Appendix A

Boring Logs from Previous Investigations

Project No. 21-02
Former Gulf States Creosoting Site
Hattiesburg, Mississippi

Former Gulf States Creosoting Site
Hattiesburg, Mississippi

