	NOT DETECTED	5 ppb	5 ppb				
1,3-Dichloropropane	NOT DETECTED	5 ppb	5 ppb				
Dibromochloromethane	NOT DETECTED	5 ppb	5 ppb				
Tetrachloroethene	NOT DETECTED	5 ppb	5 ppb				
1,2-Dibromoethane	NOT DETECTED	5 ppb	5 ppb				
Chlorobenzene	NOT DETECTED	5 ppb	5 ppb				

Surrogates	% Recovery	Limits
Dibromofluoromethane	93	(84-119)
1,2-Dichloroethane-d4	100	(86-118)
Toluene-d8	98	(94-105)
p-Bromofluorobenzene	100	(94-106)

**Comments:**

STATE OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No.

**FILE COPY**

I. GENERAL INFORMATION: Facility Name Gold State (recreate)  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 10/14/98  
 Sample Point Identification MU-10  
 Requested By \_\_\_\_\_ Data To Ken White  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By Split sample  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Grab</u>	<u>VOC's</u>	<u>Na<sub>2</sub>S<sub>2</sub>O<sub>2</sub></u>	<u>10/13/98</u>	<u>1320</u>
2. _____	<u>SEM VOC's (drinking water)</u>	<u>HCL</u>	<u>10/13/98</u>	<u>1320</u>
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE: Bus ( ) HO Vehicle ( ) Other ( )  
 V. LABORATORY: Received By John King Date 10-14-98 Time 0745  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____

Remarks \_\_\_\_\_

\*Date of Test Initiation 3853

2608



TARGET COMPOUND LIST  
VOLATILE ORGANIC COMPOUNDS  
IN WATER

FILE COPY

OPCL NO.: 2610

ANALYSIS OF: Water

MARKED: Gulf States Cresosote MW-06

DATE RECEIVED: 10/14/98

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	12.3	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	Trace
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	ND
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	ND
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	ND
2-Methylphenol	10	33.9	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphylene	10	ND	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	10.3	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	16.4	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	28.4	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	23.2	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	12.4	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND			
Naphthalene	10	193	4,6-Dinitro-2-methylphenol	50	ND	Carbazole	10	30.4
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND	T.I.C. - SEE BELOW		
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES                      RECOVERY (%)      LIMITS

2-Fluorophenol	74	21-100
Phenol-d5	72	10-194
Nitrobenzene-d5	49	35-114
2-Fluorobiphenyl	73	43-116
2,4,6-Tribromophenol	86	10-123
p-Terphenyl-d14	68	33-141

Date Extracted: 10/20/1998  
 Date Injected: 10/26/1998  
 ND = None Detected  
 MQL = Minimum Quantifiable Level  
 Analyst: Jon Shell

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

\_\_\_\_\_ No peaks above 40% of internal standard.  
 \_\_\_\_\_ Peaks above 40% of internal standard on EPA Appendix IX were identified.\*  
 \_\_\_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX.\*\*  
 \_\_\_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX were not identified.  
 \_\_\_\_\_ Additional peaks were observed, but not examined.

COMMENTS: T.I.C.'s: (1) Indane - estimated conc = 50.0 ug/L. (2) Indene - est. conc. = 56.5 ug/L. (3) Oleic acid - estimated conc = 16.4 ug/L. (4) Unknown compound - est. conc. = 82.9 ug/L.

DEPARTMENT OF POLLUTION CONTROL  
 SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

FILE COPY

**I. GENERAL INFORMATION:** Facility Name Gulfslope Cruise  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested Ke J White  
 Sample Point Identification NW-06  
 Requested By \_\_\_\_\_ Data To Ke J White  
 Type of Sample: Grab (X) Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Clean water</u>	<u>Semi DOC's</u>	<u>Na<sub>2</sub>S<sub>2</sub>O<sub>2</sub></u>	<u>12/13/98</u>	<u>15:50</u>
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) 'RO Vehicle ( ) Other ( )  
 Date 10-10-98 Time 0745

**V. LABORATORY:** Received By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_  
 Recorded By \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	_____ *
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____ *
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	_____ *
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____
_____	_____	( )	_____	_____	_____

Remarks \_\_\_\_\_



++++

**TARGET COMPOUND LIST  
VOLATILE ORGANIC COMPOUNDS  
IN WATER**

FILE COPY

OPCL NO.: 2609  
ANALYSIS OF: Water

MARKED: Gulf States Cresosote MW-12  
DATE RECEIVED:

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	ND	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	ND
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	ND
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	ND
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	ND
2-Methylphenol	10	ND	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphthylene	10	ND	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	ND	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	ND	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	ND	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	ND	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	ND	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND	T.I.C. - SEE BELOW		
Naphthalene	10	119	4,6-Dinitro-2-methylphenol	50	ND			
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND			
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES                      RECOVERY (%)      LIMITS

2-Fluorophenol	74	21-100
Phenol-d5	72	10-194
Nitrobenzene-d5	87	35-114
2-Fluorobiphenyl	75	43-116
2,4,6-Tribromophenol	103	10-123
p-Terphenyl-d14	90	33-141

Date Extracted: 10/14/1998  
Date Injected: 10/26/1998  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

No peaks above 40% of internal standard.  
Peaks above 40% of internal standard on EPA Appendix IX were identified.\*  
Peaks above 40% of internal standard not on EPA Appendix IX.\*\*  
Peaks above 40% of internal standard not on EPA Appendix IX were not identified.  
Additional peaks were observed, but not examined.

COMMENTS: T.I.C.'s: (1) Indane - estimated conc = 16.2 µg/L. (2) Dodecanoic acid - est. conc. = 29.1 µg/L. (3) Oleic acid - estimated conc = 27.9 µg/L.

**Mississippi Department of Environmental Quality  
Office of Pollution Control Laboratory  
1542 Old Whitfield Road  
Pearl, Mississippi 39208**

**FILE COPY**

**Volatile Analysis of Water  
By Method 8260**

Sample Name           **2609**  
Misc Info               **Gulf States Creosote MW-12**  
Date Analyzed         **10/14/98 16:11**  
Operator               **Jackie Key**  
Date Collected       **10/13/98**  
Charge Code           **3853**

Name	Amount	Units	MQL	Name	Amount	Units	MQL
Dichlorodifluoromethane	NOT DETECTED	5 ppb	5 ppb	1,1,1,2-Tetrachloroethane	NOT DETECTED	5 ppb	5 ppb
Chloromethane	NOT DETECTED	5 ppb	5 ppb	Ethylbenzene	NOT DETECTED	5 ppb	5 ppb
Vinyl Chloride	NOT DETECTED	5 ppb	5 ppb	m & p -Xylene	NOT DETECTED	5 ppb	5 ppb
Bromomethane	NOT DETECTED	5 ppb	5 ppb	Styrene	NOT DETECTED	5 ppb	5 ppb
Chloroethane	NOT DETECTED	5 ppb	5 ppb	o - Xylene	NOT DETECTED	5 ppb	5 ppb
Trichlorofluoromethane	NOT DETECTED	5 ppb	5 ppb	Bromoform	NOT DETECTED	5 ppb	5 ppb
Acetone	NOT DETECTED	25 ppb	25 ppb	1,1,2,2-Tetrachloroethane	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	Isopropylbenzene	NOT DETECTED	5 ppb	5 ppb
Methylene Chloride	NOT DETECTED	5 ppb	5 ppb	1,2,3-Trichloropropane	NOT DETECTED	5 ppb	5 ppb
trans-1,2-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	Bromobenzene	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloroethane	NOT DETECTED	5 ppb	5 ppb	n-Propylbenzene	NOT DETECTED	5 ppb	5 ppb
2-Butanone (MEK)	NOT DETECTED	25 ppb	25 ppb	2-Chlorotoluene	NOT DETECTED	5 ppb	5 ppb
cis-1,2-Dichloroethene	NOT DETECTED	5 ppb	5 ppb	4-Chlorotoluene	NOT DETECTED	5 ppb	5 ppb
2,2-Dichloropropane	NOT DETECTED	5 ppb	5 ppb	1,3,5-Trimethylbenzene	NOT DETECTED	5 ppb	5 ppb
Chloroform	NOT DETECTED	5 ppb	5 ppb	tert-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
Bromochloromethane	NOT DETECTED	5 ppb	5 ppb	1,2,4-Trimethylbenzene	NOT DETECTED	5 ppb	5 ppb
1,1,1-Trichloroethane	NOT DETECTED	5 ppb	5 ppb	sec-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
1,2-Dichloroethane	NOT DETECTED	5 ppb	5 ppb	1,3-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
1,1-Dichloropropene	NOT DETECTED	5 ppb	5 ppb	4-Isopropyltoluene	NOT DETECTED	5 ppb	5 ppb
Carbon Tetrachloride	NOT DETECTED	5 ppb	5 ppb	1,4-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Benzene	NOT DETECTED	5 ppb	5 ppb	1,2-Dichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Trichloroethene	NOT DETECTED	5 ppb	5 ppb	n-Butylbenzene	NOT DETECTED	5 ppb	5 ppb
1,2-Dichloropropane	NOT DETECTED	5 ppb	5 ppb	1,2-Dibromo-3-chloropropane	NOT DETECTED	5 ppb	5 ppb
Dibromomethane	NOT DETECTED	5 ppb	5 ppb	1,2,4-Trichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Bromodichloromethane	NOT DETECTED	5 ppb	5 ppb	Naphthalene	150.00 ppb	5 ppb	5 ppb
4-Methyl-2-pentanone (MIBK)	NOT DETECTED	5 ppb	5 ppb	Hexachlorobutadiene	NOT DETECTED	5 ppb	5 ppb
cis-1,3-Dichloropropene	NOT DETECTED	5 ppb	5 ppb	1,2,3-Trichlorobenzene	NOT DETECTED	5 ppb	5 ppb
Toluene	NOT DETECTED	5 ppb	5 ppb				
trans-1,3-dichloropropene	NOT DETECTED	5 ppb	5 ppb				
1,1,2-Trichloroethane	NOT DETECTED	5 ppb	5 ppb				
2-Hexanone	NOT DETECTED	5 ppb	5 ppb				
1,3-Dichloropropane	NOT DETECTED	5 ppb	5 ppb				
Dibromochloromethane	NOT DETECTED	5 ppb	5 ppb				
Tetrachloroethene	NOT DETECTED	5 ppb	5 ppb				
1,2-Dibromoethane	NOT DETECTED	5 ppb	5 ppb				
Chlorobenzene	NOT DETECTED	5 ppb	5 ppb				

Surrogates	% Recovery	Limits
Dibromofluoromethane	107	(84-119)
1,2-Dichloroethane-d4	104	(86-118)
Toluene-d8	98	(94-105)
p-Bromofluorobenzene	101	(94-106)

Comments:



STATE OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab bench No. \_\_\_\_\_

**FILE COPY**

**I. GENERAL INFORMATION:** Facility Name Gulbsterle Creosote  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 10/14/98  
 Sample Point Identification new-12  
 Requested By \_\_\_\_\_ Data To Ke-Whitk  
 Type of Sample: Grab  Composite (Flow) (Time) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By Ke Whitk  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Groundwater</u>	<u>VOL's (disturb)</u>	<u>HCl</u>	<u>10/13/98</u>	<u>1420</u>
2. _____	<u>Cond Vol's (disturb)</u>	<u>Na<sub>2</sub>S<sub>2</sub>O<sub>2</sub></u>	<u>14</u>	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

**IV. TRANSPORTATION OF SAMPLE:** Bus ( ) or RO Vehicle ( ) Other ( )  
**V. LABORATORY:** Received By [Signature] Date 10-14-98 Time 0745  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	mg/l	_____	_____
TOC	(000680)	( )	mg/l	_____	_____
Suspended Solids	(099000)	( )	mg/l	_____	_____
TKN	(000625)	( )	mg/l	_____	_____
Ammonia-N	(000610)	( )	mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	mg/l	_____	_____
Chlorides	(099016)	( )	mg/l	_____	_____
Phenol	(032730)	( )	mg/l	_____	_____
Total Chromium	(001034)	( )	mg/l	_____	_____
Hex. Chromium	(001032)	( )	mg/l	_____	_____
Zinc	(001092)	( )	mg/l	_____	_____
Copper	(001042)	( )	mg/l	_____	_____
Lead	(017501)	( )	mg/l	_____	_____
Cyanide	(000722)	( )	mg/l	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
Remarks	_____				

\*Date of Test Initiation

3853

2609



MISSISSIPPI DEPARTMENT  
OF ENVIRONMENTAL QUALITY

# CHAIN OF CUSTODY RECORD

POLLUTION CONTROL  
LABORATORY  
121 Fairmont Plaza  
Pearl, Mississippi 39208

PROJECT NAME <i>Gulf States Creech</i>		SHIPPED TO:	
LOCATION <i>Hattiesburg</i>		DATA TO:	
SAMPLE TYPES 1. SURFACE WATER 2. GROUND WATER 3. POTABLE WATER 4. WASTEWATER 5. LEACHATE 6. SOIL/SEDIMENT 7. SLUDGE 8. WASTE 9. AIR 10. FISH 11. OTHER		CIRCLE/ADD parameter desired. List no. of containers submit.	
SAMPLERS (SIGN) A. <i>Sgt. W. Carr-IV-6-6</i> B. C. D.		ANALYSIS METALS (Total) (CM) EXT. ORGANISMS (CM) PURE AROMATICS/ HYDROCARBONS CYANIDE FECAL COLIFORM CF & GERM/TPH Phenols VOCs SPECIAL ANALYSIS	
SITE NO. <i>Geo-17</i>	DATE <i>6/11/82</i>	TIME <i>10:50</i>	REMARKS <i>22</i>
STATION LOCATION/DESCRIPTION <i>Geo-17-6W</i>		LAB USE ONLY <i>1303</i>	
TOTAL CONTAINERS <i>1</i>			
RELINQUISHED BY: (PRINT) <i>Ken Gith</i>		RECEIVED BY: (PRINT)	
(SIGN) <i>Ken Gith</i>		(SIGN)	
RELINQUISHED BY: (PRINT)		RECEIVED BY: (PRINT)	
(SIGN)		(SIGN)	
DATE/TIME <i>6/11/82</i>		DATE/TIME	
RELINQUISHED BY: (PRINT)		RECEIVED BY: (PRINT)	
(SIGN)		(SIGN)	
DATE/TIME <i>6/11/82</i>		DATE/TIME	
RELINQUISHED BY: (PRINT)		RECEIVED BY: (PRINT)	
(SIGN)		(SIGN)	

NOTICE: Must use a separate form for each ice chest.

DISTRIBUTION: White and Yellow copies accompany sample shipment to lab; Yellow copy retained by lab; White copy is returned to samplers; Pink copy retained by samplers.

FILE COPY



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

# CHAIN OF CUSTODY RECORD

POLLUTION CONTROL LABORATORY  
121 Fairmont Plaza  
Pearl, Mississippi 39208

PROJECT NAME Gulf States Creeks		SHIPPED TO: New Withen 5306	
LOCATION Hattiesburg	DATA TO:		
SAMPLE TYPES 1. SURFACE WATER 2. GROUND WATER 3. POTABLE WATER 4. WASTEWATER 5. LEACHATE 11. OTHER	SAMPLERS (SIGN) A. Split 10/ken-wick	ANALYSIS	
	B.	PURE AROMATICS CYANIDE	REMARKS
	C.	EXT. ORG./PES. TOX. METALS (TRIAL) TOX. BOD SOLIDS	Phenolics ON & GRESA/PH
	D.	FECL COLIFORM	22
	STATION LOCATION/DESCRIPTION Geo-17-62	TOTAL CONTAINERS 5	LAB USE ONLY
DATE 1998	TIME 10:30	LAB USE ONLY	
SITE NO. Geo-17	DATE 6/11	LAB USE ONLY	
SAMPLE TYPE K	TIME 10:30	LAB USE ONLY	
DATE/TIME 6/11/98	RECEIVED BY: (PRINT) [Signature]	DATE/TIME 6/11/98	RECEIVED BY: (PRINT) [Signature]
DATE/TIME 6/11/98	RECEIVED BY: (SIGN) [Signature]	DATE/TIME 6/11/98	RECEIVED BY: (SIGN) [Signature]
DATE/TIME 6/11/98	RELINQUISHED BY: (PRINT) [Signature]	DATE/TIME 6/11/98	RELINQUISHED BY: (PRINT) [Signature]
DATE/TIME 6/11/98	RELINQUISHED BY: (SIGN) [Signature]	DATE/TIME 6/11/98	RELINQUISHED BY: (SIGN) [Signature]

FILE COPY



BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

Lab Bench No.: 1303  
Cost Code: 3858

I. GENERAL INFORMATION:

Facility Name: Gulf State Cresote

County Code:

NPDES Permit No.:

Discharge No:

Date Requested: 6/11/98

Sample Point Identification:

Requested By:

Data To: Ken Whitten

Type of Sample: Grab: X Composite: Flow: Time: Other:

II. SAMPLE IDENTIFICATION:

Environment Condition:

Collected By: Split W/Kerr McGee

Where Taken:

	Type	Parameters	Preservative	Date	Time
1.	Groundwater	VOC's		6/11/98	1050
2.		Semi-VOC's			
3.					
4.					
5.					
6.					

III. FIELD:

Analysis	Computer Req Code	Results	Analyst	Date
pH	000400			
D.O.	000300			
Temperature	000010			
Residual Chlorine	050060			
Flow	074060			

IV. TRANSPORTATION OF SAMPLE:

Bus:

RO Vehicle:

Other:

V. LABORATORY:

Received by: Kathy Farris

Date: 6/11/98

Time: 1405

Recorded by: Dot Lewis

Date Sent to State Office: 7-8-98

VI. Remarks:

TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN WATER

FILE COPY

OPCL NO.: 1303  
ANALYSIS OF: Water

MARKED: Gulf States Crepote  
DATE RECEIVED: 6/11/98

COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L	COMPOUNDS	MQL	µg/L
Phenol	10	ND	4-Chloro-3-methylphenol	20	ND	Hexachlorobenzene	10	ND
bis(2-Chloroethyl)ether	10	ND	2-Methylnaphthalene	10	*Approx 216	Pentachlorophenol	50	ND
2-Chlorophenol	10	ND	Hexachlorocyclopentadiene	10	ND	Phenanthrene	10	145
1,3-Dichlorobenzene	10	ND	2,4,6-Trichlorophenol	10	ND	Anthracene	10	20.3
1,4-Dichlorobenzene	10	ND	2,4,5-Trichlorophenol	10	ND	Di-n-butylphthalate	10	ND
Benzyl alcohol	20	ND	2-Chloronaphthalene	10	ND	Fluoranthene	10	41.0
1,2-Dichlorobenzene	10	ND	2-Nitroaniline	50	ND	Pyrene	10	25.0
2-Methylphenol	10	ND	Dimethylphthalate	10	ND	Butylbenzylphthalate	10	ND
bis(2-Chloroisopropyl)ether	10	ND	Acenaphthylene	10	ND	3,3'Dichlorobenzidine	50	ND
4-Methylphenol	10	ND	2,6-Dinitrotoluene	10	ND	Benzo(a)anthracene	10	ND
N-Nitroso-di-n-propylamine	20	ND	3-Nitroaniline	50	ND	Chrysene	10	ND
Hexachloroethane	20	ND	Acenaphthene	10	147	bis(2-Ethylhexyl)phthalate	10	ND
Nitrobenzene	10	ND	2,4-Dinitrophenol	50	ND	Di-n-octylphthalate	10	ND
Isophorone	10	ND	4-Nitrophenol	50	ND	Benzo(b)fluoranthene	10	ND
2-Nitrophenol	20	ND	Dibenzofuran	10	100	Benzo(k)fluoranthene	10	ND
2,4-Dimethylphenol	10	ND	2,4-Dinitrotoluene	10	ND	Benzo(a)pyrene	10	ND
Benzoic acid	50	ND	Diethylphthalate	10	ND	Indeno(1,2,3-cd)pyrene	20	ND
bis(2-Chloroethoxy)methane	10	ND	4-Chlorophenyl-phenylether	10	ND	Dibenz(a,h)anthracene	20	ND
2,4-Dichlorophenol	10	ND	Fluorene	10	105	Benzo(g,h,i)perylene	20	ND
1,2,4-Trichlorobenzene	10	ND	4-Nitroaniline	50	ND			
Naphthalene	10	*Approx 1690	4,6-Dinitro-2-methylphenol	50	ND	**Tentatively Identified Compounds - SEE BELOW		
4-Chloroaniline	20	ND	N-nitrosodiphenylamine	20	ND			
Hexachlorobutadiene	10	ND	4-Bromophenyl-phenylether	10	ND			

SURROGATES RECOVERY (%) LIMITS

2-Fluorophenol	31	21-100
Phenol-d5	30	10-194
Nitrobenzene-d5	41	35-114
2-Fluorobiphenyl	34	43-116
2,4,6-Tribromophenol	35	10-123
p-Terphenyl-d14	34	33-141

Date Extracted: 6/15/1998  
Date Injected: 6/22/1998  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

- \_\_\_\_\_ No peaks above 40% of internal standard.
- \_\_\_\_\_ Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- \_\_\_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- \_\_\_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- \_\_\_\_\_ Additional peaks were observed, but not examined.

COMMENTS: \*Instrumental value exceeds the highest point on the calibration curve and is therefore reported as an "approximate" value. \*\*T.IC's (1) Indone - estimated conc. = 206 ug/L (2) Indene - estimated conc. = 72.4 ug/L

**Mississippi Department of Environmental Quality  
Office of Pollution Control Laboratory  
1542 Old Whitfield Road  
Pearl, Mississippi 39208**

**FILE COPY**

**Volatile Analysis of Water  
By Method 8260**

Sample Name           **1303**  
Misc Info               **Kerr-McGee GEO-17-GW**  
Date Acquired         **06/15/98 17:31**  
Operator               **Jackie Key**

Name	Amount	Units	MQL	Name	Amount	Units	MQL
Dichlorodifluoromethane	NOT DETECTED		5 ppb	1,1,1,2-Tetrachloroethane	NOT DETECTED		5 ppb
Chloromethane	NOT DETECTED		5 ppb	Ethylbenzene	68.40	ppb	5 ppb
Vinyl Chloride	NOT DETECTED		5 ppb	m & p -Xylene	143.00	ppb	5 ppb
Bromomethane	NOT DETECTED		5 ppb	Styrene	NOT DETECTED		5 ppb
Chloroethane	NOT DETECTED		5 ppb	o - Xylene	67.10	ppb	5 ppb
Trichlorofluoromethane	NOT DETECTED		5 ppb	Bromoform	NOT DETECTED		5 ppb
Acetone	NOT DETECTED		25 ppb	1,1,2,2-Tetrachloroethane	NOT DETECTED		5 ppb
1,1-Dichloroethene	NOT DETECTED		5 ppb	Isopropylbenzene	NOT DETECTED		5 ppb
Methylene Chloride	NOT DETECTED		5 ppb	1,2,3-Trichloropropane	NOT DETECTED		5 ppb
trans-1,2-Dichloroethene	NOT DETECTED		5 ppb	Bromobenzene	NOT DETECTED		5 ppb
1,1-Dichloroethane	NOT DETECTED		5 ppb	n-Propylbenzene	NOT DETECTED		5 ppb
2-Butanone (MEK)	NOT DETECTED		25 ppb	2-Chlorotoluene	NOT DETECTED		5 ppb
cis-1,2-Dichloroethene	NOT DETECTED		5 ppb	4-Chlorotoluene	NOT DETECTED		5 ppb
2,2-Dichloropropane	NOT DETECTED		5 ppb	1,3,5-Trimethylbenzene	NOT DETECTED		5 ppb
Chloroform	NOT DETECTED		5 ppb	tert-Butylbenzene	NOT DETECTED		5 ppb
Bromochloromethane	NOT DETECTED		5 ppb	1,2,4-Trimethylbenzene	94.30	ppb	5 ppb
1,1,1-Trichloroethane	NOT DETECTED		5 ppb	sec-Butylbenzene	NOT DETECTED		5 ppb
1,2-Dichloroethane	NOT DETECTED		5 ppb	1,3-Dichlorobenzene	NOT DETECTED		5 ppb
1,1-Dichloropropene	NOT DETECTED		5 ppb	4-Isopropyltoluene	NOT DETECTED		5 ppb
Carbon Tetrachloride	NOT DETECTED		5 ppb	1,4-Dichlorobenzene	NOT DETECTED		5 ppb
Benzene	Trace		5 ppb	1,2-Dichlorobenzene	NOT DETECTED		5 ppb
Trichloroethene	NOT DETECTED		5 ppb	n-Butylbenzene	NOT DETECTED		5 ppb
1,2-Dichloropropane	NOT DETECTED		5 ppb	1,2-Dibromo-3-chloropropane	NOT DETECTED		5 ppb
Dibromomethane	NOT DETECTED		5 ppb	1,2,4-Trichlorobenzene	NOT DETECTED		5 ppb
Bromochloromethane	NOT DETECTED		5 ppb	Naphthalene	8570.00	ppb *	5 ppb
4-Methyl-2-pentanone (MIBK)	NOT DETECTED		5 ppb	Hexachlorobutadiene	NOT DETECTED		5 ppb
cis-1,3-Dichloropropene	NOT DETECTED		5 ppb	1,2,3-Trichlorobenzene	NOT DETECTED		5 ppb
Toluene	49.70	ppb	5 ppb				
trans-1,3-dichloropropene	NOT DETECTED		5 ppb				
1,1,2-Trichloroethane	NOT DETECTED		5 ppb				
2-Hexanone	NOT DETECTED		5 ppb				
1,3-Dichloropropane	NOT DETECTED		5 ppb				
Dibromochloromethane	NOT DETECTED		5 ppb				
Tetrachloroethene	NOT DETECTED		5 ppb				
1,2-Dibromoethane	NOT DETECTED		5 ppb				
Chlorobenzene	NOT DETECTED		5 ppb				

Surrogates	% Recovery	Limits
Dibromofluoromethane	106	(86-118)
1,2-Dichloroethane-d4	104	(80-120)
Toluene-d8	98	(80-110)
p-Bromofluorobenzene	100	(86-115)

**Comments:**

Quantitation for Naphthalene is estimated due to the high concentration.  
Please refer to the semi-volatile analysis for this result.

BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM

FILE COPY  
Lab Bench No.

I. GENERAL INFORMATION: Facility Name Gulf State Concrete  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 6/11/98  
 Sample Point Identification \_\_\_\_\_  
 Requested By \_\_\_\_\_ Data To 1600 WH-FH  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By Split w/ Cooper  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>Groundwater</u>	<u>VOCS</u>		<u>6/11/98</u>	<u>15:50</u>
2.	<u>semi-VOCS</u>			
3.				
4.				
5.				

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )			
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	( )			
Flow	(074060)	( )			

IV. TRANSPORTATION OF SAMPLE: Bus ( ) RO Vehicle ( ) Other ( )  
 V. LABORATORY: Received By Kathy Farris Date 6-11-98 Time 1405  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l		*
COD <sub>5</sub>	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	( )	mg/l		
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	( )	colonies/100 ml		*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	mg/l		
		( )			
		( )			
		( )			
		( )			
		( )			
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		( )			
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		( )			
		( )			
		( )			
		( )			

Remarks \_\_\_\_\_



## MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY OFFICE OF POLLUTION CONTROL LABORATORY

### VOLATILE ORGANIC COMPOUNDS BY METHOD 8260

OPCL NO. 458 MARKED: Gulf States Creosote Site MW03  
 MATRIX: WATER DATE COLLECTED: 3-12-97  
 CHARGE CODE: 3858 DATE ANALYZED: 3-14-97

COMPOUNDS	MQL	PPB	COMPOUNDS	MQL	PPB
Dichlorofluoromethane	5	5	Styrene	5	5
Chloromethane	5	5	o-Xylene	5	5
Vinyl Chloride	5	5	Bromofarm	5	5
Bromomethane	5	5	1,1,2,2-Tetrachloroethane	5	5
Chloroethane	5	5	Isopropylbenzene	5	5
Trichlorofluoromethane	5	5	1,2,3-Trichloropropane	5	5
1,1-Dichloroethane	5	5	Bromobenzene	5	5
Methylene Chloride	5	5	n-Propylbenzene	5	5
trans-1,2-Dichloroethane	5	5	2-Chlorotoluene	5	5
1,1-Dichloroethane	5	5	4-Chlorotoluene	5	5
cis-1,2-Dichloroethane	5	5	1,3,5-Trimethylbenzene	5	5
2,2-Dichloropropane	5	5	tert-Butylbenzene	5	5
Chloroform	5	5	1,2,4-Trimethylbenzene	5	5
Bromochloromethane	5	5	sec-Butylbenzene	5	5
1,1,1-Trichloroethane	5	5	1,3-Dichlorobenzene	5	5
1,2-Dichloroethane	5	5	4-Isopropyltoluene	5	281
1,1-Dichloropropene	5	5	1,4-Dichlorobenzene	5	5
Carbon Tetrachloride	5	5	1,2-Dichlorobenzene	5	5
Benzene	5	5	n-Butylbenzene	5	5
Trichloroethane	5	5	1,2-Dibromo-3-chloropropane	5	5
1,2-Dichloropropane	5	5	1,2,4-Trichlorobenzene	5	5
Dibromomethane	5	5	Naphthalene	5	5
Bromodichloromethane	5	5	Hexachlorobutadiene	5	5
cis-1,3-Dichloropropene	5	5	1,2,3-Trichlorobenzene	5	5
Toluene	5	5	Acetone	5	5
trans-1,3-Dichloropropene	5	5	2-Butanone (MEK)	5	50
1,1,2-Trichloroethane	5	5	Carbon disulfide	5	5
1,3-Dichloropropane	5	5	2-Hexanone	5	5
Dibromochloromethane	5	5	4-Methyl-2-pentanone (MIBK)	5	5
Tetrachloroethane	5	5			
1,2-Dibromoethane	5	5			
Chlorobenzene	5	5			
1,1,1,2-Tetrachloroethane	5	5			
Ethylbenzene	5	5			
m & p-Xylene	5	5			

Surrogate	Recovery %
1,2-Dichloroethane-D4	38.5 (80-120)
Toluene-DB	111 (88-110)
p-Bromofluorobenzene	110 (86-115)

MQL = Minimum Quantifiable Level  
 ND = None Detected Above MQL  
 Multiply MQL by \_\_\_\_\_  
 ppb in Water = ug/L  
 ppb in Soil = ug/Kg

Comments:

Analyst: 

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TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN WATER

FILE COPY

OPCL NO.: 96-458  
ANALYSIS OF: WATER

MARKED: Gulf States Creosote Site  
DATE RECEIVED: MW-03 3-12-97

COMPOUNDS	MCL	µg/L	COMPOUNDS	MCL	µg/L	COMPOUNDS	MCL	µg/L
Phenol	10		4-Chloro-3-methylphenol	20		Hexachlorobenzene	10	
bis(2-Chloroethyl)ether	10		2-Methylnaphthalene	10		Pentachlorophenol	50	
2-Chlorophenol	10		Hexachlorocyclopentadiene	10		Phenanthrene	10	
1,3-Dichlorobenzene	10		2,4,6-Trichlorophenol	10		Anthracene	10	
1,4-Dichlorobenzene	10		2,4,5-Trichlorophenol	10		Di-n-butylphthalate	10	
Benzyl alcohol	20		2-Chloronaphthalene	10		Fluoranthene	10	
1,2-Dichlorobenzene	10		2-Nitroaniline	50		Pyrene	10	
2-Methylphenol	10		Dimethylphthalate	10		Butylbenzylphthalate	10	
bis(2-Chloroisopropyl)ether	10		Acenaphylene	10		3,3'Dichlorobenzidine	50	
4-Methylphenol	10		2,6-Dinitrotoluene	10		Benzo(a)anthracene	10	
N-Nitroso-di-n-propylamine	20		3-Nitroaniline	50		Chrysene	10	
Hexachloroethane	20		Acenaphthene	10		bis(2-Ethylhexyl)phthalate	10	
Nitrobenzene	10		2,4-Dinitrophenol	50		Di-n-octylphthalate	10	
Isophorone	10		4-Nitrophenol	50		Benzo(b)fluoranthene	10	
2-Nitrophenol	20		Dibenzofuran	10		Benzo(k)fluoranthene	10	
2,4-Dimethylphenol	10		2,4-Dinitrotoluene	10		Benzo(a)pyrene	10	
Benzoic acid	50		Diethylphthalate	10		Indeno(1,2,3-cd)pyrene	20	
bis(2-Chloroethoxy)methane	10		4-Chlorophenyl-phenylether	10		Dibenz(a,h)anthracene	20	
2,4-Dichlorophenol	10		Fluorene	10		Benzo(g,h,i)perylene	20	
1,2,4-Trichlorobenzene	10		4-Nitroaniline	50				
Naphthalene	10		4,6-Dinitro-2-methylphenol	50				
4-Chloroaniline	20		N-nitrosodiphenylamine	20				
Hexachlorobutadiene	10		4-Bromophenyl-phenylether	10				

SURROGATES	RECOVERY (%)	LIMITS
2-Fluorophenol	<u>55.4</u>	21 - 100
Phenol-d5	<u>57.7</u>	10 - 194
Nitrobenzene-d5	<u>61.0</u>	35 - 114
2-Fluorobiphenyl	<u>56.4</u>	43 - 116
2,4,6-Tribromophenol	<u>77.3</u>	10 - 123
p-Terphenyl-d14	<u>78.5</u>	33 - 141

Date Extracted: 3/17/97  
Date Injected: 2/13/97  
ND = None Detected  
MQL = Minimum Quantifiable Level  
Analyst: Jon Shell (JES)

Lower Detection Level = MQL X 1 = \_\_\_\_\_ µg/L

- No peaks above 40% of internal standard.
- Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- 7 — Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- Additional peaks were observed, but not examined.

COMMENTS:

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## MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY OFFICE OF POLLUTION CONTROL LABORATORY

### PESTICIDES BY METHOD 8081

OPCL NO. 458 MARKED: Gulf States Crosslink Site MW-03  
 ANALYSIS OF WATER DATE COLLECTED: 1-12-97  
 CHARGE CODE: 3858 DATE ANALYZED: 3-24-97

COMPOUNDS	MQL	PPB	COMPOUNDS	MQL	PPB
Alpha BHC	0.35		Methoxychlor	0.86	
Gamma BHC	0.25		Mirex	0.25	
Beta BHC	0.23		Endrin Ketone	0.35	
Heptachlor	0.4		Toxaphene	8.6	
Delta BHC	0.24		PCB 1016	0.054	
Aldrin	0.34		PCB 1221	0.054	
Chlorpyrifos	0.35		PCB 1232	0.5	
Heptachlor Epoxide	0.32		PCB 1242	0.5	
Gamma Chlordane	0.37		PCB 1248	0.5	
Alpha Chlordane	0.08		PCB 1254	0.5	
Technical Chlordane	0.14		PCB 1260	0.9	
Endosulfan I	0.3		Trifluralin	0.1	
4,4-DDE	0.58		Pendimethalin	1	
4,4-DDD	0.5		Profenofos	1	
4,4-DDT	0.81		Hexachlorobenzene	0.2	
2,4-DDE	0.5		Guthion	4	
2,4-DDD	0.5		cis-Permethrin	2	
2,4-DDT	0.5		trans-Permethrin	0.5	
Dieldrin	0.44		Atrazine	2	
Endrin	0.39		Simazine	2	
Endosulfan II	0.4		Dicofol	0.1	
Endrin Aldehyde	0.5		Trichloronate	0.2	
Endosulfan Sulfate	0.35		Isopropalin	2	
Butachlor	0.5		cis-Nonachlor	0.2	
trans-Nonachlor	0.2				
Perthane	1				
Nitrofen	0.2				

Surrates Recovery %

TCMX 71

DCB 69

MQL = Minimum Quantifiable Level

ND = None Detected Above MQL

NA = NOT ANALYZED FOR

Multiply MQL by \_\_\_\_\_

ppb in Water = ug/L

ppb in Soil = ug/Kg

Comments:

NONE DETECTED

Analyst J. K. King

SAMPLE # 458

INORGANICS REPORT

ANALYSES Water

WATER

FILE COPY

DATE COLLECTED 3/13/92

PARAMETER	CONC. ug/L	MCL ug/L	QC %Rec.	Analyst	I
Aluminum	130.0	5.0	113	AS	4/22/92
Antimony	ND	5.0	116	AS	4/19/92
Arsenic	27.0	5.0	86	AS	5/13/92
Barium	294.0	5.0	120	AS	4/29/92
Beryllium	ND	1.0	83	AS	4/11/92
Cadmium	ND	1.0	80	AS	4/24/92
Caesium	ND	1.0	107	AS	4/23/92
Cobalt	ND	10	102	AS	4/11/92
Copper	ND	5.0	120	JC	4/30/92
Iron	2630	50	108	AS	4/21/92
Lead	ND	5.0	92	JC	4/25/92
Magnesium	1,950.0	10	98	JC	5/1/92
Manganese	342	10	101	JC	4/25/92
Mercury	ND	0.5	80	AS	3/25/92
Nickel	ND	5.0	120	AS	4/24/92
Potassium	970.0	30	98	JC	5/1/92
Selenium	ND	5.0	80	AS	3/24/92
Silver	ND	1.0	92	AS	4/23/92
Sodium	10,400	10	120	JC	5/1/92
Thallium	ND	10	97	AS	4/11/92
Vanadium	ND	10	108	AS	4/11/92
Zinc	ND	10	105	AS	4/13/92
Cyanide		0.1 mg/L			
Calcium		0.5 mg/L			

I = maximum quantifiable levels

%Rec = percent recovery

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TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN WATER

FILE COPY

OECL NO.: 95- Est. 97-023 Blank

MARKED: \_\_\_\_\_  
DATE RECEIVED: \_\_\_\_\_

ANALYSIS OF: Water

COMPOUNDS	MCL	µg/L	COMPOUNDS	MCL	µg/L	COMPOUNDS	MCL	µg/L
Phenol	10		4-Chloro-3-methylphenol	20		Hexachlorobenzene	10	
bis(2-Chloroethyl)ether	10		2-Methylnaphthalene	10		Pentachlorophenol	50	
2-Chlorophenol	10		Hexachlorocyclopentadiene	10		Phenanthrene	10	
1,3-Dichlorobenzene	10		2,4,6-Trichlorophenol	10		Anthracene	10	
1,4-Dichlorobenzene	10		2,4,5-Trichlorophenol	10		Di-n-butylphthalate	10	
Benzyl alcohol	20		2-Chloronaphthalene	10		Fluoranthene	10	
1,2-Dichlorobenzene	10		2-Nitroaniline	50		Pyrene	10	
2-Methylphenol	10		Dimethylphthalate	10		Butylbenzylphthalate	10	
bis(2-Chloroisopropyl)ether	10		Acenaphylene	10		3,3'Dichlorobenzidine	50	
4-Methylphenol	10		2,6-Dinitrotoluene	10		Benzo(a)anthracene	10	
N-Nitroso-di-n-propylamine	20		3-Nitroaniline	50		Chrysene	10	
Hexachloroethane	20		Acenaphthene	10		bis(2-Ethylhexyl)phthalate	10	
Nitrobenzene	10		2,4-Dinitrophenol	50		Di-n-octylphthalate	10	
Isophorone	10		4-Nitrophenol	50		Benzo(b)fluoranthene	10	
2-Nitrophenol	20		Dibenzofuran	10		Benzo(k)fluoranthene	10	
2,4-Dimethylphenol	10		2,4-Dinitrotoluene	10		Benzo(a)pyrene	10	
Benzoic acid	50		Diethylphthalate	10		Indeno(1,2,3-cd)pyrene	20	
bis(2-Chloroethoxy)methane	10		4-Chlorophenyl-phenylether	10		Dibenz(a,h)anthracene	20	
2,4-Dichlorophenol	10		Fluorene	10		Benzo(g,h,i)perylene	20	
1,2,4-Trichlorobenzene	10		4-Nitroaniline	50				
Naphthalene	10		4,6-Dinitro-2-methylphenol	50				
4-Chloroaniline	20		N-nitrosodiphenylamine	20				
Hexachlorobutadiene	10		4-Bromophenyl-phenylether	10				

SURROGATES	RECOVERY (%)	LIMITS
2-Fluorophenol	<u>66.7</u>	21 - 100
Phenol-d5	<u>64.5</u>	10 - 194
Nitrobenzene-d5	<u>64.1</u>	35 - 114
2-Fluorobiphenyl	<u>63.3</u>	43 - 116
2,4,6-Tribromophenol	<u>78.3</u>	10 - 123
p-Terphenyl-d14	<u>95.9</u>	33 - 141

Date Extracted: 3/17/97  
Date Injected: 4/13/97  
ND = None Detected  
MCL = Minimum Quantifiable Level  
Analyst: Jon Shell (JS)

Lower Detection Level = MCL X \_\_\_\_\_ = \_\_\_\_\_ µg/L

- No peaks above 40% of internal standard.
- Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- 3 — Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- Additional peaks were observed, but not examined.

COMMENTS:

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**BUREAU OF POLLUTION CONTROL  
SAMPLE REQUEST FORM**

Lab Bench No. \_\_\_\_\_

**FILE COPY**

**I. GENERAL INFORMATION:** Facility Name Gulf States Cereside Site  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 3/13/97  
 Sample Point Identification M10-03  
 Requested By \_\_\_\_\_ Data To 11:00 Whitewater  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( ) \_\_\_\_\_

**II. SAMPLE IDENTIFICATION:**  
 Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. VOC's	HCL		3/12/97	9:20
2. SEMI-VOC	Sed. Tkn.			
3. PEST/PCB				
4. METALS				
5. CYAN.				

**III. FIELD:**

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )			
D.O.	(000300)	( )			
Temperature	(000010)	( )			
Residual Chlorine	(050060)	( )			
Flow	(074060)	( )			

**IV. TRANSPORTATION OF SAMPLE:** Bus () RO Vehicle ( ) Other ()  
**V. LABORATORY:** Received By V. Stamps Date 3-13-97 Time 10:15  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	mg/l		*
COD	(000340)	( )	mg/l		
TOC	(000680)	( )	mg/l		
Suspended Solids	(099000)	( )	mg/l		
TKN	(000625)	( )	mg/l		
Ammonia-N	(000610)	( )	mg/l		
Fecal Coliform(1)	(074055)	( )	colonies/100 ml		*
Fecal Coliform(2)	(074055)	( )	colonies/100 ml		*
Total Phosphorus	(000665)	( )	mg/l		
Oil and Grease(1)	(000550)	( )	mg/l		
Oil and Grease(2)	(000550)	( )	mg/l		
Chlorides	(099016)	( )	mg/l		
Phenol	(032730)	( )	mg/l		
Total Chromium	(001034)	( )	mg/l		
Hex. Chromium	(001032)	( )	mg/l		
Zinc	(001092)	( )	mg/l		
Copper	(001042)	( )	mg/l		
Lead	(017501)	( )	mg/l		
Cyanide	(000722)	( )	<.01 mg/l	KF	3-14
Calcium		( )	15.6 mg/l	KF	3-17

Remarks Non visible

\*Date of Test Initiation

1858

458



# CHAIN OF CUSTODY RECORD

PROJECT NAME: Gulf States Creeper Sift  
 LOCATION: Hattiesburg

SAMPLE TYPES:  
 1. SURFACE WATER  
 2. GROUND WATER  
 3. WASTEWATER  
 4. LEACHATE  
 11. OTHER \_\_\_\_\_

DATE: 1997 TIME: 9:20 SAMPLE TIME: 9:20 DATE/TIME: 3/13/97

STATION LOCATION/DESCRIPTION: MW-03

COMPLIANCE: Y

SAMPLERS (SIGN):  
 A. \_\_\_\_\_  
 B. \_\_\_\_\_  
 C. \_\_\_\_\_  
 D. \_\_\_\_\_

SHIPPED TO:  
 DATA TO: Low White S306

CIRCLE/ADD parameter desired. List no. of containers submitted.	ANALYSIS			REMARKS
	BOD SOLIDS	METALS (Total)	PURE AROMATICS/ HALOGENATED	
TOTAL CONTAINERS	8			458 with/STJS
CYANIDE		X		
FECAL COLIFORM				
CR. & GREEN/TRY				
PHENOLICS				
6270				
6270				

RECEIVED BY: V. Stamp (PRINT)  
 (SIGN)  
 RECEIVED BY: V. Stamp (PRINT)  
 (SIGN)

RELINQUISHED BY: \_\_\_\_\_ (PRINT)  
 (SIGN)

DATE/TIME: \_\_\_\_\_  
 DATE/TIME: 3/13/97

RECEIVED BY: \_\_\_\_\_ (PRINT)  
 (SIGN)

RELINQUISHED BY: \_\_\_\_\_ (PRINT)  
 (SIGN)

NOTICE: Must use a separate form for each ice chest. DISTRIBUTION: White and Yellow copies accompany sample shipment to lab; Yellow copy retained by lab; White copy is returned to samplers; Pink copy retained by analysts.

458

BUREAU OF POLLUTION CONTROL  
 SAMPLE REQUEST FORM

Lab Bench No. \_\_\_\_\_

FILE COPY

I. GENERAL INFORMATION: Facility Name Golf Stater Concrete Site  
 County Code \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_  
 Discharge No. \_\_\_\_\_ Date Requested 3/13/92  
 Sample Point Identification M10-03  
 Requested By \_\_\_\_\_ Data To flow window  
 Type of Sample: Grab () Composite (Flow ) (Time ) Other ( )

II. SAMPLE IDENTIFICATION:  
 Environment Condition \_\_\_\_\_ Collected By \_\_\_\_\_  
 Where Taken \_\_\_\_\_

Type	Parameters	Preservative	Date	Time
1. <u>UCCS</u>	<u>HCL</u>	_____	<u>3/12/92</u>	<u>9:30</u>
2. <u>SEM-1000</u>	<u>Sol. 7th.</u>	_____	_____	_____
3. <u>Post/1000</u>	_____	_____	_____	_____
4. <u>netals</u>	_____	_____	_____	_____
5. <u>c/w</u>	_____	_____	_____	_____

III. FIELD:

Analysis	Computer Code	Request	Results	Analyst	Date
pH	(000400)	( )	_____	_____	_____
D.O.	(000300)	( )	_____	_____	_____
Temperature	(000010)	( )	_____	_____	_____
Residual Chlorine	(050060)	( )	_____	_____	_____
Flow	(074060)	( )	_____	_____	_____

IV. TRANSPORTATION OF SAMPLE:  Bus  RO Vehicle  Other   
 V. LABORATORY: Received By \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
 Recorded By \_\_\_\_\_ Date Sent to State Office \_\_\_\_\_

Analysis	Computer Code	Request	Result	Analyst	Date Measured
BOD <sub>5</sub>	(000310)	( )	_____ mg/l	_____	*
COD <sub>5</sub>	(000340)	( )	_____ mg/l	_____	_____
TOC	(000680)	( )	_____ mg/l	_____	_____
Suspended Solids	(099000)	( )	_____ mg/l	_____	_____
TKN	(000625)	( )	_____ mg/l	_____	_____
Ammonia-N	(000610)	( )	_____ mg/l	_____	_____
Fecal Coliform(1)	(074055)	( )	_____ colonies/100 ml	_____	*
Fecal Coliform(2)	(074055)	( )	_____ colonies/100 ml	_____	*
Total Phosphorus	(000665)	( )	_____ mg/l	_____	_____
Oil and Grease(1)	(000550)	( )	_____ mg/l	_____	_____
Oil and Grease(2)	(000550)	( )	_____ mg/l	_____	_____
Chlorides	(099016)	( )	_____ mg/l	_____	_____
Phenol	(032730)	( )	_____ mg/l	_____	_____
Total Chromium	(001034)	( )	_____ mg/l	_____	_____
Hex. Chromium	(001032)	( )	_____ mg/l	_____	_____
Zinc	(001092)	( )	_____ mg/l	_____	_____
Copper	(001042)	( )	_____ mg/l	_____	_____
Lead	(017501)	( )	_____ mg/l	_____	_____
Cyanide	(000722)	( )	_____ mg/l	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____
_____	( )	( )	_____	_____	_____

Remarks See samples

\*Date of Test Initiation



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF POLLUTION CONTROL LABORATORY

VOLATILE ORGANIC COMPOUNDS BY METHOD 8260

OPCL NO. 460 MARKED: Gulfstates Creosotes MW1  
 MATRIX: oil SOIL DATE COLLECTED:  
 CHARGE CODE: 3858 DATE ANALYZED: 3-17-97

COMPOUNDS	MQL	PPB	COMPOUNDS	MQL	PPB
Dichlorofluoromethane	5	5	1,1,1,2-Tetrachloroethane	5	5
Chloromethane	5	5	Ethylbenzene	5	5
Vinyl Chloride	5	5	m & p-Xylene	5	5
Bromomethane	5	5	Styrene	5	45300.
Chloroethane	5	5	o-Xylene	5	22500.
Trichlorofluoromethane	5	5	Bromoform	5	5
1,1-Dichloroethane	5	5	1,1,2,2-Tetrachloroethane	5	5
Methylene Chloride	5	5	Isopropylbenzene	5	5
trans-1,2-Dichloroethane	5	5	1,2,3-Trichloropropane	5	5
1,1-Dichloroethane	5	5	Bromobenzene	5	5
cis-1,2-Dichloroethane	5	5	n-Propylbenzene	5	5
2,2-Dichloropropane	5	5	2-Chlorotoluene	5	5
Chloroform	5	5	4-Chlorotoluene	5	5
Bromochloromethane	5	5	1,3,5-Trimethylbenzene	5	388000.
1,1,1-Trichloroethane	5	5	tert-Butylbenzene	5	5
1,2-Dichloroethane	5	5	1,2,4-Trimethylbenzene	5	412000.
1,1-Dichloropropene	5	5	sec-Butylbenzene	5	5
Carbon Tetrachloride	5	5	1,3-Dichlorobenzene	5	5
Benzene	5	5	4-Isopropyltoluene	5	570000.
Trichloroethane	5	5	1,4-Dichlorobenzene	5	5
1,2-Dichloropropane	5	5	1,2-Dichlorobenzene	5	5
Dibromomethane	5	5	n-Butylbenzene	5	5
Bromodichloromethane	5	5	1,2-Dibromo-3-chloropropane	5	5
cis-1,3-Dichloropropene	5	5	1,2,4-Trichlorobenzene	5	5
Toluene	5	139000	Naphthalene	5	48700000.*
trans-1,3-Dichloropropene	5	5	Hexachlorobutadiene	5	5
1,1,2-Trichloroethane	5	5	1,2,3-Trichlorobenzene	5	5
1,3-Dichloropropane	5	5	Acetone	5	5
Dibromochloromethane	5	5	2-Butanone (MEK)	5	5
Tetrachloroethane	5	5	Carbon Disulfide	5	5
1,2-Dibromoethane	5	5	2-Hexanone	5	5
Chlorobenzene	5	5	4-Methyl-2-pentanone (MIBK)	5	5
1,1,1,2-Tetrachloroethane	5	5			
Ethylbenzene	5	141000.			
m & p-Xylene	5	364000.			

Surrogates	Recovery %
1,2-Dichloroethane-D4	90.7 (80-120)
Toluene-D8	97.3 (81-117)
p-Bromofluorobenzene	102 (74-121)

MQL = Minimum Quantifiable Level  
 ND = None Detected Above MQL  
 Multiply MQL by 10,000  
 ppb in Water = ug/L  
 ppb in Soil = ug/Kg

Comments: \* Estimated due to the number of dilutions and the high concentration.  
 Analyst: [Signature]

**TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN SOILS/SOLIDS**

**FILE COPY**

OPCL NO.: 95-88  
ANALYSIS OF: oil

*460*

MARKED: Gulf State Crude  
DATE RECEIVED: 3-14-97

COMPOUNDS	MCL	µg/kg	COMPOUNDS	MCL	µg/kg	COMPOUNDS	MCL	µg/kg
Phenol	330		4-Chloro-3-methylphenol	330		Hexachlorobenzene	330	
bis(2-Chloroethyl)ether	330		2-Methylnaphthalene	330	<i>99,900,000</i>	Pentachlorophenol	660	
2-Chlorophenol	330		Hexachlorocyclopentadiene	330		Phenanthrene	330	<i>96,240,000</i>
1,3-Dichlorobenzene	330		2,4,6-Trichlorophenol	330		Anthracene	330	
1,4-Dichlorobenzene	330		2,4,5-Trichlorophenol	1600		Di-n-butylphthalate	330	
Benzyl alcohol	330		2-Chloronaphthalene	330		Fluoranthene	330	<i>40,800,000</i>
1,2-Dichlorobenzene	330		2-Nitroaniline	1600		Pyrene	330	<i>27,800,000</i>
2-Methylphenol	330		Dimethylphthalate	330		Butylbenzylphthalate	330	
bis(2-Chloroisopropyl)ether	330		Acenaphylene	330		3,3'Dichlorobenzidine	660	
4-Methylphenol	330		2,6-Dinitrotoluene	330		Benzo(a)anthracene	330	
N-Nitroso-di-n-propylamine	330		3-Nitroaniline	1600		Chrysene	330	
Hexachloroethane	330		Acenaphthene	330	<i>32,800,000</i>	bis(2-Ethylhexyl)phthalate	330	
Nitrobenzene	330		2,4-Dinitrophenol	1600		Di-n-octylphthalate	330	
Isophorone	330		4-Nitrophenol	1600		Benzo(b)fluoranthene	330	
2-Nitrophenol	330		Dibenzofuran	330	<i>53,100,000</i>	Benzo(k)fluoranthene	330	
2,4-Dimethylphenol	330		2,4-Dinitrotoluene	330		Benzo(a)pyrene	330	
Benzoic acid	1600		Diethylphthalate	330		Indeno(1,2,3-cd)pyrene	330	
bis(2-Chloroethoxy)methane	330		4-Chlorophenyl-phenylether	330		Dibenz(a,h)anthracene	330	
2,4-Dichlorophenol	330		Fluorene	330	<i>30,600,000</i>	Benzo(g,h,i)perylene	330	
1,2,4-Trichlorobenzene	330		4-Nitroaniline	1600				
Naphthalene	330	<i>150,000,000</i>	4,6-Dinitro-2-methylphenol	1600				
4-Chloroaniline	330		N-nitrosodiphenylamine	330				
Hexachlorobutadiene	330		4-Bromophenyl-phenylether	330				

**SURROGATES**

**RECOVERY (%) LIMITS**

2-Fluorophenol	_____	25 - 121
Phenol-d5	_____	24 - 113
Nitrobenzene-d5	_____	23 - 120
2-Fluorobiphenyl	_____	30 - 115
2,4,6-Trifluorophenol	_____	19 - 122
p-Terphenyl-d14	_____	18 - 137

Date Extracted: 3/10/1997  
Date Injected: 3/25/1997; 4/3/97  
ND = None Detected  
MCL = Minimum Quantifiable Level  
Analyst: Jon Shell *JES*

Lower Detection Level = MCL X 25,000 = 24,750,000 µg/L

- No peaks above 40% of internal standard.
- Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- Additional peaks were observed, but not examined.

**COMMENTS:**

*① Analysis by Waste Dilution ② No surrogates were used in this analysis.*

FILE COPY

SAMPLE # 460  
 ANALYSES Soil

INORGANICS REPORT

SOIL/SEDIMENT

DATE COLLECTED 3/13/97

PARAMETER	CONC. ug/g	MQL ug/g	QC %Rec.	Analyst	Date
Aluminum	ND	0.5	113	PS	4/22/97
Antimony	ND	0.5	116	PS	4/9/97
Arsenic	2.0	0.5	95	PS	4/11/97
Barium	ND	0.5	120	PS	4/29/97
Beryllium	ND	0.1	83	PS	4/10/97
Cadmium	ND	0.1	80	PS	4/24/97
Chromium	ND	0.1	107	PS	4/23/97
Cobalt	ND	1.0	102	PS	4/11/97
Copper	3.4	0.5	120	JC	4/30/97
Iron	9.2	5.0	108	PS	4/2/97
Lead	ND	0.5	116	PS	4/3/97
Magnesium	ND	1.0	98	JC	5/1/97
Manganese	ND	1.0	101	JC	4/25/97
Mercury	ND	0.05	80	PS	3/25/97
Nickel	ND	0.5	120	PS	4/24/97
Potassium	ND	3.0	97	JC	5/1/97
Selenium	ND	0.5	80	PS	3/24/97
Silver	ND	0.1	92	PS	4/23/97
Sodium	ND	1.0	120	JC	5/1/97
Thallium	ND	1.0	97	PS	4/11/97
Vanadium	ND	1.0	102	PS	4/11/97
Zinc	ND	1.0	105	PS	4/18/97
Cyanide		1.0			
Calcium		0.5			

MQL = minimum quantifiable levels

QC %Rec = percent recovery of quality control standard

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
OFFICE OF POLLUTION CONTROL LABORATORY

VOLATILE ORGANIC COMPOUNDS BY METHOD 8260

OPCL NO. 461 MARKED: Gulf States Creosote MWZ  
 MATRIX: SOIL DATE COLLECTED:  
 CHARGE CODE: 3858 DATE ANALYZED: 3-17-97

COMPOUNDS	MQL	PPB	COMPOUNDS	MQL	PPB
Dichlorofluoromethane		5	<del>1,1,1,2-Tetrachloroethane</del>		5
Chloromethane		5	Ethylbenzene		5
Vinyl Chloride		5	<del>m &amp; p-Xylene</del>		5
Bromomethane		5	Styrene	5	342000.
Chloroethane		5	o-Xylene	5	1164000.
Trichlorofluoromethane		5	Bromoform		5
1,1-Dichloroethane		5	1,1,2,2-Tetrachloroethane		5
Methylene Chloride		5	Isopropylbenzene	5	66200.
trans-1,2-Dichloroethane		5	1,2,3-Trichloropropane		5
1,1-Dichloroethane		5	Bromobenzene		5
cis-1,2-Dichloroethane		5	n-Propylbenzene		5
2,2-Dichloropropane		5	2-Chlorotoluene		5
Chloroform		5	4-Chlorotoluene		5
Bromochloromethane		5	1,3,5-Trimethylbenzene	5	564000.
1,1,1-Trichloroethane		5	tert-Butylbenzene		5
1,2-Dichloroethane		5	1,2,4-Trimethylbenzene	5	1280000.
1,1-Dichloropropene		5	sec-Butylbenzene		5
Carbon Tetrachloride		5	1,3-Dichlorobenzene		5
Benzene	5	125000.	4-Isopropyltoluene	5	81700.
Trichloroethene		5	1,4-Dichlorobenzene		5
1,2-Dichloropropane		5	1,2-Dichlorobenzene		5
Dibromomethane		5	n-Butylbenzene		5
Bromodichloromethane		5	1,2-Dibromo-3-chloropropane		5
cis-1,3-Dichloropropene		5	1,2,4-Trichlorobenzene		5
Toluene	5	468000.	Naphthalene	5	63100000.
trans-1,3-Dichloropropene		5	Hexachlorobutadiene		5
1,1,2-Trichloroethane		5	1,2,3-Trichlorobenzene		5
1,3-Dichloropropane		5	Acetone		5
Dibromochloromethane		5	2-Butanone (MEK)		5
Tetrachloroethene		5	Carbon Disulfide		5
1,2-Dibromoethane		5	2-Hexanone		5
Chlorobenzene		5	4-Methyl-2-pentanone (MIBK)		5
1,1,1,2-Tetrachloroethane		5			
Ethylbenzene	5	315000.			
m & p-Xylene	5	1096000.			

Surrogate	Recovery %
1,2-Dichloroethane-D4	85.1 (80-120)
Toluene-D8	97.4 (81-117)
p-Bromofluorobenzene	99.8 (74-121)

MQL = Minimum Quantifiable Level  
 ND = None Detected Above MQL  
 Multiply MQL by \_\_\_\_\_  
 ppb in Water = ug/L  
 ppb in Soil = ug/Kg

Comments:

Analyst: J. K. King

++++

**TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN SOILS/SOLIDS**

**FILE COPY**

OPCL NO.: 95-00 461 MARKED: Gulf State Creosote  
ANALYSIS OF: oil DATE RECEIVED: 3-14-97

COMPOUNDS	MCL	µg/kg	COMPOUNDS	MCL	µg/Kg	COMPOUNDS	MCL	µg/Kg
Phenol	330		4-Chloro-3-methylphenol	330		Hexachlorobenzene	330	
bis(2-Chloroethyl)ether	330		2-Methylnaphthalene	330	73,000,000	Pentachlorophenol	660	
2-Chlorophenol	330		Hexachlorocyclopentadiene	330		Phenanthrene	330	66,000,000
1,3-Dichlorobenzene	330		2,4,6-Trichlorophenol	330		Anthracene	330	
1,4-Dichlorobenzene	330		2,4,5-Trichlorophenol	1600		Di-n-butylphthalate	330	
Benzyl alcohol	330		2-Chloronaphthalene	330		Fluoranthene	330	30,000,000
1,2-Dichlorobenzene	330		2-Nitroaniline	1600		Pyrene	330	
2-Methylphenol	330		Dimethylphthalate	330		Butylbenzylphthalate	330	
bis(2-Chloroisopropyl)ether	330		Acenaphthylene	330		3,3'Dichlorobenzidine	660	
4-Methylphenol	330		2,6-Dinitrotoluene	330		Benzo(a)anthracene	330	
N-Nitroso-di-n-propylamine	330		3-Nitroaniline	1600		Chrysene	330	
Hexachloroethane	330		Acenaphthene	330		bis(2-Ethylhexyl)phthalate	330	
Nitrobenzene	330		2,4-Dinitrophenol	1600		Di-n-octylphthalate	330	
Isophorone	330		4-Nitrophenol	1600		Benzo(b)fluoranthene	330	
2-Nitrophenol	330		Dibenzofuran	330	41,400,000	Benzo(k)fluoranthene	330	
2,4-Dimethylphenol	330		2,4-Dinitrotoluene	330		Benzo(a)pyrene	330	
Benzoic acid	1600		Diethylphthalate	330		Indeno(1,2,3-cd)pyrene	330	
bis(2-Chloroethoxy)methane	330		4-Chlorophenyl-phenylether	330		Dibenz(a,h)anthracene	330	
2,4-Dichlorophenol	330		Fluorene	330	25,200,000	Benzo(g,h,i)perylene	330	
1,2,4-Trichlorobenzene	330		4-Nitroaniline	1600				
Naphthalene	330	149,000,000	4,6-Dinitro-2-methylphenol	1600				
4-Chloroaniline	330		N-nitrosodiphenylamine	330				
Hexachlorobutadiene	330		4-Bromophenyl-phenylether	330				

**SURROGATES RECOVERY (%) LIMITS**

2-Fluorophenol	_____	25 - 121
Phenol-d5	_____	24 - 113
Nitrobenzene-d5	_____	23 - 120
2-Fluorobiphenyl	_____	30 - 115
2,4,6-Tribromophenol	_____	19 - 122
p-Terphenyl-d14	_____	18 - 137

Date Extracted: 3/10/1997  
Date Injected: 3/25/1997; 4/3/97  
ND = None Detected  
MCL = Minimum Quantifiable Level  
Analyst: Jon Shell JCS

Lower Detection Level = MCL X 75,000 = 24,750,000 µg/L

- \_\_\_ No peaks above 40% of internal standard.
- \_\_\_ Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- \_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- \_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- \_\_\_ Additional peaks were observed, but not examined.

COMMENTS:

@ Analysis by Waste Dilution @ No surrogates were used in this analysis

## INORGANICS REPORT

SAMPLE # 461

ANALYSES Soil

SOIL/SEDIMENT

DATE COLLECTED 3/13/99

PARAMETER	CONC. ug/g	ML ug/g	QC %Rec.	Analyst	Date
Aluminum	3.1	0.5	113	PS	4/22/97
Antimony	ND	0.5	116	PS	4/9/97
Arsenic	ND	0.5	95	PS	4/11/97
Barium	ND	0.5	120	PS	4/29/97
Beryllium	ND	0.1	83	PS	4/10/97
Cadmium	ND	0.1	80	PS	4/24/97
Chromium	ND	0.1	107	PS	4/23/97
Cobalt	ND	1.0	102	PS	4/11/97
Copper	2.4	0.5	120	JC	4/30/97
Iron	16.0	5.0	108	PS	4/21/97
Lead	ND	0.5	116	PS	4/3/97
Magnesium	ND	1.0	92	PS/JC	5/1/97
Manganese	ND	1.0	101	JC	4/25/97
Mercury	ND	0.05	80	PS	3/25/97
Nickel	ND	0.5	120	PS	4/24/97
Potassium	1.3	3.0	98	JC	5/1/97
Selenium	ND	0.5	80	PS	3/24/97
Silver	ND	0.1	92	PS	4/23/97
Sodium	11.4	1.0	120	JC	5/1/97
Thallium	ND	1.0	97	PS	4/11/97
Vanadium	ND	1.0	108	PS	4/11/97
Zinc	ND	1.0	105	PS	4/18/97
Cyanide		1.0			
Calcium		0.5			

ML = minimum quantifiable levels

QC %Rec = percent recovery of quality control standard

**TARGET COMPOUND LIST  
SEMIVOLATILE ORGANIC COMPOUNDS  
IN SOILS/SOLIDS**

**FILE COPY**

OPCL NO.: 95-00 *Ext. 97-024 Blank* MARKED: \_\_\_\_\_  
ANALYSIS OF: oil DATE RECEIVED: \_\_\_\_\_

COMPOUNDS	MCL	µg/kg	COMPOUNDS	MCL	µg/kg	COMPOUNDS	MCL	µg/kg
Phenol	330		4-Chloro-3-methylphenol	330		Hexachlorobenzene	330	
bis(2-Chloroethyl)ether	330		2-Methylnaphthalene	330		Pentachlorophenol	660	
2-Chlorophenol	330		Hexachlorocyclopentadiene	330		Phenanthrene	330	
1,3-Dichlorobenzene	330		2,4,6-Trichlorophenol	330		Anthracene	330	
1,4-Dichlorobenzene	330		2,4,5-Trichlorophenol	1600		Di-n-butylphthalate	330	
Benzyl alcohol	330		2-Chloronaphthalene	330		Fluoranthene	330	
1,2-Dichlorobenzene	330		2-Nitroaniline	1600		Pyrene	330	
2-Methylphenol	330		Dimethylphthalate	330		Butylbenzylphthalate	330	
bis(2-Chloroisopropyl)ether	330		Acenaphylene	330		3,3'Dichlorobenzidine	660	
4-Methylphenol	330		2,6-Dinitrotoluene	330		Benzo(a)anthracene	330	
N-Nitroso-di-n-propylamine	330		3-Nitroaniline	1600		Chrysene	330	
Hexachloroethane	330		Acenaphthene	330		bis(2-Ethylhexyl)phthalate	330	
Nitrobenzene	330		2,4-Dinitrophenol	1600		Di-n-octylphthalate	330	
Isophorone	330		4-Nitrophenol	1600		Benzo(b)fluoranthene	330	
2-Nitrophenol	330		Dibenzofuran	330		Benzo(k)fluoranthene	330	
2,4-Dimethylphenol	330		2,4-Dinitrotoluene	330		Benzo(a)pyrene	330	
Benzoic acid	1600		Diethylphthalate	330		Indeno(1,2,3-cd)pyrene	330	
bis(2-Chloroethoxy)methane	330		4-Chlorophenyl-phenylether	330		Dibenz(a,h)anthracene	330	
2,4-Dichlorophenol	330		Fluorene	330		Benzo(g,h,i)perylene	330	
1,2,4-Trichlorobenzene	330		4-Nitroaniline	1600				
Naphthalene	330		4,6-Dinitro-2-methylphenol	1600				
4-Chloroaniline	330		N-nitrosodiphenylamine	330				
Hexachlorobutadiene	330		4-Bromophenyl-phenylether	330				

SURROGATES	RECOVERY (%) LIMITS
2-Fluorophenol	_____ 25 - 121
Phenol-d5	_____ 24 - 113
Nitrobenzene-d5	_____ 23 - 120
2-Fluorobiphenyl	_____ 30 - 115
2,4,6-Tribromophenol	_____ 19 - 122
p-Terphenyl-d14	_____ 18 - 137

Date Extracted: 3/16/97  
Date Injected: 3/15/97  
ND = None Detected  
MCL = Minimum Quantifiable Level  
Analyst: Jon Shell *(JES)*

Lower Detection Level = MCL X 75 = 24,750 µg/L

- \_\_\_ No peaks above 40% of internal standard.
- \_\_\_ Peaks above 40% of internal standard on EPA Appendix IX were identified.\*
- \_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX.\*\*
- \_\_\_ Peaks above 40% of internal standard not on EPA Appendix IX were not identified.
- \_\_\_ Additional peaks were observed, but not examined.

COMMENTS: ① Analysis by waste dilution. ② No target compounds above the MCL were detected. ③ No surrogates were used in this analysis.











Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 09-AUG-01

Check No.: 257831

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819731	15-JUN-01		0.00	1,725.00
			0.00	1,725.00

FILE COPY

Please detach this statement and retain for your records

000262 640180

VERIFY THE AUTHENTICITY OF THIS MULTI-TONE SECURITY DOCUMENT. CHECK BACKGROUND AREA CHANGES COLOR GRADUALLY FROM TOP TO BOTTOM.



Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

62-20  
311

CHECK DATE	CHECK NO.	NET AMOUNT
09-AUG-01	257831	\$*****1,725.00

VOID AFTER 90 DAYS

PAY One Thousand Seven Hundred Twenty-Five and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

*John M. Rank*  
Vice President & Treasurer

JACKSON

MS

39289

00257831

031100209

38558165

Vendor No.: 5263

MISSISSIPPI DEPT ENV.

Date: 09-AUG-01

Check No.: 257832

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819732	30-JUN-01		0.00	450.00
			0.00	450.00

FILE COPY

Please detach this statement and retain for your records

000263 640181

VERIFY THE AUTHENTICITY OF THIS MULTI-TONE SECURITY DOCUMENT. CHECK BACKGROUND AREA CHANGES COLOR GRADUALLY FROM TOP TO BOTTOM.



Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

31-20  
311

CHECK DATE	CHECK NO.	NET AMOUNT
09-AUG-01	257832	\$*****450.00

VOID AFTER 90 DAYS

PAY Four Hundred Fifty and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

*John M. O'Neil*  
Vice President & Treasurer

JACKSON MS 39289

00257832 031100209 38558165

FORM NO. 880L



**FILE COPY**

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

July 31, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Customer No.** 3381-97

**Invoice** 33819733

33 Staff hours @ \$75.00/Hr. for 06/01	\$2,475.00
<b>Current Amount Due</b>	<b><u>\$2,475.00</u></b>

*Past due: Invoice #33819731 dated June 15, 2001 for: \$1,725.00*  
*Past due: Invoice #33819732 dated June 30, 2001 for: \$450.00*

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$4,650.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



**FILE COPY**

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

June 30, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Customer No.** 3381-97

**Invoice** 33819732

6 Staff hours @ \$75.00/Hr. for 05/01	\$450.00
<b>Current Amount Due</b>	<b><u>\$450.00</u></b>

**Past due: Invoice #33819731 dated June 15, 2001 for: \$1,725.00**

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$2,175.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy

Vendor No.: 5263

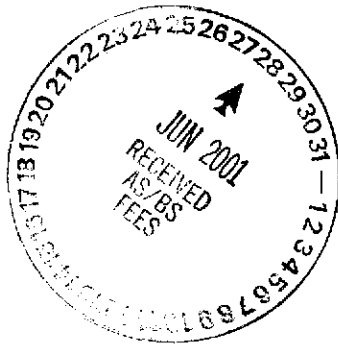
MISSISSIPPI DEPT ENV

Date: 26-JUN-01

Check No.: 255351

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
043001	30-APR-01		0.00	3,075.00
			0.00	3,075.00

FILE COPY



Please detach this statement and retain for your records

000207 614712

VERIFY THE AUTHENTICITY OF THIS MULTI-TONE SECURITY DOCUMENT. CHECK BACKGROUND AREA CHANGES COLOR GRADUALLY FROM TOP TO BOTTOM.



Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Citibank, Delaware  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

62-20  
31F

CHECK DATE	CHECK NO.	NET AMOUNT
26-JUN-01	255351	\$*****3,075.00

VOID AFTER 90 DAYS

PAY Three Thousand Seventy-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

*John M. Rank*  
 Vice President & Treasurer

JACKSON MS 39289

00 255351 03 100 209 38558 165





**FILE COPY**

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

June 15, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819731**

23 Staff hours @ \$75.00/Hr. for 04/01	\$1,725.00
<b>Current Amount Due</b>	<b><u>\$1,725.00</u></b>

**Past due: Invoice #33819730 dated April 30, 2001 for: \$3,075.00**

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$4,800.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



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

April 30, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819730**

41 Staff hours @ \$75.00/Hr. for 03/01	\$3,075.00
<b>Total Amount Due</b>	<b><u>\$3,075.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$3,075.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy

Date: 18-APR-01

Vendor No.: 5263 D5

MISSISSIPPI DEPT ENV

Check No.: 251564

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819726 *D5	17-APR-01	NOV 30, 2000 INVOICE FOR STAFF CALL - DEBI MARTIN @ X-2902	0.00	1,225.00
33819727 *D5	17-APR-01	DEC 29, 2000 INVOICE FOR STAFF CALL - DEBI MARTIN @ X-2902	0.00	412.50
33819728 *D5	17-APR-01	FEB 28, 2001 INVOICE FOR STAFF CALL - DEBI MARTIN @ X-2902	0.00	4,762.50
33819729 *D5	17-APR-01	MARCH 30, 2001 INVOICE FOR STAFF CALL - DEBI MARTIN @ X-2902	0.00	1,687.50
			0.00	8,187.50

FILE COPY



Please detach this statement and retain for your records

000249 566755

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Citicorp Bank  
 A Subsidiary of Citicorp  
 One Pearl's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
18-APR-01	251564	\$*****8,187.50

VOID AFTER 90 DAYS

PAY Eight Thousand One Hundred Eighty-Seven and 50/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

*John M. Rank*  
 Vice President & Treasurer

JACKSON MS 39289

00251564

031100209

38558165



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

March 30, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819729**

22.5 Staff hours @ \$75.00/Hr. for 02/01	\$1,687.50
<b>Current Amount Due</b>	<b><u><u>\$1,687.50</u></u></b>

*Past due: Invoice #33819726 dated November 30, 2000 for: \$1,325.00*  
*Past due: Invoice #33819727 dated December 29, 2000 for: \$412.50*  
*Past due: Invoice #33819728 dated February 28, 2001 for: \$4,762.50*

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$8,187.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

February 28, 2001

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819728**

63.5 Staff hours @ \$75.00/Hr. for 11/00	\$4,762.50
<b>Current Amount Due</b>	<b><u>\$4,762.50</u></b>

***Past due: Invoice #33819726 dated November 30, 2000 for: \$1,325.00***

***Past due: Invoice #33819727 dated December 29, 2000 for: \$412.50***

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$6,500.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 08-JAN-01

Check No.: 187036

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819725	31-OCT-00	0900	0.00	712.50
			0.00	712.50

FILE COPY

JAN 2001  
RECEIVED  
AS/BS  
FEES

Please detach this statement and retain for your records

000406 503850

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

02-20  
311

CHECK DATE	CHECK NO.	NET AMOUNT
08-JAN-01	187036	\$*****712.50

VOID AFTER 90 DAYS

PAY Seven Hundred Twelve and 50/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON MS 39289-1325

*John M. Rank*  
Vice President & Treasurer

⑈00187036⑈

⑈031100209⑈

38558173⑈



**FILE COPY**

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

December 29, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819727**

5.5 Staff hours @ \$75.00/Hr. for 11/00	\$412.50
<b>Current Amount Due</b>	<b><u>\$412.50</u></b>

*Past due: Invoice #33819725 dated October 31, 2000 for: \$712.50*  
*Past due: Invoice #33819726 dated November 30, 2000 for: \$1,325.00*

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$2,450.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



**FILE COPY**

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

November 30, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819726**

12 Staff hours @ \$75.00/Hr. for 10/00	\$900.00
Plus: Analytical Sample #6064	\$425.00
<b>Current Amount Due</b>	<b><u>\$1,325.00</u></b>

**Past due: Invoice #33819725 dated October 31, 2000 for: \$712.50**

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$2,037.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



# Invoice

OFFICE OF POLLUTION CONTROL  
LABORATORY  
121 FAIRMONT PLAZA  
PEARL, MS 39208  
PHONE: (601) 939-8460

Invoice Number:  
Date:

<b>To:</b> DEPARTMENT OF ENVIRONMENTAL QUALITY UNCONTROLLED SITES SECTION VOLUNTARY EVALUATION PROGRAM P. O. BOX 10385 JACKSON, MS 39289	<b>Ship to (if different address):</b> DEPARTMENT OF ENVIRONMENTAL QUALITY UNCONTROLLED SITES SECTION VOLUNTARY EVALUATION PROGRAM 101 W. CAPITOL ST., SUITE 100 JACKSON, MS 39201
---	---

QTY.	DESCRIPTION	UNIT PRICE	TOTAL
1	SVOA SAMPLE ANALYZED Gulf State Creosote (VEP #3381-97) Sample Number GEO-53GW, Lab Bench #6064	425.00	425.00
		SUBTOTAL	425.00
		SALES TAX RATE %	
		SALES TAX	0.00
		SHIPPING & HANDLING	
		<b>TOTAL DUE</b>	<b>\$425.00</b>

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 10-NOV-00

Check No.: 180478

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819723	31-AUG-00	07/00	0.00	900.00
			0.00	900.00

FILE COPY

NOV 2000 RECEIVED AS/BS FEES

Please detach this statement and retain for your records

000471 467799

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Chitbank Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

CHECK DATE	CHECK NO	NET AMOUNT
10-NOV-00	180478	\$*****900.00

VOID AFTER 90 DAYS

PAY Nine Hundred and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON MS 39289-1325

*John M. O'Neil*  
Vice President & Treasurer

FORM NO. 9850L

⑈00180478⑈ ⑆031100209⑆ 38558173⑈

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 10-NOV-00  
Check No.: 180479

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819724	30-SEP-00	08/00	0.00	1,350.00
			0.00	1,350.00

FILE COPY

NOV 2000  
RECEIVED  
AS/BS  
FEES

Please detach this statement and retain for your records

000472 467800

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank Gateway  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
10-NOV-00	180479	\$*****1,350.00

VOID AFTER 90 DAYS

PAY One Thousand Three Hundred Fifty and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON

MS 39289-1325

*John M. Oran*  
Vice President & Treasurer

00180479

031100209

38558173



**FILE COPY**

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

October 31, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819725**

9.5 Staff hours @ \$75.00/Hr. for 09/00	\$712.50
<b>Current Amount Due</b>	<b><u>\$712.50</u></b>

*Past due: Invoice #33819723 dated August 31, 2000 for: \$900.00*  
*Past due: Invoice #33819724 dated September 30, 2000 for: \$1,350.00*

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$2,962.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



**FILE COPY**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

James I. Palmer, Jr., Executive Director

September 30, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819724**

18 Staff hours @ \$75.00/Hr. for 08/00	\$1,350.00
<b>Total Amount Due</b>	<b><u>\$1,350.00</u></b>

***Past due: Invoice #33819723 dated August 31, 2000 for: \$900.00***

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$2,250.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

FILE COPY

August 31, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819723**

12 Staff hours @ \$75.00/Hr. for 07/00	\$900.00
<b>Total Amount Due</b>	<b><u>\$900.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$900.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File Copy

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 21-AUG-00

Check No.: 170715

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819722	31-JUL-00	0600	0.00	2,025.00
			0.00	2,025.00

Please detach this statement and retain for your records

000078 415786

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Ernest D. Brown  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
21-AUG-00	170715	\$*****2,025.00

VOID AFTER 90 DAYS

PAY Two Thousand Twenty-Five and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON MS 39289-1325

*John M. Brown*  
Vice President & Treasurer

⑈00170715⑈ ⑆031100209⑆ 38558173⑈




Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 10-AUG-00

Check No.: 169376

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819721	30-JUN-00	0500	0.00	4,275.00
				
			0.00	4,275.00

FILE COPY

Please detach this statement and retain for your records

000202 404759

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citicorp, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

22-28  
31

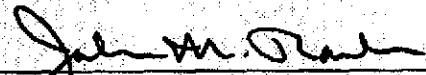
CHECK DATE	CHECK NO.	NET AMOUNT
10-AUG-00	169376	\$*****4,275.00

VOID AFTER 90 DAYS

PAY Four Thousand Two Hundred Seventy-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

  
Vice President & Treasurer

JACKSON MS 39289-1325

⑆00169376⑆ ⑆031100209⑆ 38558173⑆





**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

July 31, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819722**

27 Staff hours @ \$75.00/Hr. for 06/00	\$2,025.00
--	------------

<b>Current Amount Due</b>	<b><u>\$2,025.00</u></b>
---------------------------	--------------------------

***Past due: Invoice #33819721 dated 06/30/00 for \$4,275.00***

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$6,300.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

Date: 14-JUL-00

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Check No. 166213

**FILE COPY**

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819720	31-MAY-00		0.00	1,875.00

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.

 **Kerr-McGee Chemical LLC**  
 A subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

**Frank Howard**  
 Vice President & Treasurer  
 One Park Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
14-JUL-00	166213	\$*****1,875.00

VOID AFTER 90 DAYS

PAY One Thousand Eight Hundred Seventy-Five and NO/100 Dollars

TO THE ORDER OF

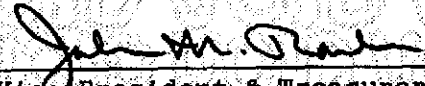
MISSISSIPPI DEPT ENVIRONMENTAL QUALITY

PO BOX 20325

JACKSON

MS

39289-1325

  
 Vice President & Treasurer

⑈00166213⑈

⑈031100209⑈

38558173⑈

**UNCONTROLLED SITES PROGRAM**



1. ( ) Deposit Check - Meet Requirements
2. ( ) Hold Check - Needs Additional Information
3. ( ) Return Check with Letter of Explanation

Signature

Date



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

June 30, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819721**

57 Staff hours @ \$75.00/Hr. for 05/00	\$4,275.00
<b>Current Amount Due</b>	<b><u>\$4,275.00</u></b>

**Past due: Invoice #33819720 dated 05/31/00 for \$1,875.00**

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$6,150.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

FILE COPY

May 31, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819720**

25 Staff hours @ \$75.00/Hr. for 04/00	\$1,875.00
<b>Total Amount Due</b>	<b><u>\$1,875.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$1,875.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

Vendor No. : 5263

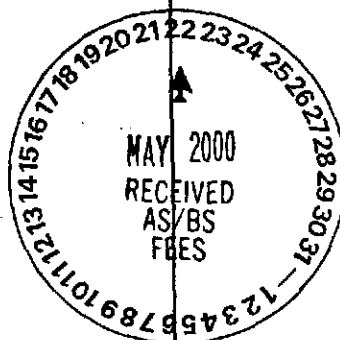
MISSISSIPPI DEPT ENV

Date: 17-MAY-00

Check No.: 159537

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819719	31-MAR-00	0200	0.00	112.50
			0.00	112.50

FILE COPY



Please detach this statement and retain for your records

000199 354035

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.

Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Kerr-McGee Bank  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
17-MAY-00	159537	*****112.50

VOID AFTER 90 DAYS

PAY One Hundred Twelve and 50/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325  
JACKSON MS 39289-1325

Vice President & Treasurer

000159537# 001100209# 38558173#

30-MAR-00

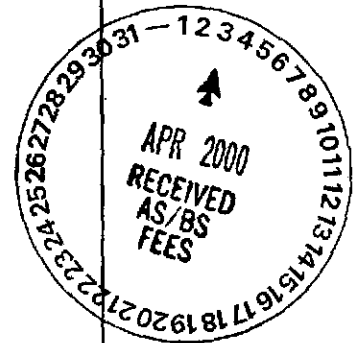
Check No.: 153799

MISSISSIPPI DEPT ENV

5263

Vendor No. :

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819718	29-FEB-00	0100	0.00	1,825.00
			0.00	1,825.00



Please detach this statement and retain for your records

000203 331457

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



**Kerr-McGee Chemical LLC**  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

CEBank, Delaware  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
30-MAR-00	153799	*****1,825.00

VOID AFTER 90 DAYS

PAY One Thousand Eight Hundred Twenty-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

*John M. Paul*  
 Vice President & Treasurer

JACKSON MS 39289-1325

00153799 031100209 38558173



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

March 31, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819719**

1.5 Staff hours @ \$75.00/Hr. for 02/00	\$112.50
<b>Total Amount Due</b>	<b><u>\$112.50</u></b>

***Past Due: Invoice #33819718 dated 02/00 for 1,825.00***

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$1,937.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

February 29, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819718**

26 Staff hours @ \$75.00/Hr. for 01/00	\$1,950.00
Less: Analytical Sample #2787 paid w/check #14515	(\$125.00)
This invoice was billed to your account in error.	
<b>Total Amount Due</b>	<b><u>\$1,825.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$1,825.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy



# Invoice

Invoice Number:  
Date: October 15, 1999

OFFICE OF POLLUTION CONTROL  
LABORATORY  
121 FAIRMONT PLAZA  
PEARL, MS 39208  
PHONE: (601) 939-8460

To:  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
P. O. BOX 10385  
JACKSON, MS 39289

Ship to (if different address):  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
2380 HWY 80 WEST  
JACKSON, MS 39204

QTY.	DESCRIPTION	UNIT PRICE	TOTAL
1	TPH SAMPLE ANALYZED, Gulf States Manufacturers Sample Number 2787	125.00	125.00

SUBTOTAL	125.00
SALES TAX RATE %	
SALES TAX	0.00
SHIPPING & HANDLING	
TOTAL DUE	\$125.00

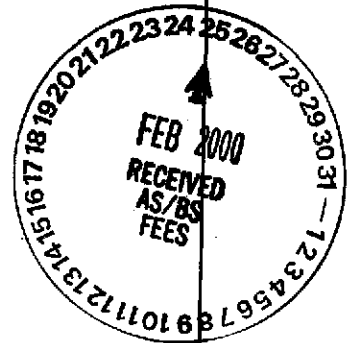
Vendor No.: 5263

MISSISSIPPI DEPT ENV

Date: 22-FEB-00

Check No.: 149180

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819717	28-JAN-00	1299	0.00	4,050.00
			0.00	4,050.00



Please detach this statement and retain for your records

000059 308749

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



**Kerr-McGee Chemical LLC**  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

**Firstbank National**  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Canaan, DE 19726

CHECK DATE	CHECK NO.	NET AMOUNT
22-FEB-00	149180	\$*****4,050.00

VOID AFTER 90 DAYS

PAY Four Thousand Fifty and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

JACKSON MS 39289-1325

*John M. Paul*  
 Vice President & Treasurer

⑈00149180⑈ ⑆031100209⑆ 38558173⑈



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

January 28, 2000

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819717**

54 Staff hours @ \$75.00/Hr. for 12/99	\$4,050.00
<b>Total Amount Due</b>	<b><u>\$4,050.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$4,050.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

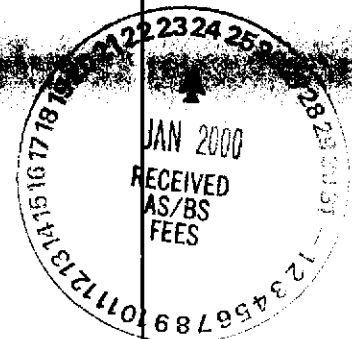
Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 19-JAN-00

Check No.: 145151

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819716	30-DEC-99	11/99	0.00	875.00
<b>FILE COPY</b>				
			0.00	875.00



Please detach this statement and retain for your records

000177 283088

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



**Kerr-McGee Chemical LLC**  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Clinton, Delaware  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
19-JAN-00	145151	\$*****875.00

VOID AFTER 90 DAYS

PAY Eight Hundred Seventy-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

*John M. Rank*  
 Vice President & Treasurer

JACKSON MS 39289-1325

⑈00145151⑈

⑆031100209⑆

38558173⑈



**FILE COPY**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

James I. Palmer, Jr., Executive Director

December 30, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819716**

10 Staff hours @ \$75.00/Hr. for 11/99	\$750.00
Plus: Analytical Sample #2787	\$125.00
<b>Total Amount Due</b>	<b><u><u>\$875.00</u></u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$875.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289


cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

Vendor No. :

5263

MISSISSIPPI DEPT ENV

Check No.: 140534

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819714	29-OCT-99	0999	0.00	75.00
			<b>FILE COPY</b>	
				
			0.00	75.00

Please detach this statement and retain for your records

000115 268392

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Citibank, Delaware  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
13-DEC-99	140534	\$*****75.00

VOID AFTER 90 DAYS

PAY Seventy-Five and NO/100 Dollars

TO THE ORDER OF

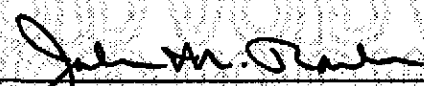
MISSISSIPPI DEPT ENVIRONMENTAL QUALITY

PO BOX 20325

JACKSON

MS

39289-1325

  
 Vice President & Treasurer

⑈00140534⑈

⑆031100209⑆

38558173⑈

Date: 08-NOV-99

Vendor No.: 5263

MISSISSIPPI DEPT ENV

Check No.: 135612

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819713	30-SEP-99		0.00	712.50
			0.00	712.50



Please detach this statement and retain for your records

000106 254418

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



**Kerr-McGee Chemical, L.P.**  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Account Manager  
 A Subsidiary of Citicorp  
 Citicorp Building  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
08-NOV-99	135612	\$*****712.50

VOID AFTER 90 DAYS

PAY Seven Hundred Twelve and 50/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

JACKSON

MS

39289-1325

*John M. O'Neil*  
 Vice President & Treasurer

00135612

031100209

38558173



FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

October 29, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819714**

1 Staff hour @ \$75.00/Hr. for 09/99	\$75.00
<b>Current Amount Due</b>	<b><u>\$75.00</u></b>

*Past due: Invoice #33819713 dated 09/30/99* **\$712.50**

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$787.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy





FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

September 30, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819713**

10.5 Staff hours @ \$75.00/Hr. for 08/99	\$787.50
Plus: Invoice #33819711 dated 07/30/99	(\$75.00)
<b>Total Amount Due</b>	<b><u>\$712.50</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$712.50 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

July 30, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819711**

4 Staff hours @ \$75.00/Hr. for 06/99	\$300.00
Overpayment on Check #115311	
duplicate payment of 3/99 hours CM33819712	(\$375.00)
<b>Total Amount Due</b>	<b><u>(\$75.00)</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

cc: Anita Gray, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Date: 23-JUN-99

Check No.: 115311

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
33819710	28-MAY-99		0.00	675.00
			0.00	675.00



Please detach this statement and retain for your records

000224 177494

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical L.L.C.  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Kerr-McGee  
 A Subsidiary of Olin  
 One Plains Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
23-JUN-99	115311	\$*****675.00

VOID AFTER 90 DAYS

PAY Six Hundred Seventy-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

*John M. Owen*  
 Vice President & Treasurer

JACKSON MS 39289-1325

⑈00115311⑈ ⑆031100209⑆ 38558173⑈

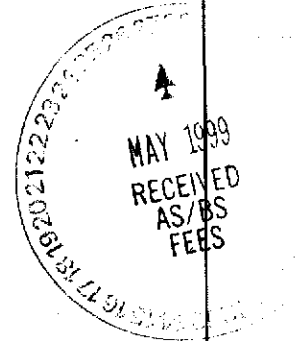
Date: 24-MAY-99

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Check No.: 110722

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
3381979	30-APR-99		0.00	375.00
			0.00	375.00



Please detach this statement and retain for your records

000172 169944

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



**Kerr-McGee Chemical LLC**  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Citibank, Delaware  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
24-MAY-99	110722	\$*****375.00

VOID AFTER 90 DAYS

PAY Three Hundred Seventy-Five and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325

JACKSON MS 39289-1325

*John M. [Signature]*  
 Vice President & Treasurer

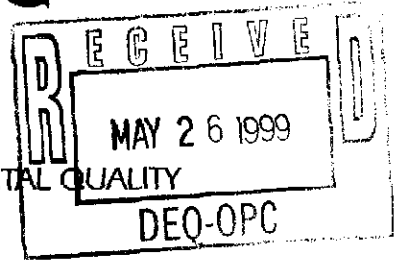
⑈00110722⑈ ⑆031100209⑆ 38558173⑈

FORM NO. 8850L



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director



May 28, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 33819710**

4 Staff hours @ \$75.00/Hr. for 04/99	\$300.00
5 Staff hours @ \$75.00/Hr. for 03/99	\$375.00
<b>Total Amount Due</b>	<b><u>\$675.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$675.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Suzanne Polander, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

OFFICE OF ADMINISTRATIVE SERVICES  
P.O. Box 20305 Jackson, MS 39289.1305 Phone 601.961.5171 Fax 601.354.6965



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

April 30, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 3381979**

5 Staff hours @ \$75.00/Hr. for 03/99	\$375.00
<b>Total Amount Due</b>	<b><u><u>\$375.00</u></u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$375.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Suzanne Polander, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy

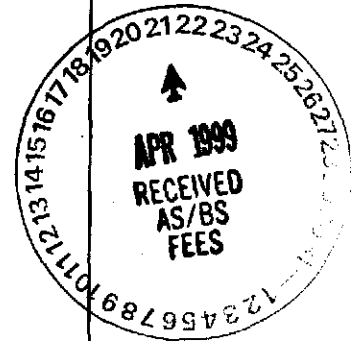
Vendor No.: 5263

MISSISSIPPI DEPT ENV

19-APR-99

Check No.: 105314

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
3381978	31-MAR-99	0299	0.00	1,200.00
			0.00	1,200.00



Please detach this statement and retain for your records

000173 161242

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
 A Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

Chemical Bank  
 A Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
19-APR-99	105314	\$*****1,200.00

VOID AFTER 90 DAYS

PAY One Thousand Two Hundred and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
 PO BOX 20325  
 OFFICE OF POLLUTIN CONTROL  
 JACKSON MS 39289-1325

*John M. Rank*  
 Vice President & Treasurer

⑈00105314⑈ ⑆031100209⑆ 38558173⑈



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

March 31, 1999

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice 3381978**

16 Staff hours @ \$75.00/Hr. for 02/99	\$1,200.00
<b>Total Amount Due</b>	<b><u>\$1,200.00</u></b>

Should you have any questions, please contact Mona Varner at 961-5572.

Please remit payment in the amount of \$1,200.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Suzanne Polander, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
File copy



Date: 23-DEC-98

Vendor No. : 5263 D5

MISSISSIPPI DEPT ENV

Check No.: 86514

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
113098 *D5	30-NOV-98 * RUSH	1098 CALL - DEBI MARTIN @ X-2902	0.00	375.00
			0.00	375.00

Please detach this statement and retain for your records

000419 131332

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

62-20  
311

CHECK DATE	CHECK NO.	NET AMOUNT
23-DEC-98	86514	\$*****375.00

VOID AFTER 90 DAYS

PAY Three Hundred Seventy-Five and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325  
OFFICE OF POLLUTIN CONTROL  
JACKSON MS 39289-1325

*John M. Rank*  
Vice President & Treasurer

⑈00086514⑈ ⑆031100209⑆ 38558173⑈

JAN 1999

Date: 23-DEC-98

Vendor No. : 5263 D5

MISSISSIPPI DEPT ENV

Check No.: 86513

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
102698 *D5	26-OCT-98	0998 RUSH CALL - DEBI MARTIN @ X-2902	0.00	2,525.00
			0.00	2,525.00

Please detach this statement and retain for your records

000418 131331

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

62-28  
311

CHECK DATE	CHECK NO	NET AMOUNT
23-DEC-98	86513	\$*****2,525.00

VOID AFTER 90 DAYS

PAY Two Thousand Five Hundred Twenty-Five and NO/100 Dollars

TO THE  
ORDER  
OF

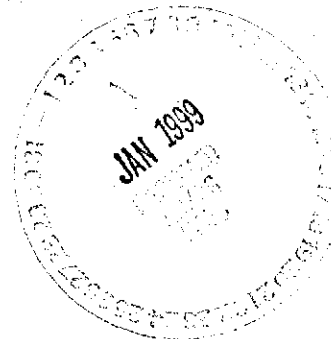
MISSISSIPPI DEPT ENVIRONMENTAL QUALITY

PO BOX 20325  
OFFICE OF POLLUTIN CONTROL

JACKSON MS 39289-1325

*John M. [Signature]*  
Vice President & Treasurer

⑈00086513⑈ ⑆031100209⑆ 38558173⑈



Date: 16-OCT-98

Invoice No.: 5263

MISSISSIPPI DEPT ENV

Check No.: 75634

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
092498	24-SEP-98		0.00	1,800.00

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Citibank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

62-28  
311

CHECK DATE	CHECK NO.	NET AMOUNT
16-OCT-98	75634	\$*****1,800.00

VOID AFTER 90 DAYS

PAY One Thousand Eight Hundred and NO/100 Dollars

TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

*John M. Rank*  
Vice President & Treasurer

JACKSON MS 39289

⑈00075634⑈ ⑆031100209⑆ 38558173⑈



3381-47  
INV #5

**UNCONTROLLED SITES PROGRAM**

1.  Deposit Check - Meet Requirements
2.  Hold Check - Needs Additional Information
3.  Return Check with Letter of Explanation

*JMC*  
\_\_\_\_\_  
Signature

10/20/98  
\_\_\_\_\_  
Date



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

October 26, 1998

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice**

5 Staff hours @ \$75.00/Hr. for 9/98	\$375.00
PLUS: Analytical Sample	\$2,150.00
<b>Total Amount Due</b>	<b><u>\$2,525.00</u></b>

Should you have any questions, please contact Cheryl Shelby at 961-5381.

Please remit payment in the amount of \$2,525.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
Grants Management

# Invoice

Invoice Number:  
Date: October 14, 1998

OFFICE OF POLLUTION CONTROL  
LABORATORY  
121 FAIRMONT PLAZA  
PEARL, MS 39208  
PHONE: (601) 939-8460

**To:**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
P. O. BOX 10385  
JACKSON, MS 39289

**Ship to (if different address):**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
2380 HWY 80 WEST  
JACKSON, MS 39204

QTY.	DESCRIPTION	UNIT PRICE	TOTAL
2	VOA Groundwater SAMPLE ANALYZED, Gulf States Creosote Sample Numbers OPC LAB # 2608-2611	225.00	450.00
4	SVOA Groundwater SAMPLE ANALYZED, Gulf States Creosote Sample Numbers OPC LAB # 2608-2611	425.00	1,700.00
SUBTOTAL			\$2,150.00
SALES TAX RATE %			
SALES TAX			0.00
SHIPPING & HANDLING			
TOTAL DUE			\$2,150.00



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

September 24, 1998

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice**

24 Staff hours @ \$75.00/Hr. for 8/98	\$1,800.00
<b>Total Amount Due</b>	<b><u>\$1,800.00</u></b>

Should you have any questions, please contact Cheryl Shelby at 961-5381.

Please remit payment in the amount of \$1,800.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Tony Russell, MDEQ/Hazardous Waste  
Grants Management

Date: 19-AUG-98

Vendor No. : 5263

MISSISSIPPI DEPT ENV

Check No.: 65731

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
072798	27-JUL-98	0698	0.00	2,600.00
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THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.



Kerr-McGee Chemical LLC  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Center  
Oklahoma City, OK 73125

Bank, Delaware  
A Subsidiary of Citicorp  
One Penn's Way  
New Castle, DE 19720

12-28  
311

CHECK DATE	CHECK NO.	NET AMOUNT
19-AUG-98	65731	\$*****2,600.00

VOID AFTER 90 DAYS

PAY Two Thousand Six Hundred and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

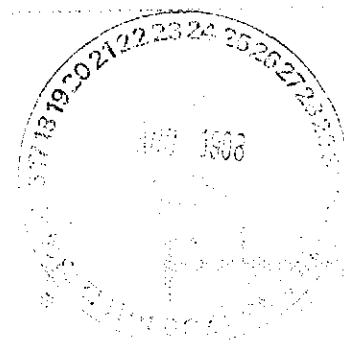
JACKSON MS 39289

*John M. Rank*  
Vice President & Treasurer

⑈00065731⑈

⑆031100209⑆

38558173⑈





**FILE COPY**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

James I. Palmer, Jr., Executive Director

July 27, 1998

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice**

26 Staff hours @ \$75.00/Hr. for 6/98	\$1,950.00
Plus: Analytical Sample	\$650.00
<b>Total Amount Due</b>	<b><u>\$2,600.00</u></b>

Should you have any questions, please contact Cheryl Shelby at 961-5381.

Please remit payment in the amount of \$2,600.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Russell Smith, MDEQ/Hazardous Waste  
Grants Management



# Invoice

OFFICE OF POLLUTION CONTROL  
LABORATORY  
121 FAIRMONT PLAZA  
PEARL, MS 39208  
PHONE: (601) 939-8460

Invoice Number:  
Date: July 27, 1998

**To:**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
P. O. BOX 10385  
JACKSON, MS 39289

**Ship to (if different address):**  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
UNCONTROLLED SITES SECTION VOLUNTARY  
EVALUATION PROGRAM  
2380 HWY 80 WEST  
JACKSON, MS 39204

QTY.	DESCRIPTION	UNIT PRICE	TOTAL
1	VOA Groundwater SAMPLE ANALYZED, Gulf States Creosote Sample Numbers OPC LAB # 1303	225.00	225.00
1	SVOA Groundwater SAMPLE ANALYZED, Gulf States Creosote Sample Numbers OPC LAB # 1303	425.00	425.00
SUBTOTAL			\$650.00
SALES TAX RATE %			
SALES TAX			0.00
SHIPPING & HANDLING			
TOTAL DUE			\$650.00

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.

Mississippi Dept. of Environmental Quality  
Kerr-McGee Chemical Corp.  
A Subsidiary of Kerr-McGee Corporation  
Kerr-McGee Chemical Corp.  
One Penn's Way  
New Castle, DE 19720

CHECK DATE	CHECK NO.	NET AMOUNT
17-JUL-98	60628	\$*****1,200.00

VOID AFTER 90 DAYS

PAY One Thousand Two Hundred and NO/100 Dollars

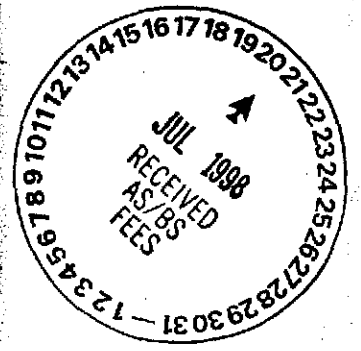
TO THE ORDER OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON MS 39289

*John M. Owen*  
Vice President & Treasurer

⑈00060628⑈ ⑆031100209⑆ 38558173⑈



FILE COPY

Vendor No. :

5263 D5

MISSISSIPPI DEPT ENV

Check No.: 56569

22-JUN-98

INVOICE NUMBER	INVOICE DATE	INVOICE DESCRIPTION	DISCOUNT AMOUNT	NET AMOUNT
052098 *D5	20-MAY-98	RUSH CALL - DEBI MARTIN @ X-2902	0.00	44,775.00
			0.00	44,775.00

Please detach this statement and retain for your records

000100 075917

THIS MULTI-TONE AREA OF THE DOCUMENT CHANGES COLOR GRADUALLY AND EVENLY FROM DARK TO LIGHT WITH DARKER AREAS BOTH TOP AND BOTTOM.

**Kerr-McGee Chemical LLC**  
 Subsidiary of Kerr-McGee Corporation  
 Kerr-McGee Center  
 Oklahoma City, OK 73125

**Chemical Bank**  
 Subsidiary of Citicorp  
 One Penn's Way  
 New Castle, DE 19710

CHECK DATE	CHECK NO.	NET AMOUNT
22-JUN-98	56569	\$*****44,775.00

VOID AFTER 90 DAYS

Forty-Four Thousand Seven  
PAY Hundred Seventy-Five and NO/100 Dollars

TO THE  
ORDER  
OF

MISSISSIPPI DEPT ENVIRONMENTAL QUALITY  
PO BOX 20325

JACKSON MS 39289

*John M. O'Neil*  
 Vice President & Treasurer  
*[Signature]*

Two signatures required  
for amounts over \$20,000.00

⑈00056569⑈

⑆03⑆100209⑆

38558173⑈

▲  
 JUN 1998  
 RECEIVED  
 AS/BS  
 FEES

FILE COPY



**FILE COPY**

**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

James I. Palmer, Jr., Executive Director

June 24, 1998

**Program:** Uncontrolled Sites Voluntary Evaluation Program

**Site Name:** Gulf States Creosote Site, Kerr McGee Chemical Corporation

**Invoice**

16 Staff hours @ \$75.00/Hr. for 5/98	\$1,200.00
<b>Total Amount Due</b>	<b><u>\$1,200.00</u></b>

Should you have any questions, please contact Cheryl Shelby at 961-5381.

Please remit payment in the amount of \$1,200.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Mona Varner, MDEQ/Fees Management  
Russell Smith, MDEQ/Hazardous Waste  
Grants Management



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

May 20, 1998

Mr. Glen Pilie  
Adams and Reese  
4500 One Shell Square  
New Orleans, LA 70139

Dear Mr. Pilie,

Attached is a copy of an invoice for the Gulf States Creosote, Kerr-McGee Chemical Corporation, voluntary uncontrolled site. I feel that an apology is in order due to the fact that the billing on this voluntary uncontrolled site has not been generated on a monthly basis and the amount now due is quite large. The number of sites currently in the program and the fact that additional staff was not provided, have hampered our ability to stay current on the billings. I can assure you that this will not happen again. Every effort will be made to ensure that monthly billings are now generated.

Because of the large amount due, I have also included a breakdown by month of who has charged time to this site. I thought this may be helpful to you. If I can be of any assistance please do not hesitate to contact me. Again, I sincerely apologize for any inconvenience our oversight may have caused.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl Shelby".

Cheryl Shelby  
Grants Management

OFFICE OF ADMINISTRATIVE SERVICES

P.O. Box 20305 Jackson, MS 39289.1305 Phone 601.961.5171 Fax 601.354.6965

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director



May 20, 1998

Program: Uncontrolled Sites Voluntary Evaluation Program

Site Name: Gulf States Creosote Site, Kerr McGee Chemical Corporation

Invoice

637 Staff hours @ \$75.00/Hr. for 1/1/97-4/30/98	\$47,775.00
Less: Credit for half of Payment Received*	(\$3,000.00)
<b>Total Amount Due</b>	<b>\$44,775.00</b>

\*It should be noted that the payment received has been decreased by the \$500.00 non-refundable application fee.

Should you have any questions, please contact Cheryl Shelby at 961-5381.

Please remit payment in the amount of \$44,775.00 to the Mississippi Department of Environmental Quality at the following address:

MDEQ  
P.O. Box 20325  
Jackson, MS 39289

cc: Alice Brown, MDEQ/Fees Management  
Russell Smith, MDEQ/Hazardous Waste  
Grants Management

OFFICE OF ADMINISTRATIVE SERVICES

P.O. Box 20305 Jackson, MS 39289-1305 Phone 601.961.5171 Fax 601.354.6965

**THIS FILE IS CLOSED**

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

**DATE: JAN 1998**

**AND ENDS ON:**

**DATE: 31 July 2001**

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

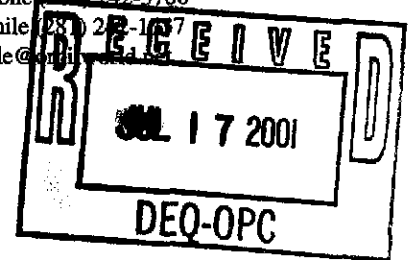
**FILE COPY**

**MICHAEL PISANI & ASSOCIATES, INC.**

Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13401 Southwest Freeway  
Suite 207  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1117  
dangle@...



July 11, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Re: Subsurface Soil Sampling  
Former Gulf States Creosoting Site  
Hattiesburg, Mississippi

Dear Mr. Russell:

We are in receipt of your July 10, 2001 letter requesting additional subsurface soil sampling at the referenced site. In that letter, you requested that samples be collected from depths of 6 feet below grade to the top of ground water at the locations of previous soil borings GEO-61, GEO-62, and GEO-63. During subsequent telephone conversations, it was agreed that a boring would be advanced at a location within 5 feet of the property at 712 Eastside Avenue instead of at GEO-62. The purpose of this letter is to establish procedures for the collection and analysis of subsurface soil samples at these locations.

Initially, the locations of previous borings GEO-61 and GEO-63 will be staked by a professional land surveyor. The proposed boring at 712 Eastside will be advanced on the City of Hattiesburg easement along Eastside Avenue, pending utilities clearance. The three soil borings will be advanced using a Geoprobe. The soil column will be logged continuously from ground surface to the top of ground water, which is anticipated to be encountered at depths of approximately 20 feet below grade. Soil samples for laboratory analysis will be collected from the 8- to 10-foot, 12- to 14-foot, and 16- to 18-foot depth intervals.

Samples will be placed directly in laboratory-supplied sample containers using decontaminated stainless steel sampling tools. Splits of each sample will be provided to the Mississippi Department of Environmental Quality (MDEQ) for independent analysis. Containers will be placed directly on ice in insulated coolers. Coolers will be shipped via



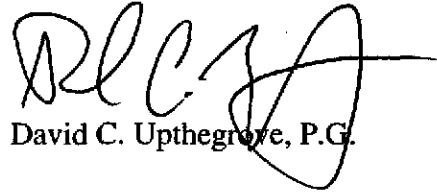
Mr. Tony Russell  
July 11, 2001  
Page 2

overnight delivery service to Lancaster Laboratories in Lancaster, Pennsylvania for analysis. Soil samples will be analyzed for polycyclic aromatic hydrocarbons (PAHs) by SW-846 Method 8310.

Should you have any questions or comments, please call us. We plan to advance the three additional borings on July 19, 2001, pending your approval.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read 'D.C. Upthegrove', written over the printed name below.

David C. Upthegrove, P.G.

cc: Keith Watson – Kerr-McGee  
Glen Pilié - Adams and Reese  
Gretchen Zmitrovich – MDEQ



**FILE COPY**

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

July 17, 2001

Mr. Glen M. Pilié, Esq.  
Adams and Reese, LLP  
4500 One Shell Square  
New Orleans, Louisiana 70139

RE: Gulf States Creosote  
*Remedial Action Work Plan*, dated February 14, 2000  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document (herein referred to as "RAP") and has the following comments:

Fill Area

1. The RAP provides plans to eliminate the migration of DNAPL into the Creek from the surrounding contaminated soils. However, the RAP does not address the DNAPL that has already leached into the soils beneath the Creek. Provide a plan to address this DNAPL. MDEQ requires that no DNAPL be allowed to reach the Creek once the system is in place. A contingency plan to remediate any creosote that reaches the Creek shall be included in the RAP.
2. The RAP states that biological augmentation will be used to remediate the soils in the Fill Area. The RAP lists several techniques, including the addition of inorganic nutrients, the application of acclimated microbes, and phytoremediation, that may be used. Provide details on which technique(s) will be used.
3. MDEQ requires that performance measures be established to evaluate the effectiveness of the chosen technique for the remediation of the soils. Also, provide a contingency plan to address the contamination, if the performance measures show that the chosen biological augmentation technique does not remediate the soils.
4. Provide details on the recovery system design and operation. Provide a schedule for the inspection of the system to determine when the system needs to be connected to a portable recovery system or vacuum truck.

Process Area

Based on the field work conducted by Michael Pisani & Associates, Inc. during the month of June 2001, MDEQ does not believe that significant quantities of recoverable free product exist in the Process Area. However, MDEQ considers the saturated soils detected in the "oil dumping tanks" area and the saturated soils and creosoted railroad

ties and timbers found in the "disposal area" to be continued sources to the groundwater contamination. Thus, MDEQ requires these sources to be remediated.

#### Soils between Courtesy Ford and Railroad Tracks

As stated in Item #3 above for the Fill Area, performance measures need to be established for the in-situ treatment of the contaminated soils. These performance measures need to provide a mechanism to determine if and when the soils have been "bioremediated to the maximum extent practicable". The RAP states that the soils will be tilled to a depth of two feet, and samples will be collected at 0-12 inches and 12-24 inches. Provide details on how the contamination detected below two feet will be remediated.

#### Drainage Ditch

In our meeting on June 28, 2001, Kerr-McGee stated that the plans for the drainage ditch would be submitted on or before August 1, 2001.

#### Risk Assessment

MDEQ has previously commented on and approved the risk assessment by letters dated August 2 and September 20 of 2000 and February 6, April 20, and May 4 of 2001.

#### Groundwater

1. The RAP states in Section 4.2.2.2, Descriptions of Alternatives for Ground Water, that groundwater "monitoring would continue for a period of approximately 5 years". MDEQ does not concur with that statement. Groundwater monitoring must continue until data shows at least three consecutive non-detects in all monitoring wells.
2. Provide a contingency plan to address the contamination if natural attenuation does not remediate the contamination in a reasonable time frame.
3. Provide a contingency plan to address the groundwater if the contaminated groundwater migrates off 16<sup>th</sup> section land.

#### Other Issues

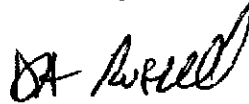
1. During our meeting on June 28, we discussed the issue of whether the contingencies required by MDEQ could be added to an appropriate order or if a formal contingency plan needed to be submitted. MDEQ has discussed the issue and will require a formal contingency plan to address the issues under all the above headings and to cover emergency digs for utility workers and maintenance workers in the areas where their risk was above  $1 \times 10^{-6}$  in the approved risk assessment.
2. The revised RAP needs to reflect field activities that have been completed since the submittal of the February 2000, RAP.
3. For all areas that are to be capped, the cap must meet the requirements outlined in 40 CFR 761.61(a)(7). Visual inspection by MDEQ staff of the existing parking lots that overlie contaminated areas has revealed that most areas will need to be repaved to meet the requirements of a cap.

Letter: Mr. Glen Pilié, Esq.  
July 17, 2001  
Page 3 of 3

4. For all areas that are to be capped, provide a schedule of when the caps will be inspected for cracks, collapses, etc. that would jeopardize the integrity of the cap. Provide measures and an estimated schedule for any necessary repairs.

If you have any questions concerning this matter, please contact Gretchen Zmitrovich at 601-961-5240.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

cc: David Upthegrove, P.G., Michael Pisani & Associates, Inc.  
Kelly Riley, Esq., MDEQ

Gulf State-Letter to Pilié-conceptual rap\_7-17-01 (gz)



**FILE COPY**

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

July 17, 2001

Mr. Glen M. Pilié, Esq.  
Adams and Reese, LLP  
4500 One Shell Square  
New Orleans, Louisiana 70139

RE: Gulf States Creosote  
*Groundwater Monitoring Plan*, dated June 25, 2001  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document submitted. MDEQ's approval of the plan is contingent on the incorporation of the following changes:

Section 3.2. Well Purging

Section 7.2, Purging, of the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), dated May 1996 with 1997 revisions, states that purging is considered complete when the pH, specific conductance and temperature have stabilized, and the turbidity has either stabilized or is below 10 NTUs. The EISOPQAM also states that stabilization occurs when the pH varies by no more 0.1 standard units, the specific conductance varies by no more by 10%, and the temperature is constant for at least three consecutive readings. If a slow purge method, as defined in *Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures*, EPA/540/S-95/504, April 1996, is used to purge the monitoring wells, the specific conductance should not vary by more than 3%. Also, please note that with the slow purge method, the purging of at least three well volume is not required. Samples can be collected as soon as the parameters stabilize.

Section 3.3. Sample Collection

Section 7.3, Sampling, of the EISOPQAM states that wells should be sampled immediately upon completion of purging operations. If the well is purged dry, the sample should be collected as soon as sufficient volume of water has recovered in the well.

Section 5.0. Monitoring Frequency

All monitoring wells, including upgradient, downgradient, and wells within the plumes, need to be sampled quarterly for a minimum of two years. The information obtained from sampling these wells quarterly will not only be helpful in determining any seasonal

Letter: Mr. Glen Pilié, Esq.  
July 17, 2001  
Page 2 of 2

variations, but also it may provide information on the effectiveness of any remediation occurring during the initial two year period. This requirement does not apply to MW-01, MW-04 and MW-07; the outlined plan as it pertains to these wells does not need to be modified. MW-03 will need to be monitored quarterly for a minimum of two years due to detections of benzo(a)anthracene above the Tier 1 TRGs. In addition, please note that some or all of these wells may need to be added to the monitoring program to serve as boundary wells depending on the concentrations and trends noted during the sampling of the other wells.

If you have any questions concerning this matter, please contact Gretchen Zmitrovich at 601-961-5240.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

cc: David Upthegrove, P.G., Michael Pisani & Associates, Inc.  
Kelly Riley, Esq., MDEQ

Gulf State-Letter to Pilié-groundwater monitoring plan\_7-17-01 (gz)



**FILE COPY**

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

July 12, 2001

Mr. Glen M. Pilié, Esq.  
Adams and Reese, LLP  
4500 One Shell Square  
New Orleans, Louisiana 70139

RE: Gulf States Creosote  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

After further discussion with citizens living in the area located across the railroad tracks from the process area, the Mississippi Department of Environmental Quality (MDEQ) is modifying its initial request as originally stated in comment two of the July 10, 2001 letter. Although residents are pleased with the requirement to conduct the deeper sampling, there is still a concern regarding contamination beyond borings GEO-61, GEO-62, and GEO-63. In order to address these concerns, it is necessary to sample at one additional location.

Therefore, MDEQ is revising the required scope of work as follows: move soil boring GEO-62 to a location situated at 712 Eastside Avenue. The total depth of the borings located at GEO-61, GEO-63, and the boring located on Eastside drive shall be 20 feet or the water table.

If you have any questions concerning this matter, please contact me at 601-961-5318 or Kelly Riley at 601-961-5369.

Sincerely,

A handwritten signature in black ink that reads "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

cc: Kelly Riley

C:\Old Hard drive\Review\USS staff\GRETCHEN\Reviewed\G2001\Gulf State-req sample Nix yard 7-12-01.doc



**FILE COPY**

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

July 10, 2001

Mr. Glen M. Pilié, Esq.  
Adams and Reese, LLP  
4500 One Shell Square  
New Orleans, Louisiana 70139

RE: Gulf States Creosote  
*Report on Site Investigation Activities: February and March 2001*, dated June  
12, 2001  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document and has the following comments:

1. The surficial soils across Scooba Street from the Process Area are not delineated to the unrestricted Tier 1 Target Remediation Goals (TRGs). However, the surficial soils are delineated below the restricted Tier 1 TRGs. This area must be addressed in the revised remedial action plan.
2. MDEQ considers the surficial soils across the railroad tracks from the Process Area to be delineated. However, to address concerns raised by residents in the area, MDEQ requires Kerr-McGee to conduct soil sampling from six feet to the water table at locations GEO-61, GEO-62 and GEO-63.

If you have any questions concerning this matter, please contact Gretchen Zmitrovich at 601-961-5240.

Sincerely,

Tony Russell, Chief  
Uncontrolled Sites Section


cc: Kelly Riley, Esq.

Gulf State-Letter to Pilié-delineation report\_7-10-01 (gz)



**FILE COPY**

**FAX**

To: Glen Pilié	From: Gretchen Zmitrovich	
	 MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY	Office of Pollution Control
		P.O. Box 10385
		Jackson, MS 39289-0385
Phone: 504-585-0260	Phone: 601-961-5240	
Fax: 504-566-0210	Fax: 601-961-5300	

Date: July 10, 2001		Routine		Priority
Number of pages, including this one: 2				
Message: Attached please find the letter we discussed on the phone with you this morning. Thanks, Gretchen				



**FILE COPY**

**MICHAEL PISANI & ASSOCIATES, INC.**

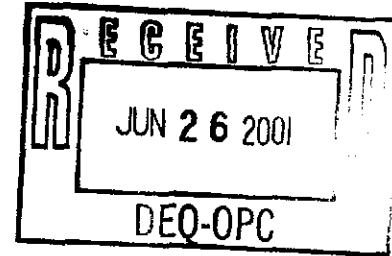
**Environmental Management and Engineering Services**

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13401 Southwest Freeway  
Suite 207  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net

June 25, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



Subject: Ground Water Monitoring Plan  
Gulf States Creosoting Site  
Hattiesburg, Mississippi

Dear Mr. Russell:

Enclosed are two copies of the referenced document for your review. Should you have any questions or comments, please call us.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Upthegrove".

David C. Upthegrove, P.G.

cc: Keith Watson – Kerr-McGee (3 copies)  
Glen Pilié – Adams and Reese

# ADAMS AND REESE LLP

Attorneys at Law  
**FILE COPY**

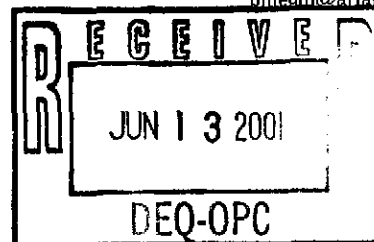
Baton Rouge  
Houston  
Jackson  
Mobile  
New Orleans  
Washington, DC

June 12 2001

*Via Federal Express Priority Overnight*

Glen M. Pilié  
(504) 585-0260  
gmp@arlaw.com

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
101 West Capital Street  
Jackson, MS 39201



Re: *Report on Site Investigation Activities  
Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed please find two copies of the Report on Site Investigation Activities for February and March 2001 at the Former Gulf States Creosoting Site, Hattiesburg, Mississippi dated June 12, 2001.

Very truly yours,

ADAMS AND REESE L.L.P.

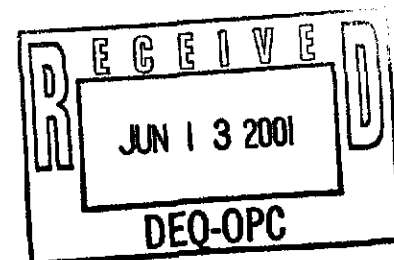
Handwritten signature of Glen M. Pilié in black ink.

Glen M. Pilié

GMP/ss

Enclosures

cc: Judge Charles Pickering, Sr. (w/encl.)  
Magistrate Judge Louis Guirola (w/encl.)  
Mr. Don Barrett (w/encl.)  
Mr. S. Robert Hammond, Jr. (w/encl.)  
Mr. Alex A. Alston, Jr. (w/encl.)





**FILE COPY**

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

June 7, 2001

Mr. Glen M. Pilie, Esq.  
Adams and Reese LLP  
4500 One Shell Square  
New Orleans, LA 70139

Re: Kerr-McGee, Hattiesburg, Mississippi

Dear Mr. Pilie:

You requested a meeting with representatives from the Mississippi Department of Environmental Quality (MDEQ) to discuss the referenced site. During a telephone conversation earlier this week, we discussed scheduling the meeting for June 26, 2001 beginning at 10:00 a.m. Please note that this meeting is scheduled for June 26<sup>th</sup> from 10:00 a.m. to 11:30 a.m. The meeting will be held at the offices of this agency, located at 2380 Highway 80 West in Jackson.

If for some reason this date is not convenient, please contact me and we will discuss an alternate meeting time.

Sincerely,

A handwritten signature in cursive script that reads "Kelly R. Riley".

Kelly R. Riley  
Attorney

cc: Jerry Banks  
Chuck Barlow, General Counsel

FILE COPY

**MICHAEL PISANI & ASSOCIATES, INC.**

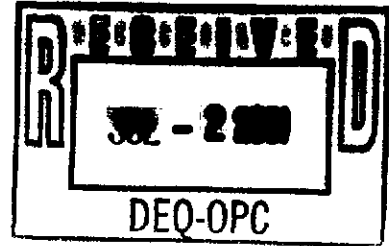
Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
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Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13401 Southwest Freeway  
Suite 207  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net

June 25, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



Re: Pre-Design Assessment Activities  
Fill Area  
Former Gulf States Creosoting Site  
Hattiesburg, Mississippi

Dear Mr. Russell:

In February 2001, Kerr-McGee Chemical (KMC) submitted to the Mississippi Department of Environmental Quality (MDEQ) a *Remedial Action Work Plan* for the referenced site. The plan presents procedures for certain pre-design assessment activities. These activities include the completion of a boring program to evaluate the thickness and lateral continuity of a shallow clay layer and to delineate the extent of any perched dense non-aqueous phase liquids (DNAPLs) within the Fill Area. The purpose of this letter is to notify MDEQ of KMC's intentions to complete this boring program in July 2001.

**Overview of Proposed Fill Area Remedy**

The remedial action objectives for the Fill Area are to: 1) eliminate the intermittent seepage of oily liquids from the Fill Area into Gordon's Creek; 2) collect and remove DNAPLs perched on a shallow clay layer; and 3) reduce the mass of creosote constituents through accelerated biological degradation.

The lateral migration of DNAPLs will be prevented by the placement of a low-permeability vertical barrier constructed of steel sheet pilings. DNAPLs that accumulate behind the sheet piling barrier will be collected and removed utilizing a recovery system installed on the upgradient side of the sheet piling barrier. The natural attenuation of

creosote constituents in fill area subsurface soils and ground water behind the sheet piling barrier may be augmented with biological treatment, addition of inorganic nutrients, phytoremediation plantings, and/or other measures designed to stimulate in situ biological degradation.

### **Proposed Pre-Design Activities**

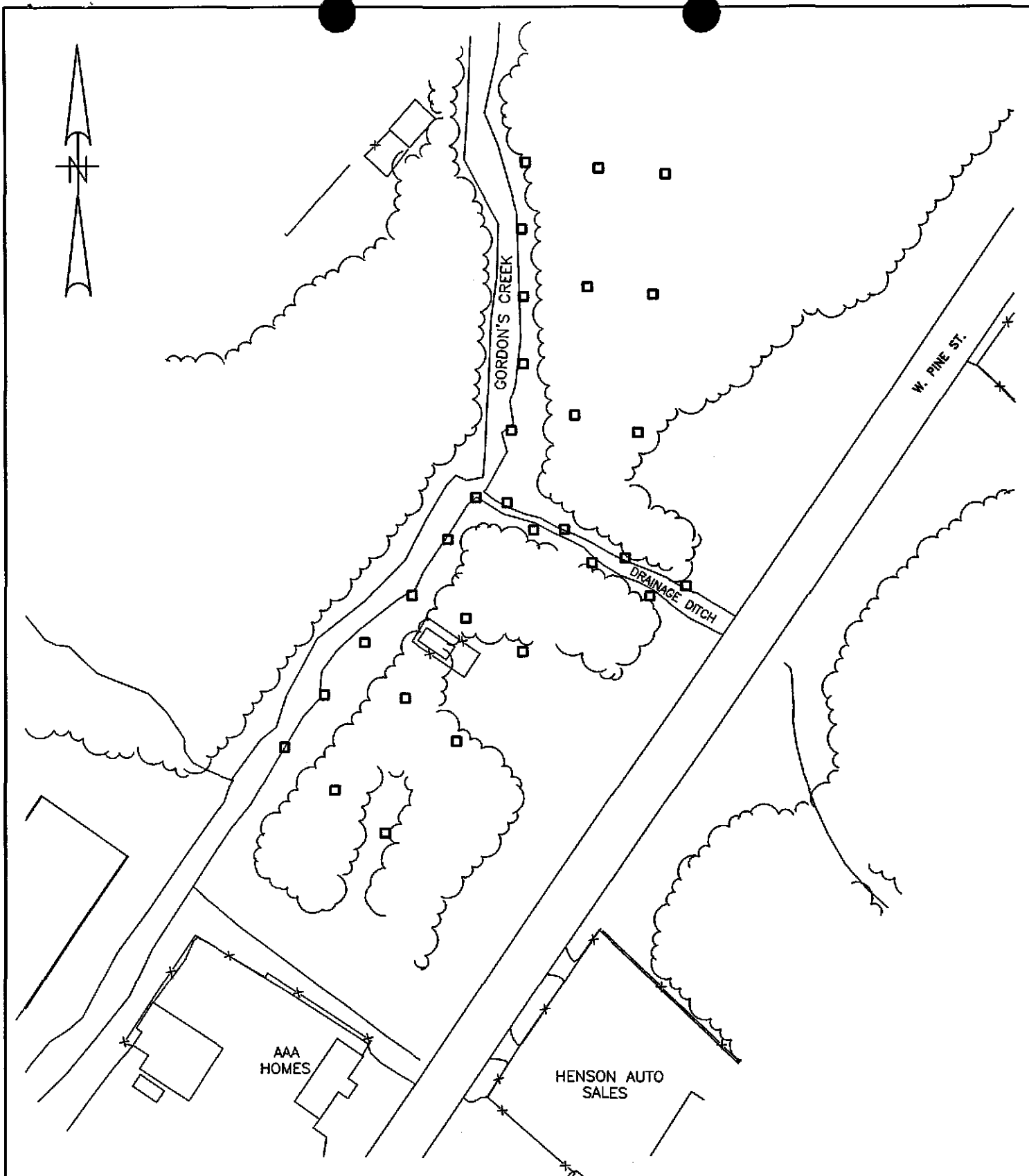
The sheet piling barrier will be constructed to prevent seepage of DNAPLs into Gordon's Creek. The actual configuration of the barrier will be determined based on pre-design investigations described below.

In determining the appropriate depth for the sheet piling barrier, it is important to consider the geology of the fill area. The geology beneath the fill area consists of the following zones, in descending order:

- a layer of surficial clay (1 to 8 feet thick)
- the first sand, which is the uppermost water-bearing zone and is in direct hydraulic connection with Gordon's Creek (ranges from 2 to 13 feet thick, but is typically 5 to 9 feet thick)
- an intermediate clay layer (ranges from 3 to 13 feet thick, but is typically 6 to 11 feet thick). This is the clay upon which the DNAPLs are perched.
- the second sand, which may or may not be hydraulically connected with the first sand (ranges from 1 to 10 feet thick, but is typically 4 to 7 feet thick)
- the Hattiesburg clay (the top of which is encountered at depths ranging from 21 to 28 feet bls; published reports indicate this zone is between 120 and 200 feet thick in the Hattiesburg area.

Prior to initiating the proposed remedial construction activities, a soil boring program will be undertaken in the fill area. The purpose of this program is to evaluate the thickness and lateral continuity of the intermediate clay layer and to delineate the extent of perched DNAPLs. Geoprobe borings will be advanced to the base of the intermediate clay at the approximate locations depicted on Figure 5-2. A limited number of borings, at locations where DNAPLs are not observed, will be advanced to the top of the Hattiesburg clay to confirm its elevation. *Observations will be made regarding the presence of DNAPLs and subsurface debris/obstructions in each boring.* If it is determined that the intermediate clay is continuous and sufficiently thick, the sheet pilings will be driven to a depth within the intermediate clay layer. If this is not the case, the sheet piling barrier may be driven into the Hattiesburg clay.

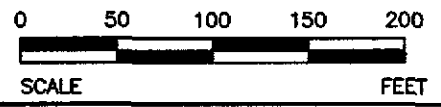
The viability of the proposed Fill Area remedy depends in large part on the results of the boring program. Additional details on the proposed remedy will be provided once data from the boring program have been obtained and evaluated.



**LEGEND**

□ PROPOSED BORING LOCATION

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD.,  
HUNTSVILLE, ALABAMA, APRIL 1, 1996



**MICHAEL PISANI & ASSOCIATES**  
Environmental Management and Engineering Services  
New Orleans, Louisiana      Houston, Texas

SCALE: 1"=100'      DWG. NO.: 21-04/88A

FIGURE 5-2  
PROPOSED SOIL BORING LOCATIONS  
FILL AREA  
FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

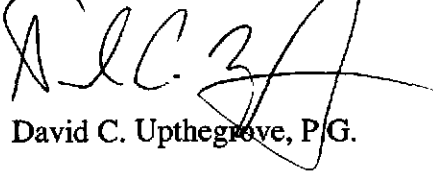


Mr. Tony Russell  
June 25, 2001  
Page 4

We plan to implement the boring program described above during the weeks of July 9 and/or 16, 2001. We will apprise you of our schedule as those dates approach. Should you have any questions or comments, please call us.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "D.C. Upthegrove", written over the printed name below.

David C. Upthegrove, P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese  
Gretchen Zmitrovich - MDEQ



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

FILE COPY

May 8, 2001

Via Facsimile and U.S. Mail

The Honorable Charles W. Pickering, Sr.  
United States District Court  
Southern District of Mississippi  
Suite 228  
701 North Main Street  
Hattiesburg, Mississippi 39401

RE: *RSCO Realty Corporation et al. versus Kerr-McGee  
Chemical Corporation, et al., Civil Action Number 2:96CV323PG  
And Related Cases*

Dear Judge Pickering:

This letter is to advise of the status of proceedings between the Mississippi Department of Environmental Quality ("MDEQ") and Kerr-McGee Chemical since our last informational letter dated November 27, 2000. In the November 2000 letter, I referenced the Revised Risk Assessment and the Remedial Action Plan. This letter updates you on the status of those documents.

The Revised Risk Assessment was due from Kerr-McGee by the end of November. Although MDEQ timely received the Revised Risk Assessment, the information included in that document was deficient. MDEQ notified Kerr-McGee of the deficiencies in a letter dated February 6, 2001. Kerr-McGee submitted the supplemental information on March 2, 2001, but again the information contained errors. Upon receipt of the corrected information from Kerr-McGee on April 3, 2001, MDEQ sent a letter of conditional approval. Kerr-McGee submitted revised data for MDEQ's review on May 4, 2001. MDEQ reviewed the information, found the Revised Risk Assessment to be accurate and complete, and sent a letter to Kerr-McGee approving the Revised Risk Assessment on May 4, 2001.

MDEQ has been unable to move forward in reviewing a Remedial Action Plan because the delineation work is still incomplete. On November 22, 2000, Kerr-McGee submitted additional delineation work with sample results. However, gaps remained in the delineation information submitted and additional work was required in order for Kerr-McGee to fully delineate the areal extent of soil, sediment, and groundwater contamination. Until the full extent

and type of contamination is known and incorporated into the Remedial Action Plan, MDEQ remains unable to review or approve this document. At present, MDEQ is awaiting final documentation on the delineation work. If and when the site is fully delineated, Kerr McGee will submit a revised or amended Remedial Action Plan to MDEQ. After MDEQ review and approval of the Remedial Action Plan, we will move into a public notice period for thirty days. At the end of the thirty-day period, MDEQ will move forward with an order or consider comments submitted during the public notice period.

There are other outstanding issues that must adequately be addressed and included in the Remedial Action Plan. All "free product" must be removed in order to avoid the continued release into the environment. To date, MDEQ is awaiting a report from Kerr-McGee that adequately assesses whether "free product" remains in the soils and/or groundwater. Once this information becomes known through delineation on site, any remediation that is needed will be included in the Remedial Action Plan.

Another remaining task to be performed by Kerr-McGee is to determine what residences located adjacent to the 16<sup>th</sup> Section property may have groundwater contamination. It is imperative that Kerr-McGee establish what areas may be contaminated in order to establish, in conjunction with the Secretary of State's office, what remediation or restrictions are required. As stated before, MDEQ will require that use of contaminated groundwater be restricted until the groundwater has been remediated to levels of contamination that allow unrestricted residential use.

I hope this letter properly informs you of the current status of this site as it relates to MDEQ. MDEQ continues to work towards a resolution in this matter. If you have any questions at this time, please contact Kelly Riley at 601-961-5369. With best regards, I remain

Sincerely,



Chuck D. Barlow  
General Counsel

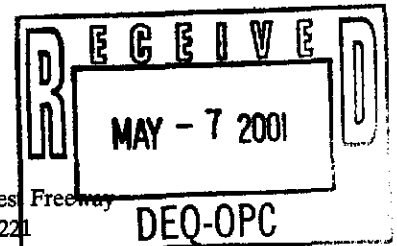
cc: Gretchen Zmitrovich  
Mr. Bill Cheney, Esq.  
Mr. Don Barrett, Esq.  
Mr. Marc L. Boutwell, Esq.  
Mr. S. Robert Hammond, Jr., Esq.  
Mr. Richard F. Yarborough, Jr. Esq.  
Mr. Jolly Matthews, III, Esq.  
Mr. J.B. VanSlyke, Jr., Esq.  
Mr. Frank D. Montague Jr., Esq.  
Mr. Patrick H. Zachary, Esq.

Mr. Lawrence C. Gunn, Esq.  
Mr. Alexander A. Alston, Jr., Esq.  
Mr. Glen M. Pilie, Esq.  
Mr. Holmes S. Adams, Esq.  
Mr. John Milner, Esq.  
Dr. James R. Davis  
Mr. Sam Buchanan

**MICHAEL PISANI & ASSOCIATES, INC.**  
Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
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m.pisani@ix.netcom.com

13313 Southwest Freeway  
Suite 221  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net



May 1, 2001

**FILE COPY**

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Re: Conditional Approval  
April 3, 2001 *Human Health Risk Assessment*  
Gulf States Creosoting Site  
Hattiesburg, Mississippi

Dear Mr. Russell:

We have received your April 20, 2001 letter granting conditional approval of the referenced document. In that letter, you provided MDEQ's final comments and requested that revised pages be submitted by May 1, 2001. We are currently incorporating responses to MDEQ comments into the document. We will, however, require several additional days to complete this process. We plan to submit the final revisions to the text and tables to you no later than May 7, 2001.

Should you have any questions or comments, please call us.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "D. Upthegrove".

David C. Upthegrove, P.G.

cc: Glen Pilié - Adams and Reese  
Kathy Koerber - Environmental Standards  
Gretchen Zmitrovich - MDEQ

**FAX**

**FILE COPY**

**Date** May 7, 2001

**Number of pages including cover sheet** 14

**TO:** Gretchen Zmitrovich  
MDEQ

**Phone** 601.961.5240

**Fax Phone** 601.961.5741

**FROM:** Dave Upthegrove  
Michael Pisani &  
Associates, Inc.  
1430 Energy Centre  
1100 Poydras Street  
New Orleans, LA 70163

**CC:**

**Phone**

**Fax Phone**

**Phone** 504.582.2468

**Fax Phone** 504.582.2470

**REMARKS:**  Urgent  For your review  Reply ASAP  Please Comment

Gretchen:

Attached is a summary of the preliminary data from the March 2001 sampling event. A hard copy with laboratory reports will follow via regular mail. Should you have any questions, please call me.

Regards,

Dave

**MICHAEL PISANI & ASSOCIATES, INC.****Environmental Management and Engineering Services**

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
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13313 Southwest Freeway  
Suite 221  
Sugar Land, Texas 77478  
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May 7, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Re: Preliminary Results  
March 2001 Sampling Activities  
Gulf States Creosoting Site  
Hattiesburg, Mississippi

Dear Mr. Russell:

We have received the final laboratory reports from March 2001 sampling activities at the referenced site. The laboratory data packages are currently being validated. Upon receipt of the data validation reports, we will complete and submit a formal report documenting our field activities and presenting the results of laboratory analyses. The purpose of this letter is to submit to you the preliminary, unvalidated laboratory reports as discussed at our April 5, 2001 meeting in Jackson.

The locations of samples collected during March 2001 are depicted on the attached figures as follows:

- Figure 2-1 depicts the locations of soil borings GEO-61 through GEO-65, which were advanced to delineate the extent of affected soils to the northeast and southeast of the former Process Area.
- Figure 2-2 depicts the locations of soil borings GEO-67 through GEO-70, which were advanced to characterize soils immediately adjacent to the northeast drainage ditch.
- Figure 2-3 depicts the location of ground water screening sample GEO-68A/GW, which was collected from a temporary well point to demonstrate that the plume emanating from the former Process Area and the plume associated with the northeast drainage ditch are not interconnected.
- Figure 2-4 depicts the locations of ground water screening sample GEO-66/GW, which was collected from a temporary well point to delineate the extent of affected ground water downstream of the Fill Area.

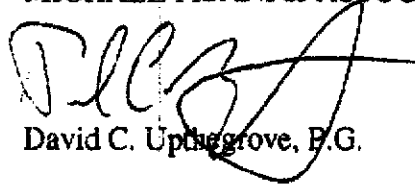
Mr. Tony Russell  
May 7, 2001  
Page 2

Soil analytical data are summarized in Table 4-1; ground water data are summarized in Table 4-2. Copies of the laboratory reports are also attached for your review.

We anticipate receiving the data validation reports within the next two weeks. We plan to submit the report on additional investigation activities to you by no later than June 15, 2001. Should you have any questions or comments, please call us.

Sincerely,

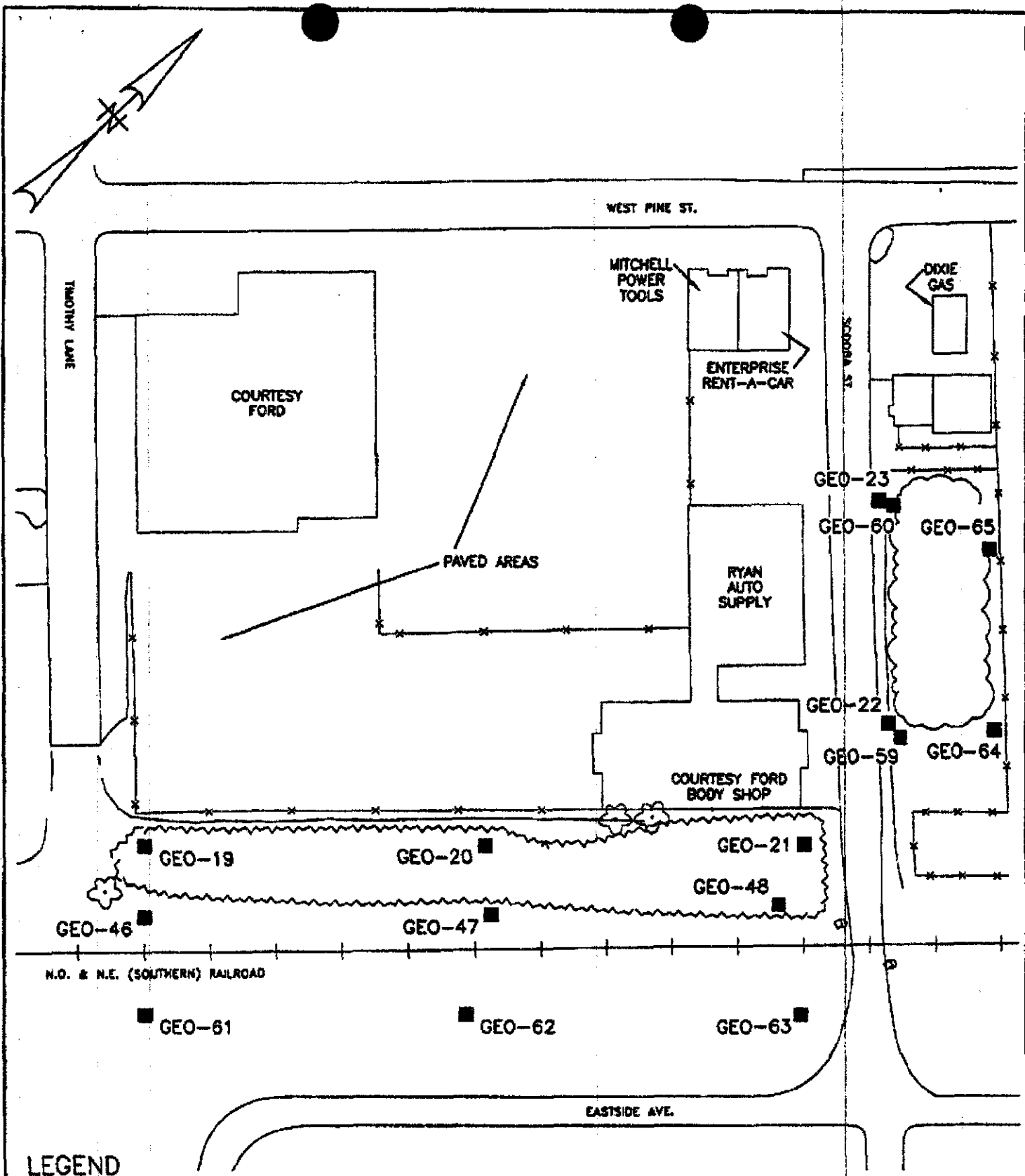
MICHAEL PISANI & ASSOCIATES, INC.



David C. Uptergrove, P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese  
Gretchen Zmitrovich - MDEQ



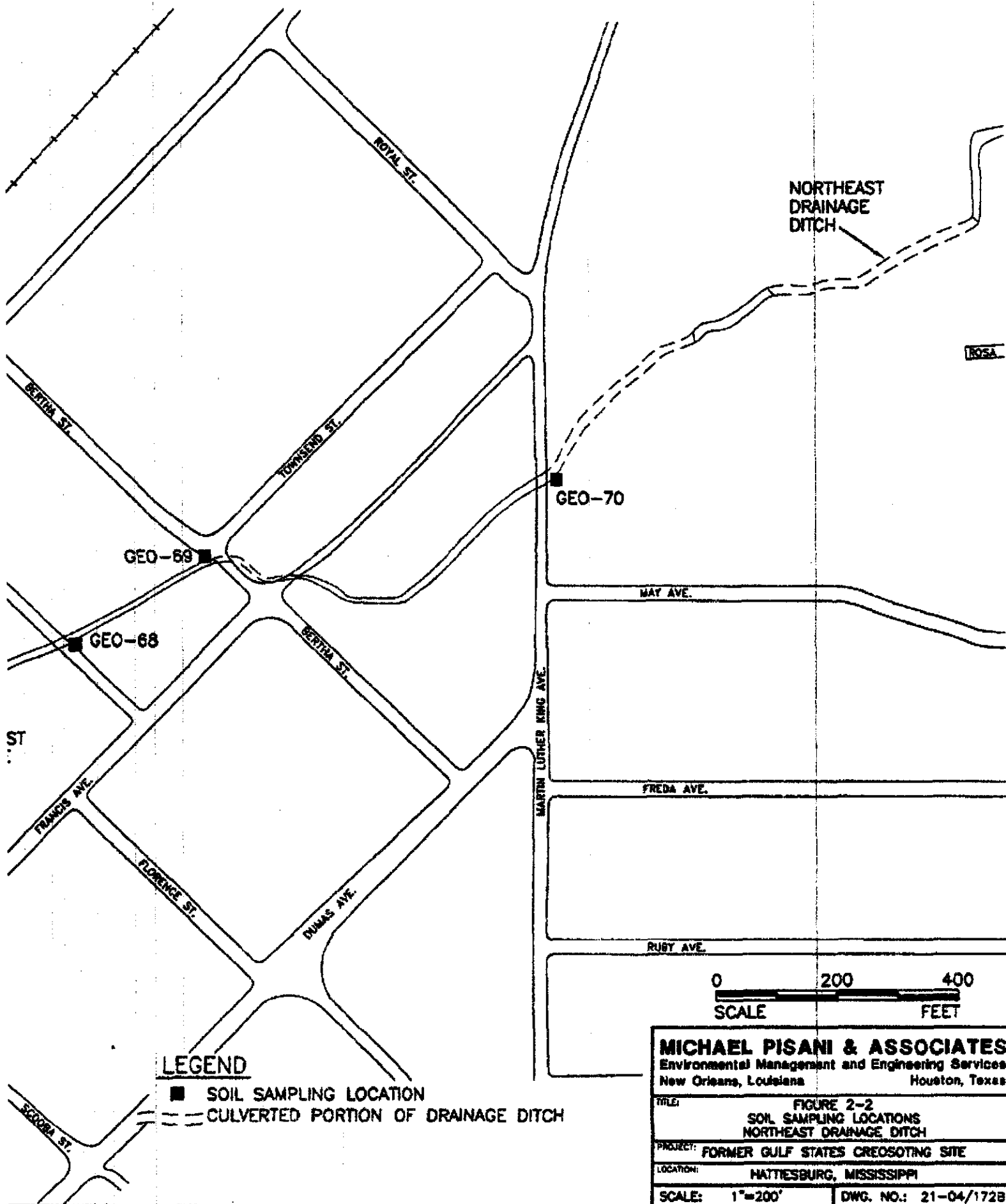


BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996

**MICHAEL PISANI & ASSOCIATES**  
Environmental Management and Engineering Services  
New Orleans, Louisiana Houston, Texas

SCALE: 1"=100' DWG. NO.: 21-04/171A

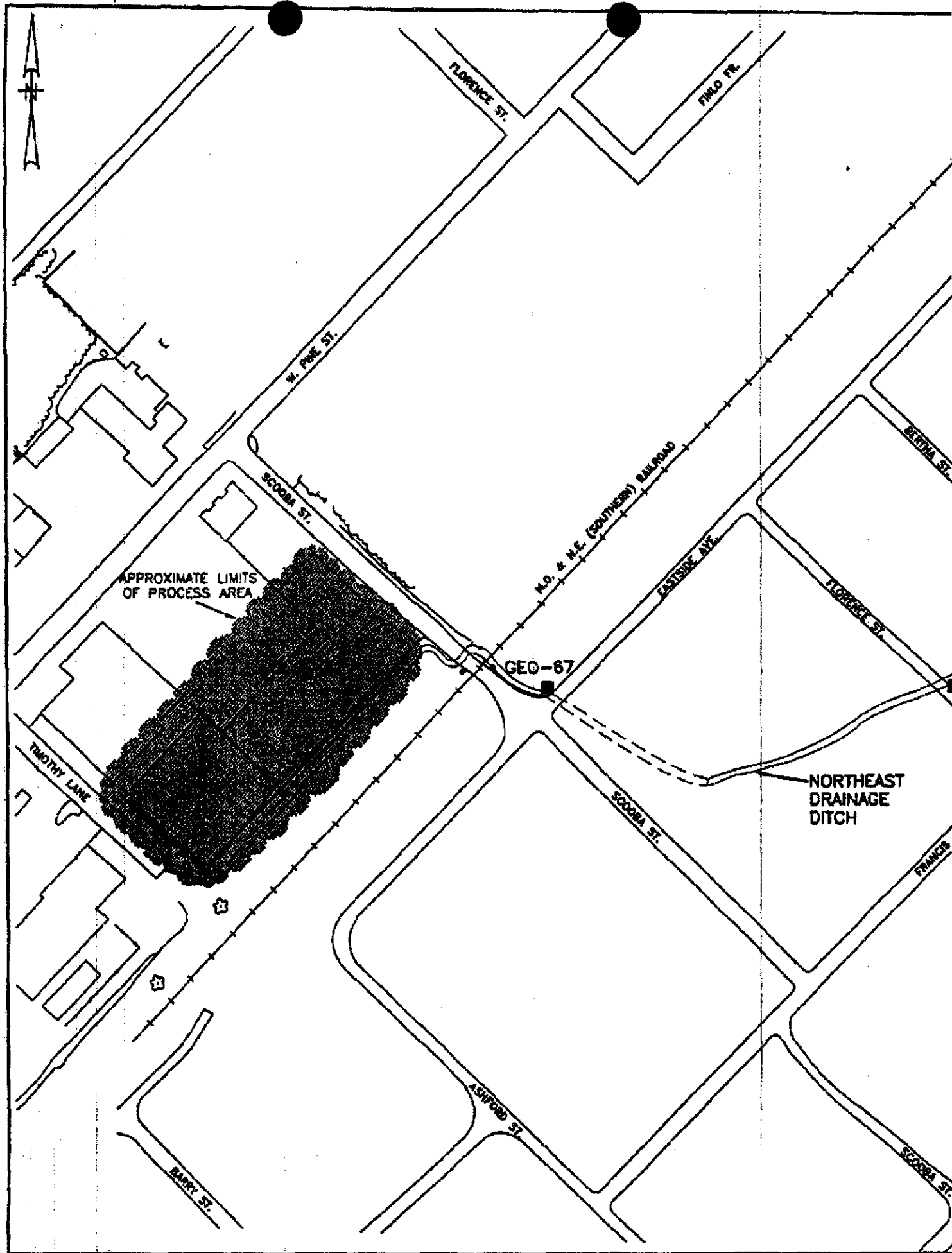
FIGURE 2-1  
SOIL SAMPLING LOCATIONS  
OFFSITE PROCESS AREA  
FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

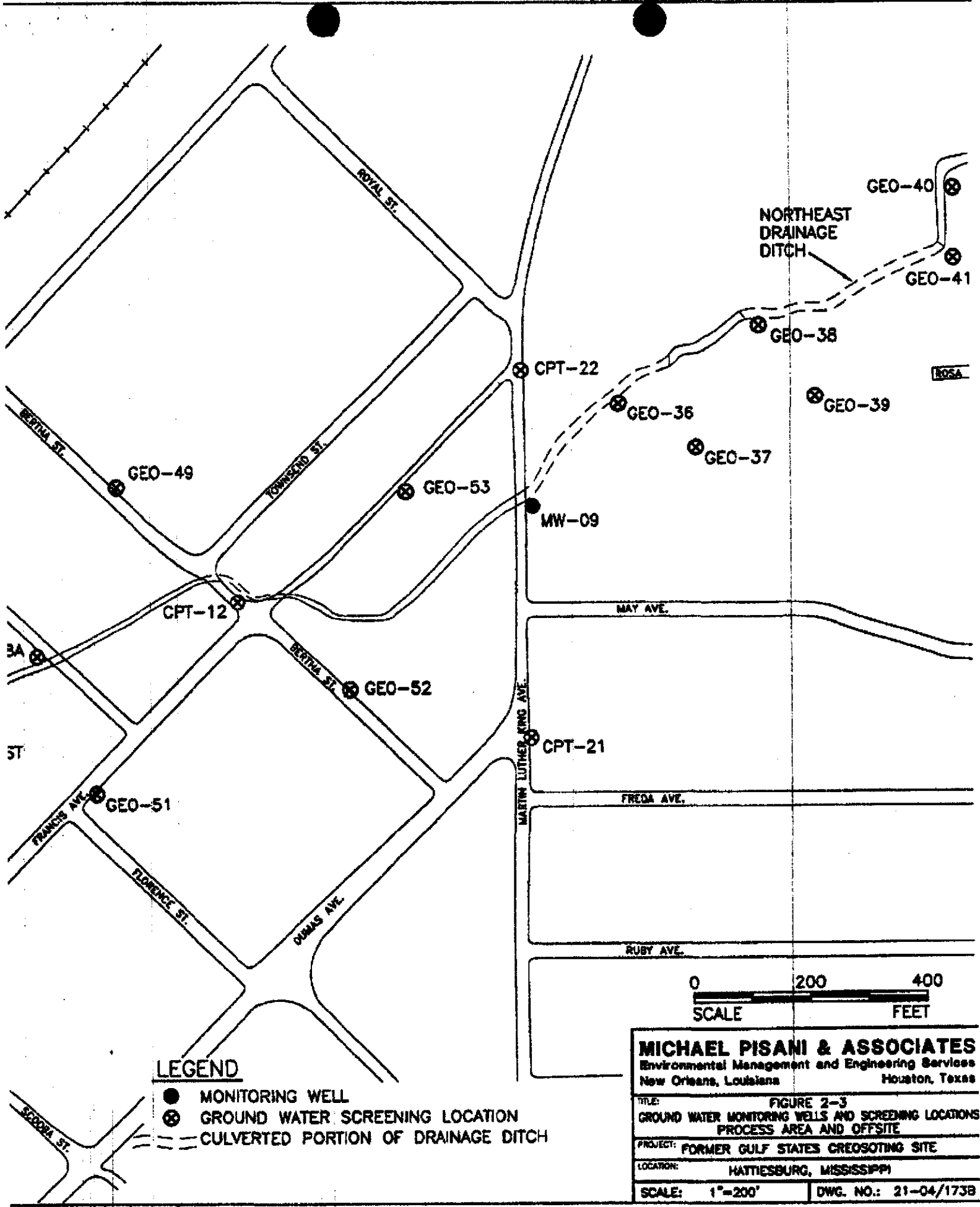


**LEGEND**

- SOIL SAMPLING LOCATION
- CULVERTED PORTION OF DRAINAGE DITCH

<b>MICHAEL PISANI &amp; ASSOCIATES</b>	
Environmental Management and Engineering Services	
New Orleans, Louisiana	Houston, Texas
TITLE: <b>FIGURE 2-2</b>	
SOIL SAMPLING LOCATIONS	
NORTHEAST DRAINAGE DITCH	
PROJECT: <b>FORMER GULF STATES CREOSOTING SITE</b>	
LOCATION: <b>HATTIESBURG, MISSISSIPPI</b>	
SCALE: 1"=200'	DWG. NO.: 21-04/172B





**LEGEND**

- MONITORING WELL
- ⊗ GROUND WATER SCREENING LOCATION
- - - - - CULVERTED PORTION OF DRAINAGE DITCH

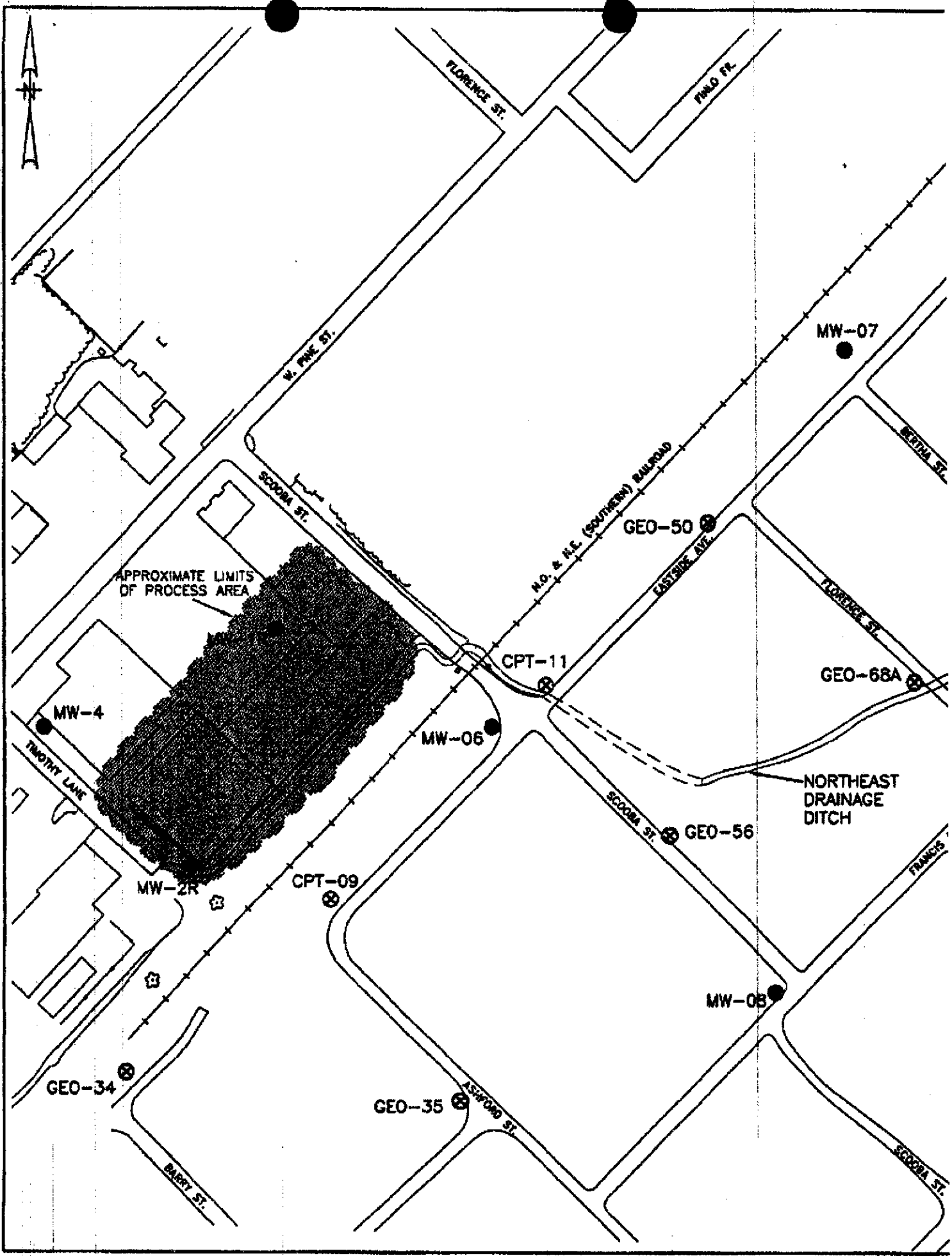
**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana      Houston, Texas

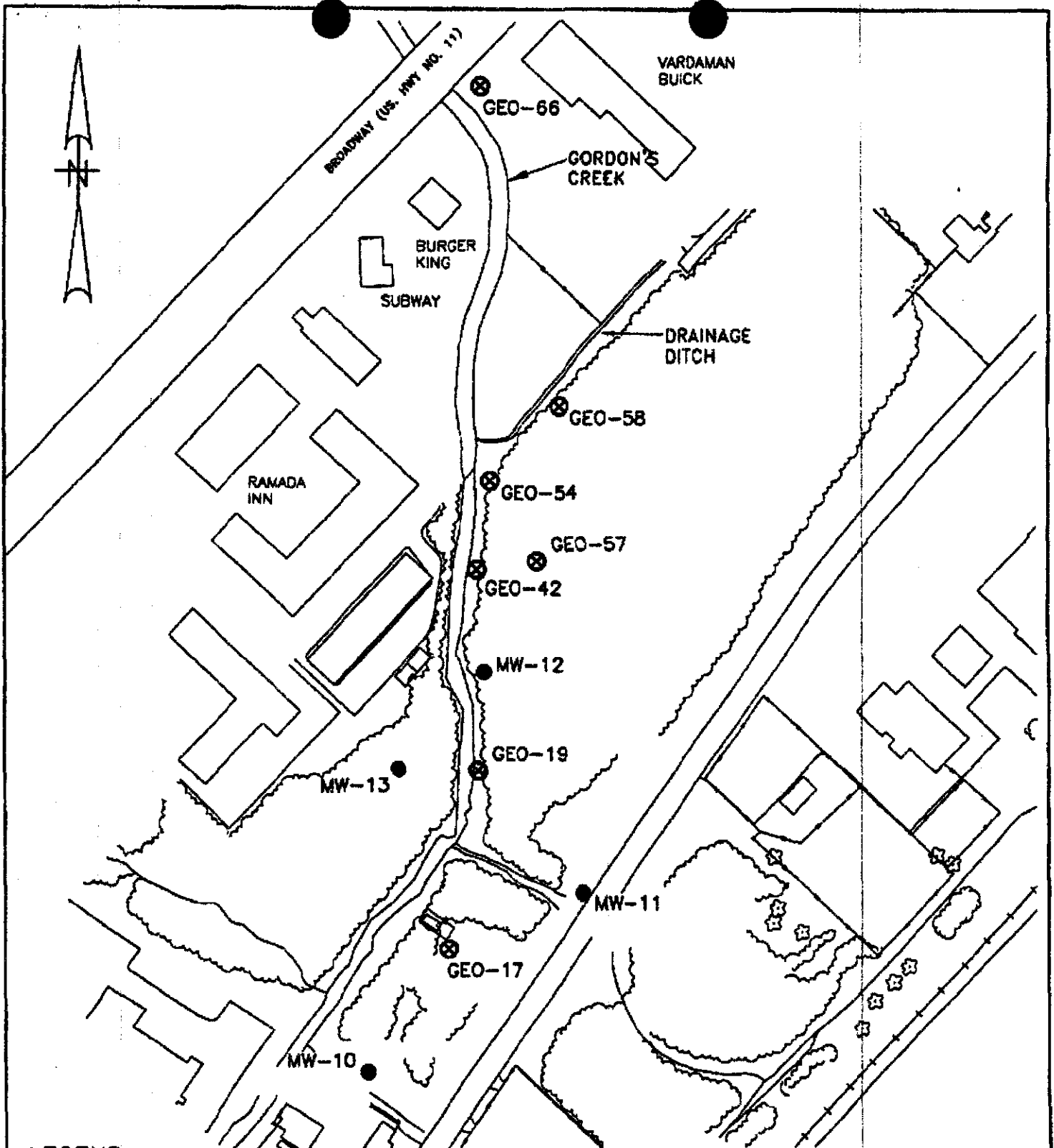
TITLE: **FIGURE 2-3**  
**GROUND WATER MONITORING WELLS AND SCREENING LOCATIONS**  
**PROCESS AREA AND OFFSITE**

PROJECT: **FORMER GULF STATES CREOSOTING SITE**

LOCATION: **HATTIESBURG, MISSISSIPPI**

SCALE: **1"=200'**      DWG. NO.: **21-04/173B**





**LEGEND**

- MONITORING WELL
- ⊗ GROUND WATER SCREENING LOCATION

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996



**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana      Houston, Texas

FIGURE 2-4  
GROUND WATER MONITORING WELLS AND SCREENING LOCATIONS  
FILL AREA

FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

SCALE: 1"=200'

DWG. NO.: 21-04/174A

Table 4-1

Summary of Soil Analytical Results

Gulf States Crosscutting Site  
Hattiesburg, Mississippi

Analytical Parameter	CAS Number	Units	CEO 61/0 1'	CEO 61/2 3'	CEO 61/5 6'	CEO-62/0-1'	CEO-62/2-3'	CEO-62/5-6'
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>								
Naphthalene	91-20-3	mg/kg	ND (0.31)	ND (0.032)	ND (0.31)	ND (0.16)	ND (0.033)	ND (0.032)
Acenaphthylene	208-96-8	mg/kg	ND (0.31)	ND (0.032)	ND (0.31)	ND (0.16)	ND (0.033)	ND (0.032)
Acenaphthene	83-32-9	mg/kg	ND (0.31)	ND (0.032)	ND (0.31)	ND (0.16)	ND (0.033)	ND (0.032)
Fluorene	86-73-7	mg/kg	ND (0.029)	ND (0.0029)	ND (0.029)	ND (0.015)	ND (0.003)	ND (0.003)
Phenanthrene	85-01-8	mg/kg	0.019	0.0028	0.0012	0.014	ND (0.0012)	ND (0.0012)
Anthracene	120-12-7	mg/kg	0.0075	0.0014	0.00061	ND (0.003)	ND (0.00061)	ND (0.00059)
Fluoranthene	206-44-0	mg/kg	0.05	0.0011	ND (0.00058)	0.021	ND (0.00061)	ND (0.00059)
Pyrene	129-00-0	mg/kg	0.075	0.0031	0.0043	0.04	ND (0.003)	ND (0.003)
Benzo(a)anthracene	56-55-3	mg/kg	0.021	ND (0.00029)	ND (0.00029)	0.01	ND (0.0003)	ND (0.0003)
Chrysene	218-01-9	mg/kg	0.024	ND (0.0012)	ND (0.0012)	0.025	ND (0.0012)	ND (0.0012)
Benzo(b)fluoranthene	205-99-2	mg/kg	0.045	ND (0.00024)	ND (0.00023)	0.016	ND (0.00024)	ND (0.00024)
Benzo(k)fluoranthene	207-08-9	mg/kg	0.021	0.00036	0.0004	0.008	ND (0.00024)	ND (0.00024)
Benzo(a)pyrene	50-32-8	mg/kg	0.029	ND (0.00029)	ND (0.00029)	0.012	ND (0.0003)	ND (0.0003)
Dibenz(a,h)anthracene	53 70 3	mg/kg	0.0086	ND (0.00059)	ND (0.00058)	ND (0.003)	ND (0.00061)	ND (0.00059)
Benzo(g,h,i)perylene	191-24-2	mg/kg	0.034	ND (0.0018)	ND (0.0017)	0.0098	ND (0.0018)	ND (0.0018)
Indene(1,2,3-cd)pyrene	193-39-5	mg/kg	0.032	ND (0.0012)	ND (0.0012)	0.0077	ND (0.0012)	ND (0.0012)
<b>Other Parameters</b>								
Moisture		%	13.5%	15.2%	13.7%	17.9%	17.7%	15.6%

Notes:

ND denotes "not detected" at reporting limit shown in parentheses.

Values shown are dry-weight concentrations.

J data validation qualifier denotes estimated value.

Table 4-1  
(Continued)

Summary of Soil Analytical Results

Gulf States Creosoting Site  
Hattiesburg, Mississippi

Analytical Parameter	CAS Number	Units	GEO-6246-7	GEO-6372-3	GEO-6375-6	GEO-6440-1	GEO-6472-3	GEO-6475-6
<i>Polycyclic Aromatic Hydrocarbons (PAHs)</i>								
Naphthalene	91-20-3	mg/kg	ND (0.032)	ND (0.033)	ND (0.033)	0.18 J	0.76 J	ND (0.160)
Acenaphthylene	208-96-8	mg/kg	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.150)	ND (0.310)	ND (0.160)
Acenaphthene	83-32-9	mg/kg	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.150)	ND (0.310)	ND (0.160)
Fluorene	86-73-7	mg/kg	ND (0.003)	ND (0.003)	ND (0.0031)	0.077 J	0.15 J	0.019 J
Phenanthrene	85-01-8	mg/kg	ND (0.0012)	ND (0.0012)	0.0016 J	0.23	1.1	0.078
Anthracene	120-12-7	mg/kg	ND (0.0006)	ND (0.0006)	ND (0.00062)	0.027 J	0.27	0.017 J
Fluoranthene	206-44-0	mg/kg	ND (0.0006)	ND (0.0006)	ND (0.00062)	0.1	1.5	0.055
Pyrene	129-00-0	mg/kg	ND (0.003)	0.0042 J	0.0038 J	0.085 J	1.5	0.057 J
Benzo(a)anthracene	56-55-3	mg/kg	ND (0.0003)	ND (0.0003)	ND (0.00031)	0.03	0.67	0.014 J
Chrysene	218-01-9	mg/kg	ND (0.0012)	ND (0.0012)	ND (0.0012)	0.053 J	0.6	0.022 J
Benzo(b)fluoranthene	205-99-2	mg/kg	ND (0.00024)	ND (0.00024)	ND (0.00025)	0.019	0.59	0.013
Benzo(k)fluoranthene	207-08-9	mg/kg	ND (0.00024)	0.00046 J	ND (0.00025)	0.012	0.31	0.0063 J
Benzo(a)pyrene	50-32-8	mg/kg	ND (0.0003)	ND (0.0003)	ND (0.00031)	0.027	0.7	0.011 J
Dibenz(a,h)anthracene	53-70-3	mg/kg	ND (0.0006)	ND (0.0006)	ND (0.00062)	0.011 J	0.11	0.0031 J
Benzo(g,h,i)perylene	191-24-2	mg/kg	ND (0.0018)	ND (0.0018)	ND (0.0018)	0.02 J	0.42	0.018 J
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND (0.0012)	ND (0.0012)	ND (0.0012)	0.016 J	0.49	0.013 J
<i>Other Parameters</i>								
Moisture		%	16.8%	17.2%	18.7%	12.0%	13.6%	17.1%

Notes:

ND denotes "not detected" at reporting limit shown in parentheses.  
 Values shown are dry-weight concentrations.  
 J data validation qualifier denotes estimated value.



Table 4-1  
(Continued)

Summary of Soil Analytical Results

Gulf States Creosoting Site  
Hattiesburg, Mississippi

Analytical Parameter	CAS Number	Units	GEO-65/0-1'	GEO-65/2-3'	GEO-65/5-6'	GEO-67/2.5-3.5'	GEO-67/8-9'
<i>Polycyclic Aromatic Hydrocarbons (PAHs)</i>							
Naphthalene	91-20-3	mg/kg	0.19 J	0.49	ND (0.033)	160	0.37
Acenaphthylene	208-96-8	mg/kg	ND (0.170)	0.047	ND (0.033)	53	0.067 J
Acenaphthene	83-32-9	mg/kg	ND (0.170)	0.36	ND (0.033)	32	ND (0.033)
Fluorene	86-73-7	mg/kg	0.08 J	0.41	ND (0.003)	31	0.041
Phenanthrene	85-01-8	mg/kg	0.27	1.7	0.0094 J	310	0.27
Anthracene	120-12-7	mg/kg	0.034	0.26	0.0011 J	23	0.014
Fluoranthene	206-44-0	mg/kg	0.15	0.93	0.0051 J	150	0.12
Pyrene	129-00-0	mg/kg	0.14 J	0.69	0.0093 J	110	0.11
Benzo(a)anthracene	56-55-3	mg/kg	0.033	0.16	0.0016 J	29	0.029
Chrysene	218-01-9	mg/kg	0.029 J	0.12	0.0042 J	21	0.033
Benzo(b)fluoranthene	205-99-2	mg/kg	0.014	0.069	0.00086 J	14	0.051
Benzo(k)fluoranthene	207-08-9	mg/kg	0.0089 J	0.04	0.00084 J	7.8	0.025
Benzo(a)pyrene	50-32-8	mg/kg	0.017 J	0.079	0.0012 J	12	0.044
Dibenz(a,h)anthracene	53-70-3	mg/kg	0.0041 J	0.011	ND (0.00061)	1.4	0.0049 J
Benzo(g,h,i)perylene	191-24-2	mg/kg	ND (0.0094)	0.021	ND (0.0018)	5.3	0.025
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	0.012 J	0.031	0.0019 J	6.7	0.029
<i>Other Parameters</i>							
Moisture		%	20.1%	22.4%	17.7%	15.7%	18.4%

Notes:

ND denotes "not detected" at reporting limit shown in parentheses.

Values shown are dry-weight concentrations.

J data validation qualifier denotes estimated value.

Table 4-1  
(Continued)

Summary of Soil Analytical Results

Gulf States Crescenting Site  
Flattiesburg, Mississippi

Analytical Parameter	CAS Number	Units	GEO-68/4.5.5.5	GEO-68/8.9	GEO-69/4.5.5.5	GEO-69/7.8	GEO-69/7.8 Duplicate	GEO-70/4.8	
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Naphthalene	91-20-3	mg/kg	0.63	0.31	J	1700	45	J	1300
Acenaphthylene	208-96-8	mg/kg	0.29	0.046	J	ND (130)	ND (6.5)	ND (16)	ND (140)
Acenaphthene	83-32-9	mg/kg	0.046	ND (0.033)	J	700	16	J	550
Fluorene	86-73-7	mg/kg	0.12	0.046	J	730	17	19	530
Phenanthrene	85-01-8	mg/kg	0.64	0.17	J	1900	55	58	1300
Anthracene	120-12-7	mg/kg	0.033	0.0093	J	640	11	12	270
Fluoranthene	206-44-0	mg/kg	0.43	0.034	J	1000	25	28	570
Pyrene	129-00-0	mg/kg	0.21	0.029	J	950	22	27	490
Benzo(a)anthracene	56-55-3	mg/kg	0.051	0.0054	J	220	5.2	5.9	110
Chrysene	218-01-9	mg/kg	0.053	0.0065	J	180	4.6	3.8	84
Benzo(b)fluoranthene	205-99-2	mg/kg	0.023	0.0086	J	95	1.8	2.1	35
Benzo(k)fluoranthene	207-08-9	mg/kg	0.013	0.0041	J	56	1.1	1.3	21
Benzo(a)pyrene	50-32-8	mg/kg	0.016	0.0067	J	100	2	2.3	38
Dibenz(a,h)anthracene	53-70-3	mg/kg	0.0015	0.001	J	14	0.19	ND (0.30)	4.7
Benzo(g,h,i)perylene	191-24-2	mg/kg	0.0051	0.0033	J	24	ND (0.36)	ND (0.89)	8.4
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	0.0074	0.0037	J	43	0.35	ND (0.60)	ND (5.2)
<b>Other Parameters</b>									
Moisture		%	24.4%	18.9%		18.1%	16.9%	16.0%	22.5%

Notes:

ND denotes "not detected" at reporting limit shown in parentheses.  
 Values shown are dry-weight concentrations.  
 J data validation qualifier denotes estimated value.

Table 4-2

## Summary of Ground Water Analytical Results

Gulf States Creosoting Site  
Hattiesburg, Mississippi

Analytical Parameter	CAS Number	Units	GEO-66/GW		GEO-68A/GW
<i>Polycyclic Aromatic Hydrocarbons (PAHs)</i>					
Naphthalene	91-20-3	ug/l	1.16	J	ND (0.76)
Acenaphthylene	208-96-8	ug/l	ND (0.76)		ND (0.76)
Acenaphthene	83-32-9	ug/l	3.1	J	ND (0.76)
Fluorene	86-73-7	ug/l	1.3		ND (0.16)
Phenanthrene	85-01-8	ug/l	1.52		ND (0.066)
Anthracene	120-12-7	ug/l	0.32		ND (0.028)
Fluoranthene	206-44-0	ug/l	1.25		ND (0.028)
Pyrene	129-00-0	ug/l	1.03		ND (0.16)
Benzo(a)anthracene	56-55-3	ug/l	0.091		ND (0.019)
Chrysene	218-01-9	ug/l	0.091	J	ND (0.057)
Benzo(b)fluoranthene	205-99-2	ug/l	0.088		ND (0.036)
Benzo(k)fluoranthene	207-08-9	ug/l	0.0474	J	ND (0.0095)
Benzo(a)pyrene	50-32-8	ug/l	0.103		ND (0.019)
Dibenz(a,h)anthracene	53-70-3	ug/l	ND (0.029)		ND (0.028)
Benzo(g,h,i)perylene	191-24-2	ug/l	ND (0.095)		ND (0.095)
Indeno(1,2,3-cd)pyrene	193-39-5	ug/l	0.068	J	ND (0.064)

**Notes:**

ND denotes "not detected" at reporting limit shown in parentheses.

Values shown are dry-weight concentrations.

J data validation qualifier denotes estimated value.



**FILE COPY**

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

April 20, 2001

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
*Human Health Risk Assessment*, dated April 3, 2001  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document. Although they do not change the conclusions and remediation plans outlined in the document, the following errors should be corrected:

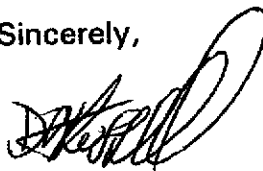
1. On Page 6-3, the overall cancer risk for visitors should be  $9 \times 10^{-5}$  instead of  $7 \times 10^{-5}$ .
2. On Page 6-3, the overall hazard index for construction workers should be  $1 \times 10^{-6}$  instead of  $6 \times 10^{-6}$ .
3. On Page 8-1, the sentence "the next highest concentration of benzo(a)pyrene in sediment..." should read "the next highest concentration of benzo(a)pyrene in surface soil...".
4. On Page 8-3, the maximum subsurface soil benzo(a)pyrene concentration in EU4 is incorrect for the construction worker scenario. The maximum is at sampling location GEO-20 at 9-10'.
5. On Table 23, page 1 of 3, the sub-total for the surface soil exposures in EU3 should be  $9 \times 10^{-8}$  instead of  $4 \times 10^{-9}$ . The sub-total for the sediment exposures in EU4 should be  $3 \times 10^{-5}$  instead of  $1 \times 10^{-5}$ . The sub-total for the surface soil exposures in EU5 should be  $6 \times 10^{-6}$  instead of  $3 \times 10^{-7}$ . The visitor total should be  $9 \times 10^{-5}$  instead of  $7 \times 10^{-5}$ .

Letter: Mr. Glen Pilié  
April 20, 2001  
Page 2 of 2

6. On Table 23, page 3 of 3, the cancer risk for inhalation of fugitive dust in EU2 should be  $7 \times 10^{-8}$  instead of  $6 \times 10^{-8}$ . The sub-total for the surface water exposures in EU4 should be  $3 \times 10^{-8}$  instead of  $9 \times 10^{-10}$ . The sub-total for the surface water exposures in EU6 should be  $3 \times 10^{-6}$  instead of  $2 \times 10^{-6}$ .
7. On Table 60, the total cancer risk should be  $6.82 \times 10^{-8}$  instead of  $5.59 \times 10^{-8}$ .
8. On Tables 86, 87, and 88, the concentrations in soil are given as the concentrations detected at sampling location GEO-20 at 5-6'. However, the text on page 8-3 states that the data from this sampling location should be excluded from the calculation of the preliminary remediation goal because of the proposed remediation.

The MDEQ approves the document contingent on the submittal of the revised pages as discussed above by May 1, 2001. After receipt of the requested information, the MDEQ will issue an official approval letter. If you have any questions concerning this matter, please contact Gretchen Zmitrovich at 601-961-5240.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

cc: Kelly Riley, MDEQ

Gulf State-Letter to Pilié-conditional approval of risk assessment\_4-20-01 (gz)



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

## MEMORANDUM

---

To: Gulf State Creosote Site File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich

Date: March 7, 2001

Subject: site visit

---

On March 1, 2001, Tony Russell and I met David Upthegrove of Michael Pisani & Associates at the above referenced site. We walked around the Process Area, Fill Area, and the drainage ditches around the site for a visual inspection of the area. There are several automobile repair shops in the area. Also, I noted that Courtesy Ford has an used oil above ground storage tank behind their building. The containment dike is stained with oil, and a hole has been bored through the side of the containment dike to allow drainage. The ditch behind their facility is heavily stained. I was unable to tell how much of the staining was attributable to them and how much could be coming from the creosote under their parking lot. See the attached photos.

We also noted where the houses of the residents who signed the January 31, 2001, correspondence to Tony Russell were located in relation to the site. Mr. Upthegrove stated that he had spoken to two of the property owners on February 28, 2001, and they had stated that drainage ditch between the railroad tracks and their houses backs up and has a sheen on it occasionally. Based on my observations in the field, I do not believe the ditch could back up from the Process Area. The ditch may become full when it rains heavily, but it appears to flow toward the Process Area from their houses. See the attached sketch of the area.

After walking the site, we drove to the drainage ditch to the northeast to collect sediment samples. The purpose of the sampling was to determine how deep the sediments were impacted before the culvert is installed. Before Mr. Russell and I had arrived, Mr. Upthegrove collected samples in locations GEO-67 (on corner of

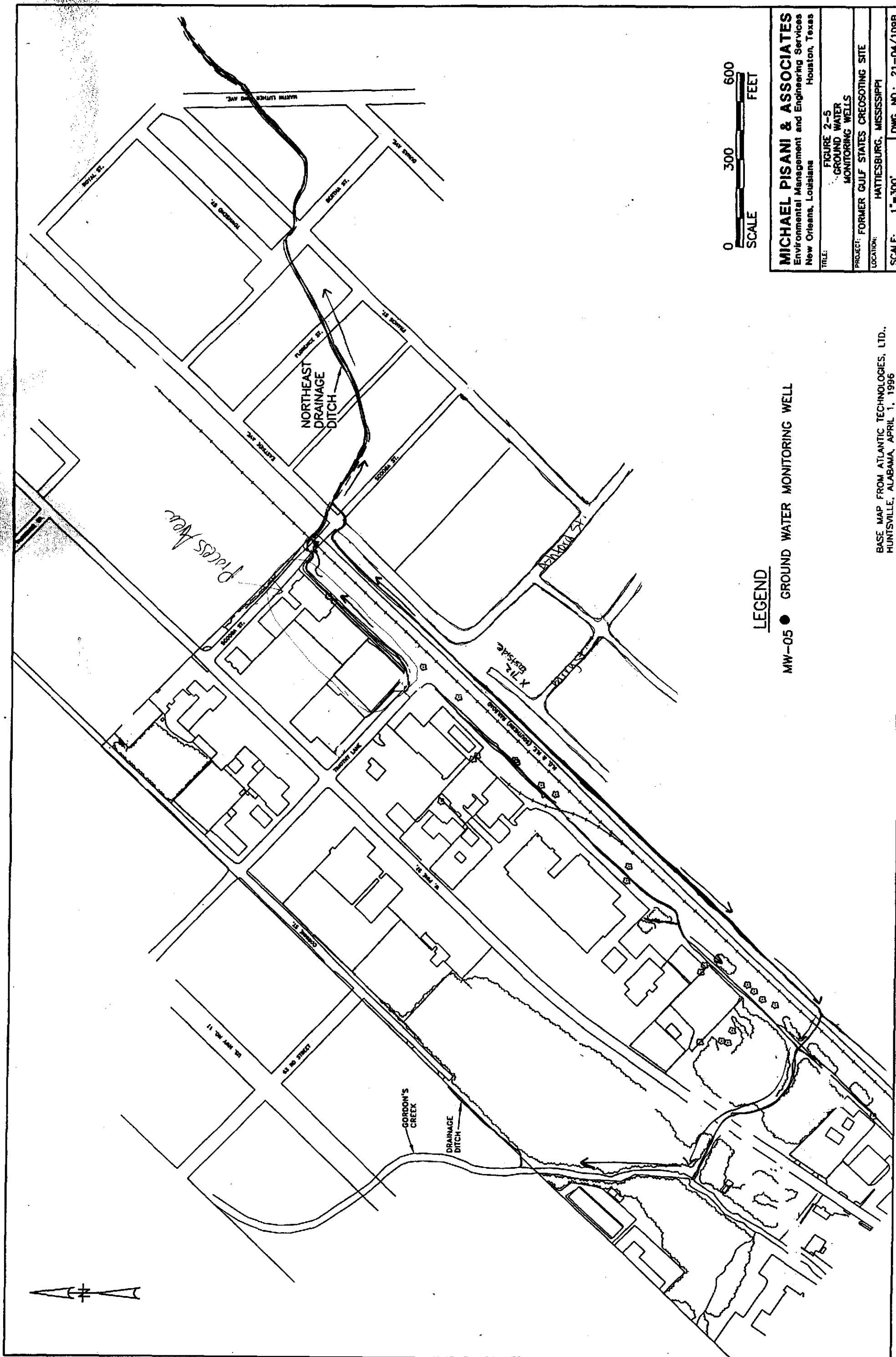
Memo to File: Gulf State Creosote

March 7, 2001

Page 2 of 2

Scooba Street and Eastside Avenue) and GEO-68 (on Florence Street). Mr. Upthegrove stated that he could not collect samples in the ditch at these two locations because of standing water in the ditch. He samples as close to the edge as he could get the Geoprobe. At location GEO-70 (on Martin Luther King), the drainage ditch had been culverted by the property owner. We were able to collect a sample outside of the culvert in an area that would have been the old open drainage ditch. The boring detected free product creosote from about 2-4 inches from the bottom of the ditch to about 2-4 feet from the bottom of the ditch. I collected a split on GEO-70/4-8' (approximately 0-4' from bottom of the ditch). This sample was later delivered to the OPC lab for PAH analysis. We then moved to location GEO-69 (on Bertha Street near the intersection of Townsend Street). This boring was similar to GEO-70. We left the site after observing the advancement of this boring.

Gulf State-Memo to File-site visit and sediment sampling\_3-1-01 (gz)



**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana      Houston, Texas

TITLE: **FIGURE 2-5**  
 GROUND WATER  
 MONITORING WELLS

PROJECT: **FORMER GULF STATES CREOSOTING SITE**

LOCATION: **HATTIESBURG, MISSISSIPPI**

SCALE: **1"=300'**      DWG. NO.: **21-04/109B**

**LEGEND**

MW-05 ● GROUND WATER MONITORING WELL

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD.,  
 HUNTSVILLE, ALABAMA, APRIL 1, 1996





**FILE COPY**

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

May 4, 2001

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
*Human Health Risk Assessment*, dated May 2, 2001  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document. The MDEQ approves the document as written. If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

cc: Holmes S. Adams, Esq.  
Alexander A. Alston, Jr., Esq.  
Don Barrett, Esq.  
Marc L. Boutwell, Esq.  
Sam Buchanan  
Bill Cheney, Esq.  
James R. Davis  
Lawrence C. Gunn, Esq.  
S. Robert Hammond, Jr., Esq.  
Jolly Matthews, III, Esq.  
John Milner, Esq.

Letter: Mr. Glen Pilié  
May 4, 2001  
Page 2 of 2

Frank D. Montague, Jr., Esq.  
Kelly Riley, Esq.  
J. B. Van Slyke, Jr., Esq.  
Mr. Richard F. Yarborough, Jr. Esq.  
Patrick H. Zachary, Esq.

Gulf State-Letter to Pilié-approval of human health risk assessment\_5-4-01 (gz)

May 3, 2001

**Via Federal Express Priority Overnight**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
101 West Capital Street  
Jackson, MS 39201

**Glen M. Pilié**  
(504) 585-0260  
piliigm@arlaw.com

Re: **Human Health Risk Assessment**  
**Former Gulf States Creosoting Site – Agreed Order No. 338197**  
**Hattiesburg, Mississippi**  
**Our File 298-240**

---

Dear Mr. Russell:

Enclosed please find the final revisions to the Human Health Risk Assessment, which responds to comments made by the MDEQ in correspondence dated April 20, 2001. We trust that all issues regarding the Human Health Risk Assessment have been resolved to the satisfaction of the MDEQ.

Looking forward to the formal approval of the Human Health Risk Assessment, I remain

Very truly yours,

ADAMS AND REESE L.L.P.



Glen M. Pilié

GMP/rye

Enclosures

cc: Judge Charles Pickering, Sr. (w/encl.)  
Magistrate Judge Louis Guirola (w/encl.)  
Mr. Don Barrett (w/encl.)  
Mr. S. Robert Hammond, Jr. (w/encl.)  
Mr. Alex A. Alston, Jr. (w/encl.)



**FILE COPY**

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

March 8, 2001

Via Certified Mail  
7000 1670 0007 8062 7243

Mr. Brad Nix  
712 Eastside Ave  
Hattiesburg, Mississippi 39401

Dear Mr. Nix:

Per our telephone conversation on February 22, 2001, and in response to your letter dated February 5, 2001, I have assured you that the Mississippi Department of Environmental Quality ("MDEQ") is committed to protecting *human health and the environment*. As you and I discussed, representatives from MDEQ's technical staff and legal division are willing to meet with you and your committee concerning allegations and complaints of possible contamination at the old Gulf States Creosote site. If possible, we would like to have this meeting in our Jackson, Mississippi office. If you agree to do so, you may also review the facility files while at this office by making an appointment with MDEQ's Records Administrator, Betty Smith, at 601-961-5666. All MDEQ files are public files and you are entitled to view and make copies at a cost of twenty-five cents per page if you make more than fifty copies (the copies are free if less than 50 pages are copied).

After our initial meeting, MDEQ staff will make a determination regarding whether samples should be taken by this agency, and if so, the extent, placement, and depth of those samples. If MDEQ determines that sampling is warranted, you will be given notice so that you may plan to be present that day in order to take samples of your own if you desire.

If you would like to meet with representatives from MDEQ, please contact me at 601-961-5011 so we can schedule a date and time that will work for everyone. We look forward to meeting with you to discuss the needs and complaints of the community.

Sincerely,

  
Gloria Tatum, Chief  
Field Services Division

cc: Phil Bass  
Kelly Riley  
Gretchen Zmitrovich

← **THIS COPY FOR**

ADAMS AND REESE LLP

March 2, 2001

Attorneys at Law

Baton Rouge  
Houma  
Jackson  
Mobile  
**FILE COPY**

New Orleans

Washington, DC

**Glen M. Pilié**

(504) 585-0260

piliem@arlaw.com

Via Federal Express Priority Overnight

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
101 West Capital Street  
Jackson, MS 39201

Re: Revised Risk Assessment  
*Former Gulf States Creosoting Site – Agreed Order No. 338197*  
*Hattiesburg, Mississippi*  
Our File 298-240

Dear Mr. Russell:

Enclosed please find two copies of a revised Risk Assessment for the Hattiesburg site. The Risk Assessment has been revised to respond to and incorporate the comments received from the Mississippi Department of Environmental Quality by correspondence dated February 6, 2001. I trust we have adequately addressed each and every comment contained in the MDEQ correspondence, and I am hopeful that MDEQ can now approve this Risk Assessment as complete.

On a related matter, Kerr-McGee shortly will provide MDEQ with additional details on the free product removal activities in the process set forth in Kerr-McGee's Remedial Action Plan. Once we have those details compiled, I will contact with you to schedule a short meeting to present those details to MDEQ.

Looking forward to approval of the Risk Assessment, I remain

Very truly yours,

ADAMS AND REESE L.L.P.

  
Glen M. Pilié

GMP/rye

Enclosures

cc: Judge Charles Pickering, Sr. (w/encl.)  
Magistrate Judge Louis Guirola (w/encl.)  
Mr. Don Barrett (*enclosure to follow*)  
Mr. S. Robert Hammond, Jr. (*enclosure to follow*)  
Mr. Alex A. Alston, Jr. (*enclosure to follow*)

**FAX****FILE COPY****Date** February 20, 2001**Number of pages including cover sheet** 2**TO:** Gretchen Zmitrovich  
MDEQ**Phone** 601.961.5240**Fax Phone** 601.961.5741**CC:****Phone****Fax Phone****FROM:** Dave Upthegrove  
Michael Pisani &  
Associates, Inc.  
1430 Energy Centre  
1100 Poydras Street  
New Orleans, LA 70163**Phone** 504.582.2468**Fax Phone** 504.582.2470**REMARKS:**  Urgent  For your review  Reply ASAP  Please Comment

Gretchen:

Attached is a figure depicting approximate locations of proposed borings along the northeast drainage ditch. Borings can be advanced at these locations on City of Hattiesburg easements/servitudes. Borings will be advanced to the base of visually-impacted soils or to the top of ground water, whichever is shallower. Two samples will be collected from each borehole: one from the visually-impacted interval (if present), and one from the visually clean interval beneath the impacted interval. Samples will be analyzed for PAHs by SW-846 Method 8310. A ground water sample may also be collected at location GEO-68 to aid in delineating the extent of impacted ground water.

As we discussed, we are currently attempting to obtain access to the property across Scooba Street from the former Process Area. Once we do, I will contact you to discuss the schedule for conducting assessment activities outlined in our February 6, 2001 letter, in addition to advancing the 4 proposed borings along the ditch. Should you have any questions, please call me.

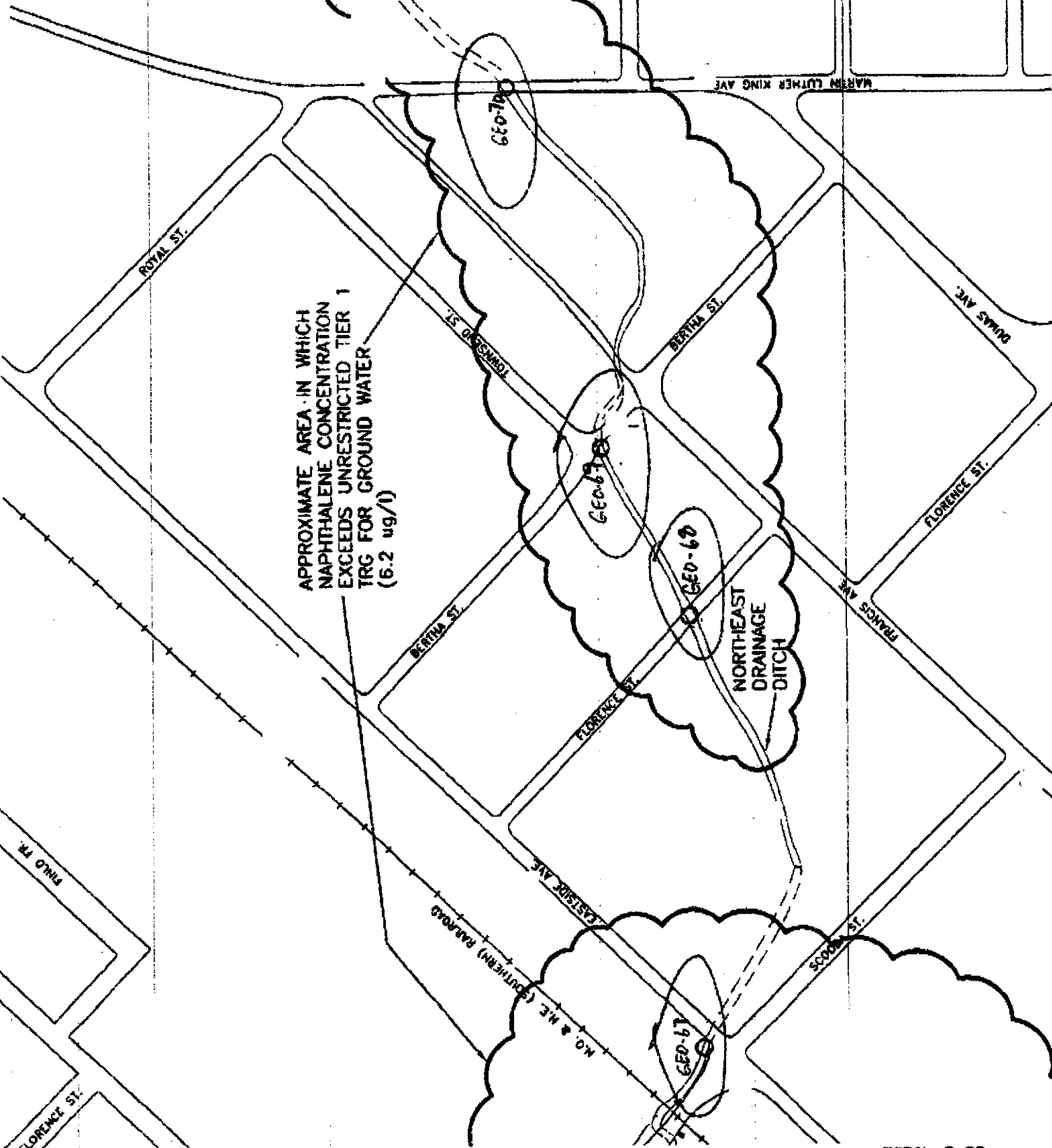
Regards,

Dave

NORTH  
DRAINAGE  
DITCH

NO

U





**FILE COPY**

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

February 15, 2001

Via Facsimile and U.S. Mail

The Honorable Charles W. Pickering, Sr.  
United States District Court  
Southern District of Mississippi  
Suite 228  
701 North Main Street  
Hattiesburg, MS 39401

Re: *RSCO Realty Corporation et al. vs.  
Kerr-McGee Chemical Corporation et al.,  
Civil Action Number 2:96CV323PG*

Dear Judge Pickering:

Please accept this letter as a non-party status report regarding environmental remedial design and risk assessment occurring within the jurisdiction of the Mississippi Commission on Environmental Quality and the Mississippi Department of Environmental Quality ("MDEQ").

Kerr-McGee Chemical Corporation ("Kerr-McGee") submitted a delineation report and a revised risk assessment to MDEQ on November 28, 2000. MDEQ reviewed the two documents and responded with comments to Kerr-McGee by letters dated February 1, 2001, and February 6, 2001. Although MDEQ is working with Kerr-McGee to approve the remedial effort as expeditiously as possible, MDEQ's review of the documents revealed what MDEQ considers to be gaps in the information submitted in both the delineation report and revised risk assessment. Although this is not unusual in what is, by nature, an iterative analysis and engineering process (and does not indicate misfeasance or malfeasance on the part of Kerr-McGee), this prevents MDEQ from approving the risk assessment or the remedial action plan at this time.

During a conference call with Kerr-McGee on January 24, 2001, MDEQ discussed the delineation work that must be completed before MDEQ can approve the remedial action plan. In addition, during a meeting with Kerr-McGee held on February 7, 2001, MDEQ defined the information to be included in the risk assessment in order for MDEQ to fully review and approve the revised risk assessment. Kerr-McGee stated



during the February 7, 2001 meeting that the delineation work and lab results will be submitted to MDEQ within five to eight weeks and the revised risk assessment will be submitted by March 2, 2001.

MDEQ cannot approve the risk assessment until the information pertaining to the risk assessment requested from Kerr-McGee in the February 7, 2001 meeting is submitted. In addition, until the delineation phase is satisfactorily completed, MDEQ cannot approve the remedial action plan. Once the necessary information is submitted to MDEQ, MDEQ will review the information and make a determination on the approval of both the risk assessment and remedial action plan.

MDEQ is continuing to work towards a resolution in this matter and will continue to help facilitate the possible settlement of this case. Although these environmental matters develop slowly in the context and timeframe of civil litigation, this remedial design work actually is progressing in a timely manner when the complexity of the environmental and public health issues involved are considered. MDEQ will continue to work expeditiously on this matter. Should you have any questions at this time, please contact Kelly Riley of my staff at 601-961-5369. With best regards, I remain

Sincerely,

Chuck D. Barlow  
General Counsel

cc: Kelly Riley, Esq.  
Gretchen Zmitrovich  
Bill Cheney, Esq.  
Don Barrett, Esq.  
Marc L. Boutwell, Esq.  
S. Robert Hammond, Jr., Esq.  
Jolly Matthews, III, Esq.  
J.B. Van Slyke, Jr., Esq.  
Frank D. Montague, Jr., Esq.  
Patrick H. Zachary, Esq.  
Lawrence C. Gunn, Esq.  
Alexander A. Alston, Jr., Esq.  
Glen M. Pilie, Esq.  
Holmes S. Adams, Esq.  
James R. Davis  
Sam Buchanan

Confirmation Report - Memory Send

Time : Feb-15-01 16:41  
Tel line : 6019615349  
Name : MDEQ LEGAL DIV

Job number : 608  
Date : Feb-15 16:36  
To : 79016015447369---8796942  
Document pages : 03  
Start time : Feb-15 16:39  
End time : Feb-15 16:41  
Pages sent : 03  
Status : OK

Job number : 608

\*\*\* SEND SUCCESSFUL \*\*\*



STATE OF MISSISSIPPI  
DAVID RONALD MUSGROVE, GOVERNOR  
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY  
CHARLES H. CHRISOLM, EXECUTIVE DIRECTOR  
**FACSIMILE COVER LETTER**

Date: 2/15/01 Number of pages including cover: 3

Teletype No.: 601-544-7369

To: The Honorable Charles W. Pickering, Sr.

From: Chuck D. Barlow  
Chief - Legal Division  
Mississippi Department of Environmental Quality  
Phone: (601) 961-5076  
Facsimile No. (601) 961-5349

Re: \_\_\_\_\_

\*\*\*\*\*

Attachment: \_\_\_\_\_

THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY TELEPHONE AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA THE U. S. POSTAL SERVICE. THANK YOU.

If you do not receive the complete transmission of this document, call Sharon Smith at (601) 961-5859.  
LEGAL DIVISION  
POST OFFICE BOX 20305 - JACKSON, MISSISSIPPI 39289-1305 • TEL (601) 961-5171 • FAX: (601) 961-5349 • www.deq.state.ms.us  
AN EQUAL OPPORTUNITY EMPLOYER



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

FACSIMILE COVER LETTER

Date: 2/15/01 Number of pages including cover: 3

Teletcopy No.: 601-544-7369

To: The Honorable Charles W. Pickering, Jr.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

From: Chuck D. Barlow  
 Chief - Legal Division  
 Mississippi Department of Environmental Quality  
 Phone: (601) 961-5076  
 Facsimile No. (601) 961-5349

Re: \_\_\_\_\_

\*\*\*\*\*

Attachment: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

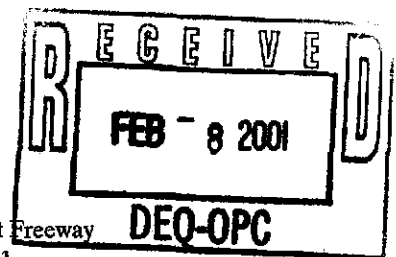
**THE INFORMATION CONTAINED IN THIS FACSIMILE MESSAGE IS PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY TELEPHONE AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA THE U. S. POSTAL SERVICE. THANK YOU.**

*If you do not receive the complete transmission of this document, call Sharon Smith at (601) 961-5359.*

**MICHAEL PISANI & ASSOCIATES, INC.**  
Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13313 Southwest Freeway  
Suite 221  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net



**FILE COPY**

February 6, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

RE: Proposed Additional Site Investigation Activities  
Former Gulf States Creosoting Facility  
Hattiesburg, Mississippi

Dear Mr. Russell:

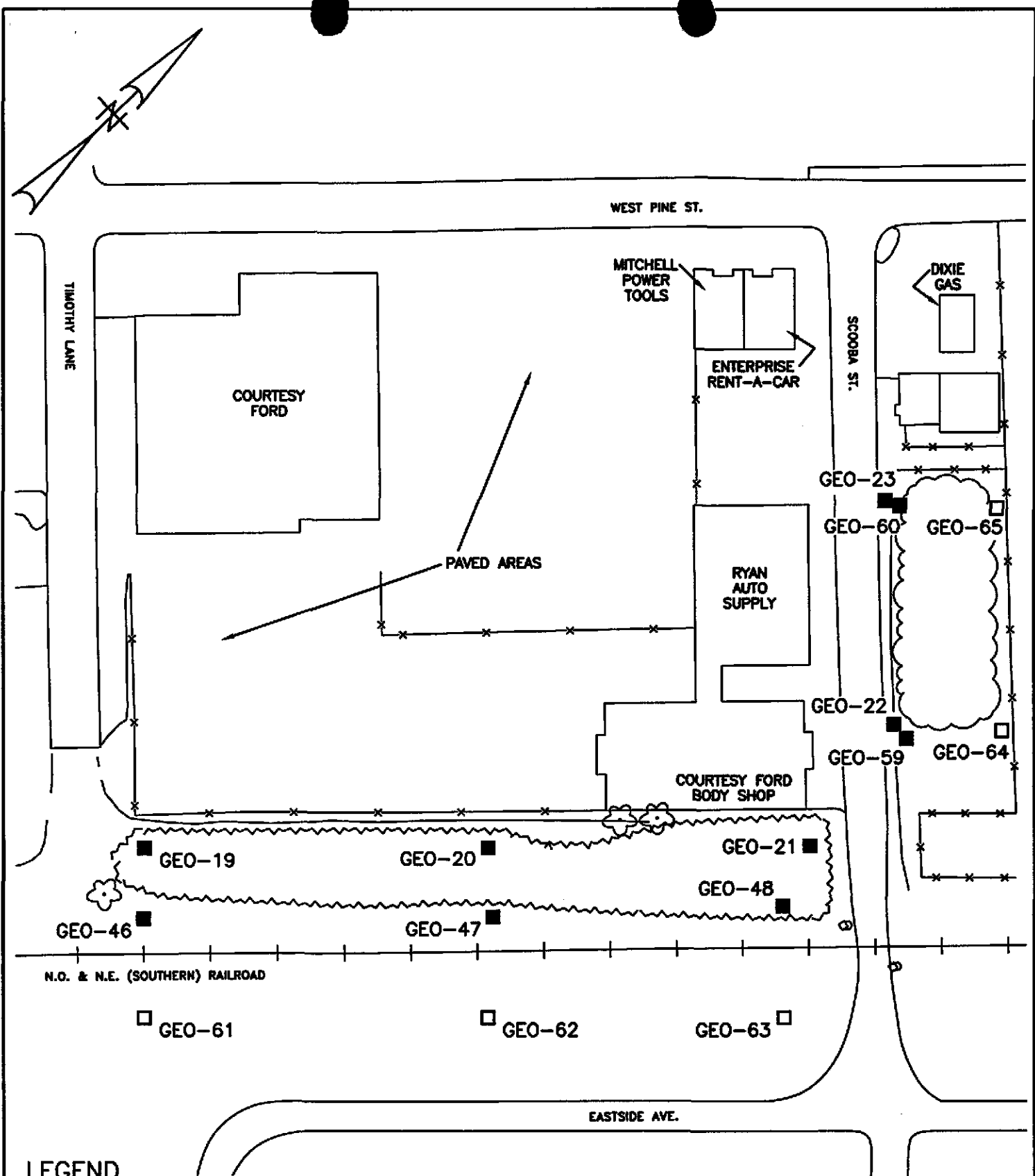
On January 24, 2001, representatives of Kerr-McGee Chemical, L.L.C. (KMC) and the Mississippi Department of Environmental Quality (MDEQ) participated in a conference call to discuss the status of the referenced site. Based on that call, it is our understanding that Ms. Gretchen Zmitrovich, the MDEQ Project Manager for the site, has reviewed our November 22, 2000 *Report on Additional Site Investigation Activities*, and is in the process of reviewing the revised *Human Health Risk Assessment* for the site. During the January 24 teleconference, MDEQ requested that KMC submit a Work Plan addendum to further assess the following:

- soils southeast of the former Process Area (i.e., between Courtesy Ford and Eastside Avenue);
- soils northeast of the former Process Area (i.e., across Scooba Street); and
- ground water north of the Fill Area (i.e., downstream along Gordon's Creek).

Proposed assessment activities designed to address these three areas are outlined in this letter.

**Soils Southeast of Former Process Area**

In September 2000, Michael Pisani & Associates, Inc. (MP&A) advanced three borings (GEO-46, GEO-47, and GEO-48) between Courtesy Ford and the Southern railroad tracks. All three borings were advanced at a distance of approximately 30 feet northwest of the Southern railroad tracks (see Figure 1). Soil samples from borings GEO-47 and GEO-48 exhibited visual and olfactory evidence of creosote impact; samples from all



**LEGEND**

- PREVIOUS SOIL SAMPLING LOCATION
- PROPOSED SOIL SAMPLING LOCATION

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD.,  
HUNTSVILLE, ALABAMA, APRIL 1, 1996



**MICHAEL PISANI & ASSOCIATES**  
Environmental Management and Engineering Services  
New Orleans, Louisiana Houston, Texas

SCALE: 1"=100' DWG. NO.: 21-04/167A

FIGURE 1  
PROPOSED SOIL SAMPLING LOCATIONS  
OFFSITE PROCESS AREA  
FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

three borings contained constituent levels exceeding MDEQ Tier 1 Target Remediation Goals (TRGs) for both restricted and unrestricted use.

MDEQ has requested that KMC conduct additional sampling between the former Process Area and Eastside Avenue to establish the limits of soils impacted above the Tier 1 TRGs for unrestricted use. KMC proposes to advance three borings (GEO-61, GEO-62, and GEO-63) at a distance of just greater than 50 feet southeast of the railroad tracks (see Figure 1). KMC is currently attempting to confirm that the leaseholder of the property between Eastside Avenue and the railroad right-of-way is the City of Hattiesburg. If this is the case, obtaining access to the property should not be a problem.

Samples will be collected using a Geoprobe equipped with dedicated, clear plastic liners. As during previous assessment activities, samples will be collected from the zero to 1-foot, 2- to 3-foot, and 5- to 6-foot depth intervals. Soil samples will be analyzed for PAHs by SW-846 Method 8310.

#### **Soils Southeast of Former Process Area**

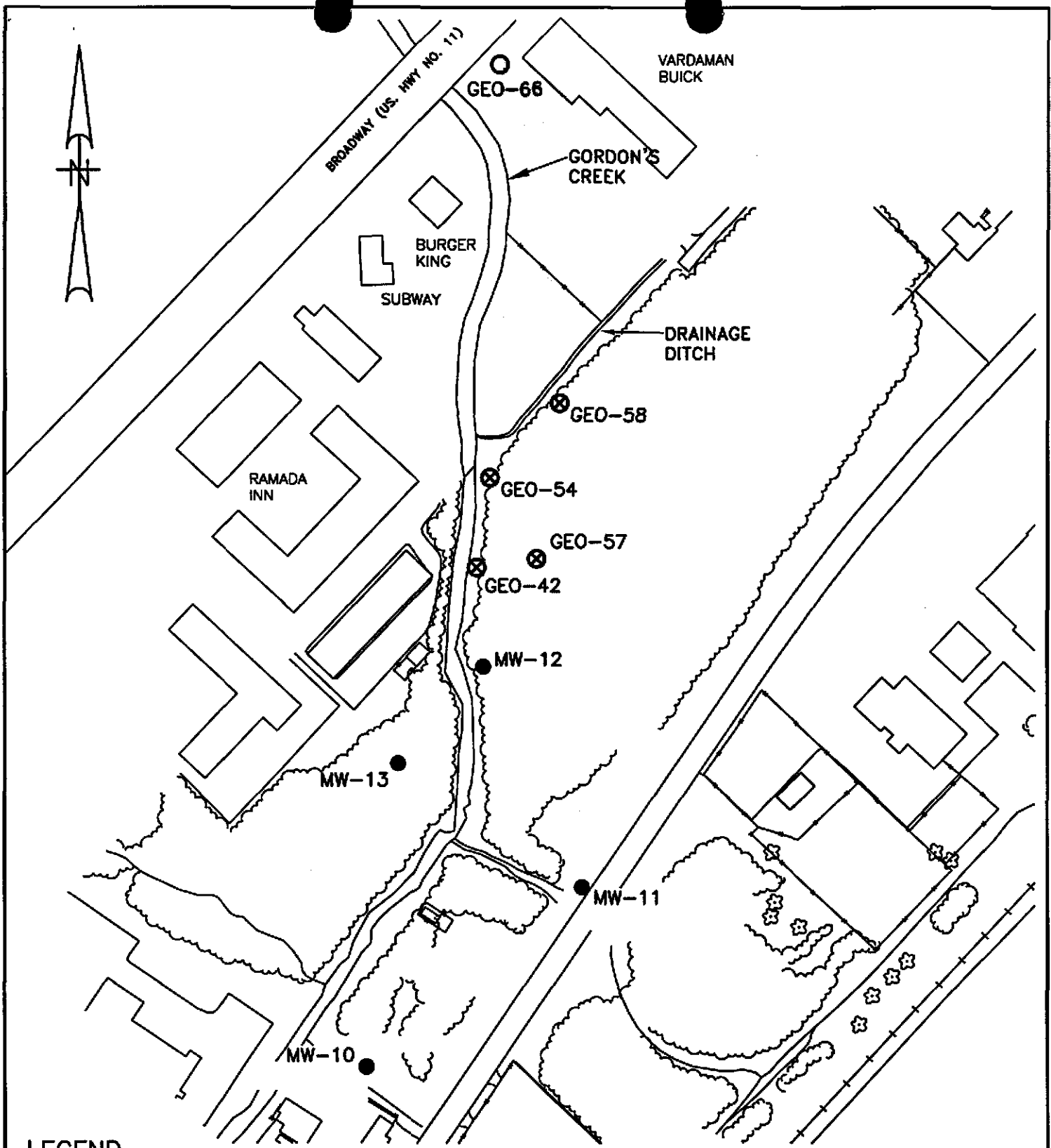
In September 2000, MP&A advanced two borings (GEO-59 and GEO-60) across Scooba Street from the former Process Area (see Figure 1). None of the samples collected from GEO-59 and GEO-60 exhibited visual or olfactory evidence of creosote impact. The sample collected from the zero to 1-foot interval at GEO-59 contained constituent levels exceeding MDEQ Tier 1 TRGs for both restricted and unrestricted use. The zero to 1-foot sample from GEO-60 exceeded only the benzo(a)pyrene Tier 1 TRG for unrestricted use.

MDEQ has requested that KMC conduct additional sampling northeast of GEO-59 and GEO-60 to establish the limits of soils impacted above the Tier 1 TRGs for unrestricted use. Prior to conducting further assessment work in this area, KMC will need to identify the property leaseholder and attempt to obtain access. KMC will only be able to conduct assessment activities to delineate impacted soils in this area once a mutually-agreeable access agreement can be established between KMC and the property leaseholder.

KMC proposes to advance two borings (GEO-64 and GEO-65) at a distance of approximately 100 feet northeast of Scooba Street (see Figure 1). Samples will be collected from the zero to 1-foot, 2- to 3-foot, and 5- to 6-foot depth intervals using a Geoprobe. Soil samples will be analyzed for PAHs by SW-846 Method 8310.

#### **Ground Water North of the Fill Area**

In August and September 2000, MP&A advanced four borings north of the Fill Area and collected ground water samples from temporary well points (see Figure 2). Ground water samples collected from GEO-42 and GEO-54 contained target constituents; samples from GEO-57 and GEO-58 were clean. The data indicate that the plume containing impacted



**LEGEND**

- MONITORING WELL
- ⊗ PREVIOUS GROUND WATER SCREENING LOCATION
- PROPOSED GROUND WATER SCREENING LOCATION



BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD.,  
HUNTSVILLE, ALABAMA, APRIL 1, 1996

**MICHAEL PISANI & ASSOCIATES**  
Environmental Management and Engineering Services  
New Orleans, Louisiana      Houston, Texas

**FIGURE 2**  
PROPOSED GROUND WATER SCREENING LOCATIONS  
FILL AREA  
FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

SCALE: 1"=200'      DWG. NO.: 21-04/168A

ground water extends northward from the Fill Area in a thin band along the east bank of Gordon's Creek. Naphthalene was the only constituent detected in ground water samples at levels exceeding Tier 1 TRGs for ground water.

MDEQ has requested that KMC conduct additional ground water sampling north of GEO-54 to establish the northern limits of ground water impacted above the Tier 1 TRG for naphthalene. KMC proposes to advance a single boring (GEO-66) downgradient of GEO-54 on the City of Hattiesburg right-of-way (see Figure 1). Ground water samples will be collected from either a push-in well screen or a temporary well point using a peristaltic pump and dedicated tubing. Samples will be analyzed for PAHs by SW-846 Method 8310.

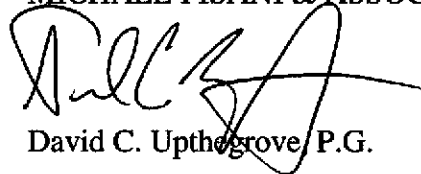
### **Schedule**

Once access to the properties to be investigated has been obtained, and upon receipt of MDEQ's written approval, MP&A can mobilize to the field within two weeks. Field work can be completed in two to three field days, with unvalidated laboratory reports available approximately three weeks after field work is complete. The unvalidated reports will be forwarded to MDEQ. However, it is important to note that the validation process is a necessary step to ensure that the data is of sufficient quality for its intended use. Therefore, the data will be validated prior to use in risk assessment or remedial design activities.

Should you have any questions or comments, please call us.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.



David C. Upthegrove P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese  
Gretchen Zmitrovich - MDEQ



RECEIVED  
FEB - 8 2001  
MDEQ-OPC

712 Eastside Avenue  
Hattiesburg, MS 39401  
January 31, 2001

**FILE COPY**

Mr. Tony Russell, Chief  
MDEQ  
P.O. Box 20305  
Jackson, MS 39289-1305

**Re: Gulf State Creosote Company**

Dear Mr. Russell:

I currently own a home located in the vicinity of Barry Street and Eastside Avenue. I know for a fact that the Gulf State Creosote Company, which is presently owned by the Kerr-McGee Corporation, once operated North of the railroad track located within feet of my home. I believe that the property my home is located on may have also been part of that job site.

My neighbors and I have attempted on several occasions to obtain sampling through both the governmental agency, Mississippi Department of Environmental Qualification (MDEQ), and through private organizations. The MDEQ has refused to come out and the private companies charge an excessive fee. Several neighbors have spoken with a Ms. Gretchen Zmitrovich who repeatedly stated, "creosote does not travel, and MDEQ found no reason to perform soil sampling." Ms. Zmitrovich also supplied us with the information that traces of creosote had been found in a ditch located south of the track, on our side of the track, but again, "MDEQ did not believe the creosote had traveled onto our properties."

We think that our wanting to know the truth is not too much to ask of you or anyone else. We have been here a majority of our lives. We have raised our families here. Our children and grandchildren play in the yards. We eat produce grown in our gardens. Our health is failing and we have several cases of cancer, numerous miscarriages, unexplainable nose bleeds, and a strange tumor was also found on one of the residents in the community that doctors have not been able to explain. If creosote is the culprit for our sicknesses, then we would like to know. You have done sampling for the businesses North of the track, why are the people in our neighborhood encountering difficulty in obtaining your help?

I have been told by the leader of another group against environmental injustice that the court has ordered soil sampling be done in this area. Therefore, my reasons for writing this letter to you are as follows: 1) We would like to know the date and time these samples will be removed from our yards. 2) We would like to choose the areas from which the samples will be drawn. 3) We would like for split sampling to be done at the

time the samples are gathered. 4) We would like for the drilling to go down twenty-to twenty-five feet, until it reaches the clay area. 5) We request that any information learned be placed in the Kerr-McGee Corporation's folder your organization has established.

I was also told by my source that representatives of your agency had been in our neighborhood going door to door, but were unable to reach anyone. I know for a fact this is untrue due to the fact that we have several individuals who are home during the day and they have no knowledge of someone coming to their homes representing your organization.

We need your immediate assistance in learning whether or not creosote is actually on our properties. Knowing would provide us all with a peace of mind.

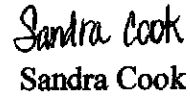
Thank you in advance for your time.

We remain,

  
Brad Nix

  
Audrey Thames

  
Arabedella Phillips

  
Sandra Cook

Cc: Phil Bass  
Director of Pollution Control  
MDEQ  
P.O. Box 20305  
Jackson, MS 39289-1305

Elvie Barlow

Environmental Justice  
Attn: Connie Rains  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-3104

Environmental Protection Agency  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, GA 30303-3104

# FAX

Date February 6, 2001

# FILE COPY

Number of pages including cover sheet 6

**TO:** Tony Russell  
MDEQ

Phone 601.961.5171

Fax Phone 601.354.6612

**CC:** Gretchen Zmitrovich

Phone 601.961.5240

Fax Phone 601.961.5741

**FROM:** Dave Upthegrove  
Michael Pisani &  
Associates, Inc.  
1430 Energy Centre  
1100 Poydras Street  
New Orleans LA 70163

Phone 504.582.2468

Fax Phone 504.582.2470

**REMARKS:**  Urgent  For your review  Reply ASAP  Please Comment

Tony and Gretchen:

Attached is a letter outlining proposed assessment activities at the Gulf States Creosoting site. We look forward to meeting with you Wednesday to discuss the site.

Regards,  
Dave

**MICHAEL PISANI & ASSOCIATES, INC.**

**Environmental Management and Engineering Services**

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13313 Southwest Freeway  
Suite 221  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbisworld.net

February 6, 2001

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

RE: Proposed Additional Site Investigation Activities  
Former Gulf States Creosoting Facility  
Hattiesburg, Mississippi

Dear Mr. Russell:

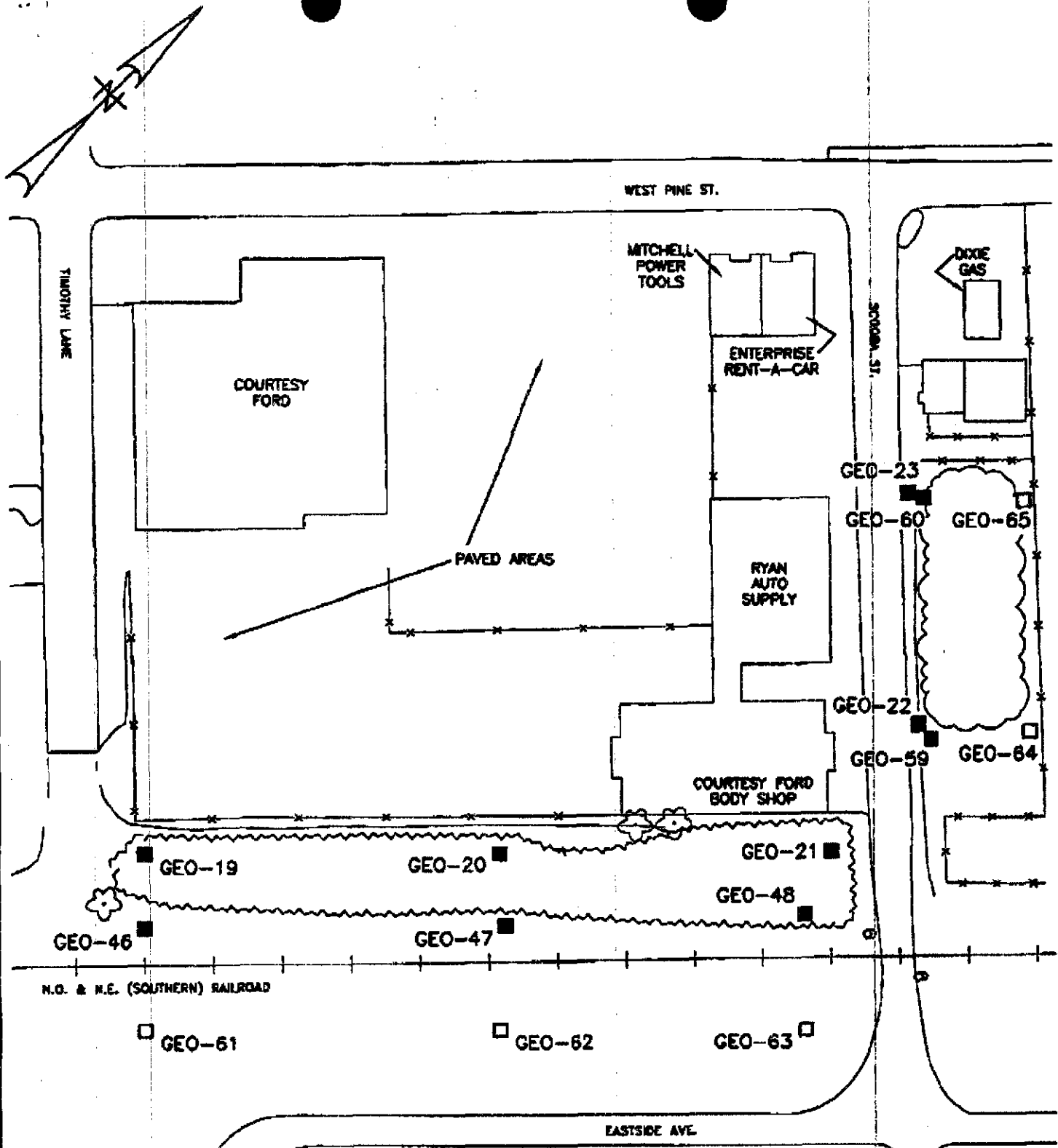
On January 24, 2001, representatives of Kerr-McGee Chemical, L.L.C. (KMC) and the Mississippi Department of Environmental Quality (MDEQ) participated in a conference call to discuss the status of the referenced site. Based on that call, it is our understanding that Ms. Gretchen Zmitrovich, the MDEQ Project Manager for the site, has reviewed our November 22, 2000 *Report on Additional Site Investigation Activities*, and is in the process of reviewing the revised *Human Health Risk Assessment* for the site. During the January 24 teleconference, MDEQ requested that KMC submit a Work Plan addendum to further assess the following:

- soils southeast of the former Process Area (i.e., between Courtesy Ford and Eastside Avenue);
- soils northeast of the former Process Area (i.e., across Scooba Street); and
- ground water north of the Fill Area (i.e., downstream along Gordon's Creek).

Proposed assessment activities designed to address these three areas are outlined in this letter.

**Soils Southeast of Former Process Area**

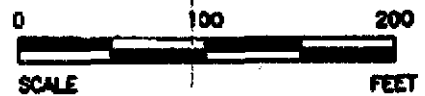
In September 2000, Michael Pisani & Associates, Inc. (MP&A) advanced three borings (GEO-46, GEO-47, and GEO-48) between Courtesy Ford and the Southern railroad tracks. All three borings were advanced at a distance of approximately 30 feet northwest of the Southern railroad tracks (see Figure 1). Soil samples from borings GEO-47 and GEO-48 exhibited visual and olfactory evidence of creosote impact; samples from all



**LEGEND**

- PREVIOUS SOIL SAMPLING LOCATION
- PROPOSED SOIL SAMPLING LOCATION

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996



**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana      Houston, Texas

SCALE: 1"=100'      DWG. NO.: 21-04/167A

**FIGURE 1**  
 PROPOSED SOIL SAMPLING LOCATIONS  
 OFFSITE PROCESS AREA  
 FORMER GULF STATES CREOSOTING SITE  
 HATTIESBURG, MISSISSIPPI

Mr. Tony Russell  
February 6, 2001  
Page 3

three borings contained constituent levels exceeding MDEQ Tier 1 Target Remediation Goals (TRGs) for both restricted and unrestricted use.

MDEQ has requested that KMC conduct additional sampling between the former Process Area and Eastside Avenue to establish the limits of soils impacted above the Tier 1 TRGs for unrestricted use. KMC proposes to advance three borings (GEO-61, GEO-62, and GEO-63) at a distance of just greater than 50 feet southeast of the railroad tracks (see Figure 1). KMC is currently attempting to confirm that the leaseholder of the property between Eastside Avenue and the railroad right-of-way is the City of Hattiesburg. If this is the case, obtaining access to the property should not be a problem.

Samples will be collected using a Geoprobe equipped with dedicated, clear plastic liners. As during previous assessment activities, samples will be collected from the zero to 1-foot, 2- to 3-foot, and 5- to 6-foot depth intervals. Soil samples will be analyzed for PAHs by SW-846 Method 8310.

#### **Soils Southeast of Former Process Area**

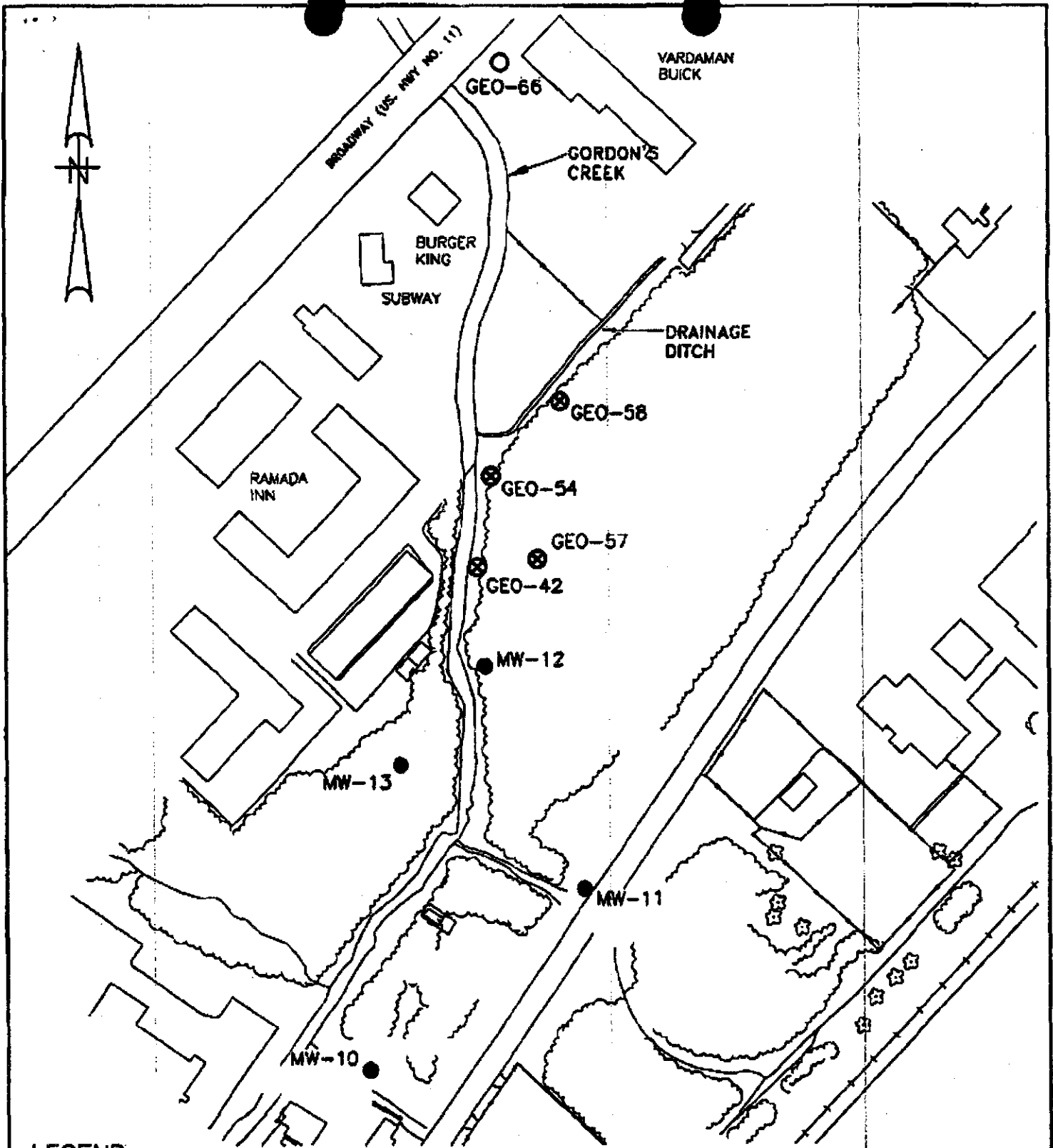
In September 2000, MP&A advanced two borings (GEO-59 and GEO-60) across Scooba Street from the former Process Area (see Figure 1). None of the samples collected from GEO-59 and GEO-60 exhibited visual or olfactory evidence of creosote impact. The sample collected from the zero to 1-foot interval at GEO-59 contained constituent levels exceeding MDEQ Tier 1 TRGs for both restricted and unrestricted use. The zero to 1-foot sample from GEO-60 exceeded only the benzo(a)pyrene Tier 1 TRG for unrestricted use.

MDEQ has requested that KMC conduct additional sampling northeast of GEO-59 and GEO-60 to establish the limits of soils impacted above the Tier 1 TRGs for unrestricted use. Prior to conducting further assessment work in this area, KMC will need to identify the property leaseholder and attempt to obtain access. KMC will only be able to conduct assessment activities to delineate impacted soils in this area once a mutually-agreeable access agreement can be established between KMC and the property leaseholder.

KMC proposes to advance two borings (GEO-64 and GEO-65) at a distance of approximately 100 feet northeast of Scooba Street (see Figure 1). Samples will be collected from the zero to 1-foot, 2- to 3-foot, and 5- to 6-foot depth intervals using a Geoprobe. Soil samples will be analyzed for PAHs by SW-846 Method 8310.

#### **Ground Water North of the Fill Area**

In August and September 2000, MP&A advanced four borings north of the Fill Area and collected ground water samples from temporary well points (see Figure 2). Ground water samples collected from GEO-42 and GEO-54 contained target constituents; samples from GEO-57 and GEO-58 were clean. The data indicate that the plume containing impacted



**LEGEND**

- MONITORING WELL
- ⊗ PREVIOUS GROUND WATER SCREENING LOCATION
- PROPOSED GROUND WATER SCREENING LOCATION

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996

**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana      Houston, Texas

SCALE: 1"=200'

DWG. NO.: 21-04/188A

**FIGURE 2**  
PROPOSED GROUND WATER SCREENING LOCATIONS  
FILL AREA

FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

Mr. Tony Russell  
February 6, 2001  
Page 5

ground water extends northward from the Fill Area in a thin band along the east bank of Gordon's Creek. Naphthalene was the only constituent detected in ground water samples at levels exceeding Tier 1 TRGs for ground water.

MDEQ has requested that KMC conduct additional ground water sampling north of GEO-54 to establish the northern limits of ground water impacted above the Tier 1 TRG for naphthalene. KMC proposes to advance a single boring (GEO-66) downgradient of GEO-54 on the City of Hattiesburg right-of-way (see Figure 1). Ground water samples will be collected from either a push-in well screen or a temporary well point using a peristaltic pump and dedicated tubing. Samples will be analyzed for PAHs by SW-846 Method 8310.

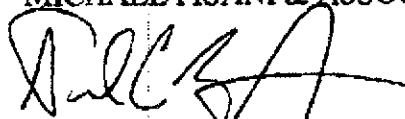
**Schedule**

Once access to the properties to be investigated has been obtained, and upon receipt of MDEQ's written approval, MP&A can mobilize to the field within two weeks. Field work can be completed in two to three field days, with unvalidated laboratory reports available approximately three weeks after field work is complete. The unvalidated reports will be forwarded to MDEQ. However, it is important to note that the validation process is a necessary step to ensure that the data is of sufficient quality for its intended use. Therefore, the data will be validated prior to use in risk assessment or remedial design activities.

Should you have any questions or comments, please call us.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.

  
David C. Upthegrove, P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese  
Gretchen Zmitrovich - MDEQ





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

**FILE COPY**

February 6, 2001

Via Facsimile and U.S. Mail

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
*Human Health Risk Assessment*, dated November 22, 2000  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document. MDEQ has the following comments:

1. As stated in the August 2, 2000 MDEQ correspondence, the calculated benzo(a)pyrene equivalent concentration should be used with the oral cancer slope factor for benzo(a)pyrene to determine the risk associated with ingesting soil contaminated with carcinogenic polynuclear aromatic hydrocarbons (cPAHs).
2. Under the construction and maintenance worker scenarios, the face should be included in the skin surface area available for exposure with the sediment and surface water exposures. However, MDEQ does not believe the feet need to be included since these workers would be wearing shoes or boots.
3. Under the visitor and residents scenarios, the lower legs should be included in the skin surface area available for exposure with the sediment and surface water exposures.
4. MDEQ's August 2, 2000 letter stated in Part D, Item #6 that the soil ingestion rate for construction workers should be 480 mg/day.
5. EPA Region 4 states that the soil ingestion rate for a resident child (0-6 years) should be 200 mg/day.

6. EPA Region 4 states that the bioavailability (or gastrointestinal matrix effect) default assumption of 100% cannot be adjusted without extensive supporting data. Revise the risk assessment to incorporate this change or provide evidence to MDEQ so it can be forwarded to EPA Region 4 for review.
7. MDEQ's August 2, 2000 letter stated in Part C, Item #2 that the risk assessment should indicate what sampling data was used to select the chemicals of potential concern (COPC) for each exposure unit. In addition, MDEQ required that a narrative be provided to explain why samples were excluded.
8. On Table 12 and Table 13, the Tier 1 restricted soil Target Remediation Goals (TRGs) for phenanthrene and pyrene were given as 126 ppm and 260 ppm respectively. These TRGs should be 61300 ppm for both phenanthrene and pyrene. This change excludes these chemicals as COPCs.
9. Sediment samples collected from sampling locations SD-13 through SD-17 should be included in the sediment analysis for exposure unit six (EU6).
10. In Section 4.2.2.1, the text states that an exposure time of one hour per day was used for site visitors and off-site residents. However, Table 19 uses two hours per day for off-site residents.
11. MDEQ's August 2, 2000 letter stated in Part D, Item #2 that dermal exposure should be evaluated using the benzo(a)pyrene equivalence concentration and the oral cancer slope factor with an absorption efficiency of 50%. The risk assessment submitted used the oral cancer slope factor without the adjustment for absorption efficiency.
12. In Section 4.2.2.1, the text states that dermal absorption factor for benzo(a)pyrene was 3% and for other semivolatile organic compounds (SVOCs) was 10%. However several tables in the risk assessment did not follow this guidance. These discrepancies are found in Tables 24, 25, 27, 28, 29, 31, 33, 35, 36, 37, 38, 39, 41, 43, 45, 46, 47, 48, 50, 52, 54, 57, 59, 61, and 63. Given the guidance in Item #11 above, the dermal absorption factor for all cPAHs should be 3%, and the dermal absorption factor for all other SVOCs should be 10%.
13. On Table 2, the COPCs selected for the surface water pathway in EU1 are cPAHs, but Table 26 evaluates the surface water in EU1 for pyrene only.
14. On Table 32, the oral cancer slope factor of 2E-2 for carbazole was omitted.

**FILE COPY**

15. On Table 37, the kp value for benzo(a)pyrene was used for all cPAHs.
16. On Table 42, the oral cancer slope factor of 2E-2 for carbazole was omitted.
17. On Table 56, the exposure frequency should be 80 days per year.
18. On Table 59 and Table 60, the values used for the skin surface area available for exposure and the body weight were for an adult.
19. On Table 59, the risk was not calculated for chrysene and indeno(1,2,3-c,d)pyrene.
20. On Table 60 and Table 62, the risk was not calculated for carbazole.
21. On Table 63, the values used for the skin surface area available for exposure was for an adult.
22. On Table 53, the oral subchronic RfD for bis(2-ethylhexyl)phthalate should be 2E-2 instead of 1E-2.
23. On Table 60, the subchronic RfDs should be used instead of the chronic RfDs because of the six-year exposure duration.
24. On Table 61 the chronic RfDs should be used instead of the subchronic RfDs because of 24-year exposure duration.

A revised risk assessment should be submitted to MDEQ for review as soon as possible, but no later than Wednesday, February 28, 2001. If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

cc: Kelly Riley, MDEQ legal



**FILE COPY**

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

## MEMORANDUM

---

To: Gulf States Creosote File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich 

Date: February 5, 2001

Subject: conference call

---

On January 24, 20001, the MDEQ (Tony Russell, Gretchen Zmitrovich, and Kelly Riley) had a conference call with Keith Watson of Kerr-McGee, Glen Pilié and Jane Raiford of Adams and Reese and Dave Upthegrove and Michael Pisani of Michael Pisani & Associates. The purpose of the call was to discuss three documents that had been submitted to the MDEQ for review.

- I. *Report on Additional Site Investigation Activities*, dated November 22, 2000
  - A. Fill Area – soils fully delineated
  - B. Process Area
    1. Samples GEO-46, GEO-47, and GEO-48 had detections above the unrestricted TRGs for PAHs. Kerr-McGee needs to determine the extent of the contamination between the Process and the residential area on the other side of the tracks. The MDEQ stated that four to five samples on the other side of the tracks (provided they are below the unrestricted TRGs) should suffice.
    2. Samples GEO-59 and GEO-60 had detections above the unrestricted TRGs for PAHs. Kerr-McGee needs to determine the extent of the Process Area contamination along Scooba Street.
    3. Sediment sample SD-17 had detections above the unrestricted TRGs for PAHs. This indicates that site activities may have impacted the northeast drainage ditch farther away from the site than originally anticipated when the Remedial Action Plan

was developed. The delineation report states that the sediments were delineated to an "urban background level". The MDEQ requires that this level be defined before the implementation of the Remedial Action Plan to ensure the excavation work and the installation of the culvert is of sufficient magnitude to remediate the drainage ditch.

4. The MDEQ does not require any more work on the drainage ditches currently under litigation at this time.
5. Groundwater samples GEO-42 and GEO-54 indicate that the groundwater plume extends north of MW-12. Kerr-McGee needs to determine the extent of this contamination.

\*\* A tentative timeline of 2 weeks for the submittal of a figure with proposed sampling locations was discussed. The MDEQ agreed that a work plan does not need to be submitted as long as the procedures outlined in the *Report on Additional Site Investigation Activities* were used.

- II. *Human Health Risk Assessment*, dated November 22, 2000
  - A. The risk assessment did not address the ingestion of cPAHs as outlined in the MDEQ's 8-2-00 letter.
  - B. This was MDEQ's only comment at that time. The review will be complete in a few days. A meeting was tentatively scheduled for February 7, 8, or 9 to discuss the review.
- III. *Remedial Action Work Plan*, dated February 14, 2000
  - A. The MDEQ and the Secretary of State's office are concerned about the amount of free product creosote in the Process and Fill Areas. Kerr-McGee had outlined a proposal to determine the extent of free product in the Fill Area and the MDEQ stated that a similar approach should be taken in the Process Area.
  - B. Kerr-McGee stated that they had delineated it with the ROST pushes in 1997. The MDEQ stated that they would look at the data from the ROST investigation and determine if it was adequate.
- IV. Other issues
  - A. The groundwater monitoring plan should be submitted within 30 days.
  - B. The MDEQ will send out a letter within the next couple of days with the comments on the delineation work.
  - C. The 5.5 month timeline that the parties gave Judge Pickering in the October 2000 court hearing would need to be adjusted.

**FILE COPY**



Gretchen Zmitrovich  
02/01/2001 04:01 PM

To: m.pisani@ix.netcom.com @ INETDEQ, piliegm@arlaw.com @ INETDEQ, kwatson@kmg.com @ INETDEQ

cc:

Subject: risk assessment

I have noticed that several of the tables have used the dermal absorption factor incorrectly. Some have used 0.1 for all PAHs; some have used 0.03 for all PAHs; and few if any have used it as the text states, i.e. 0.03 for benzo(a)pyrene and 0.1 for all other PAHs and SVOCs. Since Region 4 states that cPAHs be evaluated by the benzo(a)pyrene equivalence and the oral cancer slope factor (or oral times 50% for dermal), I suggest that KM use 0.03 for all cPAHs and 0.1 for all other SVOCs. I do not believe the change from 0.1 to 0.03 will change the risk greatly and it will be easier to be consistent from table to table.

**FILE COPY**



Gretchen Zmitrovich  
02/01/2001 01:34 PM

To: piliigm@arlaw.com @ INETDEQ, m.pisani@ix.netcom.com @ INETDEQ, kwatson@kmg.com @  
INETDEQ

cc:

Subject: risk assessment comments

Here are the comments I have compiled so far. Please excuse the informal format of the list. If you have any questions about them, please call me at 601-961-5240. I will finish my review and get an official letter out before our meeting next week. Gretchen

**Risk Assessment Comments:**

1. ingestion of cpah needs to be evaluated using benzo(a)pyrene equivalence and benzo(a)pyrene oral cancer slope factor.
2. Need to add in face for construction and maintenance workers under sediment and surface water scenarios. No need to add in feet; should be wearing boots.
3. Add lower legs to visitors and residents in sediment and surface water. Recalculate soil adherence factor.
4. MDEQ's 8-2-00 letter stated in Part D, Item #6 that the ingestion rates for construction workers should be 480 mg/day.
5. EPA Region 4 states that the soil ingestion rate for a resident child (0-6 years) should be 200 mg/day.
6. EPA Region 4 states that the bioavailability (or gastrointestinal matrix effect) default assumption of 100% cannot be adjusted without extensive supporting data. Revise risk assessment to incorporate this change or provide evidence to MDEQ so it can be forwarded to Region 4 for review.
7. MDEQ's 8-2-00 letter stated in Part C, Item #2 that the risk assessment should indicate what sampling data was used to select the chemicals of potential concern for each exposure unit. In addition, the MDEQ required that a narrative be provided to explain why samples were excluded.
8. table 12 and table 13– the Tier 1 restricted soil TRG should be 61300 ppm for phenanthrene and 61300 ppm for pyrene. This change excludes these chemicals as COPCs.
9. sediment samples SD-13 through SD-17 should be included in EU6 sediment analysis.
10. section 4.2.2.1 – dermal exposure parameters states that an exposure time of 1 hour/day was used for site visitors and off-site residents. However, table 19 gives 1 hour/day for visitors but 2 hours/day for off-site residents.
11. MDEQ's 8-2-00 letter stated in Part D, Item #2 that dermal exposure should be evaluated using the oral cancer slope factor with an absorption efficiency of 50%. The risk assessment submitted used the oral cancer slope factor without the 50%.



12. table 25; used 0.1 instead of 0.03 for absorption for benzo(a)pyrene calculation; changes cancer risk from  $1.06e-7$  to  $3.2e-8$ .

13. table 2; copc's for surface water in EU1 are carcinogenic pahs but table 26 has surface water in EU1 evaluated for pyrene.



**FILE COPY**

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

February 1, 2001

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
Hattiesburg, Forrest County, MS  
*Report on Additional Site Investigation Activities*, dated November 22, 2000

Dear Mr. Pilié:

As we discussed in a conference call on January 24, 2000, with representatives from your office, Kerr-McGee, and Michael Pisani & Associates (MP&A), the Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document and has the following comments:

1. The MDEQ concurs with MP&A's conclusion that the soils in the Fill Area do not extend significant distances to the south, east or west of the ROST location RST-16. The MDEQ considers the soils in this area to be fully delineated at this time.
2. Soil samples collected at locations GEO-46, GEO-47, and GEO-48 indicate that site activities may have impacted soils beyond the railroad. The MDEQ requires Kerr-McGee to determine the full extent of the soil contamination between the Process Area and the residential area on the east side of the railroad tracks. The MDEQ requires that Kerr-McGee collect and analyze sufficient soil samples to determine the full extent of this contamination.
3. Soil samples collected at locations GEO-59 and GEO-60 have concentrations of PAHs above the unrestricted TRGs. The MDEQ requires that Kerr-McGee collect and analyze sufficient soil samples to determine the full extent of this contamination.
4. A sediment sample collected at location SD-17 indicates that site activities may have impacted the northeast drainage ditch farther away from the site than

Letter: Mr. Pilié  
February 1, 2001  
Page 2 of 2

originally anticipated when the Remedial Action Plan was developed. The delineation report states that the sediments were delineated to an "urban background level". The MDEQ requires that this level be defined before the implementation of the Remedial Action Plan to ensure the excavation work and the installation of the culvert is of sufficient magnitude to remediate the drainage ditch.

5. The MDEQ requires no further delineation work on the drainage ditches within the area currently under litigation at this time.

6. Groundwater samples collected at locations GEO-42 and GEO-54 indicate that the groundwater plume extends north of MW-12. The MDEQ requires that Kerr-McGee determine the lateral extent of this groundwater plume.

In order to prevent a delay in the review process due to insufficient information, the MDEQ is requiring a map detailing the proposed sampling locations to fulfill the requirements outlined in items two, three, and six above be submitted by February 9, 2001. If you have any questions concerning this matter, please contact Gretchen Zmitrovich at 601-961-5240.

Sincerely,




Tony Russell, Chief  
Uncontrolled Sites Section

cc: Ms. Kelly Riley, MDEQ legal

Gulf State-Letter to Pilié-meeting notes from 02-01-01 (gz)

# FAX

To: Glen Pilié	From: Gretchen Zmitrovich
	 <small>MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY</small>
	Office of Pollution Control
	P.O. Box 10385
	Jackson, MS 39289-0385
Phone: 504-585-0260	Phone: 601-961-5240
Fax: 504-566-0210	Fax: 601-961-5300

Date: February 1, 2001		Routine	Priority
Number of pages, including this one: 3			
Message: Here is the letter detailing MDEQ's comments on the delineation report. I am still working on the risk assessment but should have preliminary comments to you and Dave today.			

# FAX

**Date** January 8, 2001

**Number of pages including cover sheet** 3

**TO:** Gretchen Zmitrovich  
MDEQ

**Phone** 601.961.5240

**Fax Phone** 601.961.5741

**FROM:** Dave Upthegrove  
Michael Pisani &  
Associates, Inc.

1430 Energy Centre

1100 Poydras Street

New Orleans, LA 70163

**CC:**

**Phone**

**Fax Phone**

**Phone** 504.582.2468

**Fax Phone** 504.582.2470

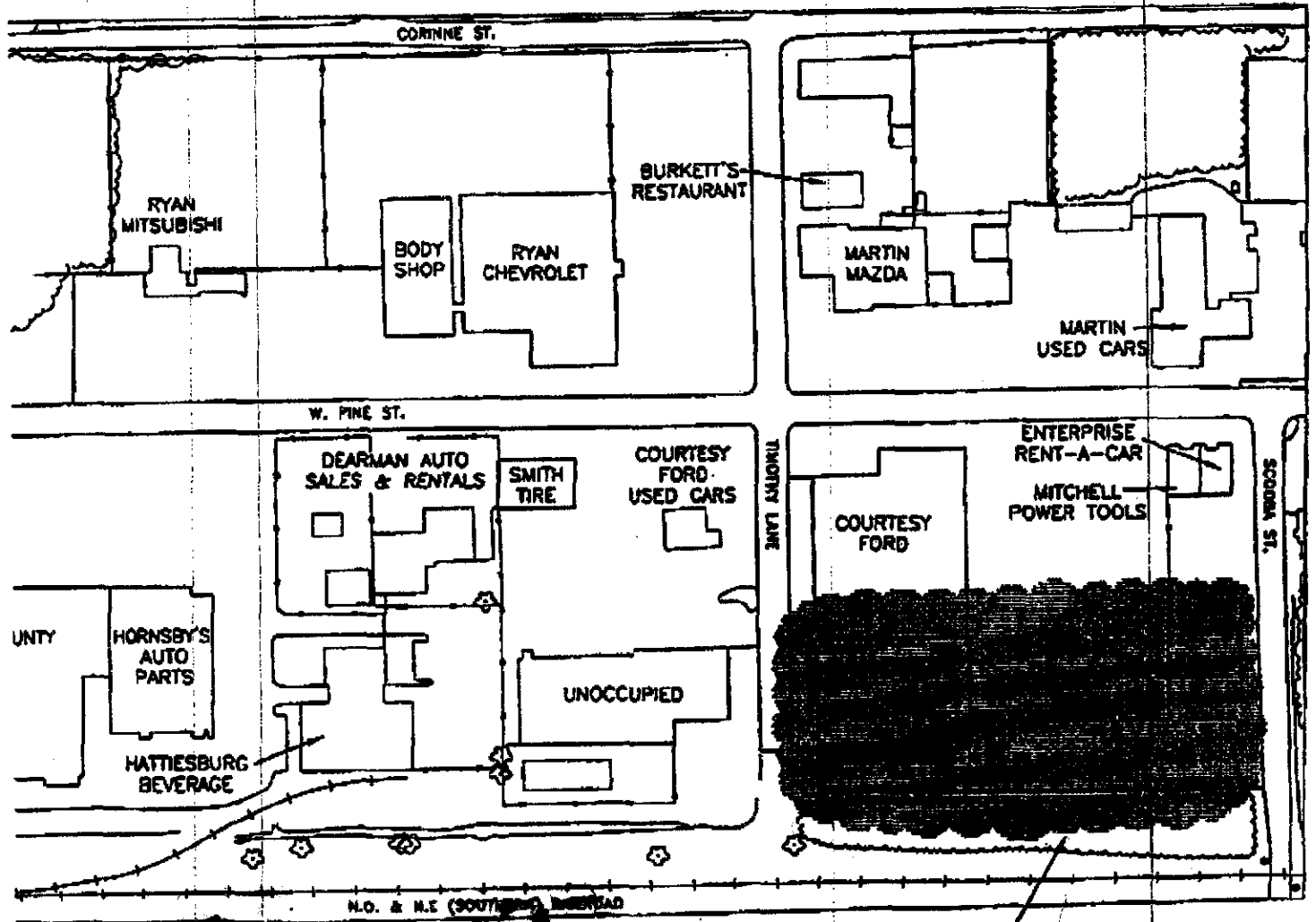
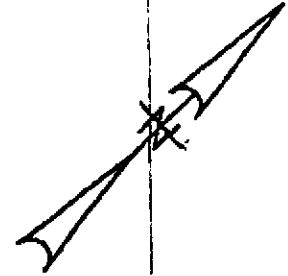
**REMARKS:**  Urgent  For your review  Reply ASAP  Please Comment

Gretchen:

Attached are maps depicting the approximate locations of the two offsite surface soil samples.  
Should you have any questions, please call me.

Regards,

Dave



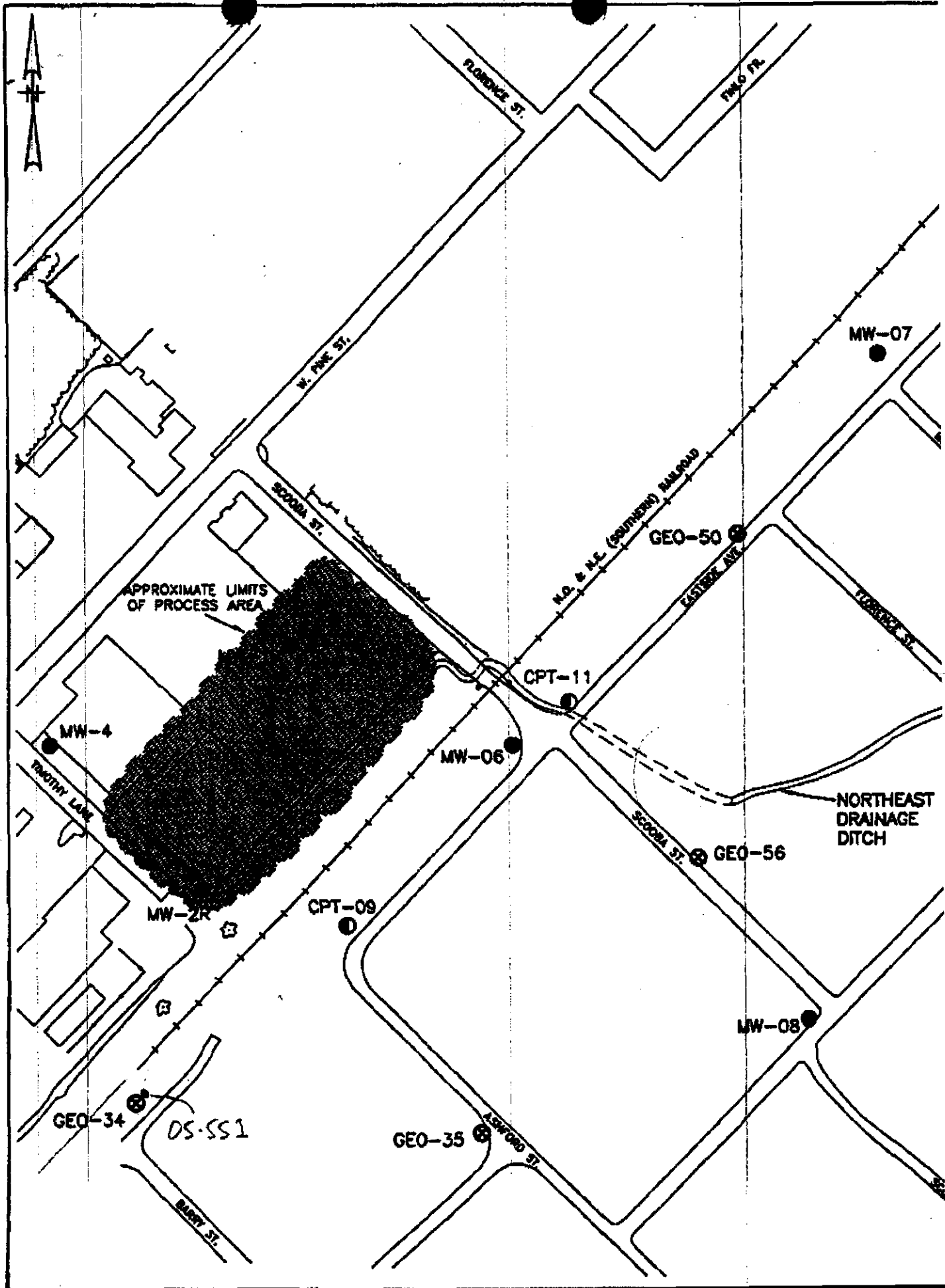
APPROXIMATE LIMITS OF PROCESS AREA

05-552 05-551



<b>MICHAEL PISANI &amp; ASSOCIATES</b> Environmental Management and Engineering Services New Orleans, Louisiana Houston, Texas	
TITLE: <b>FIGURE 1-2 CURRENT SITE FEATURES</b>	
PROJECT: <b>FORMER GULF STATES CREOSOTING SITE</b>	
LOCATION: <b>HATTIESBURG, MISSISSIPPI</b>	
SCALE: <b>1"=200'</b>	DWG. NO.: <b>21-02/31B</b>

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996



**MICHAEL PISANI & ASSOCIATES, INC.**  
Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
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m.pisani@ix.netcom.com

13401 Southwest Freeway  
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Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net

DEC - 4 2000

DEQ-OPC

November 29, 2000

**FILE COPY**

Ms. Gretchen Zmitrovich  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Subject: Results of Offsite Surface Soil Sampling  
Former Gulf States Creosoting Site  
Hattiesburg, Mississippi

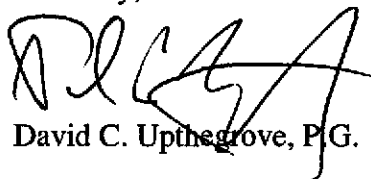
Dear Ms. Zmitrovich:

On October 31, 2000, Michael Pisani & Associates, Inc. collected two surface soil samples (i.e., zero to one foot below grade) on the east side of the Southern railroad tracks. Sample OS-SS1/0-1' was collected at sample location GEO-34 (see attached map). Sample OS-SS2/0-1' was collected at a location approximately 400 feet southwest of GEO-34.

Analytical results for the two surface soil samples are attached. The results indicate that surface soils on the east side of the tracks have not been impacted by historical operations at the former Gulf States Creosoting site. This stands to reason since there is no viable current or historical mechanism for the transport of site constituents to the area where the two surface soil samples were collected.

Should you have any questions or wish to discuss these results, please call us.

Sincerely,



David C. Upthegrove, P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese





Lancaster Laboratories Sample No. SW 3492157

Collected: 10/31/2000 12:30 by DU

Account Number: 07802

Submitted: 11/02/2000 09:00

Kerr-McGee Corporation

Reported: 11/16/00 at 11:58 PM

P.O. Box 25861

Discard: 12/17/00

Oklahoma City OK 73125

OS-SS1/0-1' Grab Soil Sample

Gulf States Creosoting/Hattiesburg, MS

SS101 SDG#: HMS13-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	4.60	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
01862	PAH's in Solids					
03296	Naphthalene	91-20-3	N.D.	280.	ug/kg	10
03297	Acenaphthylene	208-96-8	N.D.	280.	ug/kg	10
03298	Acenaphthene	83-32-9	N.D.	280.	ug/kg	10
03299	Fluorene	86-73-7	N.D.	26.	ug/kg	10
03300	Phenanthrene	85-01-8	21. J	10.	ug/kg	10
03301	Anthracene	120-12-7	N.D.	52.	ug/kg	10
03302	Fluoranthene	206-44-0	65.	5.2	ug/kg	10
03303	Pyrene	129-00-0	47. J	26.	ug/kg	10
03304	Benzo(a)anthracene	56-55-3	37.	2.6	ug/kg	10
03305	Chrysene	218-01-9	24. J	10.	ug/kg	10
03306	Benzo(b)fluoranthene	205-99-2	58.	2.1	ug/kg	10
03307	Benzo(k)fluoranthene	207-08-9	29.	2.1	ug/kg	10
03308	Benzo(a)pyrene	50-32-8	50.	2.6	ug/kg	10
03309	Dibenzo(a,h)anthracene	53-70-3	19. J	5.2	ug/kg	10
03310	Benzo(g,h,i)perylene	191-24-2	60. J	16.	ug/kg	10
03311	Indeno(1,2,3-cd)pyrene	193-39-5	70. J	10.	ug/kg	10

The anthracene recovery is outside the QC limits for the LCS. Since the recovery is high and no anthracene was detected in the sample, the results are reported.

Due to the nature of the sample matrix, a reduced aliquot was used for analysis. The Limits of Quantitation (LOQ's) were raised accordingly.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
---------	---------------	--------	--------	------------------------	---------	-----------------



Lancaster Laboratories, Inc.  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2200 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3492157

Collected: 10/31/2000 12:30 by DU

Account Number: 07802

Submitted: 11/02/2000 09:00

Kerr-McGee Corporation

Reported: 11/16/00 at 11:58 PM

P.O. Box 25861

Discard: 12/17/00

Oklahoma City OK 73125

OS-SS1/0-1' Grab Soil Sample

Gulf States Creosoting/Hattiesburg, MS

SS101 SDG#: HMS13-03

00111	Moisture	EPA 160.3 modified	1	11/05/2000 08:43	Susan A. Engle	1
01862	PAH's in Solids	SW-846 8310	1	11/09/2000 18:45	Michelle J. Kolodziejwski	10
03338	PAH Solid Extraction	SW-846 3550B	1	11/07/2000 08:00	Joseph S. Feister	1





Lancaster Laboratories Sample No. SW 3492158

Collected: 10/31/2000 12:50 by DU

Account Number: 07802

Submitted: 11/02/2000 09:00

Kerr-McGee Corporation

Reported: 11/16/00 at 11:58 PM

P.O. Box 25861

Discard: 12/17/00

Oklahoma City OK 73125

OS-SS2/0-1' Grab Soil Sample

Gulf States Creosoting/Hattiesburg, MS

SS202 SDG#: HMS13-04\*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
00111	Moisture	n.a.	10.2	0.50	% by wt.	1
"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The result reported above is on an as-received basis.						
01862	PAH's in Solids					
03296	Naphthalene	91-20-3	N.D.	300.	ug/kg	10
03297	Acenaphthylene	208-96-8	N.D.	300.	ug/kg	10
03298	Acenaphthene	83-32-9	N.D.	300.	ug/kg	10
03299	Fluorene	86-73-7	N.D.	28.	ug/kg	10
03300	Phenanthrene	85-01-8	61. J	11.	ug/kg	10
03301	Anthracene	120-12-7	130.	56.	ug/kg	10
03302	Fluoranthene	206-44-0	170.	5.6	ug/kg	10
03303	Pyrene	129-00-0	300.	28.	ug/kg	10
03304	Benzo(a)anthracene	56-55-3	130.	2.8	ug/kg	10
03305	Chrysene	218-01-9	190.	11.	ug/kg	10
03306	Benzo(b)fluoranthene	205-99-2	210.	2.2	ug/kg	10
03307	Benzo(k)fluoranthene	207-08-9	95.	2.2	ug/kg	10
03308	Benzo(a)pyrene	50-32-8	140.	2.8	ug/kg	10
03309	Dibenzo(a,h)anthracene	53-70-3	28. J	5.6	ug/kg	10
03310	Benzo(g,h,i)perylene	191-24-2	100. J	17.	ug/kg	10
03311	Indeno(1,2,3-cd)pyrene	193-39-5	120.	11.	ug/kg	10

The anthracene recovery (115%) is outside the QC limits of 40% - 114%.

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

### Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	EPA 160.3 modified	1	11/05/2000 08:43	Susan A. Engle	1



Lancaster Laboratories, Inc.  
 2425 New Holland Pike  
 PO Box 17425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-656-2681



Lancaster Laboratories Sample No. SW 3492158

Collected: 10/31/2000 12:50 by DU

Account Number: 07802

Submitted: 11/02/2000 09:00

Kerr-McGee Corporation

Reported: 11/16/00 at 11:58 PM

P.O. Box 25861

Discard: 12/17/00

Oklahoma City OK 73125

OS-SS2/0-1' Grab Soil Sample

Gulf States Creosoting/Hattiesburg, MS

SS202 SDG#: HMS13-04\*

01862	PAH's in Solids	SW-846 8310	1	11/09/2000 19:11	Michelle J. Kolodziejcki	10
03338	PAH Solid Extraction	SW-846 3550B	1	11/07/2000 08:00	Joseph S. Feister	1





Client Name: Kerr-McGee Corporation  
 Reported: 11/16/00 at 11:58 PM

Group Number: 737694

### Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 00310820005A      Sample number(s): 3492157-3492158								
Moisture				100	100	99-101	0	4
Batch number: 003110020A      Sample number(s): 3492155								
Naphthalene	N.D.	.8	ug/l	53	46	45-111	14	30
Acenaphthylene	N.D.	.8	ug/l	66	59	59-114	11	30
Acenaphthene	N.D.	.8	ug/l	59	57	50-120	4	30
Fluorene	N.D.	.17	ug/l	70	66	64-117	6	30
Phenanthrene	N.D.	.07	ug/l	90	88	75-114	3	30
Anthracene	0.164 J	.03	ug/l	105	99	53-112	6	30
Fluoranthene	N.D.	.03	ug/l	108	108	75-120	0	30
Pyrene	N.D.	.17	ug/l	102	104	74-118	2	30
Benzo(a)anthracene	N.D.	.02	ug/l	103	106	73-117	3	30
Chrysene	0.093 J	.06	ug/l	103	104	68-125	1	30
Benzo(b)fluoranthene	N.D.	.038	ug/l	105	109	71-123	4	30
Benzo(k)fluoranthene	N.D.	.01	ug/l	103	107	75-118	4	30
Benzo(a)pyrene	N.D.	.02	ug/l	103	107	61-127	4	30
Dibenzo(a,h)anthracene	N.D.	.03	ug/l	104	108	71-121	4	30
Benzo(g,h,i)perylene	N.D.	.1	ug/l	100	105	70-125	4	30
Indeno(1,2,3-cd)pyrene	N.D.	.067	ug/l	101	107	73-125	5	30
Batch number: 003110024A      Sample number(s): 3492157-3492158								
Naphthalene	N.D.	27.	ug/kg	104		34-128		
Acenaphthylene	N.D.	27.	ug/kg	108		44-123		
Acenaphthene	N.D.	27.	ug/kg	101		45-124		
Fluorene	N.D.	2.5	ug/kg	108		46-128		
Phenanthrene	N.D.	1.	ug/kg	113		45-127		
Anthracene	6.5	5.	ug/kg	115*		40-114		
Fluoranthene	N.D.	.5	ug/kg	118		44-133		
Pyrene	3.1 J	2.5	ug/kg	110		38-144		
Benzo(a)anthracene	N.D.	.25	ug/kg	108		42-132		
Chrysene	N.D.	1.	ug/kg	105		43-136		
Benzo(b)fluoranthene	N.D.	.2	ug/kg	110		44-132		
Benzo(k)fluoranthene	N.D.	.2	ug/kg	106		44-128		
Benzo(a)pyrene	N.D.	.25	ug/kg	99		41-124		
Dibenzo(a,h)anthracene	N.D.	.5	ug/kg	106		42-130		
Benzo(g,h,i)perylene	N.D.	1.5	ug/kg	102		43-137		
Indeno(1,2,3-cd)pyrene	N.D.	1.	ug/kg	106		45-133		
Batch number: 00314WAD026      Sample number(s): 3492156								
Pyridine	N.D.	.004	mg/l	56		35-91		
1,4-Dichlorobenzene	N.D.	.002	mg/l	60		39-109		
2-Methylphenol	N.D.	.002	mg/l	82		50-117		
4-Methylphenol	N.D.	.006	mg/l	78		47-112		
Hexachloroethane	N.D.	.002	mg/l	55		25-96		
Nitrobenzene	N.D.	.002	mg/l	96		58-126		
Hexachlorobutadiene	N.D.	.004	mg/l	58		19-95		
2,4,6-Trichlorophenol	N.D.	.004	mg/l	102		57-134		
2,4,5-Trichlorophenol	N.D.	.004	mg/l	101		61-131		
2,4-Dinitrotoluene	N.D.	.002	mg/l	103		62-129		
Hexachlorobenzene	N.D.	.004	mg/l	100		59-129		

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.





# Lancaster Laboratories

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## Quality Control Summary

Client Name: Kerr-McGee Corporation

Group Number: 737694

Reported: 11/16/00 at 11:58 PM

### Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Pentachlorophenol	N.D.	.006	mg/l	79		36-135		

### Sample Matrix Quality Control

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD %REC	BKG MAX	DUP Conc	DUP RPD	Dup RPD Max
---------------	---------	----------	---------------	----------	---------	----------	---------	-------------

Batch number: 00310820005A  
Moisture

Sample number(s): 3492157-3492158

10.2      10.3      0      16

Batch number: 003110024A

Sample number(s): 3492157-3492158

Naphthalene	127*	126	44-126	1	50
Acenaphthylene	117	114	58-117	2	50
Acenaphthene	122*	120*	60-114	1	50
Fluorene	104	93	50-136	6	50
Phenanthrene	(2)	(2)	26-149	20	50
Anthracene	(2)	(2)	26-120	17	50
Fluoranthene	(2)	(2)	48-138	14	50
Pyrene	(2)	(2)	11-154	17	50
Benzo(a)anthracene	(2)	(2)	21-166	10	50
Chrysene	(2)	(2)	33-158	9	50
Benzo(b)fluoranthene	(2)	(2)	52-123	9	50
Benzo(k)fluoranthene	(2)	(2)	52-124	10	50
Benzo(a)pyrene	(2)	(2)	45-135	9	50
Dibenzo(a,h)anthracene	174*	143	21-152	20	50
Benzo(g,h,i)perylene	105	168*	44-124	15	50
Indeno(1,2,3-cd)pyrene	(2)	(2)	51-120	18	50

Batch number: 00314WAD026

Sample number(s): 3492156

Pyridine	60	56	26-93	6	30
1,4-Dichlorobenzene	71	73	31-121	4	30
2-Methylphenol	90	88	25-129	3	30
4-Methylphenol	86	82	14-138	4	30
Hexachloroethane	68	68	16-116	1	30
Nitrobenzene	102	94	36-139	8	30
Hexachlorobutadiene	72	70	20-107	3	30
2,4,6-Trichlorophenol	107	100	46-139	7	30
2,4,5-Trichlorophenol	104	103	41-144	1	30
2,4-Dinitrotoluene	105	102	36-145	2	30
Hexachlorobenzene	100	98	49-134	2	30
Pentachlorophenol	87	82	2-143	6	30

### Surrogate Quality Control

Analysis Name: PAH's in Water

Batch number: 003110020A

\*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The background result was more than four times the spike added.





## Lancaster Laboratories

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### Quality Control Summary

Client Name: Kerr-McGee Corporation  
 Reported: 11/16/00 at 11:58 PM

Group Number: 737694

#### Surrogate Quality Control

	Nitrobenzene	Triphenylene
3492155	73	108
Blank	72	102
LCS	88	108
LCSD	76	109
Limits:	29-136	33-139

Analysis Name: PAH's in Solids  
 Batch number: 003110024A

	Nitrobenzene	Triphenylene
3492157	69	136
3492158	70	197*
Blank	67	108
LCS	70	111
MS	77	1593*
MSD	78	1364*
Limits:	5-113	19-186

Analysis Name: TCLP Acid Base/Neutrals  
 Batch number: 00314WAD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6
3492156	104	91	78	46
Blank	102	83	103	44
LCS	99	88	99	40
MS	104	94	81	45
MSD	94	94	68	43
Limits:	55-130	57-117	42-139	9-77

	2-Fluorophenol	2,4,6-Tribromophenol
3492156	68	96
Blank	68	103
LCS	62	106
MS	68	107
MSD	64	104
Limits:	15-113	32-157

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The background result was more than four times the spike added.



Lancaster Laboratories, Inc.  
 2425 New Holland Pike  
 PO Box 12425  
 Lancaster, PA 17605-2425  
 717-656-2300 Fax: 717-656-2681

# Analysis Request/ Environmental Services Chain of Custody



For Lancaster Laboratories use only  
 Acct. # 7802 Sample # 349215-58

Please print. Instructions on reverse side correspond with circled numbers.

1 Client: MICHAEL TISANI & ASSOC. Acct. #: \_\_\_\_\_  
 Project Name: # GULF STATES CROSSBOWNG PWSID #: \_\_\_\_\_  
 Project Manager: DAVE WHITE GRAVE P.O. #: \_\_\_\_\_  
 Sampler: DAVE WHITE GRAVE Quote #: \_\_\_\_\_  
 Name of state where samples were collected: MS

2

Sample Identification	Date Collected	Time Collected	3			4			Total # of Containers	5	6
			Grab	Composite	Soil	Water	Other	Analyses Requested			
IDW-WATER	10-31-00	1150	X		X	X		2	5047501016105 TALS to 0310 TALS to 0310	For lab use only FSC SCR #: <u>1142977</u>	
IDW-SOIL		1205		X	X		1				
<del>05-SS1/0-1</del>		<del>1230</del>	X		X		1				
05-SS1/0-1		1230	X		X		1				
05-SS2/0-1		1250	X		X		1				

7 Turnaround Time Requested (TAT) (please circle): Normal Rush  
 (Rush TAT is subject to Lancaster Laboratories approval and surcharge.)  
 Date results are needed: \_\_\_\_\_  
 Rush results requested by (please circle): Phone Fax  
 Phone #: 504.507.2168 Fax #: 504.507.2170

8 Data Package Options (please circle if requested)  
 QC Summary Type VI (Raw Data) Yes No  
 Type I (Tier I) GLP  
 Type II (Tier II) Other  
 Type III (NJ Red. Del.)  
 Type IV (CLP)  
 Site-specific QC required? Yes No  
 (If yes, indicate QC sample and submit triplicate volume.)  
 Internal Chain of Custody required? Yes No

9

Relinquished by:	Date	Time	Received by:	Date	Time
<u>L. Baker</u>	<u>8-25-01</u>	<u>1545</u>	<u>DRCCA</u>	<u>11-1-00</u>	<u>1700</u>
<u>DRCCA</u>	<u>11-1-00</u>	<u>1700</u>	<u>FED EX</u>	<u>11-1-00</u>	<u>1700</u>
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time





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

November 28, 2000

Via Facsimile and Federal Express

The Honorable Charles W. Pickering, Sr.  
United States District Court  
Southern District of Mississippi  
Suite 228  
701 North Main Street  
Hattiesburg, Mississippi 39401

RE: *RSCO Realty Corporation et al. versus Kerr-McGee  
Chemical Corporation, et al., Civil Action Number 2:96CV323PG  
And Related Cases*

Dear Judge Pickering:

Pursuant to your request during the status conference held on October 25, 2000, the Mississippi Secretary of State's Office and the Mississippi Department of Environmental Quality ("MDEQ") met to discuss the above-styled litigation. We discussed the outstanding issues pertaining to a proposed remediation plan as well as what will be required from our offices to assist in any proposed settlement of the above-styled litigation. This letter describes the position of our offices and the steps we are taking to facilitate the possible settlement of this matter.

Kerr-McGee is currently working with MDEQ to delineate the areal extent of the soil, sediment, and groundwater contamination on the 16<sup>th</sup> Section Public School Trust Land. It is projected that Kerr-McGee will furnish MDEQ with information regarding the extent and type of contamination on November 28, 2000. No further meaningful action toward the resolution of this case can continue until the delineation phase is satisfactorily completed. The State, as owner of the property through the Secretary of State, must know the full extent and type of contamination prior to executing any documents allowing remediation to occur or lending support to a remedial action plan. Kerr-McGee is conducting the investigation according to a work plan approved by MDEQ. The Secretary of State cannot approve the Risk Assessment and Remedial Action Plan until the site is completely delineated to the satisfaction of MDEQ.

A revised Risk Assessment also is due from Kerr-McGee by the end of November. As you know, the Risk Assessment will analyze the relative environmental and public health risk associated with allowing certain levels of pollution to remain on site. Obviously, the Secretary

of State has an obligation not to allow a level of pollution to remain on site that will substantially detract from the value of the land, that will threaten public health and welfare, or that will substantially impair or limit future uses of the land. The level of risk acceptable to the State will be determined with advice from MDEQ, with the sole factors being the protection of the trust asset and the health, safety, and welfare of present and future generations of the citizens of Mississippi.

The Remedial Action Plan currently proposed by Kerr-McGee will be reviewed following completion of the Risk Assessment to determine if the plan adequately eliminates all paths of exposure associated with the contamination established in the investigation and delineation phase. It is MDEQ's policy to require the removal of any "free product" contamination in the soils and/or groundwater. Failure to remove "free product" prolongs the remediation of the site because contaminants continue to be released into the environment.

The development of a Remedial Action Plan is an iterative process. As new information is developed concerning the extent and type of contamination, adjustments often become necessary in the Remedial Action Plan. Barring new data developed from the delineation, the primary unresolved issue at this site concerns the groundwater contamination that appears primarily to be located adjacent to the property described in the 16<sup>th</sup> Section lease executed on July 7, 1947 to Gulf States Creosoting Company for a term of 99 years ("Base Lease"); however, it is possible that groundwater contamination has migrated beyond the boundaries of the Base Lease. While it is possible that groundwater contamination issues can be separated from the current litigation, Kerr-McGee will remain liable for remediation costs for any soil and/or groundwater contamination located on property beyond the scope of this litigation (essentially, the areal extent of the Base Lease). The separation of the issues will be contingent upon Kerr-McGee's willingness to work with MDEQ on accepting responsibility for potential contamination on the property beyond the scope of this litigation while settling the contamination issues associated with this litigation.

MDEQ will require that use of contaminated groundwater be restricted until the groundwater has been remediated to levels of contamination that allow unrestricted use. Since this is 16<sup>th</sup> Section Public School Trust Land, the State will have to be compensated for any damage caused by this off-lease contamination. We are looking to see if there is a means to place restrictive covenants on the use of groundwater of record and have the restrictive covenants apply to the existing residential leasehold rights.

It is the position of the State that any groundwater contamination on the Base Lease will have to be addressed with the surface contamination, i.e., as part of the above referenced litigation. Since one requirement of the proposed settlement is that each settling party execute a new 16<sup>th</sup> Section Lease covering their leasehold, it makes no sense not to address all those individuals at one time. Based on information contained on a map furnished by Kerr-McGee, the number of entities potentially affected is at most fourteen (14) and more than likely only five (5).

In the event a satisfactory Remedial Action Plan can be developed, and the groundwater contamination issue satisfactorily resolved, the Secretary of State's Office previously has agreed to execute the documents necessary to conclude the above-styled litigation if certain conditions

are met. The actions of the parties have necessitated one additional provision--that the Secretary of State's Office know the full financial details of the settlement. The previously agreed conditions are as follows:

1. That Kerr-McGee adequately remediates the property in Section 16, Township 4 North, Range 13 West, by removing the creosote contamination, pursuant to a Remedial Action Plan approved by the Mississippi Department of Environmental Quality.
2. That Kerr-McGee executes an indemnity agreement to protect the Hattiesburg School District from future contamination problems.
3. That damages received by the Hattiesburg Municipal School District from Kerr-McGee in settlement are placed in the school district's principal fund pursuant to § 29-3-113.
4. That those individual tracts of land (subleases) comprising the 36.6 acres of the original 81-acre lease executed on July 7, 1947 to Gulf States Creosoting Company for a term of 99 years ("Base Lease") that contain surface creosote contamination will be subject to perpetual easement/restrictive covenants as to use. The perpetual easement/restrictive covenants will allow the Mississippi Department of Environmental Quality and Kerr-McGee continued access to the property for monitoring purposes. The surface use of the property will be limited to those uses allowed as Commercial pursuant to § 29-3-33. The subsurface use of the property will be restricted. The subleases of the contaminated execute the perpetual easement/restrictive covenants.
5. That the sublessees subject to the perpetual easement/restrictive covenants execute new 16<sup>th</sup> Section Leases covering their leasehold.
6. That any additional sublessee, receiving a settlement payment from Kerr-McGee, execute new 16<sup>th</sup> Section Leases covering their leasehold.

We hope that this letter is beneficial to you and the parties to this litigation. As long as the State's interest is protected, we are ready and willing to do what is necessary to facilitate a settlement. If you have any questions, please contact Kelly Riley at 601-961-5369.

Sincerely,



Chuck D. Barlow  
General Counsel

- cc: Mr. Bill Cheney, Esq.  
Mr. Don Barrett, Esq.  
Mr. Marc L. Boutwell, Esq.  
Mr. S. Robert Hammond, Jr., Esq.  
Mr. Richard F. Yarborough, Jr. Esq.  
Mr. Jolly Matthews, III, Esq.  
Mr. J.B. VanSlyke, Jr., Esq.  
Mr. Frank D. Montague Jr., Esq.  
Mr. Patrick H. Zachary, Esq.  
Mr. Lawrence C. Gunn, Esq.  
Mr. Alexander A. Alston, Jr., Esq.  
Mr. Glen M. Pilie, Esq.  
Mr. Holmes S. Adams, Esq.  
Dr. James R. Davis  
Mr. Sam Buchanan



AGENDA  
Kerr McGee Meeting  
February 7, 2001

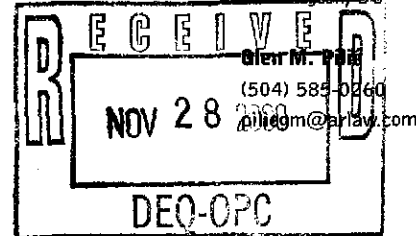
- I. Introduction
- II. Comments from February 1, 2001 letter
- III. Revised Risk Assessment Discussion
  - A. DEQ's comments in February 6, 2001 letter
  - B. Submission date for revised document
- IV. Briefing from DEQ on Process Area
- V. Discuss time frames for completion
  - A. Delineation work
  - B. Revised Risk Assessment
- VI. Additional comments or questions

ADAMS AND REESE LLP

FILE COPY

Attorney at Law  
Baton Rouge  
Houston  
Jackson  
Mobile  
New Orleans  
Washington, DC

November 27, 2000



Via Federal Express Priority Overnight

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
101 West Capital Street  
Jackson, MS 39201

Re: Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240

Dear Mr. Russell:

Enclosed please find two copies of a revised human health risk assessment and two copies of a report on additional site investigation activities for the former Gulf States Creosoting site. Once you have had a chance to review these documents, we will be more than happy to meet with you and your staff to discuss any concerns or comments you may have in an effort to expedite the process.

With kind regards, I remain

Very truly yours,

ADAMS AND REESE L.L.P.

  
Glen M. Pilié

GMP/rye

Enclosures

cc (w/enclosures to follow):

Judge Charles Pickering, Sr.  
Magistrate Judge Louis Guirola  
Mr. Don Barrett  
Mr. S. Robert Hammond, Jr.  
Mr. Alex A. Alston, Jr.

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI  
HATTIESBURG DIVISION

RSCO REALTY CORPORATION, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFFS  
CIVIL ACTION NO. 2:96cv323 PG  
DEFENDANTS

O.M.T. PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv356 PG  
DEFENDANTS

GARY MARTIN, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFFS  
CIVIL ACTION NO. 2:96cv357 PG  
DEFENDANTS

STEADMAN PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv394 PG  
DEFENDANTS

HATTIESBURG BEVERAGE CO., INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:98cv238 PG  
DEFENDANTS

NOTICE

TAKE NOTICE that the Status Conference in the captioned matter previously scheduled for November 20, 2000 at 9:00 a.m. has been canceled until further Order of the Court.

Date: November 14, 2000

J. T. NOBLIN, CLERK  
UNITED STATES DISTRICT COURT

By: *S. Potin*  
Sharon Potin, Courtroom  
Deputy Clerk

To:	Don Barrett	Frank D. Montague, Jr.
	Marc Boutwell	Patrick H. Zachary
	S. Robert Hammond, Jr.	Lawrence C. Gunn, Jr.
	Richard F. Yarborough, Jr.	Alexander A. Alston, Jr.
	Jolly Matthews, III	Glen M. Pilie
	Robert Vosbein	Ronald G. Peresich
	J. B. VanSlyke, Jr.	Russell H. Smith, M.D.E.Q.
	William G. Cheney, Jr.	Kelly Riley, M.D.E.Q.

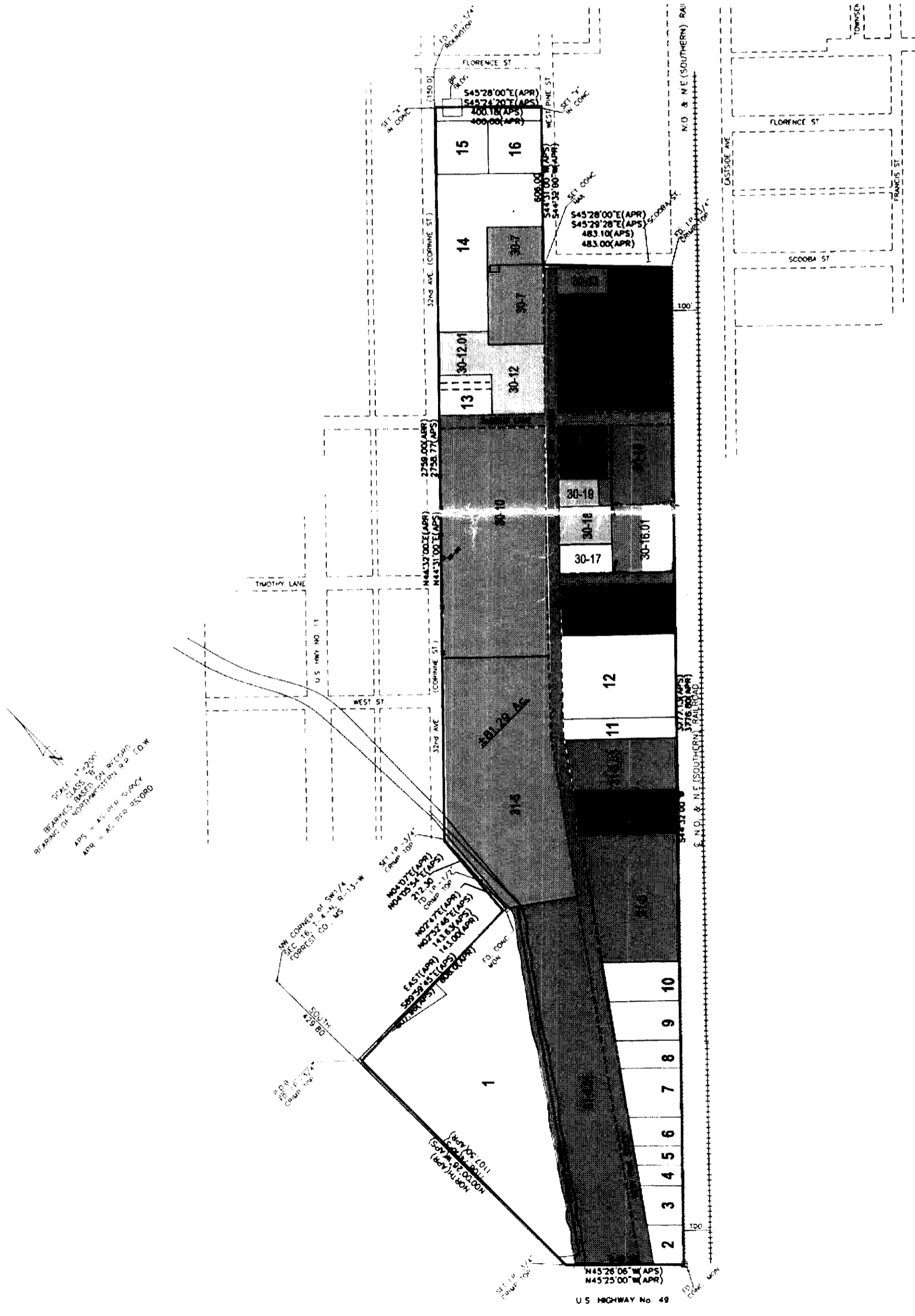


**NON-SETTLING PARTIES**

- 1. K-Mart (No tract number assigned by Surveyor)**
- 2. Amoco/M&S Oil Co., Inc. (31-13)**
- 3. Clark's Auto Sales/G.W. Clark (31-12)**
- 4. Same as (3)**
- 5. E-Z Pay Rentals, Inc. (Franzen) (31-11)**
- 6. Southern Beverage Co., Inc. (31-10.01)**
- 7. Broadway Motors (John Pace) (31-10)**
- 8. Alpha Chemical (31-9)**
- 9. Fisher Pawn (Fisher) (31-8.01)**
- 10. Hensen Auto Sales (Brett Hensen Auto Sales, Inc.) (31-8.04)**
- 11. Auto Locators (Rimes/Klein) (31-7)**
- 12. Forrest County (31-6.01)**
- 13. Burkett's (Burkett) (30-11)**
- 14. Gulf Development Corp. (30-5 and 30-6)**
- 15. Frank P. Corso, Inc. (30-4)**
- 16. Herbert F. Aplin (30-9)**

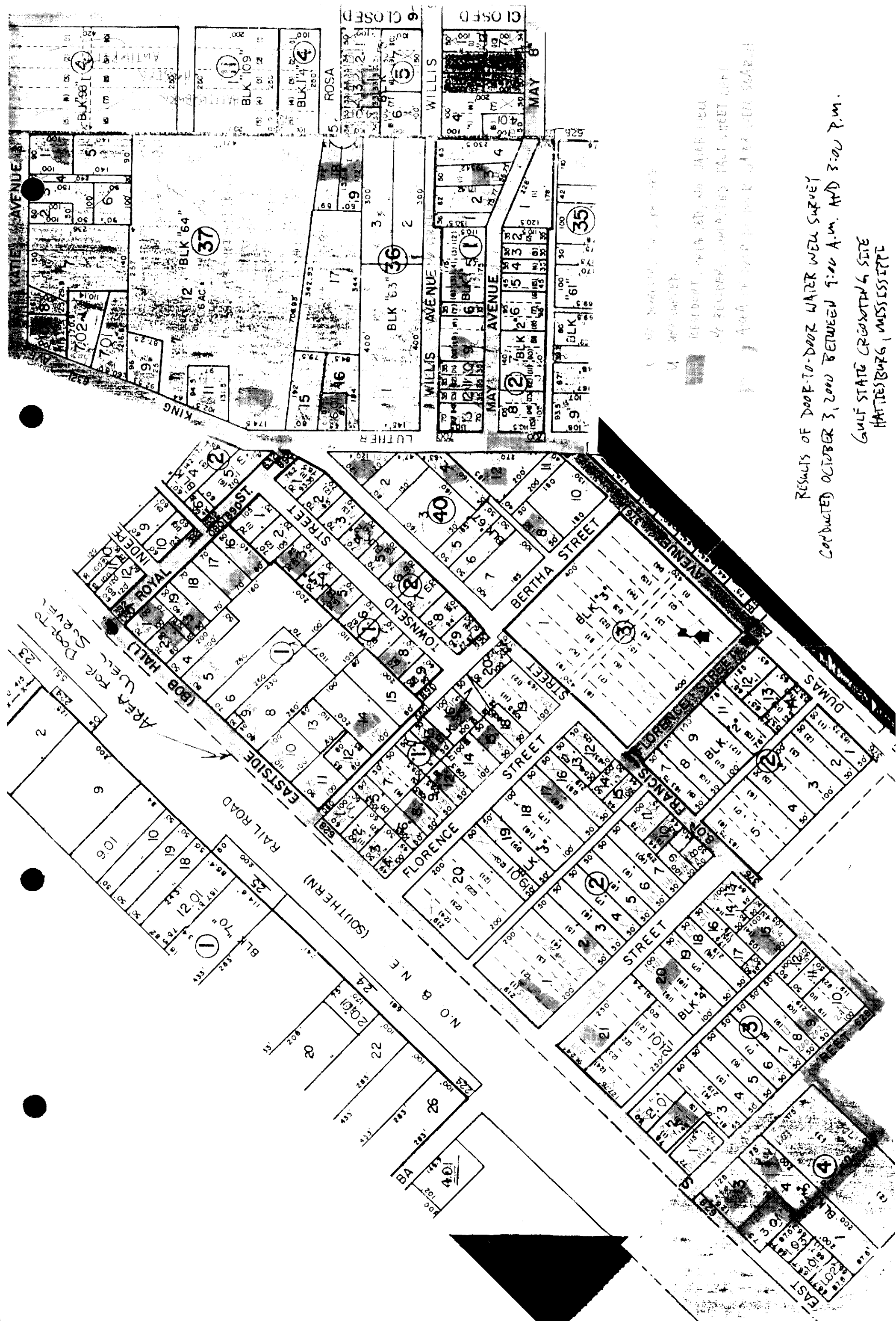
**SETTLING PARTIES**

PARTY	TRACTS
Bob & Judith Mixon,	30-14
Courtesy Motors,	30-20
Ryan Supply Company	30-14.01
Hattiesburg Beverage	30-16.01
Martin Brothers	30-7
Steadman Properties	30-12
	30-12.01
OMT Properties	31-6
Ryan Motors,	30-10
Mickey Ryan,	30-13
RSCO Realty	31-5
Yarbrough	30-19
Touchstone,	31-8.02
Fagan Cars	
David Dearman	30-18
Semian Dearman	30-17
Corr-Williams	30-15
Industrial Park, Inc.	31-8.03
	31-8
	31-4.01
School District	50' former railroad; not within lease



SCALE 1"=200'  
 BEARINGS BASED ON RECEIVED  
 BEARING OF NORTHWESTING RAILROAD  
 APR = AC. PER SURVEY  
 APR = AC. PER RECORD

U.S. HIGHWAY No. 49



RESULTS OF DOOR-TO-DOOR WATER WELL SURVEY  
 CONDUCTED OCTOBER 3, 2000 BETWEEN 9:00 A.M. AND 3:00 P.M.

GULF STATE GEOGRAPHY & SITE  
 HATTIESBURG, MISSISSIPPI



**FILE COPY**

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

## MEMORANDUM

---

To: Gulf State Creosote File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich *GZ*

Date: October 27, 2000

Subject: court appearance

---

On October 25, 2000, Kelly Riley and I appeared with legal representatives for the plaintiffs and the defendants before Judge Pickering for a status conference on the site. The MDEQ was informed that the settlement was contingent on our approval of the risk assessment and the remedial action plan. The MDEQ informed the court that the review process would take a minimum of 5-1/2 months. The issue of use restrictions for groundwater placed on the residential properties was also discussed. The plaintiffs' and defendants' attorneys did not anticipate these restrictions. Everyone agreed to return to court on November 20, 2000, for another status conference to give time to resolve some of these issues.

Gulf State-Memo to File-court appearance\_10-25-00 (gz)



**FILE COPY**

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

**MEMORANDUM**

---

To: Gulf State Creosote File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich *GZ*

Date: October 17, 2000

Subject: phone conversation

---

I spoke to David Upthegrove of Michael Pisani and Associates about the above referenced site today. The purpose of the call was to determine a submittal date for the report for the additional work that was performed at MDEQ's request at the end of August through the beginning of September. Mr. Upthegrove stated that the laboratory recently submitted the data package for the field work, and it had been sent to the data validation firm. However, the validated data would not be back until the beginning of November. Then, he had to incorporate the data into a report and would be pressed to get it here before the November deadline already established for the revised risk assessment. I told him that if MDEQ determined that they had not fulfilled the requirements of delineation at that point, more work would be required.

He stated that they had found a layer of creosote impacted material at the junction of the native soil and the fill soil for the railroad bed on the site-side of the railroad tracks. In addition, they did not collect soil samples at GEO-34 as he, Glen Pilié and I had discussed in the field on August 30, 2000. He stated that he would return to the field tomorrow or the day after to collect the surficial soil sample at GEO-34. I stated that the MDEQ would require delineation on the residential side of the tracks to ensure that the creosote had not migrated under the tracks. He stated that he would check to see if his clients wanted to do all the work at one time and that he would let me know.

Gulf State-Memo to File-phone conversation with Upthegrove\_10-17-00 (gz)

# ADAMS AND REESE LLP

## Attorneys at Law

Baton Rouge  
Houston  
Jackson  
Mobile  
**New Orleans**  
Washington, DC

October 11, 2000

### Glen M. Pilié

(504) 585-0260  
piliem@arlaw.com

**Via Federal Express Priority Mail**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
101 West Capital Street  
Jackson, MS 39201

# FILE COPY

Re: Door-to-Door Well Survey  
*Former Gulf States Creosoting Site – Agreed Order No. 338197*  
*Hattiesburg, Mississippi*  
Our File 298-240

Dear Mr. Russell:

Enclosed is a report giving the results of the door-to-door well survey, which was taken on October 3, 2000. As stated in the report, slightly less than 50% of the dwellings had someone at home at the time the survey was conducted. However, from visual observations made during the attempt to contact persons, no water wells were apparent on any of the properties covered by the survey.

Once you have had a chance to review the information, please contact me if you have any questions.

Very truly yours,

ADAMS AND REESE L.L.P.

*Glen M. Pilié / rye*  
Glen M. Pilié

GMP/rye

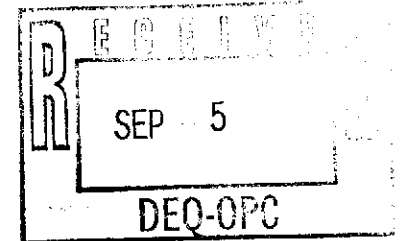
Enclosure

cc: Richard F. Yarborough (w/encl.)  
Don Barrett (w/encl.)

SEPTEMBER 1, 2000

**Glen M. Pilié**  
(504) 585-0260  
piliem@arlaw.com

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



*Re: Former Gulf States Creosoting Site  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Kerr-McGee and its consultants have reviewed the comments received from MDEQ and EPA on the Human Health Risk Assessment for the Former Gulf States Creosoting Facility, which was submitted by Kerr-McGee in November 1999. As you are aware, Kerr-McGee presently is conducting additional field sampling requested by MDEQ as part of its comments on the risk assessment. Presently, we anticipate submitting a revised risk assessment by November 27, 2000. The revised risk assessment will incorporate data obtained from the field sampling activities which are underway. The revised risk assessment also will address the comments received by Kerr-McGee from MDEQ on the initial risk assessment. However certain of the comments, we believe should be addressed now.

In your letter of August 2, 2000, MDEQ states in general comment A5 that all tables should use standard formats. In its risk assessment, Kerr-McGee presented all of the information specified in the EPA document cited in comment A5. The tables contained in the risk assessment involve a sophisticated cell and range naming system which link tables together and links tables to files. Reformatting the tables to a different system would require significant work to relink numerous spreadsheets that have been designed to facilitate the risk assessment process. Presenting the information according to the formats outlined in EPA's Risk Assessment Guidance for Superfund Part D would be very timely, very costly, and would not change the substance of the risk assessment. Therefore, Kerr-McGee respectfully suggests that the tables contained in the risk assessment remain as formatted in order to expedite the process and streamline costs.

Comment C2 of MDEQ's August 2, 2000 correspondence would require Kerr-McGee to incorporate unvalidated and unvalidatable information into a quantitative risk assessment. Data regarding the site collected prior to 1997 are considered highly suspect, and therefore, not appropriate to use quantitatively in the risk assessment. The data from earlier investigations are available only in summary format and do not appear to have undergone any data validation procedures. It is not possible at this time to conduct standard validation protocols on this older data because the laboratory support

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Page 2  
9/1/00

documentation is lacking. The exclusion of unreliable and unvalidated data from quantitative evaluation of risks is in accordance with U.S. EPA Guidance and MDEQ Brownfields Guidance (1999). Specifically, the MDEQ Guidance mentions in its Risk Assessment Data Requirements that "all reported data shall be in compliance with the DQO's (Data Quality Objectives). . ." and that "the data will be validated by a qualified technical individual. . ." In the revised risk assessment, Kerr-McGee will indicate what sampling data were used to select chemicals of potential concern and also will include a narrative of what sampling data were not used and the reason for exclusions of that data from the risk assessment. Other specific comments in your August 2, 2000 correspondence will be addressed in the revised risk assessment.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

**ADAMS AND REESE LLP**

BY:

  
GLEN M. PILIE

GMP/js





**FILE COPY**

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

## MEMORANDUM

---

To: Gulf State Creosote File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich *GZ*

Date: September 1, 2000

Subject: groundwater investigation

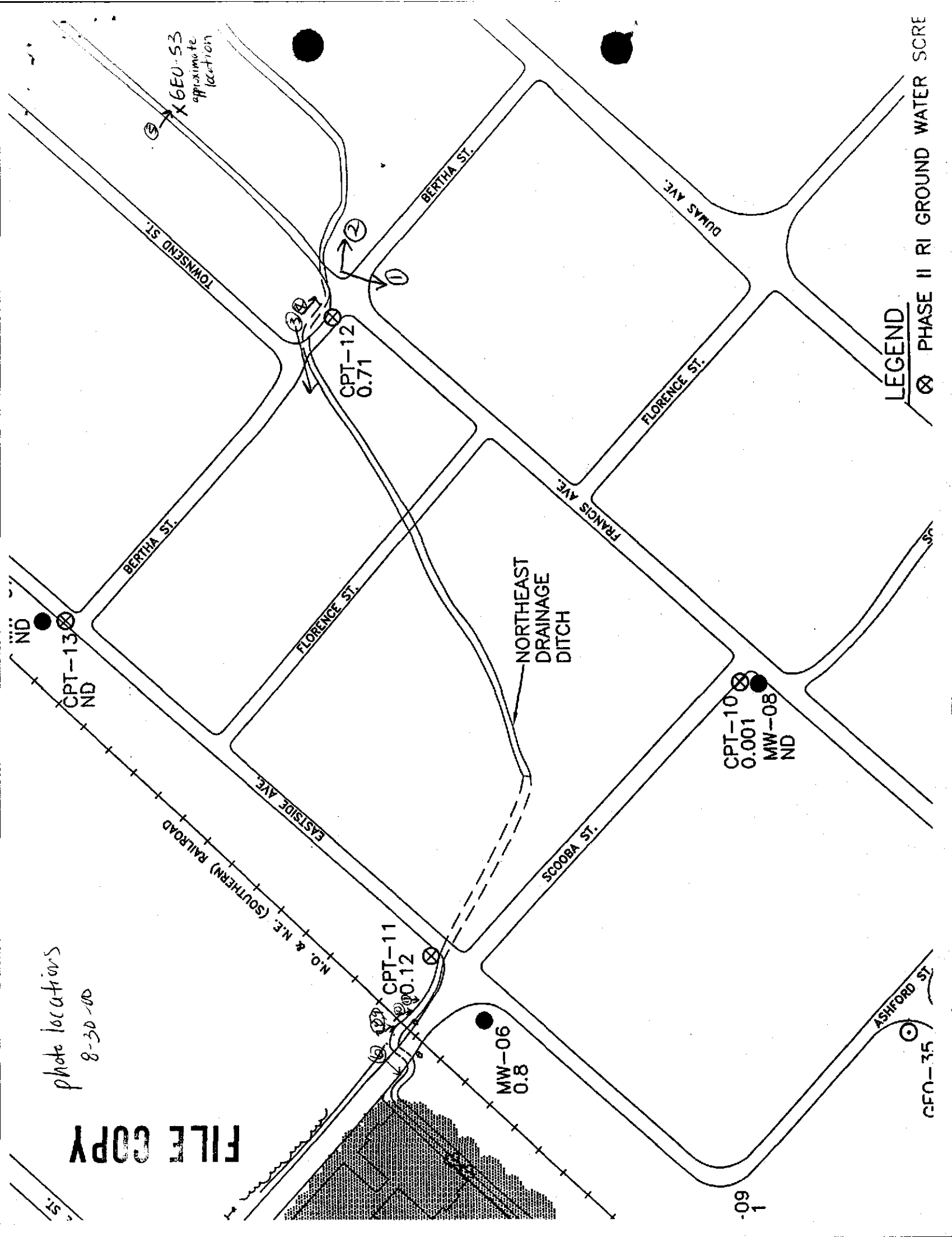
---

On August 30, 2000, I met with David Upthegrove of Michael Pisani & Associates and Joe Peavey and Mike Lewis of Walker-Hill at the above referenced site for a groundwater investigation. When I arrived, temporary well GEO-34GW had been installed. However, it was producing no water. We decided to let it sit to see if any water would develop. Before moving to the next well location, Glen Pilié of Adams and Reese arrived on-site. We discussed the need to do a water well search in the area as soon as possible. I told Mr. Pilié that either his clients or the school board needed to conduct the search, but that MDEQ wants to review the information that will be handed out to the residents before the search was conducted. We then moved to GEO-35GW. This boring was advanced to around 27 feet, and a temporary well was installed. Although the well had water, it did not contain enough to fill all the sampling containers. We allowed this well to sit for a while also. We then moved to GEO-53GW. A temporary well was installed, and a sample was collected for PAHs. I collected a split of this sample and later delivered it to the OPC lab for PAH analysis. I left the site before the crew returned to the previous borings to collect samples. I took photographs during the field work. These photographs are in the file.

Gulf State-Memo to File-groundwater investigation\_8-30-00 (gz)

photo locations  
8-30-00

FILE COPY



LEGEND

⊗ PHASE II RI GROUND WATER SCORE

-09  
1

ADAMS AND REESE LLP

# FILE COPY

## FACSIMILE TRANSMITTAL

4500 ONE SHELL SQUARE  
New Orleans, LA 70139  
Facsimile: (504) 566-0210

DATE 9/21/2000

TO Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section

RE Former Gulf States Creosoting Site  
Hattiesburg, Mississippi

From  
Mr. Glen Pilié

No. Pages  
Transmitted

### MESSAGE

See Attached

### TRANSMITTAL INFORMATION

User # 320

Adams & Reese  
File Number 298-240

Recipient Facsimile  
Telephone Number (601) 961-5300

If you did not receive the number of accompanying pages indicated, or experience any other transmission problems, please contact

Yvonne Evans at (504) 585-0334

### CONFIDENTIALITY NOTICE

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# ADAMS AND REESE LLP

**Attorneys at Law**  
Baton Rouge  
Houston  
Jackson  
Mobile  
**New Orleans**  
Washington, DC

September 21, 2000

**Glen M. Pilié**  
(504) 585-0260  
gpillegm@arlaw.com

**Via Facsimile No. (601) 961-5300**  
Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, MS 39289-0385

**Re: Former Gulf States Creosoting Site - Agreed Order No. 338197**  
**Hattiesburg, Mississippi**  
**Our File 298-240**

Dear Mr. Russell:

Enclosed is a draft fact sheet which we prepared at the suggestion of MDEQ to be used in conjunction with the anticipated door-to-door well survey. Previously I had forwarded to you our suggested protocol for the door-to-door survey and our suggested area within which the survey is to be conducted. MDEQ suggested that in conjunction with the survey a fact sheet be handed to each resident, and you sent us an example of such a fact sheet used in a different situation. We used that example you sent to us and developed the enclosed suggested fact sheet for our project area. Once we obtain approval from the MDEQ for the suggested protocol fact sheet and area to be surveyed, we are prepared to conduct this activity.

I look forward to hearing from you.

Very truly yours,

ADAMS AND REESE L.L.P.



Glen M. Pilié

GMP/rye

Enclosure

cc: Richard F. Yarborough (w/encl.)

**DRAFT****Former Gulf States Creosote Site  
Hattiesburg, Mississippi  
Environmental Program****DRAFT**

*This information sheet has been created to inform interested citizens about the status of the environmental investigation taking place at the former Gulf States Creosote Site in Hattiesburg, Mississippi. Copies of this fact sheet can be received by contacting Mr. Rick Yarborough at 601/736-2222.*

**Offsite Well Survey**

**Background:** The property, along Pine Street, between Scooba and Highway 49, is being investigated with the oversight and approval of the Mississippi Department of Environmental Quality, under its Voluntary Evaluation Program. Surface and subsurface soil and groundwater are being investigated for impacts from the former wood treating operation on the site.

For many years prior to 1960, a wood treating facility operated on property leased from the Hattiesburg School Board. After the facility closed in 1960, the property was developed into the retail area that now resides along Pine Street. In the early 1990s, tests disclosed residues of a wood treating chemical, creosote, still existed on certain areas of the site. Residues have also been detected in the sediment of a small drainage ditch northeast of the site.

A check of State records revealed no private water wells in the area. However, out of an abundance of caution, a door-to-door survey is being conducted to determine if there are any private water wells in the area bounded by \_\_\_\_\_ that could be drawing water from zones that may potentially be impacted by creosote.

**Next Step:** The site investigation is nearly complete. Once the investigation is complete MDEQ will publish a public notice informing the public of any clean-up activities proposed for the site. If you would like to be notified by mail, please contact either of the state representatives listed below.

**For More Info:** More information about the property is available from MDEQ, whose files contain all relevant reports and data gathered at the site. This information is available under the Mississippi Freedom of Information Act. For further information, please contact Tony Russell at 601/961-5318 or Gretchen Zmitrovich at 601/961-5240.

Information about creosote is available from the U.S. Government's Agency for Toxic Substances and Disease Registry (ATSDR). You can contact ATSDR at their web site at <http://www.atsdr.cdc.gov/> or you can contact the ATSDR Information Center at 1-800-447-1544.

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI  
HATTIESBURG DIVISION

FILE COPY

RSCO REALTY CORPORATION, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFFS  
CIVIL ACTION NO. 2:96cv323 PG  
DEFENDANTS

O.M.T. PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv356 PG  
DEFENDANTS

GARY MARTIN, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

- PLAINTIFFS  
CIVIL ACTION NO. 2:96cv357 PG  
DEFENDANTS

STEADMAN PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv394 PG  
DEFENDANTS

HATTIESBURG BEVERAGE CO., INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:98cv238 PG  
DEFENDANTS

NOTICE

TAKE NOTICE that the above-entitled case has been scheduled for a Status Conference on **October 16, 2000 at 1:30 p.m.** in the United States Courthouse, Colmer Federal Building, 701 Main Street, Hattiesburg, Mississippi, United States District Judge Charles W. Pickering, Sr., presiding.

Date: September 21, 2000

J. T. NOBLIN, CLERK  
UNITED STATES DISTRICT COURT

By: *S. Potin*  
Sharon Potin, Courtroom  
Deputy Clerk

To: Don Barrett  
Marc Boutwell  
S. Robert Hammond, Jr.  
Richard F. Yarborough, Jr.  
Jolly Matthews, III  
J. B. VanSlyke, Jr.

Frank D. Montague, Jr.  
Patrick H. Zachary  
Lawrence C. Gunn, Jr.  
Alexander A. Alston, Jr.  
Glen M. Pilie  
Russell H. Smith, M.D.E.Q.

ADAMS AND REESE LLP

**FILE COPY**

Attorneys at Law  
Burr, Rouge  
Houston  
Jackson  
Mobile  
**New Orleans**  
Washington, DC

September 11, 2000

**Glen M. Pilié**  
(504) 585-0260  
pillegm@arlaw.com

**Via Federal Express Mail**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
2380 Highway 80 West  
Jackson, MS 39204

Re: Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240

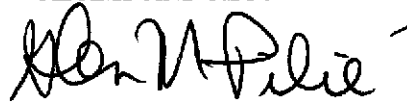
Dear Mr. Russell:

Enclosed please find our recommendation to conduct a door-to-door well survey as requested by MDEQ. The area to be surveyed is depicted on the attached map and bordered in green. Also attached is a proposed protocol for conducting the survey. The protocol sets forth the questions, which would be asked of residents during the survey. With your approval of the protocol and area to be surveyed, we are prepared to undertake this activity during the week of September 18, 2000.

I look forward to hearing for you at your earliest convenience.

Very truly yours,

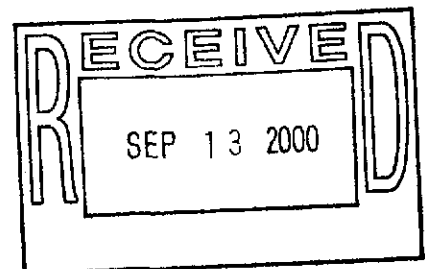
ADAMS AND REESE L.L.P.

  
Glen M. Pilié

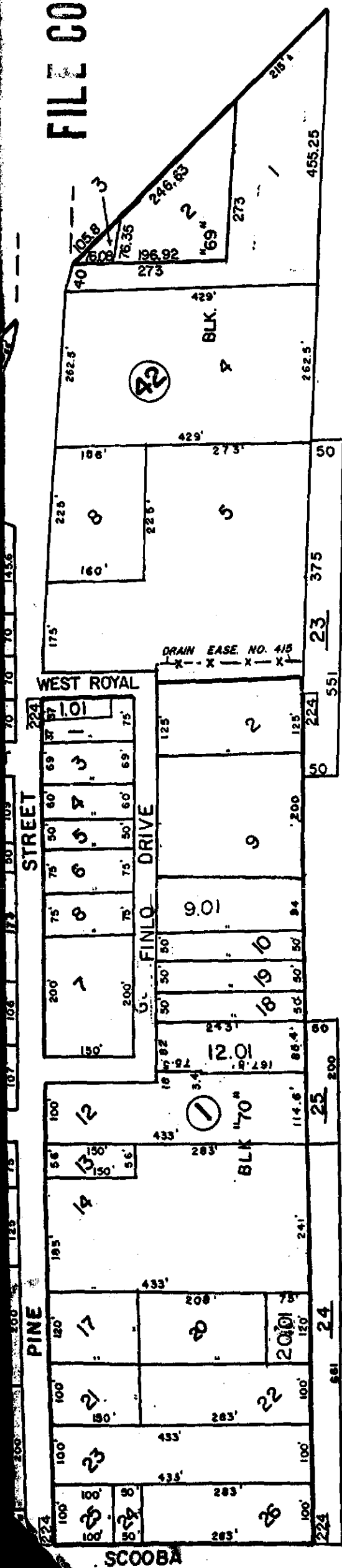
GMP/rye

Enclosures

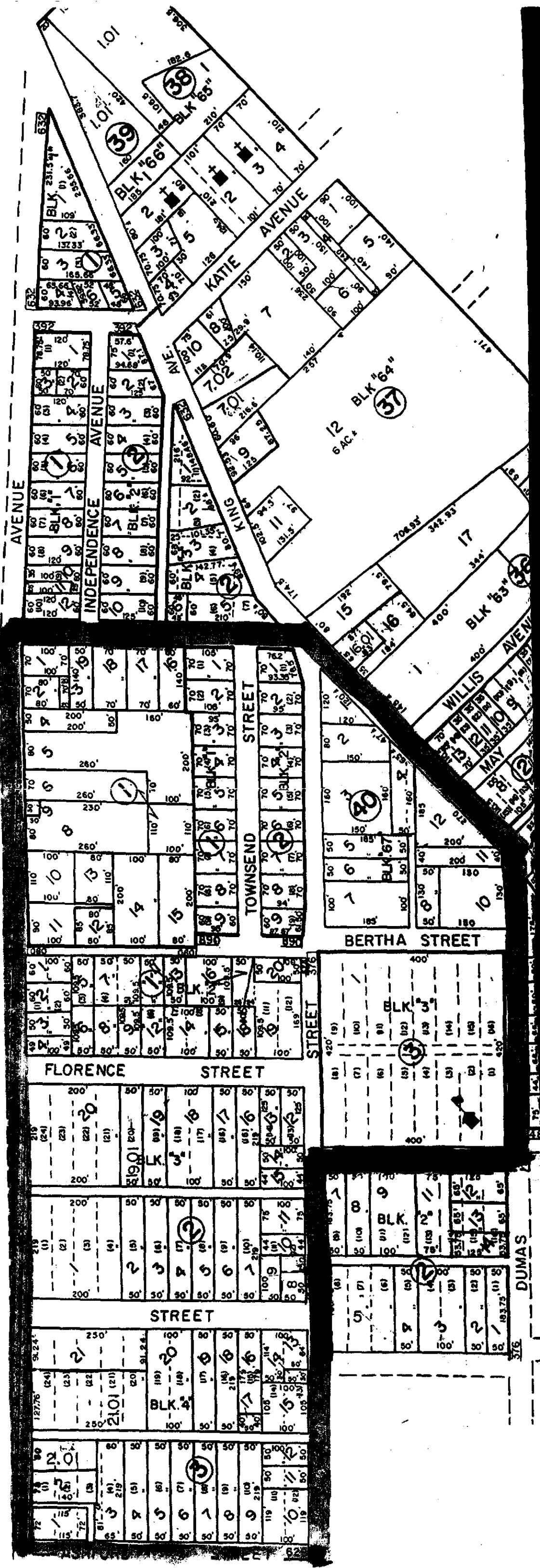
cc: Mr. Don Barrett (w/encl.)



FILE COPY



N.O. & N.E. (SOUTHERN) RAILROAD





**PROTOCOL FOR DOOR TO DOOR  
WATER WELL SURVEY  
HATTIESBURG, MISSISSIPPI**

AREA TO BE INCLUDED IN THE SURVEY: (SEE ATTACHED MAP)

HOURS DURING WHICH SURVEY TO BE CONDUCTED: 9:00 A.M. TO  
5:00 P.M.

DATE(S) FOR SURVEY: SEPTEMBER 19-20, 2000

**PROCEDURE**

- a) Record address and mark on map;
- b) Record name of person contacted at the residence and time of contact;
- c) Verify that person contacted is an adult living in the residence;
- d) Determine if there is a water well on the property, and if so, its use, location and date of installation.

**SPECIFIC QUESTIONS TO BE ASKED:**

**Question 1:**

My name is \_\_\_\_\_, and I am here at the request of the Mississippi Department of Environmental Quality to determine if there are any water wells located on this property. Do you live in this residence?  
(If response is negative terminate the interview).

**Question 2:**

Would you please spell your name for me so I can record it for MDEQ?

**Question 3:**

Are there any water wells located on this property?  
(If the response is negative thank the person for their cooperation and terminate interview).

**Question 4:**

Is the water well still in use, and if so, what is the water used for?

**Question 5:**

Where is the water well located?

**Question 6:**

When was the water well installed?

Thank the person for their cooperation. If the person has any questions refer them to Mr./Ms. \_\_\_\_\_ with the Mississippi Department of Environmental Quality.

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 628 4

Description: Block bounded by Barry, Ashford St., Eastside Ave., and Country Club

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
2	109 Ashford	St. James Christian Methodist	None		
	705 Country Club	St. James Christian Methodist	None		
3	101 Ashford	Smith, Ruby	Ida Smith	No	
4	107 Ashford	Smith, Willie E. & Ida A.	Ida Smith	No	House unoccupied

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 628 3

Description: Block bounded by Ashford St., Scooba St., Eastside Ave., and Francis St.

Lot	Address	Owner (from tax records)	Contact	Water Well?	Comment
1	104 Ashford	Jackson, George & Thelma	None		Westside Coffee Shop
2	612 Eastside	Payton, A. J.	A. J. Payton	No	Eastside Auto Repair
2.01	610 Eastside	Moore, Carol A.	None		Nailtik
	104 1/2 Ashford		A. J. Payton	No	Ashford St. Auto
3	106 Ashford	Harris, Phillip J. Jr.	None		
5	110 Ashford	Thomas, Louis & Ruby L.	None		
6	112 Ashford		None		
7	114 Ashford	Jackson, Bennie	None		
8	200 Ashford	Graham, Mildred H. & Eddie	Unoccupied		House unoccupied
9	202 Ashford	Boyd, Richard & Earline M.	Richard Boyd	No	
10	204 Ashford	Todd, Alafred B. Jr. & etal	None		
12	615 Francis	Bradley, Deborah	None		
15	605 Francis	Dozier, West & Azalea S.	Azalea Dozier	No	
16	115 Scooba	Brazile, Eddie L.	None		
18	117 Scooba	Rawls, John E. & Exie Jean J.	None		
19	111 Scooba	Austin, Eddie J. & Mary	None		
20	109 Scooba	Phillips, Emelda G.-James L. Est	Emelda Phillips	No	
21	600 Eastside	Nguen, Scott Giap	Scott Nguen	No	Grocery Store

**Results of Door-to-Door Water Well Survey  
Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
Hattiesburg, Mississippi**

Parcel: 628 2

Description: Block bounded by Scooba St., Florence St., Eastside Ave., and Francis St.

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	512 Eastside	American Legion Auxillary #225	Elvin Jackson	No	Eastside Whse. Services
1	522 Eastside	American Legion Auxillary #225	Pearlie McDougle	No	Down Home Cookin'
1	102 Scooba	American Legion Auxillary #225	None		Beauty & Barber Shop
1	104 Scooba	American Legion Auxillary #225	None		Laundrymat
2	106 Scooba	Clevester, H-Woods, Willie	Clevester Woods	No	
6	114 Scooba	Pruitt, John Jr. & Coresta	None		
7	116 Scooba	Strickland, Earline	None		
8	515 Francis	Davis, Lillian L.	None		
8.01	118 Scooba		None		
10	511 Francis	Sanders, Willie & Inez F.	Lucille Robinson	No	
11	509 Francis	Woods, Willie & Clevester			Apartments
12	123 Florence	Dillard, Martha - J. H. Est	None		
14	505 Francis	Woodland, Ada Jo	None		
15	507 Francis	McIlwain, Philip & Delores			Apartments
17	117 Florence	Berry, Ruth D. - Versie Est	Alma Lampkin	No	

**Results of Door-to-Door Water Well Survey  
Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
Hattiesburg, Mississippi**

Parcel: 628 1

Description: Block bounded by Florence St., Harrell St./Bertha St., Eastside Ave., and Francis St.

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	400 Eastside	Jordan, John	None		Unoccupied
3	408 Eastside	Stewart, Lizzie B.	None		
4	410 Eastside	Leggett, James & Pearl	None		
5	105 Harrell	Thompson, Erma Lee	None		
7	107 Harrell	Hill, Robert L.	None		
8	106 Florence	Walker, Orlena Graves	Orlena Walker	No	
9	108 Florence	Gray, Sandy R. & Mildred	None		
12	110 Florence	Hatten, Y. W. & Lenora	Y. W. Hatten	No	
13	113 Harrell	Barnes, Shelby L.	Ervina Perkins	No	
14	114 Florence	Harris, Vonceil	None		
15	118 Florence	Creagh, Edward F.	Creola Creagh	No	
16	115 Bertha	Luckett, Ruth	Jeannie Barnes	No	
19	405 Francis	Hall, Sam & Corinne	None		
20	104 Francis	Hall, Sam & Corinne	None		

**Results of Door-to-Door Water Well Survey  
Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
Hattiesburg, Mississippi**

Parcel: 080 1

Description: Block bounded by Harrell St./Bertha St., Royal St., Eastside Ave., and Parcel 890 1

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	518 Eastside	Manaway, Samuel J. & Mairiam W.	Lakesha Manaway	No	
2, 3	519 Eastside	McDonald, Dora Kelly	Dora McDonald	No	
5	314 Eastside	Rock of Ages Missionary Baptist	None		Church
9	318 Eastside	Rock of Ages Missionary Baptist	None		Church building (no #)
10	320 Eastside	Arrington, Agnes	None		
11	300 Eastside	Adams, Janet	None		
14	108 Harrell	Bell, Charlie	M. W. Windham	No	
15	110 Harrell	Barney, T. J.	None		
16	107 Royal	Bell, Ira Bob & Cassandra Kay	Val Sharfner	No	
17	117 Royal	Bell, Ira B. & Grace	Grace Bell	No	
18	115 Royal	Vaughn, Richard M. & Joyce B.	None		
19	113 Royal	Walker, Leon & Juanita	Juanita Walker	No	

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 890 1

Description: Block bounded by Harrell St./Bertha St., Royal St., Parcel 080 1, and Townsend St.

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	101 Townsend	Bramlett, Homer & Vearnia May Tu	None		
2	103 Townsend	Walker, Maurice Haynes	None		
3	105 Townsend	Moffett, Curtis	Curtis Moffett	No	
4	107 Townsend	Eashmond, Johnnie Lee	None		
5	109 Townsend	Myers, Lena W.	Brandy Whitsett	No	
6	111 Townsend	Smith, Robert Jr. & Pauline A.	None		
7	113 Townsend	Harris, Harold & Dora	None		
8	115 Townsend	Fairley, Maxine	Chris Smith	No	
9	117 Townsend	Caston, Fulton	None		



**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 890 2

Description: Block bounded by Harrell St./Bertha St., Royal St., Townsend St., and Francis St.

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	100 Townsend	Jones, Barbara E.	None		
2	102 Townsend	Miller, Frances & Roosevelt	None		
3	104 Townsend	Ratcliff, Benjamin J. & Mildred	None		
4	106 Townsend	Benton, Frankie Sr.	Betsy Gray	No	House unoccupied
5	108 Townsend	Lewis, Pearlmae Mae	Pearlie Clark	No	
6	110 Townsend	Jones, Willie Jr. & Louester B.	Willie Jones, Jr.	No	
7	112 Townsend	Bolton, Wallace T.	None		
8	114 Townsend	Hinton, Lizzie B.	None		
9	116 Townsend	Harris, William G. Jr. & Martha L.	None		

**Results of Door-to-Door Water Well Survey**  
**Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site**  
**Hattiesburg, Mississippi**

Parcel: 628 40

Description: Block bounded by Bertha St., Martin Luther King Ave., Francis St., and Dumas Ave.

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	301 Martin Luther King	Morris, Leotis & Leitha M.	Leotis Morris	No	
4	313 Martin Luther King	Myers, Willie Jr. L/E	Willie Myers, Jr.	No	
8	107 Bertha	Hardy, Callie & Luther	Ernest Perkins	No	
12	321 Martin Luther King	Hayes, Eddie James & Ledreseter	Eddie Hayes	No	

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 700 1

Description: Block bounded by May, Willis, MLK, and Charles

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
2	122 May	Knight, Harold L. & Julietta F.	None		
3	126 May	White, Sarah	Sarah White	No	
5	118 May	Bethley, Henry M. Sr. & Carrie Mae	Michael Bethley	No	
6	114 May	Williams, Clarence & Lucy Mae	None		
9	112 May	Worshum, Lee	Levon Worsham	No	
10	108 May	Hayes, Lela Wrencher	None		
12	104 May	Calbert, Staten & Carrie L/E	None		
13	310 MLK	Lewis, Iola	None		

**Results of Door-to-Door Water Well Survey  
Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
Hattiesburg, Mississippi**

Parcel: 628 37

Description: Block bounded by Parcel 628 36, Katie, MLK, and Parcels 812 11 & 4/092 4

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
1	113 Katie	Walker, Michael & Mary B.	Crystal Walker	No	
7.01	206 Francis	Donald, Charles E.	None		
7.02	204 Francis	LeFlore, Ora Dee	None		
8	105 Katie	LeFlore, Larry & Amanda C.	None		
9	406 Francis	Funchess, Charles Lee	None		
10	200 Francis	Watts, Ezra Z. & Jean	Jean Watts	No	
11	208 MLK	Williams, Alexander & Carolyn	None		House unoccupied
12	212 MLK	Francis St. Apts.	Jeanette Smith	No	
16.01	220 MLK	Ridgeway, Honnie L. & Evelyn B.	Honnie Ridgeway	No	
18	93 Rosa	Ridgeway, Honnie L. & Evelyn B.	Pam Leavy	No	
19	95 Rosa	Morris, L. J. & Lettie C.	Lettie Morris	No	

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 092 12

Description: Block bounded by Willis Ave. (closed), May Ave., Parcel 700 1, and Charles St. (closed)

<u>Lot</u>	<u>Address</u>	<u>Owner (from tax records)</u>	<u>Contact</u>	<u>Water Well?</u>	<u>Comment</u>
4.01	202 May	Goldman, Mary & Carey, et al.	None		

**Results of Door-to-Door Water Well Survey  
 Conducted October 3, 2000 between 9:00 A.M. and 3:00 P.M.**

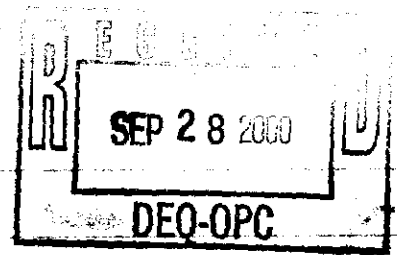
**Gulf States Creosoting Site  
 Hattiesburg, Mississippi**

Parcel: 092 5

Description: Block bounded by Rosa., Willis Ave. (closed), Parcel 628 36., and Charles St. (closed)

Lot	Address	Owner (from tax records)	Contact	Water Well?	Comment
2	107 Rosa	Jackson, Lloyd	None		
2.01	105 Rosa	Lee, Lendon G.	Antoinette Twillie	No	
3	103 Rosa	Brown, Gertrude	Delores Brown	No	
4	101 Rosa	Williams, Doshie Lee	Doshie Lee Williams	No	
4.01	99 Rosa	Collins, Henry	None		
5	97 Rosa	Ridgeway, Honnie L. & Evelyn	None		

FILE COPY



Gretchen:

Excuse the informality of this note, but I never got back to the office after we spoke today.

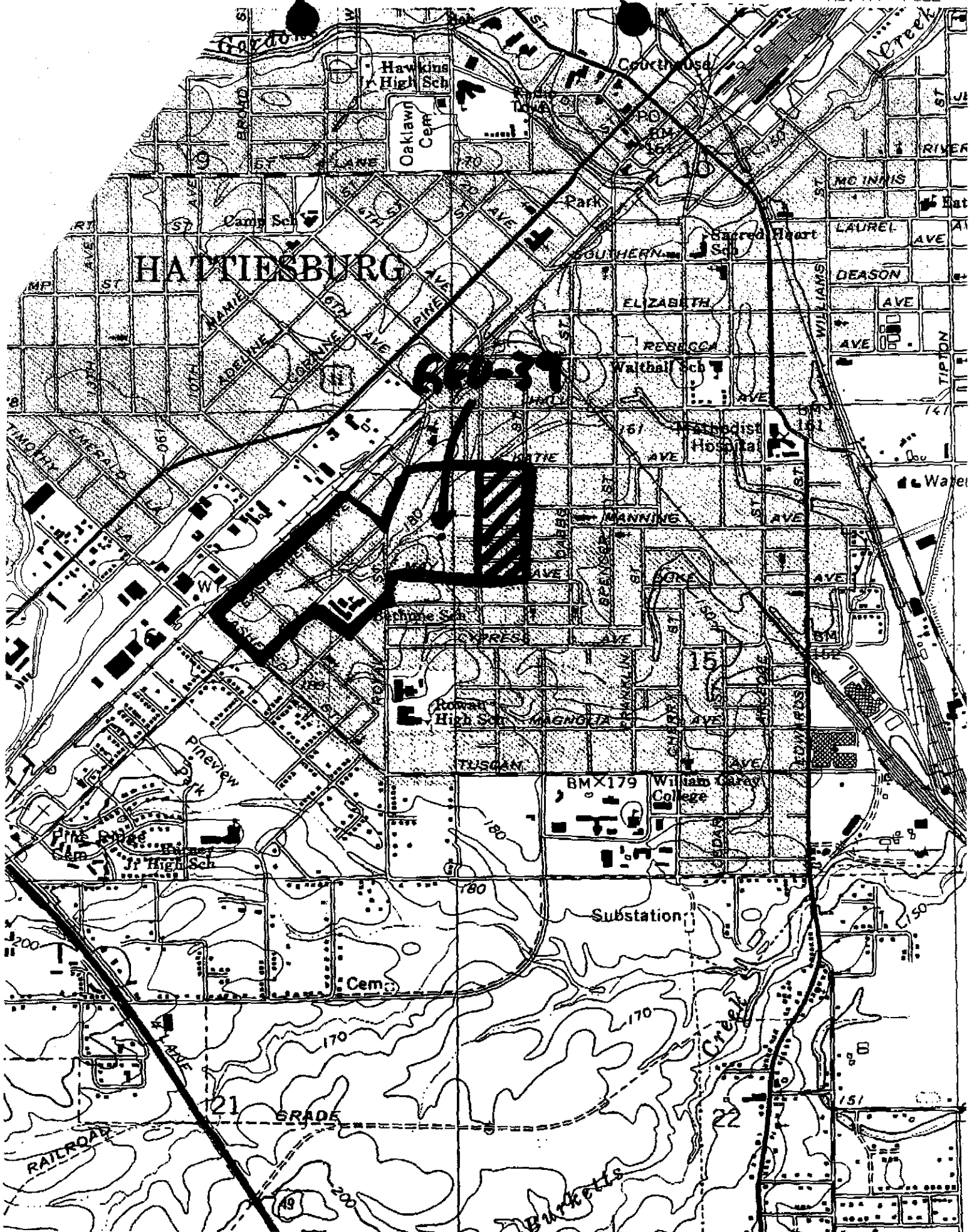
Attached are:

1. A map depicting ~~gross~~ naphthalene concentrations in ground water screening/monitoring samples;
2. A 1996 aerial photograph; and
3. Your figure revised to depict our proposed area for the door-to-door water well survey.

I'll call tomorrow to discuss your thoughts.  
Thanks for your prompt attention.

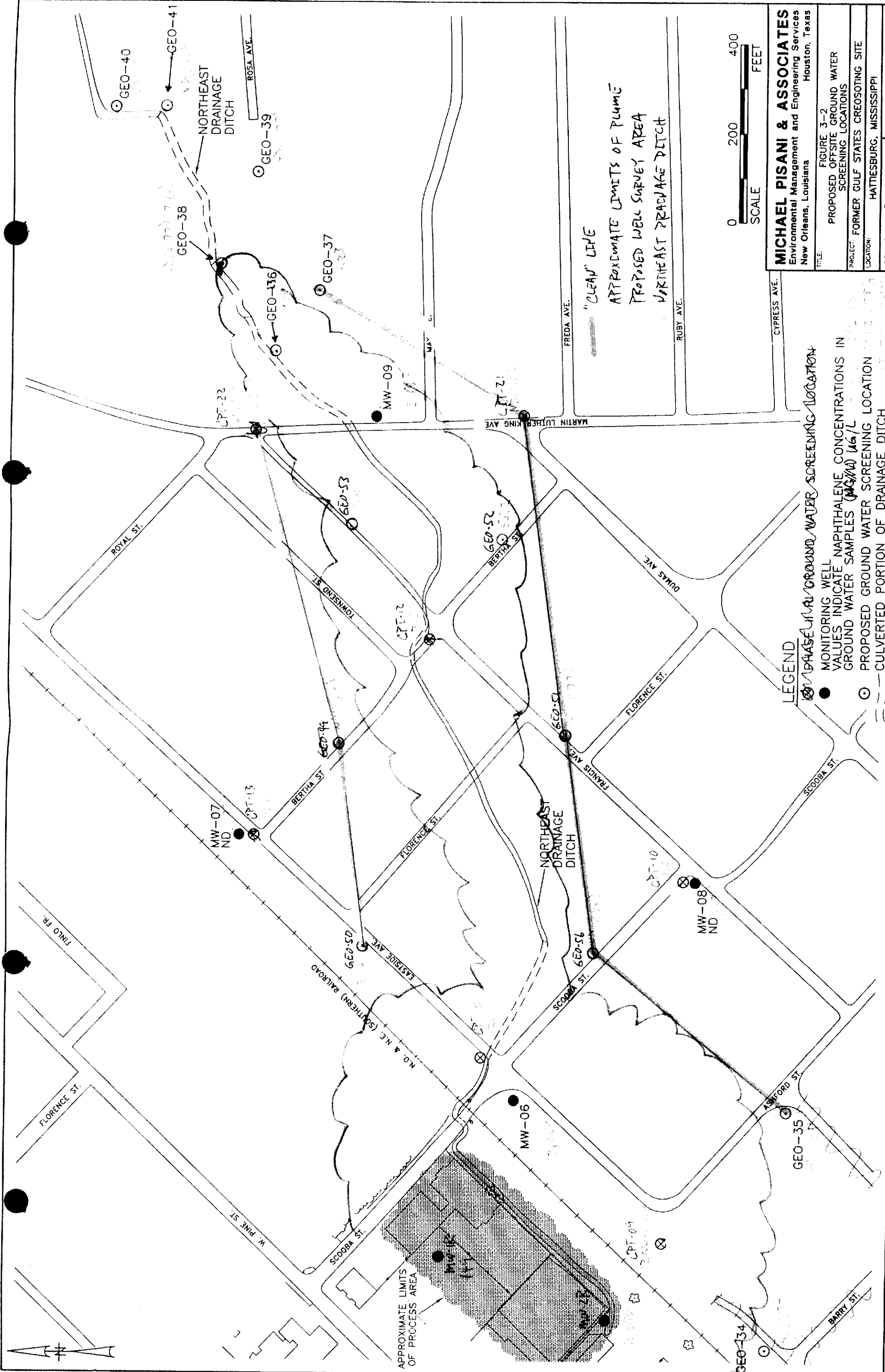
Regards,

Dave Upthegrove









**MICHAEL PISANI & ASSOCIATES**  
 Environmental Management and Engineering Services  
 New Orleans, Louisiana  
 Houston, Texas

FIGURE 3-2  
 PROPOSED OFFSITE GROUND WATER SCREENING LOCATIONS

PROJECT: FORMER GULF STATES CREOSOTING SITE  
 LOCATION: HATTIESBURG, MISSISSIPPI  
 SCALE: 1"=200'  
 DWG. NO.: 21-04/101B

**LEGEND**

● MONITORING WELL  
 ○ GROUND WATER SCREENING LOCATION

VALUES INDICATE NAPHTHALENE CONCENTRATIONS IN GROUND WATER SAMPLES (MG/M) (UG/L)

○ PROPOSED GROUND WATER SCREENING LOCATION  
 --- CULVERTED PORTION OF DRAINAGE DITCH

"CLEAN" LIPE  
 APPROXIMATE LIMITS OF PLUME  
 PROPOSED WELL SURVEY AREA  
 NORTHEAST DRAINAGE DITCH

**FILE COPY**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF MISSISSIPPI  
HATTIESBURG DIVISION**

RSCO REALTY CORPORATION, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFFS  
CIVIL ACTION NO. 2:96cv323 PG  
DEFENDANTS

O.M.T. PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv356 PG  
DEFENDANTS

GARY MARTIN, ET AL  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFFS  
CIVIL ACTION NO. 2:96cv357 PG  
DEFENDANTS

STEADMAN PROPERTIES, INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:96cv394 PG  
DEFENDANTS

HATTIESBURG BEVERAGE CO., INC.  
VERSUS  
KERR-McGEE CHEMICAL CORPORATION, ET AL

PLAINTIFF  
CIVIL ACTION NO. 2:98cv238 PG  
DEFENDANTS

**NOTICE**

TAKE NOTICE that the above-entitled case has been rescheduled for a Status Conference on **October 25, 2000 at 9:00 a.m.** in the United States Courthouse, Colmer Federal Building, 701 Main Street, Hattiesburg, Mississippi, United States District Judge Charles W. Pickering, Sr., presiding. **Each party will have representatives with settlement authority present.**

M.D.E.Q.'s presence and expeditious handling of this matter is critical to the Court's carrying out of its duties in this case. The Court therefore requests that a representative of M.D.E.Q. be present at the conference.

Date: October 6, 2000

J. T. NOBLIN, CLERK  
UNITED STATES DISTRICT COURT


By: *S. Potin*  
Sharon Potin, Courtroom  
Deputy Clerk

To: Don Barrett  
Marc Boutwell  
S. Robert Hammond, Jr.  
Richard F. Yarborough, Jr.  
Jolly Matthews, III  
J. B. VanSlyke, Jr.

Frank D. Montague, Jr.  
Patrick H. Zachary  
Lawrence C. Gunn, Jr.  
Alexander A. Alston, Jr.  
Glen M. Pilie  
Russell H. Smith, M.D.E.Q.

FAX

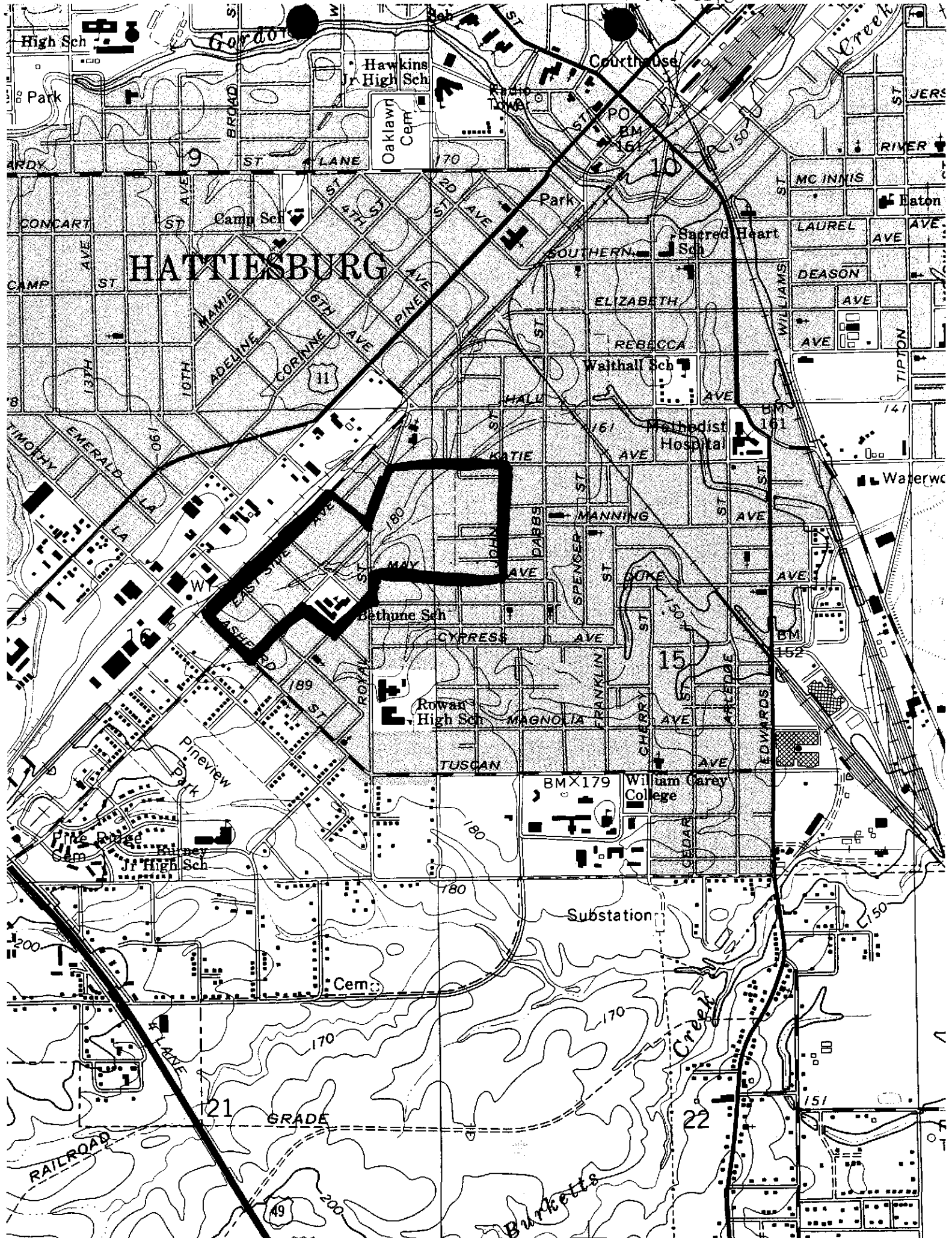
FILE COPY

To: Glen Pilié	From: Gretchen Zmitrovich	
	 MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY	Office of Pollution Control
		P.O. Box 10385
		Jackson, MS 39289-0385
Phone:	Phone: 601-961-5240	
Fax: 504-566-0210	Fax: 601-961-5300	

Date: September 26, 2000		Routine		Priority
Number of pages, including this one: 2				
Message: Attached please find the revised map for the door to door survey in Hattiesburg. All other documents submitted for the protocol are approved as is. Gretchen				



514-566-0210



# HATTIESBURG

Courthouse

Hawkins Jr High Sch  
Oaklawm Cem

Camp Sch

Sacred Heart Sch

ELIZABETH

REBECCA

Walthall Sch

Methodist Hospital

MANNING

SPENGER ST

Bethune Sch

CYPRESS AVE

Rowan High Sch

MAGNOLIA

TUSCAN

BMX179

William Carey College

Substation

Cem

170

21 GRADE

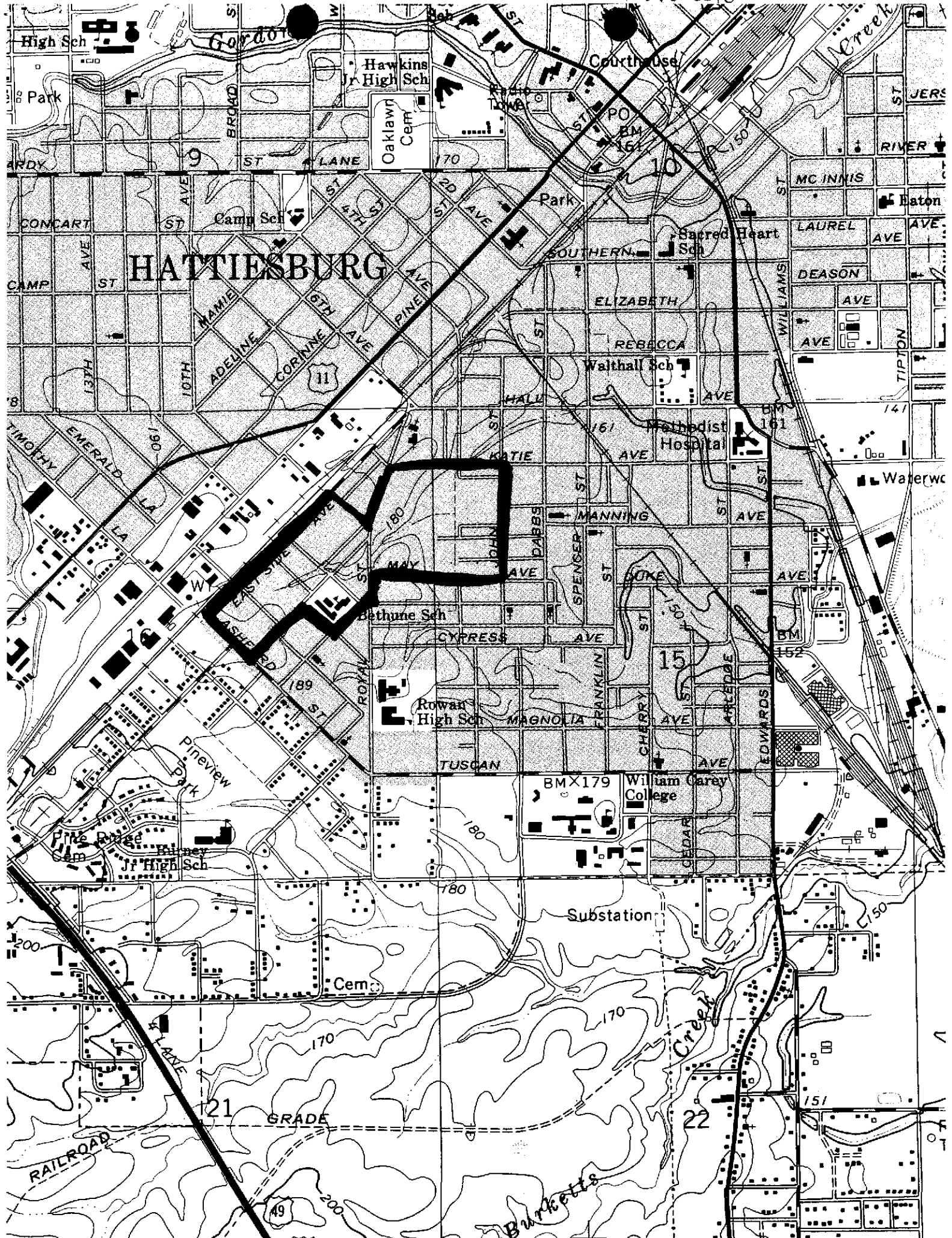
22

151

49

200

Burketts Creek



**MICHAEL PISANI & ASSOCIATES, INC.**

Environmental Management and Engineering Services

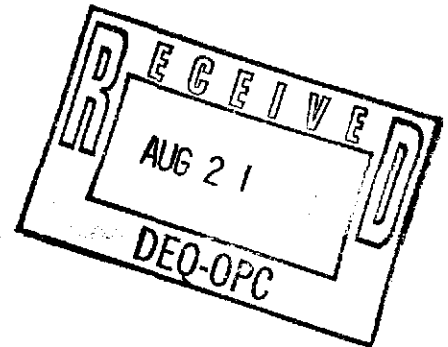
1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13401 Southwest Freeway  
Suite 207  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-1737  
dangle@orbitworld.net

**FILE COPY**

August 15, 2000

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



Subject: *Work Plan for Additional Site Investigation Activities*  
Gulf States Creosoting Facility  
Hattiesburg, Mississippi

Dear Mr. Russell:

We are in receipt of your August 11, 2000 letter approving the referenced document. MDEQ contingencies presented in the letter and Kerr-McGee Chemical L.L.C. (KMC) responses are as follows:

- 1. As discussed in the meeting on August 4, 2000 at the MDEQ, borings GEO-22 and GEO-23 exhibited concentrations of contaminants above the unrestricted Tier 1 Target Remediation Goals. Borings must be advanced northeast of these borings to determine the horizontal and vertical extent of the contamination in this direction.**

Borings GEO-22 and GEO-23 were advanced on the shoulder of Scooba Street on City of Hattiesburg property. KMC has not ascertained the ownership of the property northeast of Scooba Street. KMC will contact City of Hattiesburg officials next week to determine the width of the City's easement adjacent to Scooba Street. If additional delineation activities can be completed on the City's easement, KMC will complete these activities. If not, KMC will attempt to determine ownership of the adjacent property and obtain access to the property.

2. **Since MW-3 is constructed similarly and is located close to MW-1 and MW-2, the MDEQ is concerned that this monitoring well may also provide a pathway for any creosote found in the clay to the underlying sand channel. Therefore, the MDEQ requires that this monitoring well also be plugged and abandoned. A replacement well must be installed like the replacement wells proposed for MW-1 and MW-2 as close to the original monitoring well location as possible.**

KMC concurs with MDEQ regarding the plugging and abandonment of well MW-3. However, we feel that the installation of a replacement well at the MW-3 location is unnecessary because:

- 1) DNAPLs have not been detected in MW-3 during previous sampling events;
- 2) Replacement wells MW-1R and MW-2R will be within 200 and 250 feet, respectively, of well MW-3; and
- 3) Downgradient well MW-06 is located approximately 200 feet downgradient of the former Process Area, and is still within the ground water contaminant plume.

During a telephone conversation on August 11, 2000, Ms. Gretchen Zmitrovich of MDEQ recommended that we present our justification for not replacing MW-3 in a response letter. We would be glad to further discuss our rationale for not replacing MW-3 with you at your convenience.

3. **Before MW-1, MW-2, and MW-3 are closed, the wells should be checked for any free product creosote. If any is detected, the free product must be removed prior to closing the well.**

KMC believes that the only DNAPLs in wells MW-1 and MW-2 are contained in the bottom cap and the unslotted segment at the base of the 10-foot well screen. We will confirm this by measuring the DNAPLs prior to well abandonment. If this is the case, these liquids will be recovered when the wells are removed by overdrilling, and will be containerized for proper disposal.

4. **Please notify this office at least two weeks prior to the commencement of field activities to allow a MDEQ representative to be on-site. Sample containers must be provided for any split sample(s) to be collected by MDEQ.**


During a telephone conversation on August 11, 2000, Ms. Zmitrovich approved our plan to plug, abandon, and replace the wells and possibly conduct sediment sampling during the week of August 14, 2000. We agreed to coordinate with Ms. Zmitrovich on the schedule for the remaining field activities late during the week of August 14, 2000. We will provide additional sample containers as requested.

Mr. Tony Russell  
August 15, 2000  
Page 3

Should you have any questions or wish to discuss this matter further, please call us.

Sincerely,

MICHAEL PISANI & ASSOCIATES, INC.

  
David C. Upthegrove, P.G.

cc: Keith Watson (KMC)  
Glen Pilié (Adams and Reese)  
Gretchen Zmitrovich (MDEQ)





**FILE COPY**

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

**August 11, 2000**

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
*Work Plan for Additional Site Investigation Activities*, dated August 2, 2000  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed the above referenced document. The MDEQ approves the work plan contingent on the following:

1. As discussed in the meeting on August 4, 2000 at the MDEQ, borings GEO-22 and GEO-23 exhibited concentrations of contaminants above the unrestricted Tier 1 Target Remediation Goals. Borings must be advanced northeast of these borings to determine the horizontal and vertical extent of the contamination in this direction.
2. Since MW-3 is constructed similarly and is located close to MW-1 and MW-2, the MDEQ is concerned that this monitoring well may also provide a pathway for any creosote found in the clay to the underlying sand channel. Therefore, the MDEQ requires that this monitoring well also be plugged and abandoned. A replacement well must be installed like the replacement wells proposed for MW-1 and MW-2 as close to the original monitoring well location as possible.
3. Before MW-1, MW-2, and MW-3 are closed, the wells should be checked for any free product creosote. If any is detected, the free product must be removed prior to closing the wells.

Letter: Mr. Glen Pilié

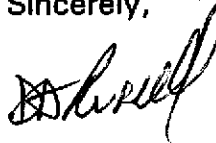
August 11, 2000

Page 2

4. Please notify this office at least two weeks prior to the commencement of field activities to allow a MDEQ representative to be on-site. Sample containers must be provided for any split sample(s) collected by MDEQ.

If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section



**FILE COPY**

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

August 9, 2000

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) has reviewed comments prepared by Environmental Standards, Inc. in regard to the ecological risk assessment prepared for the above referenced site. The MDEQ concurs that the ecological risks at the site are insignificant. Therefore, the MDEQ waives its requirement to perform any additional assessment with regard to the ecological risks at the site.

If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

Gulf State-Letter to Pilié-ecological risks waiver\_8-9-00 (gz)

# ADAMS AND REESE LLP

**Attorneys at Law**

Baton Rouge

Houston

Jackson

Mobile

**New Orleans**

Washington, DC

**Glen M. Pillé**

(504) 585-0260

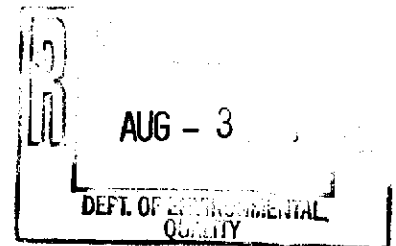
piliem@arlaw.com

**FILE COPY**

August 2, 2000

**VIA FEDERAL EXPRESS**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



*Re: Former Gulf States Creosoting Site – Work Plan -  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed are two copies of a work plan for additional sampling requested by MDEQ at the referenced site. As soon as we receive MDEQ approval, we will immediately proceed with the described activity.

If you have any questions do not hesitate to contact me.

Very truly yours,

**ADAMS AND REESE LLP**

BY: *Glen Pillé*  
GLEN M. PILLÉ

GMP/js

cc: (With Enclosure)  
Mr. Don Barrett  
Mr. J. B. VanSlyke  
Mr. Mark Boutwell  
Mr. S. Robert Hammond, Jr.

ADAMS AND REESE LLP

**FILE COPY**

Attorneys at Law

Baton Rouge

Houston

Jackson

Mobile

**New Orleans**

Washington, DC

**Glen M. Pilié**

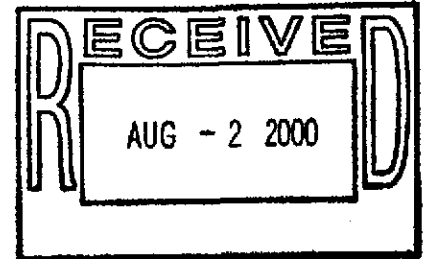
(504) 585-0260

piliigm@arlaw.com

August 1, 2000

**VIA FEDERAL EXPRESS**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385



*Re: Former Gulf States Creosoting Site –  
Response to Comments on Ecological Risk Assessment  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

On behalf of Kerr-McGee, Environmental Standards, Kerr-McGee's Risk Assessment Consultant for this project, has reviewed the comments provided by EPA on the Ecological Risk Assessment. Based upon the review by Environmental Standards, Kerr-McGee believes that no further work is necessary regarding the Ecological Risk Assessment. After you have had a chance to review the attached analysis by Environmental Standards, we would be glad to discuss any outstanding issues with you.

Very truly yours,

**ADAMS AND REESE LLP**

BY:   
GLEN M. PILIÉ

GMP/js

cc: (With Enclosure)  
Mr. Don Barrett  
Mr. J. B. VanSlyke  
Mr. Mark Boutwell  
Mr. S. Robert Hammond, Jr.



Setting the Standards for Innovative  
Environmental Solutions

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July 25, 2000

Mr. Glen M. Pilie  
Adams and Reese LLP  
4500 One Shell Square  
New Orleans, LA 70139

RE: MDEQ/EPA Comments on the Ecological Risk Assessment for the  
Hattiesburg Creosote Site

Dear Mr. Pilie,

The comments provided by US EPA Region IV (EPA) regarding the above-captioned Ecological Risk Assessment (ERA) prepared by Environmental Standards have been reviewed by Environmental Standards. In general, the comments reflect a position on the part of EPA (or their IL E.S.A.T. Contractor) that the ERA for the Hattiesburg Site was intended to support a rigorous, quantitative assessment of a Superfund site involving potentially significant impacts to ecological resources. This was not the intent of the document, which was based on a hybrid approach that incorporated guidance from the Brownfields Voluntary Cleanup and Redevelopment Program in Mississippi (Miss. Code Ann. Section 49-35-21). In fact, the habitat at the Hattiesburg site is, essentially, ecologically irrelevant. The Army Corps of Engineer's (USACE's) 1986 *Detailed Project Report and Environmental Assessment on Upper Gordons Creek* provides ample evidence that the habitats have very little ecological significance (salient portions of that document are provided in Attachment A). This USACE document states that the stream

"..does not support appreciable aquatic life. The reach of the stream within the business district suffers from general neglect with trash and debris being scattered throughout much of the length of the stream." [Page 4-15]

and

"The extensive developments in the basin, small volume of dependable base flow, and the general lack of quality aquatic habitat combine to create an *insignificant resident fish fauna*." [Page 4-23; emphasis added]

**ENVIRONMENTAL STANDARDS, INC.**

VALLEY FORGE, PA

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1140 Valley Forge Road, P.O. Box 810, Valley Forge, PA 19482-0810 • 610-935-5577 • [OFFNPL@EnvStd.com](mailto:OFFNPL@EnvStd.com)

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In addition to characterizing the biological potential of the stream as very poor, the report also notes that the stream contains

“..relatively high levels of ammonia nitrogen, total phosphorus, and fecal coliform...which is fairly indicative of an urbanized stream.” [Page 4-17]

The urban degradation in the area is not limited to Gordons Creek. In fact, there is a general area-wide degradation of habitat. The USACE's report concluded that the nearby watershed of Burketts Creek has also been impacted. The report notes:

“ Industrial and municipal development have substantially reduced the quantity and quality of the habitat, thereby reducing the number and diversity of wildlife species capable of inhabiting the area.” [Page 4-21]

The upland habitat along Gordons Creek has also been impacted severely by urbanization, independent of the Site. The USACE report states with respect to upland animals:

“...due to the intense activities of man [*sic*] in the area, it is highly probable that only a small number of these animals compose the actual faunal community along and within the creek.” [Appendix 4, page 4-22]

We believe that the references noted above convey the ecological state of Gordons Creek and the adjacent upland habitat adequately. With this in mind, the ERA was intended as a quantitative demonstration, consistent with accepted ecological risk assessment practices and consistent with the Subpart II-Risk Evaluation Procedures outlined in the Final Regulations issued by the Mississippi Commission on Environmental Quality (May 27, 1999). That document states in part:

For a Tier 3 Ecological Evaluation, *only* one of the following must be satisfied:

- (ii) Findings from a field survey indicate that there is no readily apparent harm at the site or notable difference...between the site and the potentially impacted ecological receptors;
- (iii) Individual hazard quotients estimated for ecological receptors of concern, valued natural resources, or their surrogate species are below unity (1) for each CoC; and

- (iv) Additional ecological risk evaluations performed under the MDEQ approved work plan conclude that the potential ecological risk is insignificant or readily recoverable.

The ERA prepared for the Gulf States Creosoting Site was designed to meet these objectives. Section 4 of the MDEQ Brownfield Voluntary Cleanup Program Ecological Checklist specifies four criteria for exclusion from further ecological assessment. While conditions at the Hattiesburg Site meet most of these criteria, but not all criteria for exclusion, some level of ecological assessment was in order. This path is consistent with MDEQ's correspondence of August 3, 1999, wherein MDEQ approved the work plan contingent upon condition that an ecological assessment be included (see Attachment B).

William Schew, Ph.D., Director of Toxicology and Risk Assessment and head Ecological Risk Assessor with Environmental Standards, conducted a detailed survey of the site in September 1999. In short, he concluded that the Site was severely impacted by regional urban activities (see photos in Attachment C) and that, beyond this general degraded state, it was neither impacted nor likely to be impacted by contamination at the Site. No ecological receptors of concern were noted and no threatened or endangered species are relevant to the immediate area. This same conclusion was reached by the US Army Corps of Engineers as presented in its 1986 report. The following excerpts from that report serve to emphasize this conclusion:

"The stream within the study area does not support appreciable aquatic life. Most of the fish occurring in Gordons Creek are probably transient adults or juvenile stages with utilize the lower stream reaches, outside of the study area, as a nursery area. The extensive developments in the basin, small volume of dependable base flow, and the general lack of suitable aquatic habitat combine to create a low to nonexistent resident fish fauna, possibly consisting of only *Gambusia* and shiners, upstream of the Main Street bridge crossing in Hattiesburg." [Page E-2]

"Because of the reduced quantity and quality of terrestrial vegetation present along Gordons Creek, there is a limited number of wildlife species inhabiting the area...There is no critical habitat within the study area. Due to the high levels of human disturbance, it is doubtful whether any of the above species [endangered or threatened] occur in the immediate study area." [Page E-2]

Lastly, based on his visit to the Site and a quantitative risk evaluation, Dr. Schew concluded: 1) there was no readily apparent harm at the Site (Tier 3 Criterion ii); 2) individual hazard quotients were below unity (Tier 3 Criterion iii); and 3) based on all available information, the results of the risk assessment indicate that



the potential ecological risk is insignificant (Tier 3 Criterion iv). Consequently, no further evaluation should be necessary.

In summary, the aquatic habitat and adjacent upland habitat associated with Gordons Creek have very little ecological value. As such, a rigorous Superfund-like quantitative risk assessment is not warranted. We believe the ERA submitted on behalf of Kerr McGee Corporation is sufficient to allow MDEQ to conclude that ecological risks at the site are insignificant and that any remedial action objectives appropriate for the Site should be based on the results of the human health risk assessment.

Sincerely,



Kenneth G. Symms, Ph.D., DABT, DABFET  
Technical Director of Toxicology and Risk Assessment  
and Toxicology/ Principal

KGS:kk

**DETAILED PROJECT REPORT  
AND  
ENVIRONMENTAL ASSESSMENT  
ON**

*Upper Gordons Creek*

**URBAN FLOOD DAMAGE REDUCTION MEASURES  
AT HATTIESBURG, MISSISSIPPI**



**US Army Corps  
of Engineers**  
Mobile District  
South Atlantic Division

**SEPTEMBER 1986**



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
MOBILE DISTRICT, CORPS OF ENGINEERS  
P. O. BOX 2288  
MOBILE, ALABAMA 36628

UPPER GORDONS CREEK  
HATTIESBURG, MISSISSIPPI

DETAILED PROJECT REPORT  
AND  
ENVIRONMENTAL ASSESSMENT

SEPTEMBER 1986

ENVIRONMENTAL ASSESSMENT  
UPPER GORDONS CREEK FLOOD CONTROL PROJECT  
HATTIESBURG, MISSISSIPPI

Need for the Proposed Action

In the last 40 years, four major floods have occurred along Upper Gordons Creek in Hattiesburg, Mississippi. The most recent flood in April 1983 exceeded the 100-year event in most locations and approached the 500-year in the vicinity of Broad Street. Flood damage estimates reached as high as \$40 million in Forrest County with a high percentage of this amount being attributed to the expensive residential and business development along Upper Gordons Creek.

Description of the Study Area

Gordons Creek originates from a number of intermittent streams on either side of the Lamar-Forrest County line and flows generally northeast approximately 7.8 miles through the central portion of Hattiesburg before joining the Leaf River. Hattiesburg, which is the county seat of Forrest County, serves as a primary trade center for southern Mississippi and is also a center of educational and governmental activity. The city and county had 1980 populations of 40,889 and 66,018, respectively.

Gordons Creek has a drainage area of about 10 square miles and provides an outlet for approximately 75 percent of Hattiesburg's drainage. A Section 205 project was constructed on the lower 2.5 miles of the creek in 1979 by the Corps of Engineers. This project consisted of clearing and snagging along 1.2 miles and providing an enlarged, unlined 40-foot bottom width channel along 1.3 miles of the creek. The uppermost three-mile reach of the creek traverses newly developed residential subdivisions, commercial properties, and major shopping center complexes. The residential, industrial, commercial, and other developments in the watershed have reduced the natural pervious areas, resulting in an increased amount of storm runoff which enters the creek.

Hattiesburg receives an average of 59.29 inches of precipitation per year. March is the wettest month with an average rainfall of 6.96 inches, whereas October is the driest with an average of 2.53 inches. Nine major floods have occurred in the study area since the beginning of the century; these floods have inundated the flood plain to depths ranging up to approximately 20 feet.

Gordons Creek has not historically experienced significant water quality problems, therefore very little water quality data is available. A short-term intensive water quality study was conducted by the U.S. Geological Society on 16, 17, and 18 October 1973 (sample station: Gordons Creek at the West Pine Street bridge). According to the results of this investigation, relatively high levels of ammonia nitrogen, total phosphorus, and fecal coliform were present at the time of sampling, which is fairly indicative of an urbanized stream. The stream is classified by the Mississippi Bureau of Pollution Control for fish and wildlife use. As would be expected of an urban stream, nonpoint surface runoff contributes coliform bacteria and

nutrients during storm events. The only recognized point source entering Gordons Creek is a car wash near Broad Street; however, numerous drainage pipes empty into the stream at various points within the study area.

The stream within the study area does not support appreciable aquatic life. Most of the fish occurring in Gordons Creek are probably transient adults or juvenile stages which utilize the lower stream reaches, outside of the study area, as a nursery area. The extensive developments in the basin, small volume of dependable base flow, and the general lack of suitable aquatic habitat combine to create a low to nonexistent resident fish fauna, possibly consisting of only *Gambusia* and shiners, upstream of the Main Street bridge crossing in Hattiesburg.

The plant community existing along the streambanks in the study area in the vicinity downstream of the U.S. Highways 49 and 11 interchange is characteristic of an urban stream, flowing through older established neighborhoods and commercial areas. The area supports scattered large sycamores and pecan trees as well as black willow and sweetgum. Above the Highways 49 and 11 interchange, a small strip of riparian vegetation still persists along the stream despite the extensive residential development. Typical species in this area include water oak and sweetgum.

Because of the reduced quantity and quality of terrestrial vegetation present along Gordons Creek, there is a limited number of wildlife species inhabiting the area. Typical species of amphibians and reptiles that could be found along the creek include southern painted turtle, ground skink, eastern garter snake, and Fowler's toad. Mammals such as gray squirrel, eastern cottontail, opossum, and rodents could also be found in the study area. A variety of songbirds, such as cardinals, brown thrasher, wood thrush, blue jay, and woodpeckers, are fairly common in the riparian vegetation.

The study area is in the reported range of a number of Department of Interior designated endangered and threatened species. Species included on the endangered list are the bald eagle, peregrine falcon, ivory-billed woodpecker, Bachman's warbler, red-cockaded woodpecker, Florida panther, and the American alligator. The yellow-blotched sawback turtle, which may occur near the mouth of Gordons Creek, is presently proposed for inclusion on the endangered list. There is no critical habitat within the study area. Due to the high levels of human disturbance, it is doubtful whether any of the above species occur in the immediate study area.

No archeological or historical sites, properties, or remains were located within the study area during a 10 July 1984 survey by a Mobile District Corps of Engineers' archeologist. A literature and records review showed no properties to be affected by the proposed project. In addition, contact with the Mississippi State Historic Preservation Officer revealed no pending nominations for the National Register, nor any previously recorded archeological sites within the proposed project areas.

#### Description of Recommended Plan

This plan includes a combination of channel enlargement, evacuation, and bridge modification. Approximately 28.0 acres would be cleared and grubbed

**APPENDIX 4**  
**ENVIRONMENT INVESTIGATIONS**

Table 4

Average Monthly and Annual Flows (cfs)<sup>1</sup> for Gordons Creek

Month	Mouth (Mile 0)	Broad Street (Mile 2.35)
January	20.3	17.9
February	29.3	25.9
March	29.8	26.3
April	24.9	22.0
May	14.9	13.2
June	7.7	6.8
July	9.3	8.2
August	6.5	5.7
September	6.3	5.5
October	5.0	4.4
November	9.0	7.9
December	15.3	13.5
Annual	14.8	13.0

<sup>1</sup>Flows computed synthetically considering average monthly rainfall, discharge data from the Leaf River, and assuming a relationship exists between the size of the drainage basin and discharge.

#### WATER QUALITY

Very little information on the water quality of Gordons Creek is available. The stream is classified by the Mississippi Bureau of Pollution Control for fish and wildlife use. As stated previously, Gordons Creek provides an outlet for approximately 75 percent of the city of Hattiesburg's drainage. Only one recognized point source discharge (a carwash near Broad Street) enters the creek; however, numerous drainage pipes empty into the stream at various points within the study area. The stream within the study area does not support appreciable aquatic life. The reach of the stream within the business district suffers from general neglect with trash and debris being scattered throughout much of the length of the stream.

18 October 1973. The study was performed in order to provide information on area water quality for the Pat Harrison Waterway District. Table 5 contains the results of the analyses performed at three sample stations: Gordons Creek at the West Pine Street bridge, Leaf River at the River Avenue bridge, and the mouth of Bowie River (see Figure 3). According to the results of this investigation, relatively high levels of ammonia nitrogen, total phosphorus, and fecal coliform were present at the time of sampling, which is fairly indicative of an urbanized stream. Observed temperature, pH, dissolved oxygen, and specific conductance, however, were all within suitable limits.

The water quality conditions in Burketts Creek are highly variable due to the change in surrounding land use from its headwaters to the mouth. The western part of the channel appears to have retained natural characteristics and tolerable water quality because of the lack of disturbance and channel modification in the creek. Water quality conditions appear to decline downstream from the Edwards Street bridge crossing due to the proximity of industrial and municipal development.

#### AIR QUALITY

Air quality for the entire State of Mississippi is considered good. In 1980, the primary ambient air quality standard was violated in Laurel, which is approximately 30 miles northeast of the study area. The Mississippi Bureau of Pollution Control, however, believes the Laurel area is now in compliance with applicable standards as a result of corrective actions taken in accordance with the State Implementation Plan revision approved by the EPA. The Hattiesburg area is in compliance with Mississippi State standards.



Above the Highways 49 and 11 interchange, a small strip of riparian vegetation still persists along the stream despite the extensive residential developments which have occurred in the area in recent years. Land areas away from the immediate streambanks are typically dominated by longleaf pine (Pinus palustris) forests. The scope of these forested areas have been reduced in the residential areas and many ornamental shrubs and lawns are now prominent features of the available habitat.

At the Forrest-Lamar County line, the mainstem of Gordons Creek leaves the residential areas and turns to the southwest where it extends approximately upstream one mile before being designated as an intermittent stream by the US Geological Survey. In this reach the stream flows through both cleared pasture or abandoned agricultural areas and relatively undisturbed pine forests. From a wildlife perspective, the highest quality habitat is located along this reach of the creek.

The watershed of Burketts Creek is capable of supporting a wide variety of wildlife species. Upstream of the Edwards Street crossing, vegetative species composition is dominated by longleaf pine on the uplands and a mixture of hardwoods in the flood plain such as water oak, willow oak, red maple, and sweetgum. Population of amphibians, reptiles, mammals, and passerine birds can be expected to inhabit this area. Big game species such as whitetailed deer and wild turkey should occur in the drainage basin. Downstream of the Edwards Street crossing, wildlife conditions become very similar to those found along Gordons Creek. Industrial and municipal development have substantially reduced the quantity and quality of habitat, thereby reducing the number and diversity of wildlife species capable of inhabiting the area.

According to the Environmental Impact Statement prepared in 1976 for the existing project on Gordons Creek, the following groups of wildlife species (and number of species in each group) could occur in the drainage basin based on information of their known ranges: 19 salamanders, 23 toads and frogs, the American alligator, 20 turtles, 13 lizards, 37 snakes, 33 mammals, and over 200 birds. In connection with the Corps of Engineers flood control study of the Leaf and Bowie Rivers, the US Fish and Wildlife Service also prepared an extensive list of animals which could occur within the drainage basin, provided suitable habitat is available and the presence of man is not a disrupting influence. However, due to the intense activities of man in the area, it is highly probable that only a small number of these animals compose the actual faunal community along and within the creek. With the exception of isolated instances, the terrestrial fauna of these areas immediately adjacent to Gordons Creek is dominated by songbirds, squirrels, opossum, rabbits, a few species of reptiles, and rodents. Big game species such as whitetailed deer (Odocoileus virginianus) and turkey (Meleagris gallopavo) would be limited to uncommon occurrences of individuals in the extreme upper reaches of the stream. No waterfowl or furbearing animals are known to use Gordons Creek on a regular basis.

The Pascagoula River basin, of which Gordons Creek is a component, supports a rich and diverse fish fauna. It is very likely that the fish community of Gordons Creek is composed of representatives of the same species which inhabit the Pascagoula basin. The most recent fishery investigations performed near the study area was conducted by Boschung and Schiering in 1981, under contract to the Corps of Engineers. They collected 46 species, representing 26 genera and 11 families, from four stations on the Leaf and Bowie

Rivers in the vicinity of the mouth of Gordons Creek. Of these, four species represented over 67 percent of all fish collected: silverjaw minnow (Ericymba buccata), longnose shiner (Notropis longirostris), blacktail shiner (Notropis venustus), and longear sunfish (Lepomis megalotis). Important game fishes collected include longear sunfish, bluegill (Lepomis macrochirus), and spotted bass (Micropterus punctulatus). Most of the fish occurring in Gordons Creek are probably transient adults or juvenile stages which utilize the lower stream reaches as a nursery area. The extensive developments in the basin, small volume of dependable base flow, and the general lack of high quality aquatic habitat combine to create an insignificant resident fish fauna.

The aquatic habitat conditions in Burketts Creek are highly variable. In the western part of the watershed, forests predominate as there is little development and no apparent channel modifications. Although the stream is relatively small in this area, it appears to be capable of supporting many of the present species mentioned in the previous paragraph. Instream habitat conditions appear to be fairly good downstream to near the Edward Street bridge crossing. Habitat conditions rapidly decline downstream from this point and appear to be substantially reduced in the vicinity of the Hattiesburg sewage treatment facility.

The study area is within the reported range of a number of Department of Interior designated endangered and threatened species. Species included on the endangered list are the bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus tundrius), ivory-billed woodpecker (Campephilus principalis), Bachman's warbler (Vermivora bachmanii), red-cockaded woodpecker



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

August 3, 1999

**RECEIVED**  
AUG 6 1999

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

ADAMS & REESE

Re: Gulf States Creosote Site Hattiesburg, Mississippi  
Proposed Work Plan For Developing Site-Specific, Risk-Based Cleanup  
Goals For the Former Gulf States Creosote Site  
Dated May 25, 1999

Dear Mr. Pilie:

The Mississippi Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (EPA) have reviewed the above referenced document. The MDEQ approves the work plan with the following conditions:

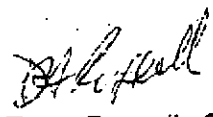
1. The list of EPA reference/guidance documents listed on pages 2 and 3 should include the Region 4 Supplemental Guidance to RAGS (11/96) available on EPA's web page at:  
<http://www.epa.gov/region4/wastepgs/oftecser/otsguid.htm>.
2. EPA Region 4 (see our guidance) does not consider "frequency of detection" as a factor in Chemicals of Potential Concern (COPC) selection as included on page 4 of the proposed work plan.
3. On page 4, wording allows flexibility in the exposure pathways that will be included in the risk assessment, i.e. "reasonable and realistic" pathways will be identified in the conceptual site model. The risk assessment will have to be reviewed for concurrence by MDEQ with their "reasonable and realistic" assumptions.
4. On page 6, similar flexibility is indicated in the wording relative to risk assessment exposure assumptions in the areas of "gastrointestinal matrix effect" and "fraction of soil ingested at the site". These could be areas of disagreement if they are not sufficiently conservative.

Letter: Mr Glen M. Pilie  
August 3, 1999  
Page 2

5. The risk assessment shall address all contaminated media (i.e. surface water, groundwater, soils, sediment). The assessment shall also include an ecological assessment.
6. The MDEQ evaluates individual constituents based on a  $10^{-6}$  risk. The future exposure scenario shall include an unrestricted (i.e. residential) setting.
7. The risk assessment shall be submitted as outlined in the EPA 540-R-97-033 document dated January 1998 and titled Risk Assessment Guidance for Superfund: Volume 1- Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments).

If you need to further discuss any aspects of this matter, contact me at (601) 961-5318.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

- XC: Judge Pickering, Sr.
- XC: Marc Boutwell Esq.
- XC: J.B. Van Slyke, Jr. Esq.
- XC: Charles Tisdale Esq.



**Plate 1: View of Gordon's Creek along the western property boundary facing northeast.**



**Plate 2: View of Gordon's Creek along the western property boundary facing southwest.**




Plate 3: View of Gordon's Creek along Fill Area facing west.



FAX

FILE COPY

<b>To:</b> David Upthegrove	<b>From:</b> Gretchen Zmitrovich
Michael Pisani & Associates, Inc.	 Office of Pollution Control P.O. Box 10385 Jackson, MS 39289-0385
<b>Phone:</b> 504.582.2468	<b>Phone:</b> 601.961.5240
<b>Fax:</b> 504.582.2470	<b>Fax:</b> 601.961.5300

**Date:** August 2, 2000

Routine

Priority

**Number of pages, including this one:** 13


**Message:**

David, Here are the EPA and MDEQ comments on the RA. Call me with any questions you have.

See you on Friday. Gretchen

FAX

FILE COPY

<b>To:</b> Glen Pilié	<b>From:</b> Gretchen Zmitrovich
Adams and Reese LLP	 MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
	Office of Pollution Control P.O. Box 10385 Jackson, MS 39289-0385
<b>Phone:</b> 504.585.0260	<b>Phone:</b> 601.961.5240
<b>Fax:</b> 504.566.0210	<b>Fax:</b> 601.961.5300

**Date:** August 2, 2000

Routine

Priority

**Number of pages, including this one:**

13

**Message:**

Glen, Here are the EPA and MDEQ comments on the RA. Call me with any questions you have.  
See you on Friday. Gretchen

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**FILE COPY**

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

August 2, 2000

Mr. Glen Pilié, Esq.  
Adams and Reese  
701 Poydras Street  
Suite 4500  
New Orleans, Louisiana 70139

RE: Gulf State Creosote Site  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The Mississippi Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (EPA) have reviewed the *Human Health Risk Assessment for the Former Gulf States Creosoting Facility (RA)*, dated November 12, 1999. The EPA's comments are attached, and the MDEQ's comments are as follows:

A. General comments

1. The MDEQ concurs with all of the EPA's comments on the RA with the exception of the need to perform a future residential scenario for all areas of the site. In light of recent approval from the Secretary of State's office to execute a deed/use restriction, the MDEQ considers the future residential scenario unrealistic for some areas of the site. Therefore, the MDEQ will waive its requirement to perform a risk assessment for this scenario for the areas that are to be surveyed and included in the industrial agreed order ("areas included in the IAO").
2. Since the industrial agreed order would restrict the use of groundwater, the MDEQ will also waive its requirement to perform a groundwater risk assessment for the areas included in the IAO.
3. However, a risk assessment for the residential scenario will have to be addressed for any areas outside the areas included in the IAO that have been impacted by site operations. These areas should be addressed for soil, sediment, surface water, and groundwater.
4. In a meeting held on June 21, 2000, the MDEQ required a work plan to address additional areas of concern. The data obtained from the investigation of these areas shall be included in the RA.

5. All tables should use the standard formats as outlined in *Risk Assessment Guidance for Superfund: Volume 1 - Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments)*, dated January 1998.
  6. The benzo(a)pyrene equivalent should be used only for the toxicity assessment, not to eliminate or retain compounds as constituents of concern. The individual carcinogenic PAH (cPAH) concentration should be compared to its appropriate screening value(s). If any cPAH in the sample is retained in the RA, then all cPAHs in the sample should be retained.
- B. Section 2.0 – Hazard Identification and Conceptual Site Model
1. The RA should address all potential exposure pathways for each receptor. The receptors for the site include visitors, maintenance workers, construction workers, and residents (as outlined in Section A, Item #1 above). Under both current and future land use assumptions, the potential exposure pathways for all receptors should include soils (surface and/or subsurface) in EU1 through EU5. In addition, sediments and surface water should be addressed in EU1 and EU4 for all receptors. If any of the potential exposure pathways are excluded from the remainder of the RA, an explanation must be provided in the appropriate table, as well as in the narrative of the RA.
  2. The RA specifically excludes the surface water and sediment exposure pathways for maintenance workers in EU4 due to the drainage ditch in EU4 being outside of maintained, fenced areas. However, previous reports indicate that the drainage ditches do require periodic maintenance (see section 4.1.3 of *Phase II Remedial Investigation Report*, dated December 30, 1998). Also, railroad workers may be in the area to do maintenance of their tracks. In addition, maintenance may be performed in and around Gordon's Creek. Therefore, under both current and future land use assumptions, the exposure pathways for surface water and sediments in both EU1 and EU4 should be considered for maintenance workers.
- C. Section 3.0 - Data Evaluation
1. Surficial soils shall be defined as follows: zero to one foot (0-1') below land surface (bls) for a visitor scenario and zero to six feet (0-6') bls for the maintenance worker and residential scenarios. Subsurface soils shall be defined as six feet to water table for a construction worker scenario.
  2. All data collected during investigations at the site must be addressed in the RA; this includes data generated by other consultants. Qualified technical professionals using standard data validation protocols should

- validate this data. The RA must indicate what sampling data was used to select the chemicals of potential concern (COPC) for each exposure unit. The RA must include a narrative of what sampling data was not used and the reason(s) for not using it.
3. A narrative of where duplicate samples were used and how they were input into the data set must be provided.
  4. The maximum concentrations of constituents should be compared to the MDEQ's unrestricted Tier 1 Target Remediation Goals (TRGs) for the visitor and residential receptors.
  5. The *Region 4 [EPA] Human Health Risk Assessment Bulletins— Supplement to RAGS* (Region 4 Supplement to RAGS) states that sediments in an intermittent stream (or ditch) should be considered as surface soil for the portion of the year the stream is without water. Since the drainage ditches on the site contain little to no water most of the time, the MDEQ requires that the sediment samples be compared to the unrestricted Tier 1 TRGs.

D. Section 4.0 - Exposure Assessment

1. According to the Region 4 Supplement to RAGS, the calculated benzo(a)pyrene equivalent concentration should be used with the oral cancer slope factor for benzo(a)pyrene to determine the risk associated with **ingesting** soil contaminated with cPAHs.
2. According to the Region 4 Supplement to RAGS, dermal contact with cPAHs should be assessed using the calculated benzo(a)pyrene equivalent concentration, the oral cancer slope factor and a default absorption efficiency of 50%.
3. EPA Region 4 has also developed an inhalation slope factor of 3.1 (mg/kg-day)<sup>-1</sup> and an inhalation unit risk of 0.88 (mg/m<sup>3</sup>)<sup>-1</sup> for benzo(a)pyrene. These values can be found in the Region 4 Supplement to RAGS and should be used to calculate the risk associated with inhalation of contaminated media on-site.
4. The MDEQ does not concur with the excluding of surface water ingestion due to the shallow depths found on-site. Per Region 4 Supplement to RAGS, the following ingestion rates should be used to determine the risk associated with ingestion of surface water: 50 ml/hour while swimming, 50 ml/hour for children ages 1-6 while wading, and 10 ml/hour for adolescents and adults while wading.
5. For maintenance workers, construction workers, and visitors, include forearms in the body parts that could be exposed to site media. For visitors in EU1 and EU4, add feet to sediment and surface water exposures. The soil adherence factors must be recalculated using the percentage of exposed body parts with the above-mentioned revisions.

Letter: Mr. Glen Pilié  
August 2, 2000  
Page 4

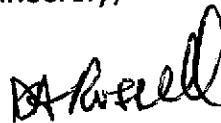
6. EPA Region 4 recommends ingestion rates of 50-480 mg/day for workers depending on the type of work being performed. Based on EPA Region 4's recommendations, the MDEQ requires the following rates to be used: 50 mg/day in conjunction with an exposure frequency of 250 days/year and an exposure duration of 25 years (i.e., maintenance workers) and 480 mg/day in conjunction with an exposure frequency of less than 90 days/year and varying exposure durations (i.e., construction workers).

E. Tables and Figures

1. Figure 1 should be corrected to include exposure pathways and potential receptors as outlined in Item B of this letter.
2. The Water Quality Standard for Human Health for Consumption of Water & Organisms of pyrene, taken from *National Recommended Water Quality Criteria - Correction, April 1999*, should be 0.96 mg/L.
3. Table 3, page 1, contains errors in the maximum detected concentration for several compounds. In addition, acenaphthene should be added to the table.
4. Table 12 must be corrected to include the comments in Item D of this letter.

Until the above-mentioned errors are corrected, the MDEQ cannot finish its review of the document. Please resubmit the RA by October 1, 2000. If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,



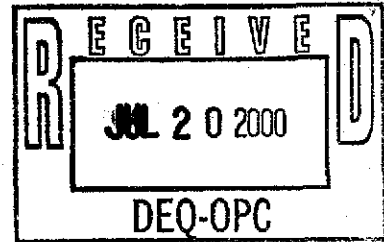
Tony Russell, Chief  
Uncontrolled Sites Section

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4



61 Forsyth Street  
Atlanta, Georgia 30303-3104


July 14, 2000



4WD-OTS

**MEMORANDUM**

**SUBJECT: TECHNICAL REVIEW AND COMMENTS REPORT:  
"Human Health Risk Assessment for the Gulf States Creosoting  
Facility, Hattiesburg, Mississippi"**

**FROM:** Alrena V. Lightbourn   
Office of Technical Services (OTS)

**TO:** Elmer W. Akin,  
Chief, OTS

The memorandum contains comments resulting from the technical review of **Human Health Risk Assessment for the Gulf States Creosoting Facility, Hattiesburg, Mississippi** (hereafter referred to as the Gulf States HHRA). The review was conducted to evaluate human health risk assessment content and the technical adequacy of the report. Comments have been divided into two categories: general, and specific, and are provided below for your convenience.

**General Comments:**

- The main concerns with this report is the omissions from a typical risk assessment document rather than content. This report has not addressed the technical basis of the various components (i.e., conceptual site development, hazard identification, exposure assessment, toxicity assessment, risk characterization) of a risk assessment. The basis of each of these segments should be incorporated into or precede any site-specific discussions. Their absence has resulted in no clear connection between the evaluation of the site, and the science used to evaluate it. It is recommended that this document incorporate more of the technical basis of the human health risk assessment process to support the assumptions and results of the investigation.
- **Document Format and Contents:** This human health risk assessment does not follow the Mississippi Department of Environmental Quality (MS DEQ) Site Characterization Report

Format (SCRF) (1990) for Brownfields, nor the suggested outline from Risk Assessment Guidance for Superfund (RAGS), Part A (1989). In addition, several fundamental concepts and components of a risk assessment have been omitted from the current report. While a set format for risk assessment reports may not have been established, the scope, level of detail, and technical approach should be consistent with existing guidance documents. Several sections from both suggested formats are required to develop a sound technical basis for the current report. The relevant elements from these outlines (which do not overlap) should have been incorporated into this Gulf States HHRA report. Copies of both outlines are attached for integrative purposes.

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In addition, aspects of the risk characterization could be more clearly described. Risk relative to all media and receptor populations investigated in this report should be summarized. Where no unacceptable risk or hazard was determined, the executive summary should so state. A clear connection between the media, the concentrations of concern, and the potential receptors should be shown.

- **Title Page:** The project manager's signature is missing from the title page of the report. This element is listed as one of several minimum requirements (SCRF, 1990) for completion of the title page.
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- **Figures and Tables:** A list of all figures and tables presented in the report should appear in the "contents" section of the document.
- **Acronyms and Abbreviations:** It would be desirable for all acronyms and abbreviations cited in the report to be listed and defined in the front matter of this report.
- The proposed matrix of potential exposure pathways requires further consideration. It is not obvious that conceptual site modeling has been adequately executed for this site. The



author of this HHRA is referred to Table 1 of EPA's RAGS, Part D (1998) guidance for an example and detailed instructions for the preparation of this matrix.

- Please identify and define each element of a human health risk assessment. The structure and organization of the risk assessment report should be discussed early in the document.
- These comments are not intended to be all-inclusive, but rather a snap-shot of some of the most obvious problems in the Gulf States HHRA. The reviewer experienced considerable difficulty in evaluating this document due to volume of the inconsistencies.

### **Specific Comments:**

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- **Executive Summary/Introduction:** While the Executive Summary briefly mentions previous creosoting activities at the site, a general overview of the problem(s) at the site has not been given. The causal relationship between previous site activities and current on-site or off-site contamination, and potential risk has not been established. The basis for this risk assessment must be established within the preliminary portion of the text. The site-specific objective(s) of this risk assessment were not defined or discussed. These objectives are crucial underpinnings of the risk assessment process. They are critical to the development of risk information that will be used for decision-making activities at the site and for the protection of human health and the environment. Based on the current form of the Gulf States HHRA, it could not be determined whether site-specific objectives were considered during the development of this HHRA report. This information should

have already been developed during Work Plan implementation, accompanied by the strategy or strategies by which they were achieved. The site-specific objectives for this investigation should be articulated in the preliminary text of both the Executive Summary and the Introduction.

- **Scope of Investigation:** The scope of the assessment was not adequately described. This discussion should specifically define the type and extent of the investigation; analyses that were undertaken for this site; the complexity of the assessment; rationale; data needs; and study design. Please incorporate this information to give a more holistic overview of the site investigation.
- **Site Background:** This HHRA inadequately addresses the history of site activities. The text should include a chronological discussion of land use, contamination, and previous risk investigations or risk characterization activities. In addition, a preliminary summarization of the results of these previous investigation activities should be added to the Executive Summary. Please add the relevant site background information to the text under a similar heading. Both of the attached documents provide substantial information on what items should be included in this segment of the report.
- **Section 1.0, Introduction/Section 2.0, Hazard Identification:** The text indicates that the land on which the site is located is currently under a 99-year lease. Consequently, no evaluations were conducted relative to potential future residents. The inclusion of a residential scenario will be helpful to the site manager responsible for remediation decisions. **Institutional controls** (including fences) may not be used as the justification for elimination of a pathway in the baseline risk assessment for current or future scenarios. Any exposure pathways that have been eliminated from consideration on the basis of institutional controls should be re-included in this risk assessment report.
- **Figure 1, Conceptual Site Model:** An exposure pathway is defined as the course a chemical or physical agent takes from a source to an exposed organism. An exposure pathway describes the assumptions by which an individual or population is exposed to chemicals or physical agents at or originating from a site. Each exposure pathway includes a source or release from a source, an exposure point, and an exposure route. **If the exposure point differs from the source, a transport/exposure medium (e.g., air) or media also is included.** This table has not accurately defined the relevant exposure media and exposure points. Please identify the media with which the receptor actually or potentially comes into contact (i.e., exposure point).
- **Section 2.0, Hazard Identification and Conceptual Site Model:** These segments of the report should be addressed separately. In fact, the text of Section 2.0 does not address hazard identification at all. Please make the appropriate changes to the report.

The conceptual site model (CSM) should include a qualitative discussion of potential or suspected sources of contamination, types and concentrations of contaminants detected at the site, potentially contaminated media, as well as potential exposure pathways and receptors. This discussion should be collocated with the segments on data collection and evaluation. Although the exposure pathway matrix has been provided in the report, its inadequate development does not support the discussion of the CSM in Section 2.0. The author is referred to both the MSDEQ guidance and relevant EPA documents for developing this section of the report.

The Gulf States HHRA states that “[the] remainder of the site was relatively unaffected by historical creosoting activities”. Please qualify this statement by clearly explaining what is meant by “relatively unaffected”. What chemical data support this assertion?

- **Figure 1, Rationale for Pathway Selection or Exclusion:** Some of the rationales for including or excluding a particular pathway are not clear or conflict with current EPA guidance. All rationales for inclusion or exclusion of an exposure pathway should specifically address the relevance of the pathway, and not toxicological or COPC concerns. *If volatile compounds are found to be present* in selected media and an uninterrupted pathway exists from the source or area of contamination to the exposure point/exposure medium, then that pathway should be assessed. Contaminant transport through air should be determined for contaminants located in the surface soil, surface water, or other media capable of migrating as gases or as suspended particulate matter.
- **Figure 1, Surface Water:** Population served by drinking water sources within areas that may be affected by contaminated ground water or surface water shall be identified as potential receptors even if they reside outside the area.
- **Ground water Evaluation:** Please identify and justify all assumptions, equations, and models used to estimate ground water transport.
- **Investigative Activities:** The following sub-headings should be added as components of a discussion on the investigative activities conducted at the Gulf States Site. Please consult the attached documents for further details.
  - Source Area(s) Characterization
  - Impacted Surface Water and Sediments
  - Property Geology
  - Property Soil and Vadose Zone Characteristics
  - Property Ground Water/Aquifer Characteristics
  - Human/Target Populations Surveys
  - Area Water Well Surveys
  - Ecological Surveys

- **Property Physical Characteristics:** The following sub-headings should be added to a section bearing this title, followed by the appropriate discussion.
  - Source Area(s) Physical Characteristics
  - Impacted Surface Water and Sediments
  - Regional Geology
  - Property Geology
  - Property Soil and Vadose Zone Characteristics
  - Property Ground Water/Aquifer Characteristics
  - Human/Target population Surveys
  - Area Well Surveys
  - Ecological Target Surveys
  
- **Nature and Extent of Contamination/Contaminant Fate and Transport:** The elucidation of the nature and extent of contamination is important for properly defining areas of concern, and ultimately identifying all potential receptors, chemicals of potential concern, and areas of the site requiring further action (to name a few). No emphasis whatsoever has been placed on this crucial aspect of assessing risk related to the Gulf States Site. If for no other reason than accurate characterization of site contamination, the nature and extent of contamination of this site should be. There is no discussion of contaminant migration, and no description of the basis for the steps taken to complete the site conceptual exposure models used in this report. The technical adequacy of this report relies heavily on this information.
  
- **Data Collection:** Data collection was not addressed in this risk assessment report. Therefore, several components of a discussion on data collection were neglected.
  - Data Quality Objectives (DQO) statement(s) were absent from the report.
  - Key Site Characteristics (e.g., soil/sediment, hydrological, meteorological, and hydrogeological parameters) were not discussed in sufficient detail, or at all, in some cases.
  - Groundwater was inappropriately excluded as a critical sampling medium. The justification provided in the report was not adequate to sustain the omission.
  - Sampling and use of background data was not discussed. For all media investigated, background concentrations should be evaluated.
  - *Sampling did not appear to include all media along potential routes of migration.*
  - A site map was the only map provided in this HHRA report. Graphical representation of the site and sampling activities are severely lacking in this document. MSDEQ lists a series of maps which are required for each document. Please incorporate the relevant maps into this report.
  - QA/QC measures used in the investigation were not discussed.
  - *A thorough discussion of the selection of chemicals of potential concern (COPC) and a list of the selected COPCs must be presented in this report. These procedures should fully align themselves with MSDEQ guidance and the*

*minimum EPA requirements stipulated in RAGS, Part A (1989). Omission of this information warrants further attention.*

- **Section 3.0, Data Evaluation:** The discussion about exposure units (Section 3.0-3.1.5) should be placed along with sections related to data collection and sampling locations.

The text states that “[s]ite analytical data were collected during the Phase I (1997) and Phase II (1998) remedial investigations”, yet no prior historical investigations are discussed in the report. The results of these investigations must be included as elements in the historical perspective of the site.

The COPC selection process appears to have been conducted without mention of background concentrations being integrated into the evaluations. The Gulf States HHRA indicates that the Region 4 HHRA guidance was used to conduct these evaluations. Failure to collect and evaluate the effect of background concentrations at the site is not in compliance with the recommendations offered in the Region 4 guidance. The omission of background samples from the screening process may have resulted in the improper selection of natural site-specific contaminants compared with chemicals found at the site due to anthropogenic activities.

Assessment of groundwater data should be included in this segment of the report. If groundwater samples were not collected, then these data will need to be collected and evaluated relative to human health before further decisions could be made about this site.

- **Section 4.0, Exposure Assessment:** Please elaborate on the substance and output of an exposure assessment.
- **Section 4.1, Receptor Identification:** The intent of the exposure assessment is to characterize the medium in relation to the individuals potentially exposed that medium. For each exposure unit, please arrange the information by medium of concern then sort by potential receptors.
- **Section 4.1, Evaluation of PAHs:** The text states that, in accordance with MSDEQ guidance, “intake of carcinogenic PAH compounds via the ingestion route were evaluated qualitatively because the published cancer slope factor for benzo(a)pyrene cannot be used to quantify carcinogenic risks from ingestion [MCEQ 1999]”. The author of the report seems to have misinterpreted the MCEQ guidance on the assessment of PAHs via dermal and oral exposures. For clarification, IRIS (EPA 2000) indicates that the published cancer slope factor for benzo(a)pyrene may be used for *quantitative* determination of cancer risk due to oral exposure. For extrapolation to the dermal route, an adjustment of this value is required using chemical-specific, toxicologically-based gastrointestinal absorption efficiency (GIABS) factors. The primary source of these GIABS factors is the Toxicological Profiles produced by the Agency for Toxicological Substances and Disease

Registry (ATSDR). Open literature may be consulted if no values are available from the ATSDR.

As an interim procedure, until more definitive Agency guidance is established, Region 4 has adopted the relative potency factor (RPF) methodology for **quantitative** evaluation of PAHs. Through application of the recommended potency factors, chemical concentrations may be converted to their relative equivalent concentrations and the dermal cancer slope factor may then be applied to determine a risk level. If a single PAH is detected during analysis, then all carcinogenic PAHs should be retained in the risk assessment, with the application of the appropriate toxic equivalence factors (TEFs).

PAHs present in groundwater and soil at this site were not assessed in the risk report. This action may have effectively under-estimated the risk to human health and environment following exposure to these compounds.

- **Section 4.1, Surface Water:** It would be reasonable to assume incidental exposure to surface water by residential and trespassing receptors. The exclusion of this pathway based on a statement of 'insignificant exposure' is not acceptable. Further, more compelling justification must be provided before this pathway can be considered a negligible contributor to risk as it is customary that one undertakes the risk assessment process to derive this conclusion.
- **Section 4.1, Ingestion Route:** Ingestion exposure was evaluated for the adolescent trespasser only. Given the importance of this route of exposure in determining risk or hazard to exposed individuals, and given the inappropriate exclusion of several pathways from analysis, this risk assessment cannot be considered complete.

#### REFERENCES:

NCP: National Oil and Hazardous Substances Pollution Contingency Plan (The NCP): With the Preambles of 1988 and 1990 and the New Index of Key Terms (OSWER Publication 9200.2-14, January 1992; 40 CFR Part 300).

RI/FS Guidance: Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA 540-G-89-004, October 1988).

USEPA Memorandum: Land Use in the CERCLA Remedy Selection Process, OSWER Directive No. 9355.7-04, May 1995.



**FILE COPY**

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

July 25, 2000

William Cheney, Esq.  
401 Mississippi Street  
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J. B. Van Slyke, Jr., Esq.  
606 Maine Street  
P.O. Box 1506  
Hattiesburg, MS 39403

Gentlemen:

The Mississippi Department of Environmental Quality (MDEQ) is attempting to schedule a meeting with all interested parties to discuss the status of remediation of the Gulf States Creosote site in Hattiesburg. We have scheduled the meeting for Friday, August 4, 2000 at 10:00 in the offices of the MDEQ at 2380 Highway 80 West in Jackson, Mississippi. Please advise at your earliest convenience whether you will be able to attend. Thank you for your prompt attention to this matter. Please advise if I have inadvertently left someone out of the addressee list.

Sincerely,

Betty Ruth Fox  
Senior Attorney

cc: Tony Russell

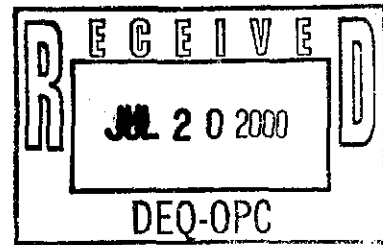
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4



61 Forsyth Street  
Atlanta, Georgia 30303-3104


July 14, 2000



4WD-OTS

**MEMORANDUM**

**SUBJECT: TECHNICAL REVIEW AND COMMENTS REPORT:  
"Human Health Risk Assessment for the Gulf States Creosoting  
Facility, Hattiesburg, Mississippi"**

**FROM:** Alrena V. Lightbourn   
Office of Technical Services (OTS)

**TO:** Elmer W. Akin,  
Chief, OTS

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The conceptual site model (CSM) should include a qualitative discussion of potential or suspected sources of contamination, types and concentrations of contaminants detected at the site, potentially contaminated media, as well as potential exposure pathways and receptors. This discussion should be collocated with the segments on data collection and evaluation. Although the exposure pathway matrix has been provided in the report, its inadequate development does not support the discussion of the CSM in Section 2.0. The author is referred to both the MSDEQ guidance and relevant EPA documents for developing this section of the report.

The Gulf States HHRA states that “[the] remainder of the site was relatively unaffected by historical creosoting activities”. Please qualify this statement by clearly explaining what is meant by “relatively unaffected”. What chemical data support this assertion?

- **Figure 1, Rationale for Pathway Selection or Exclusion:** Some of the rationales for including or excluding a particular pathway are not clear or conflict with current EPA guidance. All rationales for inclusion or exclusion of an exposure pathway should specifically address the relevance of the pathway, and not toxicological or COPC concerns. *If volatile compounds are found to be present* in selected media and an uninterrupted pathway exists from the source or area of contamination to the exposure point/exposure medium, then that pathway should be assessed. Contaminant transport through air should be determined for contaminants located in the surface soil, surface water, or other media capable of migrating as gases or as suspended particulate matter.
- **Figure 1, Surface Water:** Population served by drinking water sources within areas that may be affected by contaminated ground water or surface water shall be identified as potential receptors even if they reside outside the area.
- **Ground water Evaluation:** Please identify and justify all assumptions, equations, and models used to estimate ground water transport.
- **Investigative Activities:** The following sub-headings should be added as components of a discussion on the investigative activities conducted at the Gulf States Site. Please consult the attached documents for further details.
  - Source Area(s) Characterization
  - Impacted Surface Water and Sediments
  - Property Geology
  - Property Soil and Vadose Zone Characteristics
  - Property Ground Water/Aquifer Characteristics
  - Human/Target Populations Surveys
  - Area Water Well Surveys
  - Ecological Surveys

- **Property Physical Characteristics:** The following sub-headings should be added to a section bearing this title, followed by the appropriate discussion.
  - Source Area(s) Physical Characteristics
  - Impacted Surface Water and Sediments
  - Regional Geology
  - Property Geology
  - Property Soil and Vadose Zone Characteristics
  - Property Ground Water/Aquifer Characteristics
  - Human/Target population Surveys
  - Area Well Surveys
  - Ecological Target Surveys
  
- **Nature and Extent of Contamination/Contaminant Fate and Transport:** The elucidation of the nature and extent of contamination is important for properly defining areas of concern, and ultimately identifying all potential receptors, chemicals of potential concern, and areas of the site requiring further action (to name a few). No emphasis whatsoever has been placed on this crucial aspect of assessing risk related to the Gulf States Site. If for no other reason than accurate characterization of site contamination, the nature and extent of contamination of this site should be. There is no discussion of contaminant migration, and no description of the basis for the steps taken to complete the site conceptual exposure models used in this report. The technical adequacy of this report relies heavily on this information.
  
- **Data Collection:** Data collection was not addressed in this risk assessment report. Therefore, several components of a discussion on data collection were neglected.
  - Data Quality Objectives (DQO) statement(s) were absent from the report.
  - Key Site Characteristics (e.g., soil/sediment, hydrological, meteorological, and hydrogeological parameters) were not discussed in sufficient detail, or at all, in some cases.
  - Groundwater was inappropriately excluded as a critical sampling medium. The justification provided in the report was not adequate to sustain the omission.
  - Sampling and use of background data was not discussed. For all media investigated, background concentrations should be evaluated.
  - Sampling did not appear to include all media along potential routes of migration.
  - A site map was the only map provided in this HHRA report. Graphical representation of the site and sampling activities are severely lacking in this document. MSDEQ lists a series of maps which are required for each document. Please incorporate the relevant maps into this report.
  - QA/QC measures used in the investigation were not discussed.
  - *A thorough discussion of the selection of chemicals of potential concern (COPC) and a list of the selected COPCs must be presented in this report. These procedures should fully align themselves with MSDEQ guidance and the*

*minimum EPA requirements stipulated in RAGS, Part A (1989). Omission of this information warrants further attention.*

- **Section 3.0, Data Evaluation:** The discussion about exposure units (Section 3.0-3.1.5) should be placed along with sections related to data collection and sampling locations.

The text states that “[s]ite analytical data were collected during the Phase I (1997) and Phase II (1998) remedial investigations”, yet no prior historical investigations are discussed in the report. The results of these investigations must be included as elements in the historical perspective of the site.

The COPC selection process appears to have been conducted without mention of background concentrations being integrated into the evaluations. The Gulf States HHRA indicates that the Region 4 HHRA guidance was used to conduct these evaluations. Failure to collect and evaluate the effect of background concentrations at the site is not in compliance with the recommendations offered in the Region 4 guidance. The omission of background samples from the screening process may have resulted in the improper selection of natural site-specific contaminants compared with chemicals found at the site due to anthropogenic activities.

Assessment of groundwater data should be included in this segment of the report. If groundwater samples were not collected, then these data will need to be collected and evaluated relative to human health before further decisions could be made about this site.

- **Section 4.0, Exposure Assessment:** Please elaborate on the substance and output of an exposure assessment.
- **Section 4.1, Receptor Identification:** The intent of the exposure assessment is to characterize the medium in relation to the individuals potentially exposed that medium. For each exposure unit, please arrange the information by medium of concern then sort by potential receptors.
- **Section 4.1, Evaluation of PAHs:** The text states that, in accordance with MSDEQ guidance, “intake of carcinogenic PAH compounds via the ingestion route were evaluated qualitatively because the published cancer slope factor for benzo(a)pyrene cannot be used to quantify carcinogenic risks from ingestion [MCEQ 1999]”. The author of the report seems to have misinterpreted the MCEQ guidance on the assessment of PAHs via dermal and oral exposures. For clarification, IRIS (EPA 2000) indicates that the published cancer slope factor for benzo(a)pyrene may be used for *quantitative* determination of cancer risk due to oral exposure. For extrapolation to the dermal route, an adjustment of this value is required using chemical-specific, toxicologically-based gastrointestinal absorption efficiency (GIABS) factors. The primary source of these GIABS factors is the Toxicological Profiles produced by the Agency for Toxicological Substances and Disease

Registry (ATSDR). Open literature may be consulted if no values are available from the ATSDR.

As an interim procedure, until more definitive Agency guidance is established, Region 4 has adopted the relative potency factor (RPF) methodology for **quantitative** evaluation of PAHs. Through application of the recommended potency factors, chemical concentrations may be converted to their relative equivalent concentrations and the dermal cancer slope factor may then be applied to determine a risk level. If a single PAH is detected during analysis, then all carcinogenic PAHs should be retained in the risk assessment, with the application of the appropriate toxic equivalence factors (TEFs).

PAHs present in groundwater and soil at this site were not assessed in the risk report. This action may have effectively under-estimated the risk to human health and environment following exposure to these compounds.

- **Section 4.1, Surface Water:** It would be reasonable to assume incidental exposure to surface water by residential and trespassing receptors. The exclusion of this pathway based on a statement of 'insignificant exposure' is not acceptable. Further, more compelling justification must be provided before this pathway can be considered a negligible contributor to risk as it is customary that one undertakes the risk assessment process to derive this conclusion.
- **Section 4.1, Ingestion Route:** Ingestion exposure was evaluated for the adolescent trespasser only. Given the importance of this route of exposure in determining risk or hazard to exposed individuals, and given the inappropriate exclusion of several pathways from analysis, this risk assessment cannot be considered complete.

#### **REFERENCES:**

NCP: National Oil and Hazardous Substances Pollution Contingency Plan (The NCP): With the Preambles of 1988 and 1990 and the New Index of Key Terms (OSWER Publication 9200.2-14, January 1992; 40 CFR Part 300).

RI/FS Guidance: Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (EPA 540-G-89-004, October 1988).

USEPA Memorandum: Land Use in the CERCLA Remedy Selection Process, OSWER Directive No. 9355.7-04, May 1995.





## MDEQ Concerns on Gulf State Creosote Site

- Soils not delineated vertically or horizontally in Fill Area
  - no confirmation samples past RST-15 and RST-16 (peak on graph of ROST push for RST-16)
  - need more points in this area
- Soils not delineated vertically or horizontally to the northeast or southeast of Process Area
  - chose points farther out than farthest ROST borings (GEO-19 through GEO-23)
  - all points had detections of benzo(a)pyrene above unrestricted level of 0.0875 ppm and all but GEO-22 and GEO-23 had detections above restricted level of 0.784 ppm
  - need more points to the northeast and southeast of Process Area
- Sediments not delineated in off-site northeast/east drainage ditch (sediment samples should be compared to unrestricted Tier 1 table)
  - benzo(a)pyrene had detection of 0.97 ppm compared to unrestricted soil level of 0.0875 ppm
  - need more points
- Need sediment samples in drainage ditch on southeast side of site that drains into Gordon's Creek
  - EPA comments for ecological risk assessment
  - Also need data for human health risk assessment (creosote odor in ditch in woods)
- Discuss the hydrogeology of the Fill Area/Process Area
  - Jimmy
- Groundwater not delineated east of MW-09, south of CPT-09, or northeast of Fill Area
  - need additional wells (locations to be discussed in meeting)
- Need to establish a groundwater monitoring plan
  - all wells on-site quarterly for semi-volatiles; also need to sample for PAHs using 8310 to get the lower detection limits
- Groundwater (on-site and off-site) must be addressed in the risk assessment

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**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

Charles H. Chisolm, Executive Director

June 15, 2000

Mr. Glen M. Pilié, Esq.  
Adams and Reese, LLP  
4500 One Shell Square  
New Orleans, Louisiana 70139

RE: Gulf States Creosote  
*Ecological Risk Assessment for the Former Gulf States Creosoting  
Facility*  
Hattiesburg, Forrest County, MS

Dear Mr. Pilié:

The United States Environmental Protection Agency Region 4 (US EPA Region 4) has reviewed the above referenced report and has provided the attached comments. The Mississippi Department of Environmental Quality (MDEQ) concurs with the US EPA Region 4's comments and requires a revised ecological risk assessment to be submitted by July 17, 2000.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

C:\MyFiles\Gulf State Creosote\Gulf State-Letter to Pilié-EPA response to ecological RA\_6-15-00 (gz).doc

Post-it® Fax Note	7671	Date	6-15-00	# of pages	1
To	David Upthegrove	From	Gretchen Zmitrovich		
Co./Dept.	M.P.A.	Co.	MDEQ		
Phone #		Phone #	601-961-5290		
Fax #	504-582-2470	Fax #	601-961-5300		

FILE COPY

To: GI

RUSSELL

Office of  
Pollution Control  
P. O. Box 10385  
Jackson, MS  
39289-0385



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

Phone: 504-585-0260

Phone: (601) 961- 5318

Fax: 504-566-0210

Fax: (601) 961- 5300

Date: June 14, 2000

Routine  Priority

Number of pages, including this one: 2

Messages: Glen, I left you a voice mail about the attached list of concerns. I will be out of the office until Monday, June 19. You can call Gretchen about these concerns on Friday or wait until I return on Monday.

Thanks, Tony

MDEQ Concerns on Gulf State Creosote Site  
Hattiesburg, Mississippi  
June 13, 2000

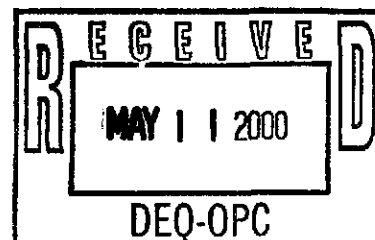
- Soils not delineated vertically or horizontally in Fill Area
- Soils not delineated vertically or horizontally to the northeast or southeast of Process Area
- Sediments not delineated in off-site drainage ditch (sediment samples should be compared to unrestricted Tier 1 table)
- Discuss the hydrogeology of the Fill Area/Process Area
- Groundwater not delineated east of MW-09, south of CPT-09, or south of MW-04) - *wrong data point in table*
- Need sediment samples in drainage ditch on southeast side of site that drains into Gordon's Creek
- Need to establish a groundwater monitoring plan
- Groundwater (on-site and off-site) must be addressed in the risk assessment

## ILS

Integrated  
Laboratory  
Systems

Environmental Services Div.  
US EPA Region IV  
680 College Station Road  
Athens, GA 30605  
706-355-8696

March 7, 2000



### MEMORANDUM

**SUBJECT:** Ecological Risk Assessment Review comments -  
Ecological Risk Assessment for the Former Gulf States Creosoting Facility,  
Hattiesburg, Mississippi

**FROM:** Joe Owusu-Yaw *JOW*  
ILS E.S.A.T. Contractor *SOY*  
Environmental Services Division

**TO:** Elmer W. Akin, Chief  
Office of Technical Services

Per your request dated February 1, 2000, I have reviewed the **Ecological Risk Assessment for the Former Gulf States Creosoting Facility, Hattiesburg, Mississippi**, prepared by Environmental Standards, Inc. for Kerr-McGee Chemical LLC. Below are my comments:

### General Comments:

The document purports to follow the "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (U.S. EPA 1997) but the format does not follow these guidelines. It is recommended that the authors of the ERA follow the step-by-step guidance provided in the Process Document to rewrite and resubmit the document to facilitate the review process. Three examples of the acceptable format for Region 4 ERAs have been provided in the Process Document. The Mississippi Department of Environmental Quality (MDEQ) Risk Evaluation Procedures for Voluntary Cleanup and Redevelopment of Brownfield Sites also provides guidance similar to the Region 4 requirements. The main objectives of the ERA were not clearly stated in the document. The history of the site has been provided in some detail in the ERA but an adequate ecological setting has not been provided, nor confirmation that endangered species are not present. The treatment process and chemicals used in the creosoting process were not described adequately in the ERA. It appears that some of the data collected from the site were not used in preparing the ERA and there was

no justification as to why all of the data were not used. The authors need to make all of the data available in the ERA and provide justification for any unused data.

Mississippi Target Remedial Goals (TRGs) were used in the risk assessment tables to select COPCs instead of Region IV screening values. The authors should consult Section 5.03 of the MDEQ document which clearly states that CoC concentrations should be compared with EPA Region 4 benchmarks or benchmarks from other sources. Region IV screening levels are available in the ERA Bulletins for comparison.

#### Specific Comments:

After the introduction, the authors should follow the step-by-step guidance provided in the Process Document "Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments" (U.S. EPA, 1997). This will ensure consistency in writing ecological risk assessments and make the review process easier. The comments have been written following the different sections of the Process Document (U.S. EPA, 1997). The first step is Step 1. The authors should:

- a. Provide an environmental setting and describe the nature and type of contaminants known or suspected to exist at the site. They should also provide information on the chemicals used for the creosoting process. Specifically: 1) What treatment was used in the creosoting process (e.g. pressure treatment with creosote/copper-chromium-arsenic, or with pentachlorophenol/creosote, or other processes). 2) Are dioxins a byproduct of the treatment process. 3) Were site surface water, soil and sediment samples analyzed for dioxins. 3) Apart from semivolatiles analyses, what other analyses were performed on the site. 4) Were the sediment samples in EU1 analyzed for total organic carbon and particle size. These measurements are important if the site contaminants are hydrophobic in nature. 5) Was there any evidence to indicate that some of the contaminants have migrated off the site.
- b. Include any natural areas (upland forest, onsite stream, etc.).
- c. Indicate what habitats at the site are potentially contaminated or otherwise disturbed.
- d. Indicate in the ERA if contaminants have migrated from source areas.

#### Site visit:

It is not clear from the document whether a site visit was performed prior to the preparation of the ERA. It is indicated on page 3 of the ERA that aquatic habitat is marginal in Gordon' Creek and a site survey revealed that aquatic organisms are depauperate in that section of the Creek. The following questions need to be addressed in the ERA:

- a. When was the site survey conducted, and who performed the survey?
- b. What type of aquatic organisms were found in the Creek? The Creek is not identified on the site map.
- c. Were there any potentially sensitive environments at the site?
- d. Were there any observations of animal species or signs of a species or evidence of animals (feathers, scat, tracks, etc.). A list of the plant and animal species (rodents, birds, amphibians, reptiles, etc.) identified during the site visit should be included in the ERA.
- e. Are there any endangered species at or close to the site? Have the natural resource trustees (i.e., U.S. Fish and Wildlife Service, NOAA, and State trustees) been contacted to verify this fact? Please include a discussion on the results of communication with these natural resource trustee agencies. Information regarding endangered species at or close to the site should be included in the ERA.
- f. What other regulatory agencies were contacted during the preparation of the ERA?

Additional questions may be found in Page 1-3 of the Process Document. The Checklist for Ecological Assessment/Sampling (Appendix A in the Process Document, U.S. EPA 1997) is useful for conducting complete ecological assessments, and helps in composing a list of species known to occur or likely to occur at the site. Including both the checklist and table of species aids in a complete review of the ecological risk assessment. Was this or any other checklist used during the site visit? Appendix E of the MDEQ document contains a Brownfield Voluntary Cleanup Ecological Checklist. Was it used? These checklists will prove useful for the "Potential Receptors" section of the document.

#### Contaminant Fate and Transport

A complete exposure pathway must exist for a receptor to be exposed to a chemical of potential concern (COPC). The authors must provide a section identifying the pathways for the migration of contaminants. This section must include: 1) a source and mechanisms for the contaminant release into the environment, 2) an environmental transport medium for the released contaminant, 3) a point of contact with the contaminated medium, and 4) a route of entry of the contaminant into the receptor at the exposure point. The authors should examine sources, releases, fate and transport mechanisms, exposure points, and exposure route in order to determine the complete exposure pathways that exist at the site. If any of these elements are missing, the pathway is incomplete and is not considered further.

### Ecotoxicity and Potential Receptors

What potential ecological receptors (plants and animals) are available at the site. The authors should provide some information on the toxicity and possible mode of action of the site contaminants and any adverse effects to potential receptors.

### Assessment and Measurement Endpoints

The authors should provide a section on a preliminary identification of assessment and measurement endpoints for the screening level risk assessment. In screening, all receptors are considered as the assessment endpoint, and measurement endpoints consist of the comparison of abiotic media concentrations to EPA Region 4 screening values.

### Screening-Level Ecological Effects Evaluation

The next step is the screening-level ecological effects evaluation and the establishment of contaminant exposure levels that represent conservative thresholds for adverse ecological effects. Those conservative thresholds are called screening ecotoxicity values.

The authors should compare the maximum analyte concentrations from each media at the site with the EPA Region 4 screening ecotoxicity values in order to generate a hazard quotient (HQ) for each chemical. If the HQ is greater than unity, the chemical is retained as a COPC. The authors should consult section 5.03 of the MDEQ document.

Paragraph 2, page 5 of the ERA states that data used for the ERA were “fully validated by qualified technical professionals using standard validation protocols.” The following questions pertain to the analytical data:

- a. What percentage of the data was validated?
- b. How were the data validated and what standard validation protocols were used?
- c. What data qualifiers and/or flags were used to describe the data?
- d. What happened to the qualified/flagged data. Were they used in the risk assessment or discarded?
- e. Were any of the data discarded, and if so, why?

Paragraph 2, page 5 of the ERA states that constituent concentrations in EU2 and EU3 surface soils were screened against unrestricted TRGs. The TRGs are several orders of magnitude higher than the Region IV, and screening values will provide false negatives.



The first full sentence on page 6 states that "MCEQ guidance (1999) does not specify screening levels for sediment, therefore, EU1 sediment data were compared to unrestricted soil TRGs." Please use the sediment screening values provided in table 3 of the Region 4 Ecological Risk Assessment Bulletins--Supplement to RAGS (U.S. EPA, 1995). The web address is: < <http://www.epa.gov/region4/waste/oftecser/otsguid.htm>>

Paragraph 2, page 6. The use of toxicity equivalence factors (TEFs), referred to as relative potency factors (RPFs) in the screening level ERA for carcinogenic polycyclic aromatic hydrocarbons (cPAHs) is not appropriate. TEFs are used in Human Health Risk Assessments. Screening values for PAHs in soil and sediment are provided in the Region 4 Ecological Risk Assessment Bulletins--Supplement to RAGS (U.S. EPA, 1995). The authors should use the individual PAH values and the total PAH values provided in the bulletins. For sediments, the screening values are 0.33 mg/kg for total low molecular weight PAHs and 0.655 mg/kg for total high molecular weight PAHs; and for soil, the total PAHs screening value is 1.0 mg/kg.

#### Section 4.1 Problem Formulation

As stated earlier, this section should be relocated to the first part of the document to ensure consistency with the Process Document (U.S. EPA, 1997). This section is describing the facility, environmental setting, and preliminary assessment endpoints. Rather than selecting specific ecological receptors (e.g., white-tailed deer), all receptors should be included.

Pages 8 through 15. The use of the white-tailed deer and the raccoon as ecological receptors, and the equations and algorithms used in these sections to obtain ecological hazard quotients and the tables associated with them (tables 5 through 20) are deemed inappropriate. Apart from producing direct toxicity, the site contaminants are likely to be metabolized by soil microorganisms and plants to less toxic byproducts with time. It is, therefore, not necessary to go through all the equations and iterations in order to arrive at the HQ. The direct toxicity approach is the acceptable approach.

Page 10, paragraph 2. The exposure frequency for a receptor in EU1 should be 0.053 not 0.53. However, at this early stage of the ecological risk assessment, all assumptions should be conservative, that is 100%.

The next step is Step 2: Screening-Level Exposure Estimate and Risk Calculation

#### Screening-Level Exposure Estimate

This section is missing from the ERA. Per EPA guidance (U.S. EPA, 1997), only complete exposure pathways should be evaluated. The authors should describe the different EUs and provide a narrative of the maximum and minimum contaminants detected in each matrix for each EU.

#### Screening-Level Risk Calculation

This section is listed as "Risk Characterization" on page 15 in the ERA. This section calculates a quantitative risk value by comparing the maximum detected analyte concentration with the screening value. The ratio of the maximum concentration found in the medium to the ecotoxicity screening value is termed the hazard quotient (HQ). The authors should provide another column in tables 1 through 4 (on pages 2 of 2) that calculates the HQs using the screening values for surface water, soil and sediment from the Region 4 bulletins. If the Region 4 screening values are used, most of the PAHs in tables 1-4 will be identified as COPCs.

#### Section 4.5 Uncertainty Analysis

The authors should revise this section in the light of the above comments.

- a. Are there any uncertainties associated with the data collection (e.g. are there variations in surface water hydrology and how does this affect the data?).
- b. Were the number of samples collected representative of the entire site?
- c. Were enough samples collected to make statistical inferences and support the conclusions of the ERA?
- d. Are there any uncertainties associated with the chemical analyses?

Data gaps should be identified. For example, the drainage ditches in UE3 and EU4 have never been sampled, or have they?. Also, were surface water and sediment from the Creek and soil samples collected outside of the boundaries of the property?

#### Section 5. Conclusions

The authors should review the final conclusions with MDEQ to determine if further work needs to be done at the site. The second full statement in the conclusions should be reevaluated after comparing the contaminant concentrations with the Region 4 screening values.

#### Figures and Tables:

Figure 1. Gordon's Creek was not identified on the map.

Table 1 (page 2 of 2): Please verify and report the correct Region 4 chronic freshwater surface water screening value for fluoranthene. The screening value used for pyrene is not available in the Region IV chronic freshwater surface water screening tables. Add another column to the table to calculate the HQs.

Table 2 (page 2 of 2): Please verify and report the correct Region 4 sediment screening values in this table. Add another column to the table to calculate the HQs.

Table 3 (page 2 of 2): Please verify and report the correct Region 4 soil screening values in this table and use the Region 4 screening values from the EPA Bulletins for determining the HQ. Add another column to the table to calculate the HQs.

Table 4 (page 2 of 2): Please verify and report the correct Region 4 soil screening values in this table and use the Region 4 screening values from the EPA Bulletins for determining the HQ. Add another column to the table to calculate the HQs.



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

February 23, 2000

Dr. Elmer Akin  
Environmental Protection Agency  
Waste Management Division  
Tenth Floor AFC  
61 Forsyth Street SW  
Atlanta, Georgia 30303

RE: Gulf State Creosote  
Hattiesburg, Forrest County, MS

Dear Dr. Akin:

Per a request by Mr. Joe Owusu, the Mississippi Department of Environmental Quality (MDEQ) is forwarding a copy of the Risk Evaluation Procedures for Voluntary Cleanup and Redevelopment of Brownfield Sites. Also please find enclosed a copy of a letter dated February 9, 2000 from Michael Pisani & Associates, Inc. detailing revisions to be made to the Human Health Risk Assessment for the Gulf States Creosoting Facility, Hattiesburg, Mississippi, dated November 12, 1999.

If you have any questions regarding this matter, please contact Gretchen Zmitrovich at (601) 961-5240.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

cc: Mr. Joe Owusu

C:\MyFiles\Gulf State Creosote\Gulf State-Letter to Akin-submittal of risk procedures and revisions to risk assessment\_2-23-00 (gz).wpd

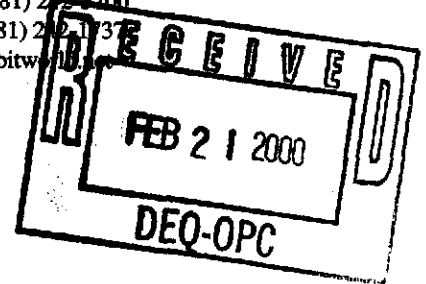
FILE COPY

**MICHAEL PISANI & ASSOCIATES, INC.**

Environmental Management and Engineering Services

1100 Poydras Street  
1430 Energy Centre  
New Orleans, Louisiana 70163  
Telephone (504) 582-2468  
Facsimile (504) 582-2470  
m.pisani@ix.netcom.com

13401 Southwest Freeway  
Suite 207  
Sugar Land, Texas 77478  
Telephone (281) 242-5700  
Facsimile (281) 242-5737  
dangle@orbitw



February 9, 2000

Mr. Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Subject: Revisions to *Human Health Risk Assessment for the Gulf States  
Creosoting Facility, Hattiesburg, Mississippi, November 12, 1999*

Dear Mr. Russell:

In preparing the Remedial Action Work Plan for the Gulf States Creosoting Site, we discovered an error in the referenced document. The potential exposure of an infrequent site visitor to impacted surface soils in Exposure Unit 4 was assessed, but was inadvertently screened out prior to performing actual risk calculations. We have attached revised tables presenting the results of risk calculations.

As shown in revised Table 16, the total cancer risk calculated for the exposure of an infrequent site visitor to impacted surface soils in Exposure Unit 4 was  $1 \times 10^{-5}$ . Although this value exceeds the MDEQ and U.S. EPA *de minimis* acceptable target cancer risk (i.e.,  $1 \times 10^{-6}$ ), the revised risk calculations in no way affect the overall site risk or alter our proposed site remedy.

Should you have any questions or wish to discuss this matter further, please call us.

Sincerely,

A handwritten signature in black ink, appearing to read "D. C. Uptegrove".

David C. Uptegrove, P.G.

cc: Keith Watson - Kerr-McGee  
Glen Pilié - Adams and Reese

**Table 7**  
**Statistical Summary and Selection of COPCs in EU4 Surface Soils (0-1' bgs)**  
**Kerr McGee, Hattiesburg, MS**

Constituent	CAS Number	Total Number of Samples	Hits	Hit Frequency %	Minimum Detection Limit		Minimum Detected	Mean	Logarithmic Mean	Maximum Detected	Maximum Detected Qualifier	Location of Maximum Concentration	Standard Deviation
					mg/kg	mg/kg							
<b>Semivolatiles</b>													
2,4-Dimethylphenol	105-67-9	3	1	33.33	4.10E-01	9.90E+00	2.50E-01	1.80E+00	6.33E-01	2.50E-01	J	GEO-19/0-1	2.73E+00
2-Methylnaphthalene	91-57-6	3	3	100	NA	NA	2.70E-01	9.36E+01	3.42E+00	2.80E+02	J	GEO-21/0-1	1.61E+02
2-Methylphenol	95-48-7	3	1	33.33	2.00E-01	5.00E+00	7.30E-02	8.91E-01	2.63E-01	7.30E-02	J	GEO-19/0-1	1.39E+00
3- and 4-Methylphenol	106-44-5	3	1	33.33	4.10E-01	9.90E+00	2.10E-01	1.79E+00	5.97E-01	2.10E-01	J	GEO-19/0-1	2.74E+00
Acenaphthene	83-32-9	3	2	66.67	2.00E-01	2.00E-01	1.00E+00	6.37E+01	2.67E+00	1.90E+02	J	GEO-21/0-1	1.09E+02
Acenaphthylene	208-96-8	3	3	100	NA	NA	1.40E+00	2.08E+01	9.73E+00	4.70E+01	J	GEO-21/0-1	2.35E+01
Anthracene	120-12-7	3	3	100	NA	NA	2.10E+00	2.62E+02	3.42E+01	7.60E+02	J	GEO-21/0-1	4.31E+02
Benzo (a) Pyrene Equiv.	191-24-2	3	3	100	NA	NA	5.15E+00	1.47E+02	5.33E+01	3.52E+02	J	GEO-21/0-1	1.82E+02
Benzo(ghi)perylene	86-74-8	3	3	100	NA	NA	2.70E+00	3.89E+01	1.80E+01	9.00E+01	J	GEO-21/0-1	4.55E+01
Carbazole	132-64-9	3	3	100	NA	NA	6.00E-01	7.88E+01	9.34E+00	2.30E+02	J	GEO-21/0-1	1.31E+02
Dibenzofuran	206-44-0	3	3	100	NA	NA	3.40E-01	6.37E+01	3.65E+00	1.90E+02	J	GEO-21/0-1	1.09E+02
Fluoranthene	86-73-7	3	2	66.67	2.00E-01	2.00E-01	1.40E+00	2.62E+02	7.49E+01	6.70E+02	J	GEO-21/0-1	3.57E+02
Fluorene	91-20-3	3	3	100	NA	NA	6.80E-01	8.72E+01	3.31E+00	2.60E+02	J	GEO-21/0-1	1.50E+02
Naphthalene	86-30-6	3	1	33.33	3.70E-02	5.00E+00	2.00E-01	9.06E-01	6.35E+00	4.90E+02	J	GEO-21/0-1	2.82E+02
N-nitrosodiphenylamine	85-01-8	3	3	100	NA	NA	1.70E+00	2.53E+02	2.14E+01	7.50E+02	J	GEO-20/0-1	1.38E+00
Phenanthrene	129-00-0	3	3	100	NA	NA	5.30E+00	2.65E+02	7.84E+01	6.50E+02	J	GEO-21/0-1	4.30E+02
Pyrene		3	3	100	NA	NA	5.30E+00	2.65E+02	7.84E+01	6.50E+02	J	GEO-21/0-1	3.40E+02

NA - Not Available



**Table 7**  
**Statistical Summary and Selection of COPCs in EU4 Surface Soils (0-1' bgs)**  
**Kerr McGee, Hattiesburg, MS**

Constituent	95% UCL mg/kg	Lognormal 95% UCL mg/kg	Distribution 99% Confidence	Exposure Point Concentration mg/kg	Tier I Restricted Soil TRG mg/kg	Is the Maximum Detected > TRG?	Is the 95% UCL > TRG?
<b>Semivolatile</b>							
2,4-Dimethylphenol	6.40E+00	1.83E+13	Normal/Lognormal	2.50E-01	4.08E+04	no	no
2-Methylnaphthalene	3.66E+02	4.06E+62	Lognormal	2.80E+02	8.18E+04	no	no
2-Methylphenol	3.24E+00	3.99E+15	Normal/Lognormal	7.30E-02	1.02E+05	no	no
3- and 4-Methylphenol	6.40E+00	9.25E+13	Lognormal	2.10E-01	1.02E+04	no	no
Acenaphthene	2.48E+02	6.35E+63	Normal/Lognormal	1.90E+02	1.23E+05	no	no
Acenaphthylene	6.05E+01	2.92E+14	Normal/Lognormal	4.70E+01	1.23E+05	no	no
Anthracene	9.89E+02	3.74E+38	Normal/Lognormal	7.60E+02	6.13E+05	no	no
Benzo (a) Pyrene Equiv.	4.53E+02	1.75E+21	Normal/Lognormal	3.52E+02	7.84E-01	YES	YES - COPC
Benzo(ghi)perylene	1.16E+02	3.33E+14	Normal/Lognormal	9.00E+01	6.13E+04	no	no
Carbazole	3.00E+02	1.23E+39	Normal/Lognormal	2.30E+02	2.86E+02	no	YES*
Dibenzofuran	2.48E+02	7.02E+50	Lognormal	1.90E+02	8.18E+03	no	no
Fluoranthene	8.64E+02	2.43E+26	Normal/Lognormal	6.70E+02	8.17E+04	no	no
Fluorene	3.40E+02	2.06E+68	Normal/Lognormal	2.60E+02	8.17E+04	no	no
Naphthalene	6.40E+02	5.82E+60	Lognormal	4.90E+02	8.24E+02	no	no
N-nitrosodiphenylamine	3.24E+00	6.32E+24	Normal/Lognormal	2.00E-01	1.17E+03	no	no
Phenanthrene	9.79E+02	7.80E+43	Normal/Lognormal	7.50E+02	6.13E+04	no	no
Pyrene	8.38E+02	2.72E+27	Normal/Lognormal	6.50E+02	6.13E+04	no	no

\* The maximum concentration passed the TRG screening criteria; therefore this analyte will not be quantitatively evaluated. The 95% UCL value is higher than the maximum concentration because of the paucity of the data set.



**Table 16**  
**Summary of Hazard and Risk Calculations**  
**Kerr McGee, Hattiesburg, MS**

Source/Pathway	Potentially Exposed Population	Total Hazard Index	Total Cancer Risk	Driving Constituent	Table Referenced
Dermal Exposure to Sediment in EU1	Visitor	NA	1E-09		17
	Sub-Total	NA	1E-09		
Dermal Exposure to Surface Water in EU1	Visitor	8E-06	1E-07		18
	Sub-Total	8E-06	1E-07		
Dermal Exposure to Sediment in EU4	Visitor	7E-03	4E-07		19
	Sub-Total	2E-02	4E-07		
Oral Exposure to Sediment in EU4	Visitor	1E-02	NA		20
	Sub-Total	2E-02	4E-07		
Dermal Exposure to Surface Water in EU4	Visitor	2E-04	2E-07		21
	Sub-Total	2E-04	2E-07		
Dermal Exposure to Surface Soil in EU2	Visitor	NA	1E-08		22
	Sub-Total	NA	1E-08		
Dermal Exposure to Surface Soil in EU3	Visitor	NA	2E-09		23
	Sub-Total	NA	2E-09		
Dermal Exposure to Surface Soil in EU4	Visitor	NA	1E-05	B(a)P Equiv.	23A
	Sub-Total	NA	1E-05		
		<b>Visitor Total:</b>	<b>2E-02</b>	<b>1E-05</b>	
Dermal Exposure to Surface Soil in EU2	Maintenance Worker	NA	3E-07		24
	Sub-Total	NA	3E-07		
Dermal Exposure to Surface Soil in EU3	Maintenance Worker	NA	5E-08		25
	Sub-Total	NA	5E-08		
Dermal Exposure to Surface Soil in EU5	Maintenance Worker	NA	2E-05	B(a)P Equiv.	26
	Sub-Total	NA	2E-05		
		<b>Maintenance Worker Total:</b>	<b>NA</b>	<b>2E-05</b>	
Dermal Exposure to Soil in EU2	Construction Worker	NA	1E-07		27
	Sub-Total	NA	1E-07		
Inhalation of Fugitive Dust in EU2	Construction Worker	NA	4E-08		28
	Sub-Total	NA	1E-07		
Dermal Exposure to Soil in EU5	Construction Worker	NA	2E-06	B(a)P Equiv.	29
	Sub-Total	NA	3E-06		
Inhalation of Fugitive Dust in EU5	Construction Worker	NA	7E-07		30
	Sub-Total	NA	3E-06		
		<b>Construction Worker Total:</b>	<b>NA</b>	<b>3E-06</b>	

B(a)P Equiv. = Benzo(a)pyrene Equivalents



**Table 23A**

**Dermal Exposure to EU4 Surface Soil by an Adolescent Visitor (Aged 7-16 years)**  
**Kerr McGee, Hattiesburg, MS**

Intake (mg/kg-day) =		$C_s * SA * AH * ABS * EF * ED * CF$					
		BW * AT					
C <sub>s</sub> - Concentration in sediment =	mg/kg	chem. spec.					
SA - Surface area available for exposure =	cm <sup>2</sup> /day	3192	calculated				
SA <sub>t</sub> - Total skin surface area =	cm <sup>2</sup>	12768.3	USEPA 1997, EFH				
F <sub>s</sub> - Fraction of skin surface area available for exposure =		25%	USEPA 1997, EFH				
AH - Adherence factor =	mg/cm <sup>2</sup>	0.4	USEPA 1997, EFH				
ABS <sub>der</sub> - Absorption - B(a)P =		0.03	USEPA 1995, Region III				
EF - Exposure frequency =	days/year	12	reasonable assumption				
ED - Exposure duration =	years	10	USEPA 1995, Region IV				
CF - Conversion factor =	kg/mg	1.00E-06					
BW - Body weight =	kg	45	USEPA 1995, Region IV				
AT <sub>n</sub> - Averaging time - noncarcinogenic =	days	3650	USEPA 1991, HHEM				
AT <sub>c</sub> - Averaging time - carcinogenic =	days	25550	USEPA 1991, HHEM				

Constituent	Concentration in Soil mg/kg	Average Daily Intake mg/kg-day	Dermal Chronic RfD mg/kg-day	Hazard Index	Average Lifetime Daily Intake mg/kg-day	Cancer Slope Factor 1/(mg/kg-day)	Cancer Risk
<b>Semivolatiles</b>							
Benzo (a) Pyrene Equiv	3.52E+02	9.85E-06	NA	NA	1.41E-06	7.30E+00	1.03E-05

NA - Not Available

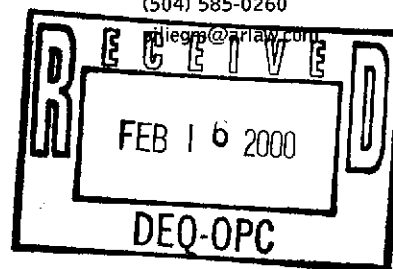
Total Cancer Risk = 1.03E-05



February 14, 2000

FEDERAL EXPRESS

Glen M. Pilié  
(504) 585-0260



Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Re: *Former Gulf States Creosoting Site – Remedial Action Plan  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed are two copies of a Remedial Action Plan for the subject site. The Remedial Action Plan is consistent with the site-specific Risk Assessment previously submitted to you. From our discussions with you on December 15, 1999, before Judge Pickering, we are submitting the Remedial Action Plan on an expedited basis so that MDEQ can conduct its review of the Remedial Action Plan at the same time it is reviewing the Risk Assessment. Once you have reviewed the Remedial Action Plan, please contact me if you wish to setup a meeting to answer any initial questions you or your staff may have.

Very truly yours,

ADAMS AND REESE LLP

BY: Glen M. Pilié  
GLEN M. PILIÉ

GMP/js

- cc: (With Enclosure)
- Honorable Charles W. Pickering, Sr.
- Honorable Louis Guirola
- Honorable James Thomas, Jr.
- Mr. Don Barrett
- Mr. Alex A. Alston, Jr.
- Mr. S. Robert Hammond, Jr.
- Mr. Patrick H. Zachary
- Mr. Ronald G. Peresich



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

January 20, 2000

**FILE COPY**

Dr. Elmer Akin  
EPA Waste Management Division  
10<sup>th</sup> Floor AFC  
61 Forsyth Street SW  
Atlanta, GA 30303

RE: Gulf States Creosote Ecological Risk Assessment

Dear Dr. Akin:

Please find enclosed a copy of the Ecological Risk Assessment I requested you to review by e-mail yesterday. Any help you can give us will be appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Russell".

Tony Russell, Chief  
Uncontrolled Sites Section

Enclosure

Gulf States Creosote request EPA review RA 1-20-00.wpd

ADAMS AND REESE LLP

FILE COPY

Attorneys at Law  
Baton Rouge  
Houston  
Jackson  
Mobile  
New Orleans  
Washington, DC

January 18, 2000

**FEDERAL EXPRESS**

Glen M. Pilié  
(504) 585-0260  
piliem@arlaw.com

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

*Re: Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed are two copies of the Ecological Risk Assessment for the Former Gulf States Creosoting Site in Hattiesburg, Mississippi. Once you and your staff have a chance to review this risk assessment, representatives of Kerr-McGee are available to discuss any aspects or questions you have regarding this document.

If you have any questions, do not hesitate to contact me.

Very truly yours,

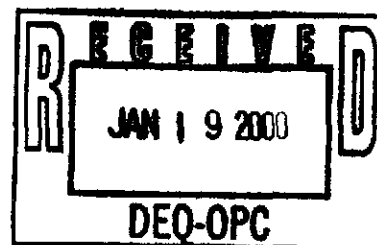
ADAMS AND REESE LLP

BY:

  
GLEN M. PILIÉ

GMP/js

cc: (With Enclosure)  
Honorable Charles W. Pickering, Sr.  
Honorable Louis Guirola  
Honorable James Thomas, Jr.  
Mr. Don Barrett  
Mr. Alex A. Alston, Jr.  
Mr. S. Robert Hammond, Jr.  
Mr. Patrick H. Zachary  
Mr. Ronald G. Peresich



ADAMS AND REESE LLP

**Attorneys at Law**  
Baton Rouge  
Houston  
Jackson  
Mobile  
**New Orleans**  
Washington, DC

**Glen M. Pilié**  
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piliem@arlaw.com

**RECEIVED**  
**DEC - 8 1999**  
Miss. of Environmental Quality  
Office of Pollution Control

December 6, 1999

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**VIA FACSIMILE  
AND U.S. MAIL**

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

*Re: Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi – MDEQ Review of Risk Assessment  
Our File 298-240*

Dear Mr. Russell:

As a follow-up to my correspondence to you of November 22, 1999, this will serve to clarify that the intent of the correspondence was not to preclude MDEQ's review of Kerr-McGee's Risk Assessment but to defer any action, decision or conclusion by MDEQ on approval of the Risk Assessment. Because we are doing everything possible to expedite this process, we would request that MDEQ proceed with its review but not take any action or reach any final decision regarding approval of the Risk Assessment until counsel for both sides communicate further.

Very truly yours,

**ADAMS AND REESE L.L.P.**

BY: *Glen Pilié*  
GLEN M. PILIE

GMP/js

cc: Mr. Don Barrett  
Mr. S. Robert Hammond, Jr.



**FILE COPY**


MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

**MEMORANDUM**

---

**TO:** Gulf State Creosote File  
Hattiesburg, Forest County, MS

**FROM:** Gretchen Zmitrovich 

**DATE:** December 1, 1999

**SUBJECT:** meeting

---

Mr. Tony Russell and I met with representatives from Michael Pisani & Associates (MP&A) and Kerr-McGee (attendees list attached) today regarding the above referenced site. The purpose of the meeting was to familiarize me with the site since I am the new project manager. After introductions, Mr. David Upthegrove of MP&A gave a history of the site. He used areal photographs taken at various times in the past century to show the manufacturing areas of the site and the fill areas of the site. He gave a brief overview of the environmental assessments conducted to date. Then the MDEQ process was discussed. After MDEQ reviews the risk assessment (either internally with EPA's assistance or via an outside consulting firm) and submits comments to Kerr-McGee, Kerr-McGee would submit a remedial action plan (RAP). Then MDEQ would review the RAP and submit comments to Kerr-McGee. Mr. Russell stated that the risk assessment could be reviewed and commented on within three months and the RAP could be reviewed and commented on within two months. The chosen remedial action could then be implemented. The Brownfields program was briefly discussed along with the issue of who is in control of the 16<sup>th</sup> section land (school board or state). MDEQ stated that it has a policy that free phase product has to be removed from the site if it exists. Mr. Upthegrove explained that the free product seen in the bottom of monitoring wells could be contributed to improperly installed wells. Mr. Russell stated that the issue would have to be resolved before the RAP could be approved.

C:\MyFiles\Gulf State Creosote\Gulf State-Memo to File-meeting with Kerr-McGee\_12-1-99 (gz).wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

12-1-99 MEETING

GULF STATES CREOSOTING SITE

ATTENDEES:

<u>NAME</u>	<u>AFFILIATION</u>	<u>PHONE</u>
David Upthegrove	Michael Pisani & Assoc.	504.582.2468
KEITH WATSON	Kerr-McGEE	405-270-3747
Mike Pisani	MP&A	504 582 2468
Gretchen Zmitrovich	MDEQ	601-961-5240
Tony Russell	MDEQ	601-961-5318

## **Agenda for December 1, 1999 Project Meeting**

### **Former Gulf States Creosoting Site Hattiesburg, Mississippi**

- I. Introductions
  
- II. Purpose and Objectives of Meeting
  
- III. Project Review
  - A. Historical Aerial Photography
  - B. Chronology of Activities
  - C. Activities Completed
    - 1. Phase I Remedial Investigation
    - 2. Phase II Remedial Investigation
    - 3. Risk Assessment
  
- IV. Technical Issues
  - A. Risk Assessment
  - B. Cleanup Requirements
  - C. Schedule



## Site Description

- Former wood treating facility located in Hattiesburg, MS
- Approximately 80-acre site situated entirely within Section 16 of T4N, R13W (Forrest County)
- Current use of former site operational areas is strictly commercial
- Businesses include new and used car dealerships, body shops, Forrest Co. offices, beverage distributorship, others

## Site History and Operations

- Creosoting operations conducted between early 1900s and 1960
- Treated primarily cross-ties in single treatment cylinder
- Used creosote only (i.e., no pentachlorophenol or CCA) for treatment
- Operational features included settling basin, boiler house, retort building, product storage and working tanks, wood storage areas, and office

## Site Redevelopment

- Creosoting operations discontinued in approximately 1960
- Commercial development began in approximately 1962
- Development included extensive grading, paving, and filling
- Gordon's Creek was re-channelized to accommodate extension of W. Pine St.

# Project Chronology

- 1/97 - KMCC and MDEQ entered VEP agreement
- 4/97 - KMCC completed Phase I RI field work
- 6/97 - KMCC submitted Phase I RI Report
- 1/98 - MDEQ commented on Phase I RI Report
- 10/98 - KMCC completed Phase II RI field work
- 12/98 - KMCC submitted Phase II RI Report
- 4/99 - MDEQ concurred with work completed
- 11/99 - KMCC submitted Risk Assessment

## Remedial Investigation Activities

- Advanced 72 CPT pushes and 14 soil borings to characterize site stratigraphy (shallow geology)
- Advanced 56 ROST LIF pushes and collected 114 soil samples to delineate extent of impacted soil
- Collected ground water samples from 13 temporary sampling points and 16 monitoring wells to delineate extent of impacted ground water
- Collected 9 surface water and 11 sediment samples from two drainage pathways

# Remedial Investigation Findings

- Geology/hydrogeology of former Process Area and Fill Area are significantly different
- Former Process Area and Fill Area are separated by surface drainage and hydrogeological divides (no viable transport mechanism)
- Majority of creosote-impacted soils are confined to former Process Area ( $\pm 3.4$  acres) and Fill Area ( $\pm 2.1$  acres)
- Creosote-impacted soils in drip track/treated wood storage areas confined to upper 2 feet

## RI Findings (continued)

- Impacted ground water flows eastward from former Process Area; impact diminishes dramatically with distance
- Impacted ground water flows westward from Fill Area toward Gordon's Creek
- Creosote constituents present in sediments in Gordon's Creek (low levels) and northeast drainage pathway (moderate levels)

## Risk Assessment

- Buildings/pavement preclude direct contact with vast majority of creosote-impacted soils
- Only exposed soils resulting in risk  $> 10^{-6}$  present in area between former Process Area and railroad tracks
- No users of ground water identified



# FILE COPY

## ADAMS AND REESE LLP

### FACSIMILE TRANSMITTAL

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New Orleans, LA 70139  
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DATE 11/23/99  
(601) 961-5300

TO Mr. Tony Russell  
Ms. Betty Ruth Fox  
Mr. Chuck Barlow

RE Hattiesburg Beverage/Hattiesburg  
School/RSCO (consolidated) v. Kerr-McGee  
(creosote cases)

**From**

Mr. Glen M. Pilié

No. Pages  
Transmitted 2

**MESSAGE**

Dear Mr. Russell, Ms. Fox and Mr. Barlow:

Attached is a letter from Don Barrett informing everyone that the conference previously set for November 29, 1999, in the above matter has been reset for December 15, 1999.

Glen Pilié

**TRANSMITTAL INFORMATION**

User # 339

Adams & Reese  
File Number 298-240

Recipient Facsimile  
Telephone Number Listed Above

If you did not receive the number of accompanying pages indicated, or experience any other transmission problems, please contact

**Janet Schultz at (504) 585-0358**

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**BARRETT LAW OFFICE, P.A.**

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Lexington, Mississippi 39095

Pat M. Barrett (1909-1998)

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Sally Barrett Williamson  
Brian Hestington  
Joseph Brady  
Stephen Ashley  
Patrick Barrett \*  
Lisa Edwards Barrett \*  
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November 23, 1999

\*Admitted in Texas and Mississippi

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Richard Yarborough  
(601) 583-2677

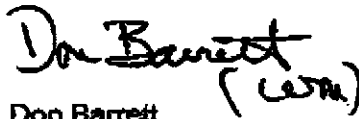
Re: Hattiesburg Beverage / Hattiesburg School / RSCO (consolidated) v Kerr-McGee (creosote cases)

Dear Gentlemen:

Judge Pickering has asked me to inform each of you that the conference previously set for November 29, 1999, in the above matter has been reset for December 15, 1999, at 9:30 a.m.

I hope you and your families have a happy Thanksgiving.

Sincerely,

  
(LWR)

Don Barrett

DB:wm

(Dictated but not read)

ADAMS AND REESE LLP

FILE COPY

Attorneys at Law  
Baton Rouge  
Houston  
Jackson  
Mobile  
New Orleans  
Washington, DC

Glen M. Pilié  
(504) 585-0260  
piliem@arlaw.com

November 22, 1999

VIA FACSIMILE  
AND U.S. MAIL

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Re: *Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

On behalf of Kerr-McGee, it is respectfully requested that the Mississippi Department of Environmental Quality take no action regarding review of the Risk Assessment recently submitted to MDEQ by Kerr-McGee. Counsel for Kerr-McGee and counsel for the landowners are discussing ways to resolve the underlying litigation; therefore, both sides believed it would be preferable if MDEQ did not commence its review of the Risk Assessment until further contacted by counsel for Kerr-McGee and counsel for the landowners. If this creates a problem for MDEQ, please let me know as soon as possible, otherwise all concerned will presume that MDEQ will take no action on the Risk Assessment until further contacted by Kerr-McGee.

Very truly yours,

ADAMS AND REESE L.L.P.

BY:   
GLEN M. PILIÉ

GMP/js

cc: Mr. Don Barrett  
Mr. S. Robert Hammond, Jr.



FILE COPY

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

MEMORANDUM

---

To: Gulf States Creosote File  
Hattiesburg, Forrest County, MS

From: Gretchen Zmitrovich *GZ*

Date: August 4, 2000

Subject: Meeting

---

The attached list of people met today to discuss the status of the above referenced site. After Ms. Betty Ruth Fox made introductions, Mr. Bill Cheney from the Secretary of State's Office spoke about the deed/use restrictions that would be placed on the site. Mr. Cheney said that the current 99-year lease would be cancelled by the waste clause as defined in 29-3-82. The school board would be paid damages for their losses, and the sub-lessees would have to obtain a new lease that had the restrictions incorporated into it. He stated that most of the language was worked out. Ms. Fox requested a copy of the draft deed/use restriction to review.

Mr. Glen Pilié spoke on behalf of Kerr-McGee in regard to the ecological risk assessment, the addendum to the Phase II report and the human health risk assessment. He stated that they had submitted comments to the EPA/MDEQ comments on the ecological risk assessment. Mr. Tony Russell stated that the MDEQ had received the comments and would review them shortly. Mr. Pilié stated that they had submitted an addendum to the Phase II report in response to issues that MDEQ had addressed during the June 21, 2000 meeting. He believes that most of the fieldwork can be conducted on city property. He did state that they may need help obtaining a reasonable access agreement with the railroad to obtain the samples in the Process Area. In regard to the human health risk assessment, they had not had time to review the comments in depth but were pleased to learn that MDEQ had waived its requirement to conduct a residential and groundwater assessment for the current industrial/commercial areas of the site. Mr. Pilié stated that the October 1, 2000 deadline would be difficult to meet since they had to

Memo to File: Gulf State Creosote

August 4, 2000

Page 2

incorporate the new data into the revised risk assessment. He stated that they would need about 60 days to get the data and evaluate it and another 60 days to finish the revised risk assessment. Mr. Russell requested a written schedule for the implementation of the fieldwork and the revision of the risk assessment.

Mr. Keith Watson requested that if MDEQ sends the revised risk assessment to EPA that they be given the opportunity to discuss it with EPA's reviewer. Mr. Russell stated that we probably would be conducting an internal review without EPA's involvement.

Ms. Fox questioned about the whether the residential properties had been notified of the contamination. Mr. Pilié stated that they had had limited discussion with people in the neighborhood when they had to get access agreements to conduct earlier fieldwork. He stated that they were planning some type of notice (public meeting was mentioned) after the risk assessment and remedial action plan were approved. The issue of a door-to-door well search was discussed. No one was sure whether or not one had been conducted. Mr. Marc Boutwell stated that he would research the issue and inform the MDEQ. Ms. Fox stated that MDEQ would be looking in to the issue of who needs to be notified and would get back with them on the issue.

I pointed out that borings GEO-22 and GEO-23 had detections above the unrestricted numbers but below the restricted numbers but the area was not included in the proposed area for the deed/use restrictions. Mr. Pilié stated that he would research the issue and get back with us. The meeting ended shortly afterward.

Gulf State-Memo to File-meeting to discuss site\_8-4-00 (gz)

Mississippi Department of Environmental Quality  
Meeting Attendees List

Date August 4, 2000

Company or Site Gulf States Creosote Site, Hattiesburg

Location MDEQ, Southport Center

Participant	Company/ Organization	Email Address	Phone Number
Gretchen Zmitrovich	MDEQ	Gretchen_Zmitrovich@deq.state.ms.us	(601) 961-5240
Tony Russell	MDEQ	Tony_Russell@deq.state.ms.us	(601) 961-5318
Betty Ruth Fox	MDEQ	Betty_Fox@deq.state.ms.us	(601) 961-5573
Kelly Riley	MDEQ	Kelly-Riley@deq.state.ms.us	(601) 461-5369
Bill Cheney	SOS	bcheney@sos.state.ms.us	601-359-6377
J. B. Jan Slyke	Public School Dist. Hattiesburg		601-261-3250
Holmes Adams	Adams & Reese	adams_h@arlaw.com	601-292-0723
Rick Yarborough	Autman, Tyner for Kerr-McBee	rfyjr@netdoor.com	601-736-2222
GLEN PILIE	ADAMS & REESE Kerr-McBee	PILIEGM@ARLAW.COM	504-585-0260
KEITH WATSON	K/M	KWATSON@KMG.COM	405-270-3717
Dave Uptegrove	Michael Pisanic & Assoc K/M/C	M.PISANIC@TX.MKCOM.COM	504.582.2468
Warren Hood, Jr	Hiburg School District		601-582-1545
Max Bontwell	Paristiffs		662-834-9029
Don Bennett	Paristiffs	dbennett@barnettlawoffice.com	662-834-2376

Mississippi Department of Environmental Quality  
August 4, 2000  
Meeting Agenda

- MDEQ to introduce the meeting and explain that the purpose is to discuss the status of use restrictions and remediation of the site
- Secretary of State to discuss the status of deed/use restrictions
- Kerr McGee to discuss Phase III work plan and ecological risk assessment
- MDEQ to discuss human health risk assessment
- MDEQ to discuss the status of remediation requirements
  - ❖ Kerr –McGee to submit work plan to address horizontal and vertical extent of contamination
  - ❖ Notification of lessees/persons that are located near impacted areas (soil and groundwater)
  - ❖ Well search

November 18, 1999

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

*Federal Express*

Re: *Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed are two copies of a risk assessment for the Former Gulf States Creosoting Site in Hattiesburg, Mississippi. Once you and your staff have a chance to review this risk assessment, representatives of Kerr-McGee are available to discuss any aspects or questions you have regarding this document.

If you have any questions do not hesitate to contact me.

Very truly yours,

ADAMS AND REESE L.L.P.

BY: 

GLEN M. PILIÉ

GMP/js  
Enclosure

cc: (with enclosure)  
Honorable Charles W. Pickering, Sr.  
Honorable Louis Guirola  
Honorable James Thomas, Jr.  
Mr. Kenneth Whitten  
Mr. Don Barrett  
Mr. Marc Boutwell  
Mr. Alex A. Alston, Jr.  
Mr. S. Robert Hammond, Jr.  
Mr. Patrick H. Zachary  
Mr. Ronald G. Peresich







**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

August 3, 1999

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Gulf States Creosote Site Hattiesburg, Mississippi  
Proposed Work Plan For Developing Site-Specific, Risk-Based Cleanup  
Goals For the Former Gulf States Creosote Site  
Dated May 25, 1999

Dear Mr. Pilie:

The Mississippi Department of Environmental Quality (MDEQ) and the United States Environmental Protection Agency (EPA) have reviewed the above referenced document. The MDEQ approves the work plan with the following conditions:

1. The list of EPA reference/guidance documents listed on pages 2 and 3 should include the Region 4 Supplemental Guidance to RAGS (11/96) available on EPA's web page at:  
<http://www.epa.gov/region4/wastepgs/oftecser/otsguid.htm>.
2. EPA Region 4 (see our guidance) does not consider "frequency of detection" as a factor in Chemicals of Potential Concern (COPC) selection as included on page 4 of the proposed work plan.
3. On page 4, wording allows flexibility in the exposure pathways that will be included in the risk assessment, i.e. "reasonable and realistic" pathways will be identified in the conceptual site model. The risk assessment will have to be reviewed for concurrence by MDEQ with their "reasonable and realistic" assumptions.
4. On page 6, similar flexibility is indicated in the wording relative to risk assessment exposure assumptions in the areas of "gastrointestinal matrix effect" and "fraction of soil ingested at the site". These could be areas of disagreement if they are not sufficiently conservative.

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289-0385 Phone 601.961.5171 Fax 601.354.6612

Letter: Mr Glen M. Pilie  
August 3, 1999  
Page 2

5. The risk assessment shall address all contaminated media (i.e. surface water, groundwater, soils, sediment). The assessment shall also include an ecological assessment.
6. The MDEQ evaluates individual constituents based on a  $10^{-6}$  risk. The future exposure scenario shall include an unrestricted (i.e. residential) setting.
7. The risk assessment shall be submitted as outlined in the EPA 540-R-97-033 document dated January 1998 and titled Risk Assessment Guidance for Superfund: Volume 1- Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments).

If you need to further discuss any aspects of this matter, contact me at (601) 961-5318.

Sincerely,



Tony Russell, Chief  
Uncontrolled Sites Section

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.

Gulf States Creosote comment lt for RAWP B-3-99(kw).wpd

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF MISSISSIPPI  
CHAMBERS OF DISTRICT JUDGE CHARLES W. PICKERING, SR.

FILE COPY

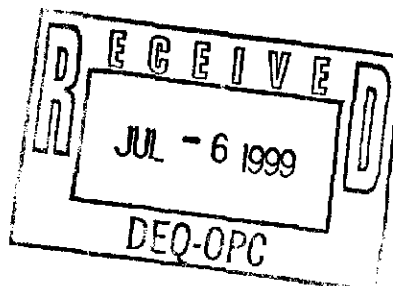
MEMORANDUM

---

**TO:** Mr. Russell H. Smith  
Mississippi Department of  
Environmental Quality  
101 W. Capitol Street  
Jackson, MS 39201

**DATE:** July 2, 1999

**FROM:** Sharon Potin  
Courtroom Deputy Clerk



**SUBJECT:** RSCO Realty Corporation, et al v. Kerr-McGee Chemical Corp., et al  
Civil Action No. 2:96cv323PG

A settlement conference will be held in the captioned matter on November 29, 1999 at 1:30 p.m. in the Court's chambers in Hattiesburg. Judge Pickering requests that you or another representative of the D.E.Q. be present at that conference.

# ADAMS AND REESE LLP

## Attorneys at Law

Baton Rouge  
Houston  
Jackson  
Mobile  
New Orleans  
Washington, DC

May 27, 1999

Glen M. Pilié  
(504) 585-0260  
piliem@arlaw.com

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

*Federal Express*

# FILE COPY

Re: *Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

Enclosed are two copies of a proposed work plan for the development of a site specific risk assessment for the Former Gulf States Creosoting Site in Hattiesburg, Mississippi. Once you and your staff have a chance to review this work plan, representatives of Kerr-McGee are available to discuss any aspects or questions you have regarding this document.

If you have any questions do not hesitate to contact me.

Very truly yours,

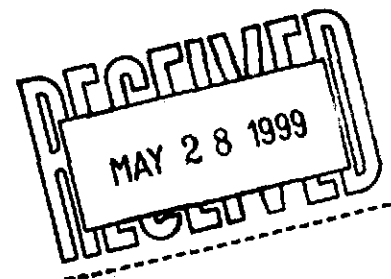
**ADAMS AND REESE L.L.P.**

BY:   
GLEN M. PILIÉ

GMP/js

(w/enclosure)  
cc: Honorable Charles W. Pickering, Sr.  
Honorable Louis Guirola  
Honorable James Thomas, Jr.  
~~Mr. Kenneth Williams~~  
Mr. Don Barrett  
Mr. S. Robert Hammond, Jr.  
Mr. Lawrence G. Gunn, Jr.  
Mr. Charles Tisdale, Jr.  
Mr. Jon Mark Weathers  
Mr. Walter W. Dukes  
Mr. Jeffrey Holliman

Enclosure





FILE COPY

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

April 20, 1999

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Gulf States Creosote Site Hattiesburg, Mississippi  
Phase II Remedial Investigation Report  
Dated December 30, 1998

Dear Mr. Pilie:

The Mississippi Department of Environmental (MDEQ) has reviewed the above referenced document. The MDEQ concurs with the investigation work conducted at this point in time. If any future sampling locations are identified, you shall provide additional sampling and/or monitoring of these areas at the site.

By letter dated February 23, 1999, you stated that a generic site specific risk assessment work plan is being developed and will be submitted to MDEQ in May 1999. The MDEQ will have to approve this site specific risk assessment work plan before the risk assessment can be finalized.

If you need to further discuss any aspects of this matter, contact Ken Whitten at (601) 961-5306.

Sincerely,

Tony Russell, Chief  
Uncontrolled Sites Section

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.

Gulf States Creosote Approval letter 4-20-99.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612



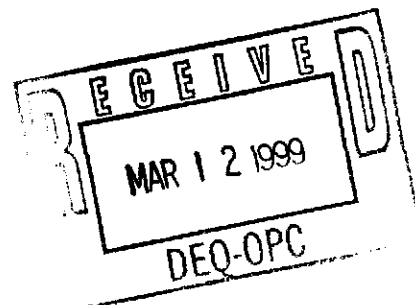
# BOUTWELL LAW OFFICES, PLLC

MARC BOUTWELL  
ANGELA JONES, PARALEGAL

Attorney-at-Law  
P.O. Box 956  
Lexington, Mississippi 39095  
Phone (601) 834-9029  
Fax (601) 834-3117

March 8, 1999

Tony Russell, Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
Post Office Box 10385  
Jackson, Mississippi 39289-0385



**FILE COPY**

Re: Former Gulf States Creosote Site

Dear Mr. Russell:

Thank you for copying me on your letter of March 2, 1999 to Glen Pilie. I understand that you have been promoted to Section Chief and may not be familiar with this case. I respectfully request that any meeting that you have with environmental consultants of Michael Pisani & Associates, Inc., that we be allowed to attend. Myself, Don Barrett and J. B. Van Slyke represent Hattiesburg Public School District, Courtesy Motors, Bob Mixon and others who are the land owners in this case. It is extremely important that we be allowed to attend any meeting you have with Pisani & Associates since they represent and are paid consultants for the polluter, Kerr-McGee Chemical Company.

We, of course, would like to have this meeting as soon as possible, so please notify us on what dates you would like to have this meeting.

Once again, thank you for typing me a letter. We look forward to seeing you soon.

Yours truly,

A handwritten signature in black ink, appearing to read "Marc Boutwell". The signature is fluid and cursive, written over the typed name.

Marc Boutwell

MB:dm

cc: Judge Pickering, Sr.  
J. B. Van Slyke, Jr.  
Glen Pilie  
Chet Tisdale  
Don Barrett  
Bob Hammond

**FILE COPY**

March 2, 1999

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Former Gulf States Creosote Site  
Hattiesburg, Mississippi

Dear Mr. Pilie:

The Department of Environmental Quality (MDEQ) would like to have a meeting to discuss the technical issues associated with the site. I am not that familiar with the investigation as I was promoted to Section Chief in September 1998. We would like for the meeting to be held sometime after March 22, 1999. The meeting attendees shall only include those environmental consultants of Michael Pisani & Associates, Inc. who are familiar with all investigations conducted at the site.

The MDEQ will provide written comments to the Phase II Remedial Investigation Report within 30 days of the meeting. If you need to further discuss any aspects of this matter, contact Ken Whitten at (601) 961-5306.

Sincerely,

Tony Russell, Chief  
Uncontrolled Sites Section

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.



February 23, 1999

Mr. Tony Russell, Acting Chief  
Uncontrolled Sites Section  
Mississippi Department of  
Environmental Quality  
P.O. Box 10385  
Jackson, Mississippi 39289-0385

Facsimile

Glen M. Pilié  
(504) 585-0260  
piliigm@arlaw.com

Re: *Former Gulf States Creosoting Site – Agreed Order No. 338197  
Hattiesburg, Mississippi  
Our File 298-240*

Dear Mr. Russell:

In 1997 and 1998, Kerr-McGee Chemical LLC (KMC) conducted extensive investigations to determine the nature and extent of affected media at the referenced site. The following reports documenting the results of Remedial Investigation activities have been submitted to MDEQ:

- *Remedial Investigation Report (June 30, 1997)*
- *Interim Report – Phase II Remedial Investigation (August 14, 1998)*
- *Phase II Remedial Investigation Report (December 30, 1998)*

As provided for in Section 3 of the MDEQ document *Guidance for Remediation of Uncontrolled Hazardous Substance Sites in Mississippi* (September 1990), KMC will conduct a site-specific risk assessment using current EPA guidance. KMC intends to retain a risk assessment consultant within the next two weeks. The risk assessment consultant will begin work immediately on a site-specific risk assessment work plan.

KMC plans to submit the risk assessment work plan for MDEQ review in May 1999. Should you have any questions regarding our proposed activities or timetable, please call me.

Very truly yours,

ADAMS AND REESE, L.L.P.

BY:   
GLEN M. PILIÉ

GMP/js

cc: Honorable Charles W. Pickering, Sr.  
Honorable Louis Guirola  
Honorable James Thomas, Jr.  
Mr. Kenneth Whitten  
Mr. Don Barrett  
Mr. S. Robert Hammond, Jr.  
Mr. Lawrence G. Gunn, Jr.  
Mr. Charles Tisdale, Jr.  
Mr. Jon Mark Weathers  
Mr. Walter W. Dukes  
Mr. Jeffrey Holliman

# ADAMS AND REESE

Registered Limited Liability Partnership  
Attorneys and Counselors at Law

4500 ONE SHELL SQUARE  
NEW ORLEANS, LOUISIANA 70139

Telephone: (504) 581-3234  
Facsimile: (504) 566-0210  
Internet: info@arlaw.com

# FILE COPY

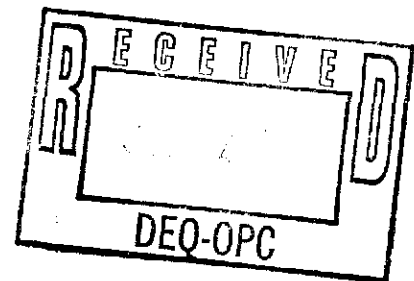
NEW ORLEANS  
BATON ROUGE  
MOBILE  
HOUSTON  
JACKSON  
WASHINGTON, D.C.

GLEN M. PILIÉ  
(504) 585-0260  
piliem@arlaw.com

December 30, 1998

Mr. Russell Smith  
Uncontrolled Sites Section Supervisor  
Mississippi Department of Environmental Quality  
P.O. Box 10385 (39289-0385)  
2380 Highway 80 West  
Jackson, Mississippi 39204

FEDERAL EXPRESS



Re: *Phase II Remedial Investigation Report  
Former Gulf States Creosoting Site  
Hattiesburg, Mississippi  
Our File: 298-240*

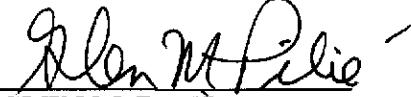
Dear Mr. Smith:

Enclosed are two copies of the Phase II Remedial Investigation Report for the subject site. Included with the report are all appendices referenced in the report. By copy of this letter, I am also forwarding a copy of the Phase II Remedial Investigation Report to the court and to plaintiffs' counsel. However, I am not providing the court with a copy of the appendices which are very lengthy. I am providing plaintiffs' liaison counsel, Bob Hammond, with a complete copy of the report and all appendices. All other counsel shown on this letter will only receive a copy of the report itself. After you have had a chance to review this report Kerr-McGee would be happy to meet with the representatives of MDEQ to discuss any comments or questions they may have.

Very truly yours,

**ADAMS AND REESE L.L.P.**

BY:

  
GLEN M. PILIÉ  
Attorney for:  
Kerr-McGee Chemical Corporation

GMP/js

cc: All w/enclosure  
Honorable Charles W. Pickering, Sr.  
Honorable Louis Guirola  
Honorable James Thomas, Jr.  
Mr. S. Robert Hammond, Jr. (Complete Copy)  
Mr. Charles H. Tisdale, Jr.  
Mr. Don Barrett  
Mr. Lawrence Gunn



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

August 26, 1998

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: **Former Gulf States Creosote Site**  
**Interim Report Phase II Remedial Investigation**  
Dated August 14, 1998  
Hattiesburg, Mississippi

Dear Mr. Pilie:

The Mississippi Department of Environmental (MDEQ) has reviewed the above referenced document. The MDEQ approves the work plan with the following conditions:

1. All sampling locations shall be submitted on updated digitized drawings in your next report.
2. You shall provide adequate notice prior to any field work to afford us the option of splitting samples. If we do request split samples, you shall provide them to us in the appropriate containers.
3. All groundwater samples shall be analyzed to drinking water standards.

If you need to further discuss any aspects of this matter, contact Ken Whitten at (601) 961-5306.

Sincerely,

Tony Russell, Acting Chief  
Uncontrolled Sites Section

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.

Gulf States Creosote approval letter dated August 26, 1998 on the Interim work plan for new groundwater MW's.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289-0385 Phone 601.961.5171 Fax 601.354.6612

# ADAMS AND REESE

Registered Limited Liability Partnership  
Attorneys and Counselors at Law

4500 ONE SHELL SQUARE  
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Telephone: (504) 581-3234  
Facsimile: (504) 566-0210  
Internet: info@arlaw.com

# FILE COPY

NEW ORLEANS  
BATON ROUGE  
MOBILE  
HOUSTON  
JACKSON  
WASHINGTON, D.C.

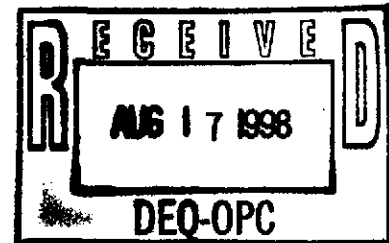
GLEN M. PILIÉ  
(504) 585-0260  
piliem@arlaw.com

August 14, 1998

Mr. Russell Smith  
Uncontrolled Sites Section Supervisor  
Mississippi Department of Environmental Quality  
P.O. Box 10385 (39289-0385)  
2380 Highway 80 West  
Jackson, Mississippi 39204

FEDERAL EXPRESS

Re: *Voluntary Agreement No. 3381-97*  
*Former Gulf States Creosoting Company Site*  
*Hattiesburg, Mississippi*  
*Our File: 298-240*



Dear Mr. Smith:

Enclosed please find two copies of the Interim Report Phase II Remedial Investigation for the former Gulf States Creosoting Site. This Report is being submitted in accordance with the revised work plan addendum approved by MDEQ on April 23, 1998. The purpose of this interim report is to recommend locations for the installation of additional monitoring wells. We look forward to your review of this document and approval of the well locations.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

ADAMS AND REESE

BY:

GLEN M. PILIÉ

Attorney for:

Kerr-McGee Chemical Corporation

GMP/js

cc:

All w/enclosure

Honorable Charles W. Pickering, Sr.

Honorable Louis Guirola

Honorable James Thomas, Jr.

Mr. S. Robert Hammond, Jr. (Representative for plaintiffs)

Mr. Charles H. Tisdale, Jr.



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

April 23, 1998

FILE COPY

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Gulf States Creosote Site Hattiesburg, Mississippi  
Revised Addendum to Site Investigation Work Plan  
Dated April 8, 1998

Dear Mr. Pilie:

The Mississippi Department of Environmental (MDEQ) has reviewed the above referenced document. The MDEQ approves the work plan with the following conditions:

1. All new sampling locations shall be submitted on digitized drawings in your next report.
2. You shall provide adequate notice prior to any field work to afford us the option of splitting samples. If we do request split samples, you shall provide them to us in the appropriate containers.

If you need to further discuss any aspects of this matter, contact Ken Whitten at (601) 961-5306.

Sincerely,

Russell H. Smith, P.E.  
Superfund Branch Chief

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.

Gulf States Creosote approval letter dated April 23, 1998 on the addendum of the work plan.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612

# ADAMS AND REESE

Registered Limited Liability Partnership  
Attorneys and Counselors at Law

4500 ONE SHELL SQUARE  
NEW ORLEANS, LOUISIANA 70139

Telephone: (504) 581-3234  
Facsimile: (504) 566-0210  
Internet: info@arlaw.com

## FILE COPY

GLEN M. PILIÉ  
(504) 585-0260  
piliem@arlaw.com

NEW ORLEANS  
BATON ROUGE  
MOBILE  
HOUSTON  
JACKSON  
WASHINGTON, D.C.

April 8, 1998

Mr. Russell Smith  
Uncontrolled Sites Section Supervisor  
Mississippi Department of Environmental Quality  
P.O. Box 10385 (39289-0385)  
2380 Highway 80 West  
Jackson, Mississippi 39204

**FEDERAL EXPRESS**

Re: *Voluntary Agreement No. 3381-97*  
*Former Gulf States Creosoting Company Site*  
*Hattiesburg, Mississippi*  
*Our File: 298-240*

Dear Mr. Smith:

In accordance with discussions held on March 16, 1998 with MDEQ and representatives of the plaintiffs, Kerr-McGee hereby submits two copies of a revised addendum to the Site Investigation Work Plan for the subject property. The revisions to the addendum result from the discussions and observations made during the meeting on March 16, 1998. I look forward to your review and approval of this addendum.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

ADAMS AND REESE

BY:



GLEN M. PILIÉ

Attorney for:

Kerr-McGee Chemical Corporation

GMP/js

cc:

All w/enclosure

Honorable Charles W. Pickering, Sr.

Honorable Louis Guirola

Honorable James Thomas, Jr.

Mr. Don Barrett

Mr. S. Robert Hammond, Jr.

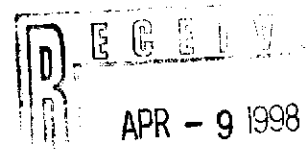
Mr. Lawrence G. Gunn, Jr.

Mr. Charles Tisdale, Jr.

Mr. Jon Mark Weathers

Mr. Walter W. Dukes

Mr. Jeffrey Holliman



**BOUTWELL LAW OFFICES, PLLC**

MARC BOUTWELL  
ANGELA JONES, PARALEGAL

Attorney-at-Law  
P.O. Box 956  
Jackson, Mississippi 39095  
Phone (601) 834-9029  
Fax (601) 834-3117

**RECEIVED**  
**APR - 2 1998**  
Dept. of Environmental Quality  
Office of Pollution Control

April 1, 1998

**Mr. Ken Whitten  
Mr. Russell Smith  
Mississippi Department of Environmental Quality  
Office of Pollution Control  
Post Office Box 10385  
Jackson, Mississippi 39289-0385**

**Dear Ken and Russell:**

Enclosed please find a copy of Ken's map of the Kerr-McGee property, which is his composite map of testing areas to date. I have shaded three areas in green, which I do not believe has been tested per your instructions to date. It's our position that these areas need to be tested to determine the extent of contamination in these areas.

Please take this recommendation into consideration before approving any plans by Kerr-McGee.

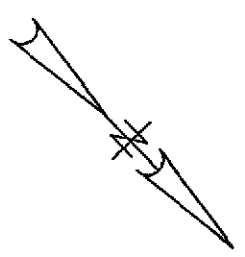
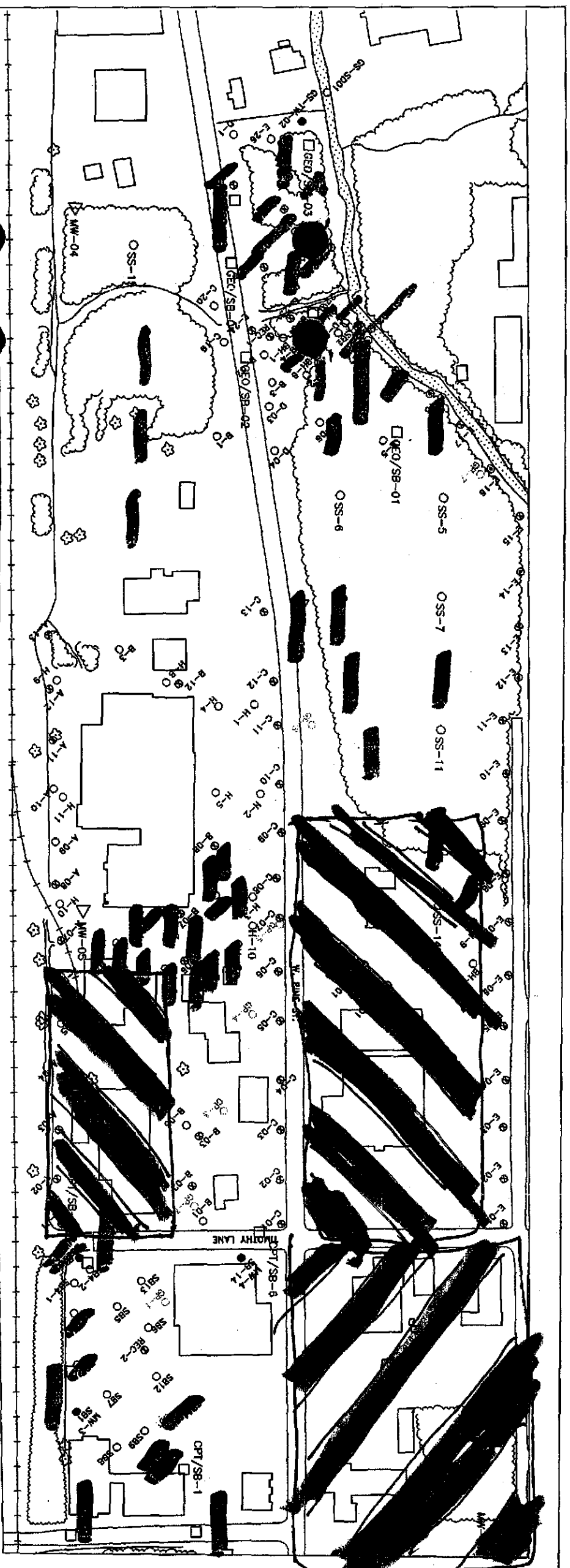
Yours truly,



**Marc Boutwell**

**MB:dm  
Enclosure**

**cc: Bob Hammond  
Glenn Pilie  
Chet Tisdale**



1997 SURFACE, SUBSURFACE  
& GROUNDWATER SAMPLE LOCATIONS  
SITE INSPECTION, PHASE II REPORT  
1/1992 MDEQ FOR EPA

SOIL GAS AND SOIL SAMPLING OF GULF  
STATES CREOSOTE 5/1990-ROY F.  
WESTON FOR EPA

PHASE II INVESTIGATION OF FORMER  
GULF STATE CREOSOTE COMPANY PROCESS  
AREA 1984 BY EPS FOR VAN SLYKE

PHASE II INVESTIGATION OF GIBSON'S  
SHOPPING CENTER 1984 BY MIKE BONNER  
FOR MS. THOMAS

PRELIMINARY SUBSURFACE INVESTIGATION OF  
RYAN MOTORS/ISSCO REALTY 10/94 BY  
BONNER ANALYTICAL TESTING

REPORT OF INVESTIGATION ACQUIRED  
8/96 BY MILLEREN HARRIS FOR VAN SLYKE

SOIL BORING ASSESSMENT WORK  
6/96 BY TDS  
1995 Sunflower Banner Analytical Data

**LEGEND**

- SOIL BORING
- REC-1 ○ RECEIVER WELL
- MONITOR WELL
- SEDIMENT SAMPLE
- SOIL GAS SAMPLE
- SOIL GAS/SOIL BORING

- REC-1 ○ THREE-DIMENSIONAL RESISTIVITY STUDY-WEST PINE STREET AREA 12/1995 BY ART FOR VAN SLYKE
- REC-2 ○ THREE-DIMENSIONAL RESISTIVITY STUDY-COUNTY FORD FACILITY 12/1995 BY ART FOR VAN SLYKE

NOTE: NOT INCLUDED: 10-34 TO 11-3-94 RYAN MOTOR INVESTIGATION BY BONNER



**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

Figure 1  
SAMPLE LOCATIONS FOR BENZOX(A)P(REN)E

PROJECT: FORMER GULF STATES CREOSOTING SITE  
LOCATION: HATTIESBURG, MISSISSIPPI  
DWG. NO.: GULF.DWG

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 1, 1996





**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

March 23, 1998

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Gulf States Creosote Site  
Hattiesburg, Mississippi

Dear Mr. Pilie:

According to your request, we held a meeting on March 16, 1998, to discuss the Addendum to the Site Investigation Work Plan, dated February 23, 1998. Our observations pertaining to the initial review of the report were presented along with your discussion pertinent to our observations. As indicated in that meeting the Mississippi Department of Environmental Quality requires you to submit an additional addendum to this work plan to us on or before April 10, 1998. This addendum should consider the discussion and observation made during this meeting in developing this additional addendum.

If you need to further discuss any aspects of this matter, contact Ken Whitten at (601) 961-5306.

Sincerely,

Russell H. Smith, P.E.  
Superfund Branch Chief

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.  
XC: J.B. Van Slyke, Jr. Esq.  
XC: Charles Tisdale Esq.

Gulf States Creosote Letter dated March 23, 1998 on the addendum of the work plan.wpd

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

**MEMORANDUM**

---

**TO:** Gulf States Creosote File  
**FROM:** Ken Whitten *KW*  
Uncontrolled Sites Section  
**DATE:** March 24, 1998  
**SUBJECT:** Gulf States Creosote Site meeting

---

Russell Smith and I met with representatives of Kerr-McGee, the Hattiesburg Public Schools, and Michael Pisani and Associates Inc. consulting firm on <sup>March</sup> ~~January~~ 16, 1998, we discussed the "Addendum to the site investigation work plan" dated February 23, 1998. Attached is a list of the attendees of this meeting. Listed below were the topics discussed during the meeting.

1. It was explained to them that there was insufficient information provided to MDEQ in this plan to describe the rationale for selecting both soil and groundwater sampling locations.
2. They were encouraged to use a defensible software tool such as Surfer to show existing data and project the next logical areas to be sampled at the site.
3. It was explained that they did not give sufficient details on where and at what time during the field work that they would be seeking specific approvals from MDEQ on the next phase of sampling.
4. It was decided during this meeting that they would have three and one half (3 ½) weeks to submit an additional addendum to this work plan and that MDEQ would send them a letter providing this amount of time for preparation of the additional addendum.
5. They indicated that they intend to pursue a site specific risk assessment for this site but MDEQ explained that until they knew the extent of the contamination both in groundwater and soils they would be missing vital information for conducting such a site specific risk assessment.

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289-0385 Phone 601.961.5171 Fax 601.354.6612

Department of Environmental Quality  
Meeting Attendees List

Date March 16, 1998

Company or Site Gulf State Creosote Site

Location of Site Capitol Ctr.-Training Room

Participant	Company or Organization	Phone Number
Ken Whitten	MDEQ	601-961-5306
Russell Smith	MDEQ	601-961-5072
Mike Pisani	MP&A	504582 2468
Dave Upthegrove	MP&A	"
Wen-Pilie	ADAMS NESSE FOR ICEM MCGEE	504-585-0260
Jim Barry	Union Camp Corp	973-628-2493
Chet Tisdale	King & Spalding for Union Camp	404 572 4820
Pat Barrett, Jr.	Barrett Law Office	834-2376
Marc Boutwell	Hattiesburg Public School	834-9029
Bob Hammonal	Ryan Motors	264-4499
JON MARK WEATHERS	BRYAN, NELSON, RANDOLPH & WEATHERS KERR-MCGEE CHEMICAL	(601)268-4100
Walter Dukes	Dukes, Dukes Keating and Morca Kerr M.C.C.	228 868 1111

**BARRETT LAW OFFICE, P.A.**

404 Court Square North  
Post Office Box 987  
Lexington, Mississippi 39095

**RECEIVED**  
**MAR 10 1998**  
Dept. of Environmental Quality  
Office of Pollution Control

Pat M. Barrett  
Pat M. Barrett, Jr.  
Don Barrett  
Sally Barrett  
Brian Herrington  
Joseph Brady  
Stephen Ashley  
Patrick Barrett\*  
Lisa E. Barrett\*  
\*Admitted in Texas only

Telephone: (601) 834-2376  
Telecopier: (601) 834-2628  
Email: dbarrett00@aol.com

March 9, 1998

**FILE COPY**

Mr. Russell H. Smith, P.E., Chief  
Uncontrolled Sites Section  
Mississippi Dept. of Environmental Quality  
Office of Pollution Control  
P. O. Box 10385  
Jackson, MS 39289-0385

RE: Kerr-McGee creosote site  
Hattiesburg, Mississippi

Dear Mr. Smith:

As you know, we represent the Hattiesburg Public School District and several current leaseholders in connection with the 16th section property in Hattiesburg contaminated by Kerr-McGee's creosoting operations.

We have reviewed the "Addendum to Site Investigation Work Plan" of Kerr-McGee dated February 23, 1998.

Paragraph 7 of your letter of January 13, 1998, required Kerr-McGee to

"Submit a remedial investigation work plan sufficient to establish the horizontal and vertical extent of both soil and groundwater contamination within thirty (30) days of the date of this letter."

Kerr-McGee's "Addendum" of February 23 makes no real effort to fulfill your said requirement set out above. Instead, this submission is transparently litigation defense oriented, where Kerr-McGee tries to appear co-operative, while actually doing nothing to truly characterize the extent of the soil and water contamination.

We attach Dr. Michael Bonner's comments dated June 30, 1997, as well as the McLaren Hart comments of February 6, 1997, and suggest that these reports are objective and reliable, unlike Kerr-McGee's proposed work plan.

Mr. Russell H. Smith, P.E., Chief  
March 9, 1998  
Page 2

If the past actions of Kerr-McGee are a guide, you can now expect them to call you and suggest an ex parte meeting to resolve any differences.

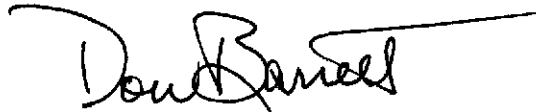
Because our clients have such a strong interest in seeing that this property is fully characterized and then remediated, we would request that we be invited to participate in any such meeting that you may deem advisable to have.

We also request that any such meeting be held as quickly as possible. We believe it is Kerr-McGee's purpose to delay, drag out, and protract these proceedings for just as long as they possibly can, hoping to wear down both the DEQ and our clients.

Also, by delaying an adequate testing program for this property, they delay the litigation in this matter currently pending before Judge Pickering.

Thank you for your consideration of our request.

Sincerely yours,



Don Barrett

DB:wm

Enclosures

cc: Marc L. Boutwell, Esq.  
Boutwell Law Office  
P. O. Box 956  
Lexington, MS 39095

S. Robert Hammond, Jr., Esq.  
Bryant, Clark, Dukes, Blakeslee, Ramsay & Hammond, PLLC  
P. O. Box 16567  
Hattiesburg, MS 39404-6567

Glen M. Pilié, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, LA 70139

**FILE COPY**

**COMMENTS REGARDING**

**Michael Pisani & Associates, Inc.**

**Remedial Investigation Report  
of  
Former Gulf States Creosoting Site  
Hattiesburg, MS**

**June 30, 1997**

**Project No. 21-02**

by



---

**Michael S. Bonner, Ph.D.**

**BONNER ANALYTICAL TESTING COMPANY  
2703 Oak Grove Road  
Hattiesburg, MS 39402**

## INTRODUCTION

The former Gulf States Creosoting is located on 79 acres of sixteenth section school board property near the intersections of Highway 11 and 49 in Hattiesburg, MS. The property was leased between 1900 and 1960 and utilized as a creosote manufacturing facility. The property is bounded by Scooba Street on the northeast, Gordon's Creek and Corinne Street on the west and northwest, US Highway 49 on the southwest and the Southern Railroad on the southeast.

The site was purchased by Industrial Park Partners (IPC) and developed for light commercial use during the early 1960's. Between 1990-1997, the site was subjected to numerous "limited scope" investigations including a recent Remedial Investigation (RI) conducted by Mike Pisani and Associates on behalf of Kerr Magee Corp. The preponderance of this RI has focused on two previously identified contaminated areas—the processing area (Courtesy Ford) and the Gordon's Creek/IPC-Ryan area. To date a comprehensive investigation of the site has not been performed.

## PURPOSE OF REPORT

Mike Pisani and Associates produced a Remedial Investigation report on their findings at the former Gulf States Creosoting facility dated June 30, 1997. Some of the findings published in the Pisani report warrant comment or qualification. This document will address those findings.

## I. EXECUTIVE SUMMARY OVERVIEW

a. Pisani states that creosote exists in two distinct areas, the process area and an obvious fill area near Gordon's Creek. Further, the report suggests contamination is limited to these two areas. It is obvious that the Gordon's Creek area and the process area (Courtesy Ford) are heavily contaminated. However, neither of these areas nor the remaining 75± acres have been adequately assessed.

In light of the lack of information on activities between 1900-1936 it is not prudent to assume that the remainder of the 79 acre site is free of creosote contamination. Further, surface contamination on the order of 0.5' to 3.0' is anticipated throughout the treated material storage areas. Treated material storage areas are, at least partially, defined between the years 1937-1960 by aerial photographs, but not so between 1900-1937.

Surface soil samples collected on Ryan property during the Pisani RI were found to contain elevated creosote levels. The horizontal and vertical extent of contamination is not known. Based on aerial photos of the site, Ryan property was believed to have been used only for untreated wood storage. Obviously, creosote related activities have been conducted in this area. At least one early aerial photo shows a tank located outside the process area on or near Ryan property. This tank may have contained creosote, boiler fuel, or some other substance. No investigation has been conducted in this area to date. Findings by Pisani during this investigation indicates an additional surface water migration pathway. Pisani suggests that surface water



runoff from the process area is in a southeast direction. Assuming this pathway valid, further investigation southeast of the process area is warranted. The old Gordon's Creek stream bed was obviously filled in the early 1960's. However, the most significant levels of creosote located in this area to date are on Ryan property and do not appear to be connected to the old filled stream bed.

b. The Pisani report suggests that there is not a surface pathway between the process area and the Gordon's Creek area. However, there is surface drainage that runs parallel to the process area along the railroad and traverses the property at the Ryan/IPC property line as evidenced by aerial photos and an early topographic survey. This ditch appears to be an acceptable migration pathway to the Ryan/IPC property and Gordon's Creek. Given the general meandering characteristics of stream beds and drainage ditches, and the 60 years of manufacturing that occurred on the site, it doesn't seem prudent to exclude this pathway.

c. Pisani indicates that subsurface barriers separate the process area and the Gordon's Creek area. While the available data may indicate such a barrier, it is important to note that this entire site is characterized as Urban soils, and as such are not easily characterized.

d. The RIR states that historical aerial photos reveal that the Gordon's Creek "fill area" was created after the site was closed. Actually, the old Gordon's Creek bed was filled during the early 1960's. However, the creosote transport mechanism and pathway (the ditch) appears to have been in place for as long as records exist. The meandering characteristics of stream beds

and ditches suggest a mechanism to spread creosote. While other transport mechanisms are possible the ditch remains viable.

e. The RIR states there is no surface exposure to creosote in the process area due to concrete and asphalt surfacing. Cracks or breaks in the concrete may result in future exposures. Importantly, surface exposures due to contamination on Ryan property and possibly other areas, along with leaching into Gordon's Creek may pose significant risks.

f. The author states that contamination is isolated from potable water. However, there are three known shallow wells which have not been evaluated. Area residents utilize shallow wells for a variety of domestic uses.

g. The RIR states that ROST technology was demonstrated to be an accurate, quick and cost effective method for identifying creosote contamination. The ROST-LIF appears to be an acceptable "screening tool" when profiling heavily contaminated areas of creosote. However, the author did not demonstrate the utility of the tool in assessing significant low level contamination of creosote. In fact, the data suggests that in its present configuration the ROST is not capable of detecting significant low level creosote contamination.

## II. DATA QUALITY VIEW

A third party audit of analytical data quality was performed in conjunction with this remedial investigation. As a result, a substantial amount of the data was deemed not acceptable for quantitation and was "J" flagged to be used only as an estimate of the actual concentration.

## III. REMEDIAL INVESTIGATION CONCLUSIONS

The author has drawn twenty two conclusions as a result of this RI. Those conclusions and comments, where appropriated, are listed below.

1. The former Gulf States Creosoting site property is currently bounded by Scooba Street on the northeast, Gordon's Creek and Corinne Street on the west and northwest, U.S. Highway 49 on the southwest, and the Southern Railroad on the southeast. The approximate area of the entire property is 80 acres.

No Comment

2. The Gulf States Creosoting facility operated between the early 1900s and approximately 1960. Operations at the facility were of a relatively small scale, consisting of the use of creosote only in a single pressure cylinder.

Aerial Photographs dating back to 1937 depict a full scale creosoting facility covering substantially all of the 79 acre lease. There is little historical information on the manufacturing operations between 1900-1937.

3. Creosoting and the associated storage and handling of chemicals were confined to an approximately 2.5 acre Process Area at the northeastern corner of the site. This area, which is now occupied by Courtesy Ford Motors, is currently bounded by Scooba Street, Timothy Lane, the Southern Railroad ditch, and an imaginary line connecting the northwestern side of the Ryan Auto Parts building and the southeastern side of the main Courtesy Ford building. During the operation of the wood treating facility, the area to the southwest of the Process Area was utilized for the storage of treated and untreated wood.

The author assumes manufacturing, processing, treatment, and storage was unchanged between 1900-1937. This may not be a valid assumption.

4. The site was redeveloped for commercial and light industrial use beginning in approximately 1962. There are no residential or institutional (e.g., schools) uses of the site.

There is substantial residential development south of the site. The property is 16<sup>th</sup> section land and is owned by the school.

5. Subsequent to closure of the facility and in conjunction with the redevelopment of the site, grading and filling with demolition debris and other waste materials occurred at the southwestern site boundary near Gordon's Creek. Gordon's Creek was also rechannelized (i.e., moved 200 to 300 feet to the northwest) to allow for the development of land along the

extension of West P Street.

OK

6. The former site property is currently occupied by several automobile dealerships, auto parts stores, a beverage dealership, a convenience store, and other commercial operations. The Process Area and wood storage areas have been regraded, covered with asphalt, and are no longer evident. The Fill Area remains undeveloped.

Grading may have occurred in some selected areas. However, one can not assume that a site is clean simply because it may have been graded. Only portions of the site are covered by asphalt. The Ryan property remains largely undeveloped as does some IPC property

7. Dating back to at least 1957, the Process Area and Fill Area have been located within two distinct drainage basins separated by a topographic and drainage divide. The northeastern portion of the site, including the Process Area, is drained to the east by a system of ditches and culverts. The remainder of the site, including the Fill Area, is drained to the west by Gordon's Creek and its tributary ditches.

A portion of the process area obviously drains to the east. The author has not confirmed that the entire process area drains to the east and at precisely which point flow direction changes to the west along the railroad drainage. It is likely that a portion of the process area also

drains to the west. Certainly the treated wood storage area drained to the west thence into Gordon's Creek at the IPC/Ryan property line. Additionally, drainage may have been altered over time.

8. The geology of the Process Area and Fill Area are significantly different, with the exception of an underlying clay aquitard common to both areas. The clay aquitard underlies the uppermost water-bearing units in both areas and represents to top of a massive (120 to 200 feet thick) regional clay of the upper Hattiesburg formation.

The entire site has been classified as Urban Soil.

9. The Process Area geology and hydrogeology are characterized by three major units: an upper silty clay, 20 to 25 feet thick; a fine- to medium-grained sand channel with a maximum thickness of 20 feet (the upper water-bearing unit); and the underlying clay aquitard. The Process Area sand channel does not extend westward to the Fill Area.

The site is characterized Urban soil and as such, may prove difficult to accurately characterize.

10. The Fill Area geology and hydrogeology are characterized by 20 to 25 feet of interbedded sands and clays (the sandy zones comprising the upper water-bearing unit) and the underlying

clay aquitard. The continuous sandy zones near Gordon's Creek do not extend northeastward to the Process Area.

The site is characterized Urban soil and as such, may prove difficult to accurately characterize.

11. Ground water flow within the Process Area sand channel is to the east at a gradient of approximately 0.01 feet per foot (in the opposite direction as portrayed by others in previous reports). Estimates of the sand channel's hydraulic conductivity range from  $3.8 \times 10^{-4}$  cm/sec to  $2.1 \times 10^{-3}$  cm/sec. The estimated ground water flow velocity within the sand channel ranges from 0.04 to 0.2 feet per day. The direction of ground water flow within the discontinuous Fill Area sands is unknown, but is anticipated to be toward or downstream along Gordon's Creek.

No Comment

12. A search of water well data bases identified the presence of up to three wells screened at depths of less than 300 feet (i.e., above the massive regional clay) within one mile of the site. The current status and use of these wells are unknown.

Shallow wells are the most likely to have been impacted and, therefore, warrant evaluation.

13. The ROST system was demonstrated to be an effective screening tool for the delineation of the vertical and lateral extent of creosote-impacted soils within the Process Area and Fill Area. ROST results correlated with laboratory analytical data to allow for the determination of the presence/absence and relative concentrations of creosote.

ROST has not been demonstrated to effectively characterize significant, but low level creosote contamination and, as a result, the horizontal and vertical boundaries may not be accurately defined. Additionally, the eastern boundary may have been significantly impacted by the drainage pathway and, therefore, warrants further study.

14. Creosote-impacted soils within the Process Area are confined to areas beneath or immediately adjacent to former wood treating operational features. The surface area underlain by creosote-impacted soils is approximately 3.4 acres in the Process Area.

The author relies extensively on ROST data which has not been demonstrated to effectively assess low level, but significant concentrations of creosote.

15. Creosote-impacted soils within the Fill Area are present within and adjacent to areas where filling occurred in conjunction with the redevelopment of the property beginning in approximately 1962. The surface area underlain by creosote-impacted soils is approximately 2.1 acres in the Fill Area.



This area has not been adequately assessed.

16. Ground water in the uppermost water-bearing zone beneath the Process Area has been impacted by former wood treating operations. Affected ground water does not extend west of the Process Area; the extent of affected ground water to the north and east of the Process Area has not been defined.

Requires further study

17. ROST pushes through the uppermost water-bearing zone in the Process Area do not indicate the presence of a free-phase creosote plume at the base of the zone.

There is however evidence of downward migration in numerous ROST Logs. ROST 44 (Figure 1) indicates a strong creosote fingerprint and a high signal between 7' and 11' however, the fingerprint changes abruptly between 11' and 15' while the signal remains high.

This implies that either some other contaminant was detected in the 11' to 15' zone or possibly selective migration of some components in the "creosote mix" has occurred. A similar scenario is noted in RST03, RST21, RST23 RST32, RST41, etc. (Figures 2-6)

18. Affected ground water in the Process Area is vertically confined by the underlying massive clay of the Hattiesburg formation. This clay layer affords protection to the drinking water

resources of the Hartsburg area. ROST pushes into this clay indicate the absence of any creosote migration into this layer.

This should be confirmed via double cased well installations into the second aquifer. The author has not presented evidence to demonstrate that the clay aquitard is continuous.

19. Ground water quality beneath the Fill Area has not been characterized, although ROST pushes through the uppermost water-bearing zone indicate the presence of some creosote-impacted sand.

No Comment

20. Extremely low concentrations of wood treating constituents are present within near-surface soils (i.e., the upper 12 inches) in unpaved and uncovered areas of the site.

Significant levels of creosote constituents have been detected in surface samples.

Additionally, no horizontal or vertical boundaries have been established.

21. RI results indicate the lack of a transport mechanism, either currently or historically, for the migration of creosote or other constituents from the Process Area to the Fill Area. Available site information indicates that the presence of creosote-impacted soils within the Fill Area is

not a result of creosote wood treating operations, but resulted from the placement of creosote impacted soils and other waste material in the Fill Area during the early 1960s.

The RI has not thoroughly evaluated the transport mechanism and, it is therefore, premature to suggest that creosote placement is the only possible transport mechanism.

22. The results of the RI indicate that affected subsurface media are confined to two separate and distinct areas: the Process Area and the Fill Area. The two areas can be considered independently during the development of possible response scenarios.

To date two elevated creosote areas have been detected. The extent of creosote contamination at the site remains undefined.

#### IV. ROST-LIF DATA QUALITY OBSERVATIONS

The ROST-LIF system has been described as an accurate, quick, cost-effective method for identifying creosote impacted soils. The author has not demonstrated the accuracy of the tool nor has he demonstrated precision or the lower limit of detection for the instrument. By way of example, Figure 7 is a graph of actual PAH concentrations reported vs. ROST response for four ROST logs having similar fluorescence fingerprints. There is no apparent linear relationship between ROST response and actual PAH concentrations found.

Current MDEQ clean up criteria for PAH contaminated soil with potential to impact ground water are as follow

Polynuclear Aromatic Hydrocarbons:

Clean up Level:

Acenaphthene	200 ppm
Anthracene	4,300 ppm
Benz[a]anthracene	70 ppm
Benzo[b]fluoranthene	4 ppm
Benzo[k]fluoranthene	4 ppm
Benzo[a]pyrene	4 ppm
Carbazole	50 ppm
Chrysene	1 ppm
Dibenz[ah]anthracene	11 ppm
Fluoranthene	980 ppm
Fluorene	160 ppm
Indeno[1,2,3-cd]pyrene	35 ppm
Naphthalene	30 ppm
Pyrene	1,400 ppm

The typical composition of **Asote** is as follows:

Component:

Composition:

Naphthalene	17.0
2-Methylnaphthalene	6.5
1-Methylnaphthalene	3.5
Biphenyl	1.9
Acenaphthylene	0.5
Acenaphthene	7.8
Dibenzofuran	5.2
Fluorene	6.0
Phenanthrene	19.4
Anthracene	2.5
Carbazole	5.1
Fluoranthene	11.8
Pyrene	8.4
1,2-Benzanthracene/Chrysene	4.2
Total	99.8

The lower limit of detection for PAHs using the ROST tool has not been determined. A review of data supplied by the author suggests the MDL for the ROST tool may be between 125 and 600 ppm for PAHs. Should the current MDEQ clean up criteria be utilized at this site the ROST tool does not appear to have the necessary sensitivity for horizontal/vertical delineation purposes. The author has utilized analytical data along with ROST logs to define the creosote plume boundaries. However, there are numerous cases where ROST logs indicate the most likely locations of low level contamination, but samples were not collected in these zones.

As an example, ROST 12 (Figure 8) was determined to be free of creosote contamination. Samples were collected and analyzed at 8' - 10' and 44' - 46'. In both cases, the fingerprint did not indicate creosote and the intensity of the signal was near baseline. However, the fingerprint for creosote was more favorable between 22.5' and 40', and further, the intensity of the signal was significantly higher, but no sample was collected in this zone. Likewise, ROST 15 (Figure 9) shows a distinct creosote signature between 5' and 15' coupled with a low intensity signal. The author suggests that this location contains no creosote. The same is true for ROST 16 (Figure 10), ROST 20 (Figure 11), ROST 39 (Figure 12) and ROST 52 (Figure 13). There are numerous other examples. For instance, ROST 52 (Figure 13) was determined by the author to be clean, yet it has a distinct creosote fingerprint at the 7' to 15' depth and a significant intensity. ROST 42 (Figure 14) has a similar fingerprint and only slightly higher intensity and is designated as a contaminated location.

To summarize, the RO tool appears to be capable of detecting creosote at elevated levels. However, linearity of response has not been demonstrated, nor has the instrument's precision or lower limit of detection been determined. As a result, conclusions drawn with regard to the extent of contamination on the site should be limited until such time the issues of linearity, precision, accuracy, and sensitivity are addressed.

## V. CONCLUSION

The Remedial Investigation by Pisani has focused on two areas previously identified by others. These areas have been better defined by Pisani. However, the author has not demonstrated the precision, accuracy, linearity or sensibility of the ROST tool in this investigation. Therefore, plume boundaries may not be accurately defined.

Surface samples collected by Pisani on the western portion of the Ryan property indicate elevated levels of creosote (vertical sampling has not been performed). Historical records dating back to 1937 suggest that this area was utilized for untreated wood storage.

Discovering creosote on the Ryan property in an area where it should not have been only serves to emphasize the importance of performing a complete and thorough investigation of the entire site. It does not seem prudent to suggest that contamination is confined to 5± acres of the site when historical data on the site are absent during a 36 year (1900 - 1936) span of operation.

In short, a sixty (60) year accumulation of creosote and associated materials have been left on the site. There are no records to suggest that residue or free product has been removed.

Therefore a thorough, complete and accurate horizontal and vertical delineation of the Gulf State Creosote site is mandated.



# ADAMS AND REESE

Registered Limited Liability Partnership  
Attorneys and Counselors at Law

# FILE COPY

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GLEN M. PILIÉ  
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February 25, 1998

Mr. Russell Smith  
Uncontrolled Sites Section Supervisor  
Mississippi Department of Environmental Quality  
P.O. Box 10385 (39289-0385)  
2380 Highway 80 West  
Jackson, Mississippi 39204

FEDERAL EXPRESS

Re: *Voluntary Agreement No. 3381-97*  
*Former Gulf States Creosoting Company Site*  
*Hattiesburg, Mississippi*  
*Our File: 298-240*

FEB 26 1998

Dear Mr. Smith:

Enclosed please find two copies of an addendum to the Site Investigation Work Plan for the subject property. This Work Plan is an addendum to the initial Site Investigation Work Plan submitted to MDEQ by Kerr-McGee on January 8, 1997. This addendum to the Site Investigation Work Plan is submitted in response to MDEQ's comments on the Remedial Investigation Report.

I look forward to receiving any comments you may have on this addendum to the Site Investigation Work Plan.

Very truly yours,

ADAMS AND REESE

BY:



GLEN M. PILIÉ

Attorney for:

Kerr-McGee Chemical Corporation

GMP/js

cc:

All w/enclosure

Honorable Charles W. Pickering, Sr.

Honorable Louis Guirola

Honorable James Thomas, Jr.

Mr. Don Barrett

Mr. S. Robert Hammond, Jr.

Mr. Lawrence G. Gunn, Jr.

Mr. Charles Tisdale, Jr.

Mr. Jon Mark Weathers

Mr. Walter W. Dukes

Mr. Jeffrey Holliman

Enclosure

**FILE COPY**

**Boutwell Law Offices, PLLC**

304 Cedar Street

P.O. Box 956

Lexington, Mississippi 39095

(601) 834-9029

Fax: (601) 834-3117

**FAX COVER SHEET**

FAX NUMBER TRANSMITTED TO:

To: *KEN WHITTEN*  
Of:  
From: Marc Boutwell  
Client/Matter: *Hiburg v. Ken McGee*  
Date:

DOCUMENTS	PAGES
	4

COMMENTS:

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JOINT PROSECUTORIAL PRIVILEGE/ATTORNEY WORK PRODUCT**

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

10/14/93

Mr. Randy Randolph  
Steadman Properties, Inc.  
114 Lakeshore Drive  
Hattiesburg, MS 39402

Dear Mr. Randy Randolph

RE: Closure of Underground Storage Tanks (USTs)  
J MARTIN MAZADA VW  
1421 WEST PINE @ TIMOTHY LANE  
HATTIESBURG, MS  
Facility I.D. # 0-001525

The Office of Pollution Control (OPC) has received and reviewed the "Notice of Intent to Permanently Close USTs" for the above referenced location. Our office has approved the closure of the underground storage tank(s) and has waived the 30-day notice period for you to begin closure.

Remember that state law requires a Mississippi certified contractor to be on site and responsible for all closure activities. Within 30 days after closure, the tank owner/operator must submit to our office the closure report and a copy of the analytical results if the results are below our action levels.

Please note that the tank owner/operator must report verbally any sample results exceeding our action levels (100 ppm for soil and 18 ppm for water) to the OPC, UST Section, within 24 hours of receipt of the results and in writing not later than 10 days following receipt of the results. Please contact Martha Martin at (601) 961-5058. Failure to follow this procedure may jeopardize the tank owner's eligibility for the Mississippi Groundwater Protection Trust Fund.

Thank you for your cooperation and your compliance efforts. If you have any questions call us at (601) 961-5075.

Sincerely,

*Lynn Svendsen*

Lynn Svendsen  
Mississippi Underground Storage Tank Program

cc: J.G. Watson

*Jan 10  
Martha Martin  
10-15-93  
MS*



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

June 21, 1994

Mr. Robert G. Steadman  
Steadman Properties, Inc.  
114 Lakeshore Drive  
Hattiesburg, MS 39402

Dear Mr. Steadman:

RE: Former UST System  
1421 W. Pine Street  
Hattiesburg, Mississippi  
Facility Id: 0-001525

The Office of Pollution Control has reviewed your letter of June 9, 1994, regarding an extension of time for submittal of a remedial action plan to address petroleum contamination existing at the above referenced site.

Your request is approved. The remedial action plan should be received by this office no later than September 1, 1994.

If you have questions or comments, contact me at 961-5270.

Sincerely,

  
Larry L. Flynt  
UST Section



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

August 18, 1994

Mr. Robert G. Steadman  
Steadman Properties, Inc.  
114 Lakeshore Drive  
Hattiesburg, MS 39402

Dear Mr. Steadman:

RE: UST Closure  
1421 W. Pine Street  
Hattiesburg, Mississippi  
Facility Id: 0-001525

The Office of Pollution Control has reviewed the underground storage tank closure (UST) report as submitted by your firm for permanent closure of UST system formerly located at the above referenced site. Documented laboratory results of soil samples removed from the excavation area indicate the one excursion above minimal levels for total petroleum hydrocarbon (TPH) soil contamination as set by the state of Mississippi.

The tankbed area is located within an area scheduled by the Environmental Protection Agency (EPA) for cleanup due to the operation of a wood preservative (Creosote) application facility on the site prior to the time that the UST system was installed. Such contaminants within soil about the excavation area of the UST may disallow the procurement of a representative TPH sample within the tankbed area. Therefore, no further investigative or remedial action is required at this time.

If you have questions or comments, contact me at 961-5270.

Sincerely,

  
Larry L. Flynt  
UST Section

/LF

# ADAMS AND REESE

Registered Limited Liability Partnership  
Attorneys and Counselors at Law

4500 ONE SHELL SQUARE  
NEW ORLEANS, LOUISIANA 70139

Telephone: (504) 581-3234  
Facsimile: (504) 566-0210  
Internet: info@arlaw.com

## FILE COPY

GLEN M. PILIE  
(504) 585-0260  
piliegm@arlaw.com

NEW ORLEANS  
BATON ROUGE  
MOBILE  
HOUSTON  
JACKSON  
WASHINGTON, D.C.

January 28, 1998

Mr. Russell Smith  
Uncontrolled Sites Section Supervisor  
Mississippi Department of Environmental Quality  
P.O. Box 10385 (39289-0385)  
2380 Highway 80 West  
Jackson, Mississippi 39204

Re: *Hattiesburg Creosote Site*  
*RSCO Realty Corporation, et al. v.*  
*Kerr-McGee Chemical Corporation et al.*  
*Our File: 298-240*

Dear Russell:

To confirm our telephone conversation of January 26, 1998, our goal is to get a Phase II Remedial Investigation Work Plan to the Mississippi Department of Environmental Quality within 45 days of January 14, 1998. My computation shows that the 45th day would fall on February 28th which is a Saturday, and therefore the target deadline would be March 2, 1998. If my understanding is incorrect please contact me as soon as possible, otherwise we will proceed with that target in mind.

Very truly yours,

ADAMS AND REESE

BY:

  
GLEN M. PILIE

Attorney for:

Kerr-McGee Chemical Corporation

GMP/js



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

*James I. Palmer, Jr., Executive Director*

# Memorandum

**To:** Gulf States Creosote File  
**From:** Ken Whitten  
**Subject:** Judge Pickering Hearing  
**Date:** January 14, 1998

The judge Pickering gave Kerr McGee 45 days to deliver a remedial investigation report to the OPC for review. OPC's review will have 60 days to comment on the RI report. Judge Pickering also, scheduled another hearing on June 10, 1998, at 10.00 A.M. in the federal court house in Hattiesburg, MS.

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612



**FILE COPY**

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

James I. Palmer, Jr., Executive Director

January 13, 1998

Mr. Glen M. Pilie, Esq.  
Adams and Reese  
4500 One Shell Square  
New Orleans, Louisiana 70139

Re: Gulf States Creosote Site Hattiesburg, Mississippi  
Remedial Investigation Report, dated June 30, 1997

Dear Mr. Pilie:

The Mississippi Department of Environmental (MDEQ) has reviewed the above referenced document and all the sampling data related to the referenced site, and contained in the MDEQ Uncontrolled Site files. The MDEQ observations and requirements are as follows for this site.

1. All groundwater monitoring well caps shall be locked and you shall provide the name and address of the individual that is responsible for maintaining the security of the monitoring wells.
2. The definition of on-site means the areal extent of contamination and all areas in close proximity to the contamination necessary for implementation of the response action.
3. The Fill area, Process area, the Old Gibson property, Ryan Motors property, and the lot west of the Eagon cars property shall be considered together in the development of any proposals for removal and remedial activities.
4. Analytical data indicates the presence of carcinogenic polynuclear aromatic hydrocarbons (PAH's) in the Fill Area, Process Areas, The Old Gibson's property, Ryan Motors property, and the lot west of the Eagon cars property. Tabulated below are the target clean up levels for several of the compounds of concern at this site.

OFFICE OF POLLUTION CONTROL

P.O. Box 10385 Jackson, MS 39289.0385 Phone 601.961.5171 Fax 601.354.6612



Compound	Target Clean Up Levels	
	Soil (ppm)	Groundwater (ppb)
Benzo(a)pyrene	0.096	0.2
Dibenzo(a,h)anthracene	0.096	0.2
Benzo(b)fluoranthene	0.96	0.2
Benzo(k)fluoranthene	0.96	0.2
Indeno(1,2,3-cd)pyrene	0.96	0.2
Benzo(a)anthracene	0.96	0.2
Chrysene	9.6	0.2

5. Tabulated below are soil sample results from various sampling events which detect compounds above target clean up levels for this site:

Sample Results for March 1990 Roy F. Wesson Investigation									
Compound (ppm)	Soil Boring Numbered Locations/ Depth								
	D00 5'	D00 8'	D01 5'	D01 8'	E20 4'	E19 11'	E24 8'	E25 8'	E27 8'
Benzo(a)pyrene	125	35	133	55	116	0.6	ND	11	42
Dibenzo(a,h)anthracene	23	5	19	12	17	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	78	143	127	248	1	ND	ND	86
Benzo(k)fluoranthene	231	74	135	121	236	0.4	27	30	ND
Indeno(1,2,3-cd)pyrene	51	15	54	26	53	ND	ND	ND	ND
Benzo(a)anthracene	181	54	259	62	104	1.1	52	34	100
Chrysene	230	61	318	73	160	1.2	42	37	86

Sample Analysis Results for 1994 EPS Investigation					
Compound (ppm)	Soil Boring Numbered Locations/ Depth				
	SB2-003 13-15'	SB3/001 3-5'	SB4-3/002 8-10'	SB10/004 18-20'	SB11/001 2'
Benzo(a)pyrene	ND	ND	573	ND	ND
Dibenzo(a,h)anthracene	-	-	-	-	-
Benzo(b)fluoranthene	10.35	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	1066	ND	ND
Indeno(1,2,3-cd)pyrene	-	-	-	-	-
Benzo(a)anthracene	ND	ND	ND	ND	ND
Chrysene	ND	23.79	4344	76.34	939

Sample Analysis Results for Oct. & Nov. 1994 Bonner Investigation						
Compound (ppm)	Soil Boring Numbered Location/Depth					
	Hole 5 5'	Hole 6 0-1'	Hole 7 0-1'	Hole 2 5'	Hole 11 2'	Hole 8 5'
Benzo(a)pyrene	2.18	0.501	30.45	0.189	3.06	.00675
Dibenzo(a,h)anthracene	ND	0.115	5.87	ND	ND	ND
Benzo(b)fluoranthene	2.53	0.788	43.68	0.289	3.37	.00899
Benzo(k)fluoranthene	2.24	0.807	44.74	0.239	ND	.0129
Indeno(1,2,3-cd)pyrene	ND	0.467	22.32	ND	ND	ND
Benzo(a)anthracene	2.82	0.7	42.44	ND	6.5	0.0175
Chrysene	3.51	0.727	44.07	0.162	6.06	0.017

Sample Analysis Results for June & July 1995 Bonner Sunflower Shopping Center							
Compound	Soil Boring Number Location/Depth						
	Hole 2 6-12"	Hole 2 24"	Hole 3 12-18"	Hole 4 12-18"	Hole 6 12-18"	Hole 11 24"	Hole 13 12-18"
Benzo(a)pyrene	58.48	0.12	19.64	30.63	3.99	1.11	1.18
Dibenzo(a,h)anthracene	12.52	ND	4.94	ND	1.09	0.14	0.12
Benzo(b)fluoranthene	100.1	0.25	30.45	36.84	4.96	1.24	1.58
Benzo(k)fluoranthene	36.61	0.06	12.61	9.45	5.21	1.26	1.43
Indeno(1,2,3-cd)pyrene	28.11	0.05	12.60	ND	2.5	0.81	0.68
Benzo(a)anthracene	98.66	0.21	31.98	11.92	3.13	0.54	1.17
Chrysene	83.73	0.23	29.93	40.96	5.41	0.86	1.71

Sample Analysis Results for June & July 1995 Bonner Sunflower Shopping Center						
Compound	Soil Boring Number Location/Depth					
	Hole 7 0-1'	Hole 8 0-1'	Hole 9 0-1'	Hole 11 0-1'	Hole 12 0-18"	Hole 14 0-18"
Benzo(a)pyrene	8.23	9.24	0.10	7.24	1.11	1.79
Dibenzo(a,h)anthracene	2.55	0.97	ND	1.24	1.10	0.26
Benzo(b)fluoranthene	8.88	19.27	0.29	13.79	19.44	2.31
Benzo(k)fluoranthene	10.18	10.15	0.03	5.83	9.32	1.98
Indeno(1,2,3-cd)pyrene	5.88	8.39	0.02	4.66	6.63	1.40
Benzo(a)anthracene	3.88	8.62	0.05	12.12	16.68	1.07
Chrysene	7.18	13.99	0.14	13.61	18.92	1.73

Sample Analysis Results for June 1996 TDS Investigation	
Compound (ppm)	Soil Boring Location/Depth
	B6 13-14'
Benzo(a)pyrene	120
Dibenzo(a,h)anthracene	120
Benzo(b)fluoranthene	140
Benzo(k)fluoranthene	150
Indeno(1,2,3-cd)pyrene	120
Benzo(a)anthracene	260
Chrysene	320

Sample Analysis Results for 1997 Kerr-McGee Investigation								
Compound (ppm)	Soil Boring Number Location/ Depth							
	CPT/ SB-02 9-11'	CPT/ SB-04 29- 31'	CPT/ SB-05 10- 12'	CPT/ SB-07 14- 16'	GEO/ SB-05 4-9'	GEO/ SB-06 10- 12'	GEO/ SB-07 5-7'	GEO/ SB- 05A 17-19'
Benzo(a)pyrene	3.5	4.9	26	0.69	24	13	22	ND
Dibenzo(a,h)anthracene	ND	0.58	2.5	0.09	2.7	1.4	3.4	ND
Benzo(b)fluoranthene	5.1	6.6	38	0.89	36	18	33	ND
Benzo(k)fluoranthene	1.9	2.6	13	0.33	14	6.7	11	ND
Indeno(1,2,3-cd)pyrene	1.2	2	8.5	0.38	9.6	4.1	8.7	ND
Benzo(a)anthracene	9.5	10	69	1.3	ND	40	61	0.043
Chrysene	8.5	12	62	1.3	52	33	52	ND

Sample Analysis Results for 1997 Kerr-McGee Investigation								
Compound (ppm)	Soil Boring Number Location/Depth							
	SS-4 0-12"	SS-8 0-12"	SS-9 0-12"	SS-10 0-12"	SS-12 0-12"	SS-3 0-12"	SS-1 0-12"	SS-5 0-12"
Benzo(a)pyrene	0.21	0.65	0.33	2.4	0.21	0.42	0.41	ND
Dibenzo(a,h)anthracene	0.072	0.15	ND	0.64	ND	0.14	0.16	ND
Benzo(b)fluoranthene	0.93	1.4	0.7	0.93	0.54	1.2	2.2	0.13
Benzo(k)fluoranthene	0.34	0.53	0.25	2.3	0.19	0.43	0.65	ND
Indeno(1,2,3-cd)pyrene	0.3	0.54	2.3	2.1	0.25	0.47	0.46	ND
Benzo(a)anthracene	0.27	0.64	0.22	0.27	0.22	0.4	0.54	0.044
Chrysene	0.36	0.85	0.21	0.36	0.32	0.62	0.93	0.078

Sample Analysis Results for 1997 Kerr-McGee Investigation							
Compound (ppm)	Soil Boring Location Number/Depth						
	SS-15 0-12"	SS-11 0-12"	SS-13 0-12"	SS-18 0-12"	SS-2 0-12"	SS-17 0-12"	SS-16 0-12"
Benzo(a)pyrene	ND	0.084	1.4	0.99	0.22	0.56	0.71
Dibenzo(a,h)anthracene	ND	ND	0.28	0.21	ND	0.14	0.16
Benzo(b)fluoranthene	0.19	0.18	3.9	2.1	0.11	1.2	1.4
Benzo(k)fluoranthene	ND	ND	1.2	0.8	ND	0.47	0.49
Indeno(1,2,3-cd)pyrene	0.086	ND	0.95	0.7	0.096	0.47	0.6
Benzo(a)anthracene	0.056	0.067	1.1	1.1	0.041	0.54	0.49
Chrysene	0.11	0.11	1.7	1.7	0.062	0.8	0.87

6. Tabulated below are the groundwater sample results from various sampling events which detect compounds above target clean up levels for this site:

Sample Analysis Results for 1994 EPS Investigation				
Compounds (ppm)	Groundwater Monitoring Well Number			
	1	2	3	Target Clean Up Levels (ppm)
Napthalene	123	216	443	1.4
Phenol	ND	2.87	ND	-
2,4-Dimethylphenol	ND	ND	63.36	0.7

Samples Analysis Results for 1997 Kerr-McGee Investigation						
Compound (ppm)	Groundwater Monitoring Well Number					Target Clean Up Levels (ppm)
	1	2	3	4	5	
Benzo(a)pyrene	1500	1800	0.003	ND	ND	0.0002
Dibenzo(a,h)anthracene	180	210	ND	ND	ND	0.0002
Benzo(b)fluoranthene	2100	1800	0.005	ND	ND	0.0002
Benzo(k)fluoranthene	1000	850	ND	ND	ND	0.0002
Indeno(1,2,3-cd)pyrene	700	740	ND	ND	ND	0.0002
Benzo(a)anthracene	4600	3900	0.007	ND	ND	0.0002
Chrysene	3900	3100	0.007	ND	ND	0.0002

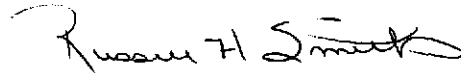
Samples Analysis Results for 1997 Kerr-McGee Investigation						
Compound (ppm)	Groundwater Monitoring Well Number					Target Clean Up Levels (ppm)
	1	2	3	4	5	
Benzene	36	92	0.81	ND	ND	0.005
Toluene	190	350	0.44	ND	ND	1
Xylene	1000	1100	0.38	ND	ND	10
Ehtylbenzene	180	230	0.062	ND	ND	0.7
Styrene	120	240	0.085	ND	ND	0.1
Acenaphthene	18000	17000	ND	ND	ND	2.1
Pyrene	15000	14000	ND	ND	ND	1.05
2,4-Dimethylphenol	140	2900	4.5	ND	ND	0.7
Naphthalene	62000	96000	5.8	0.01 8	ND	1.4
Fluorene	18000	18000	0.14	ND	ND	1.4
Phenanthrene	41000	47000	0.13	ND	ND	-
anthracene	4600	6500	ND	ND	ND	10.5
fluoranthene	21000	19000	0.034	ND	ND	1.4
2-methylphenol	ND	400	1.3	ND	ND	1.75
2-methlynaphalene	28000	27000	1.1	ND	ND	-
dibenzofuran	15000	15000	0.15	0.00 4	ND	-
carbazole	2300	3000	0.38	ND	ND	-

7. Submit a remedial investigation work plan sufficient to establish the horizontal and vertical extent of both soil and groundwater contamination within thirty (30) days of the date of this letter.

Letter: Mr Glen Pillie  
January 13, 1998  
Page 9

If you have any questions regarding this matter, please contact Mr. Ken Whitten  
(601) 961-5306.

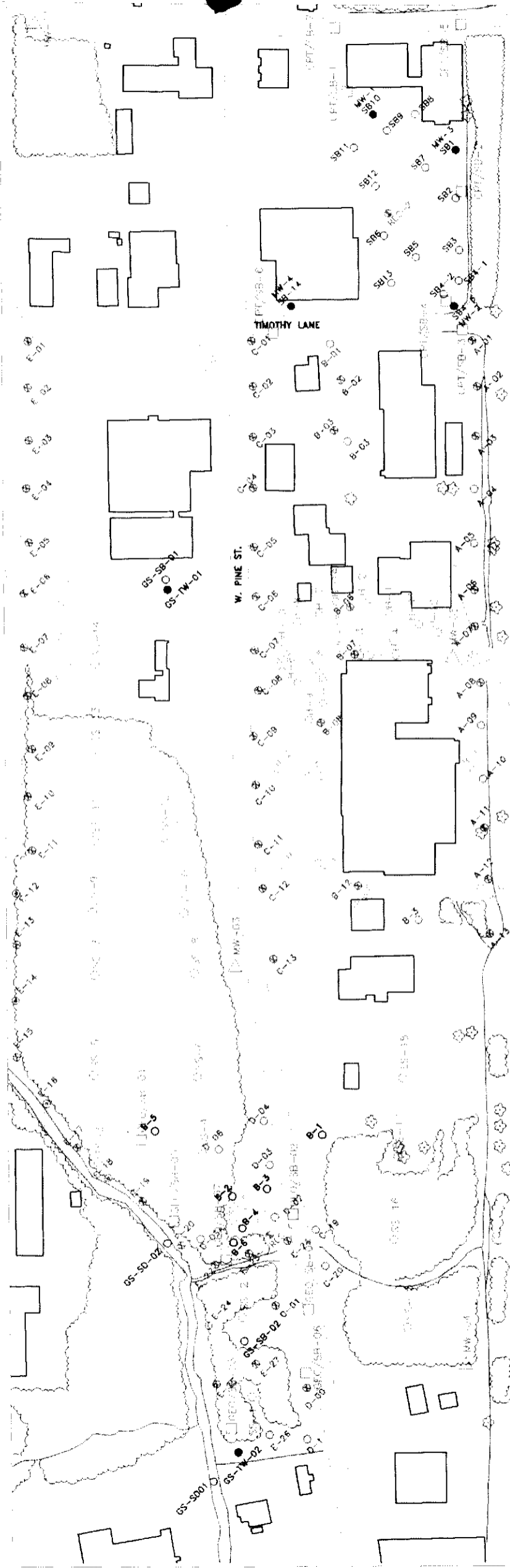
Sincerely,

A handwritten signature in cursive script that reads "Russell H. Smith".

Russell H. Smith, P.E., Chief  
Superfund Branch Chief

XC: Judge Pickering, Sr.  
XC: Marc Boutwell Esq.,  
XC: J. B. Van Slyke, Jr. Esq.,  
XC: Charles Tisdale Esq





**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

**FIGURE 1**  
**SAMPLE LOCATIONS FOR BENZO(A)PYRENE**  
 FORMER GULF STATES CREOSOTING SITE  
 HATTIESBURG, MISSISSIPPI  
 DWG. NO.: GULF.DWG

**LEGEND**

- B-2 ○ SOIL BORING
  - REC-1 ⊕ RECEIVER WELL
  - MONITOR WELL
  - SEDIMENT SAMPLE
  - ⊕ SOIL GAS SAMPLE
  - ⊗ SOIL GAS/SOIL BORING
- 
- ① THREE-DIMENSIONAL RESISTIVITY STUDY - WEST PINE STREET AREA 12/1895 BY ART FOR VAN SLIKE
  - ② THREE-DIMENSIONAL RESISTIVITY STUDY - COUNTESS FORD FACILITY 12/1895 BY ART FOR VAN SLIKE

**NOTE:** NOT INCLUDED: 10-394 TO 11-3-94 RYAN MOTOR INVESTIGATION BY BONNER

TEST SURFACE, SURFACE & GROUNDWATER SAMPLE LOCATIONS

SITE INSPECTION, PHASE II REPORT 1/1992 MDEQ FOR EPA

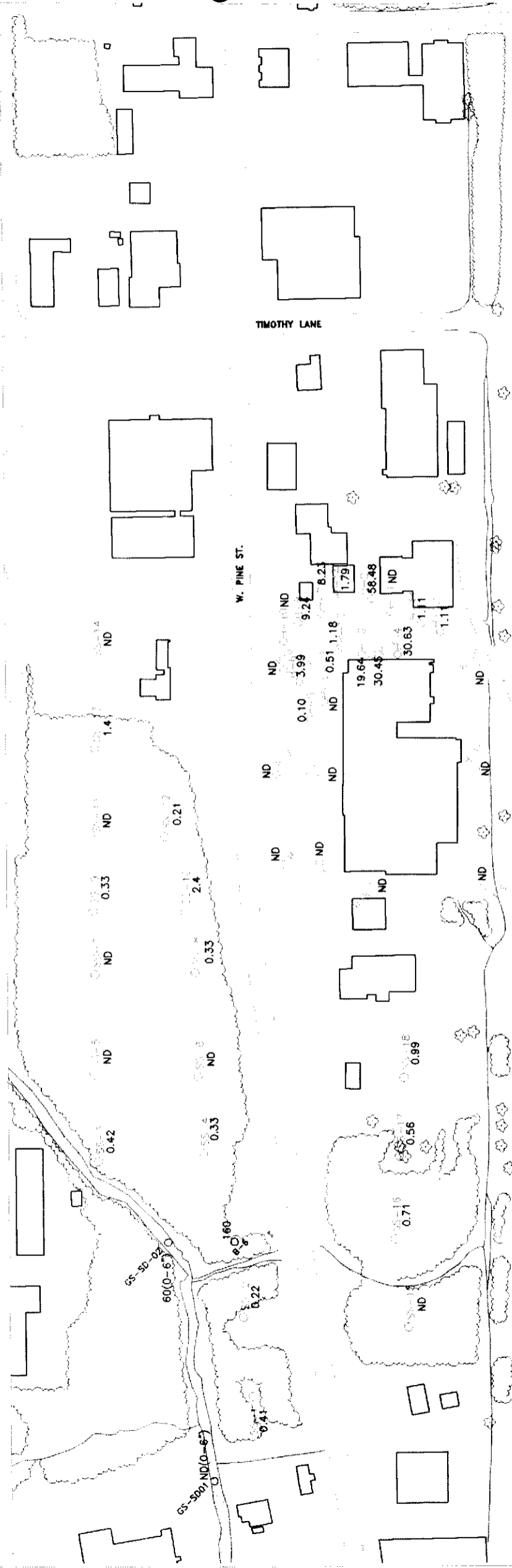
SOIL GAS AND SOIL SAMPLING OF GULF STATES CREOSOTE 5/1990-ROY F. WESTON FOR EPA

PHASE II INVESTIGATION OF FORMER GULF STATE CREOSOTE COMPANY PROCESS AREA 1994 BY EPS FOR VAN SLIKE

PHASE I INVESTIGATION OF GULF STATES CREOSOTE FACILITY 1984 BY ART FOR VAN SLIKE  
 PHASE II INVESTIGATION OF GULF STATES CREOSOTE FACILITY 1984 BY ART FOR VAN SLIKE  
 PHASE III INVESTIGATION OF GULF STATES CREOSOTE FACILITY 1984 BY ART FOR VAN SLIKE

**SOIL BORING ASSESSMENT WORK 6/96 BY TDS**

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1997 SURFACE, SURFACE & GROUNDWATER SAMPLE LOCATIONS

SITE INSPECTION, PHASE II REPORT 1/1992 MDEQ FOR EPA

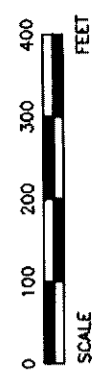
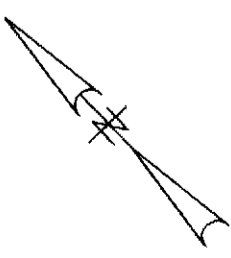
PHASE II INVESTIGATION OF GROUNDWATER CONTAMINATION AND SOIL GAS MONITORING FOR MARCH 1992

SOIL BORING ASSESSMENT WORK 8/88 BY TDS

905 Burlington Boulevard Analytical Data

**LEGEND**

- B-2 ○ SOIL BORING
- MONITOR WELL
- SEDIMENT SAMPLE
- ⊙ SOIL GAS/SOIL BORING



**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

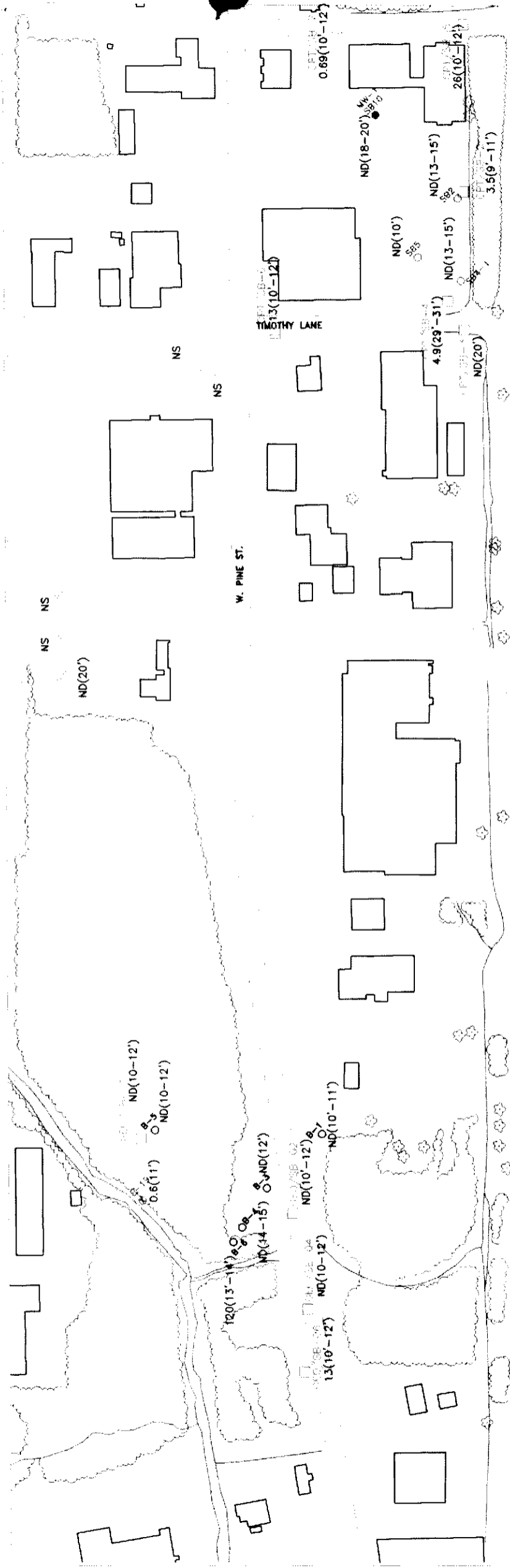
FIGURE 2  
SAMPLE LOCATIONS 0-2 FOR BENZO(A)PYRENE PPM

FORMER GULF STATES CREOSOTING SITE  
HATTIESBURG, MISSISSIPPI

SCALE: \_\_\_\_\_ DWG. NO.: SURFACE

NOTE: NOT INCLUDED: 10-394 TO 11-3-94 RYAN MOTOR INVESTIGATION BY BONNER





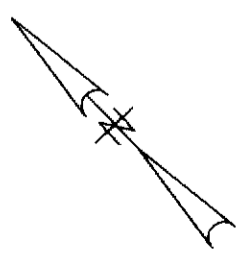
**LEGEND**

1991 SOIL GAS AND SOIL SAMPLING LOCATIONS  
 1992 SOIL GAS AND SOIL SAMPLING LOCATIONS  
 STATES CREOSOTE 5/1990-ROY T. WESTON FOR EPA

PHASE II INVESTIGATION OF FORMER GULF STATE CREOSOTE COMPANY PROCESS AREA 1994 BY EPS FOR VAN SLITRE

SOIL BORING ASSESSMENT WORK 6/95 BY TDS

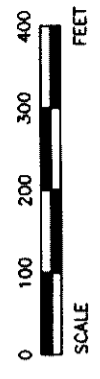
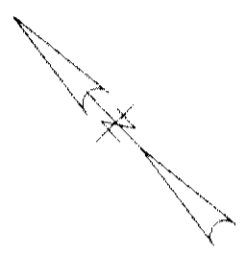
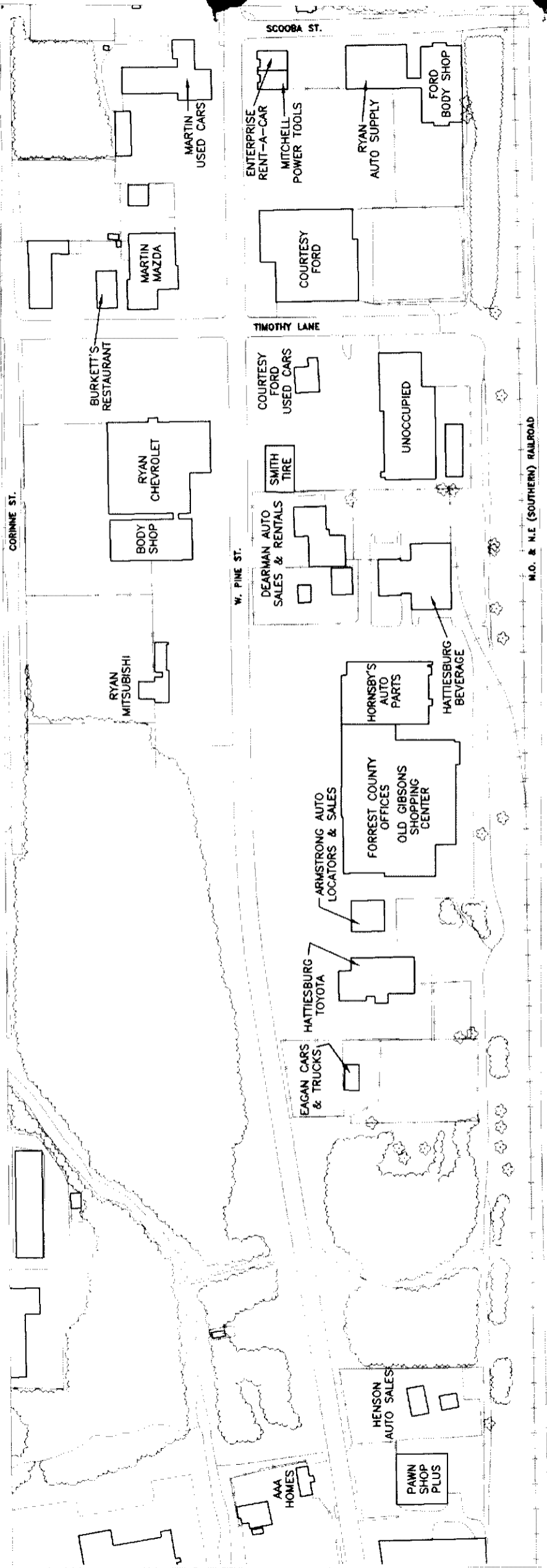
0-2 SOIL BORING



**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**

FIGURE 4  
 Sample Locations 10'-20' Depth for Benzo(a)pyrene in ppm

FORMER GULF STATES CREOSOTING SITE  
 HATTIESBURG, MISSISSIPPI  
 DWG. NO.: SUB1020.DWG



MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

TITLE: FIGURE 5  
 CURRENT SITE FEATURES  
 PROJECT: FORMER GULF STATES CREOSOTING SITE  
 LOCATION: HATTIESBURG, MISSISSIPPI  
 SCALE: 1"=200' DWG. NO.: FEATURES.DWG

BASE MAP FROM ATLANTIC TECHNOLOGIES, LTD., HUNTSVILLE, ALABAMA, APRIL 7, 1996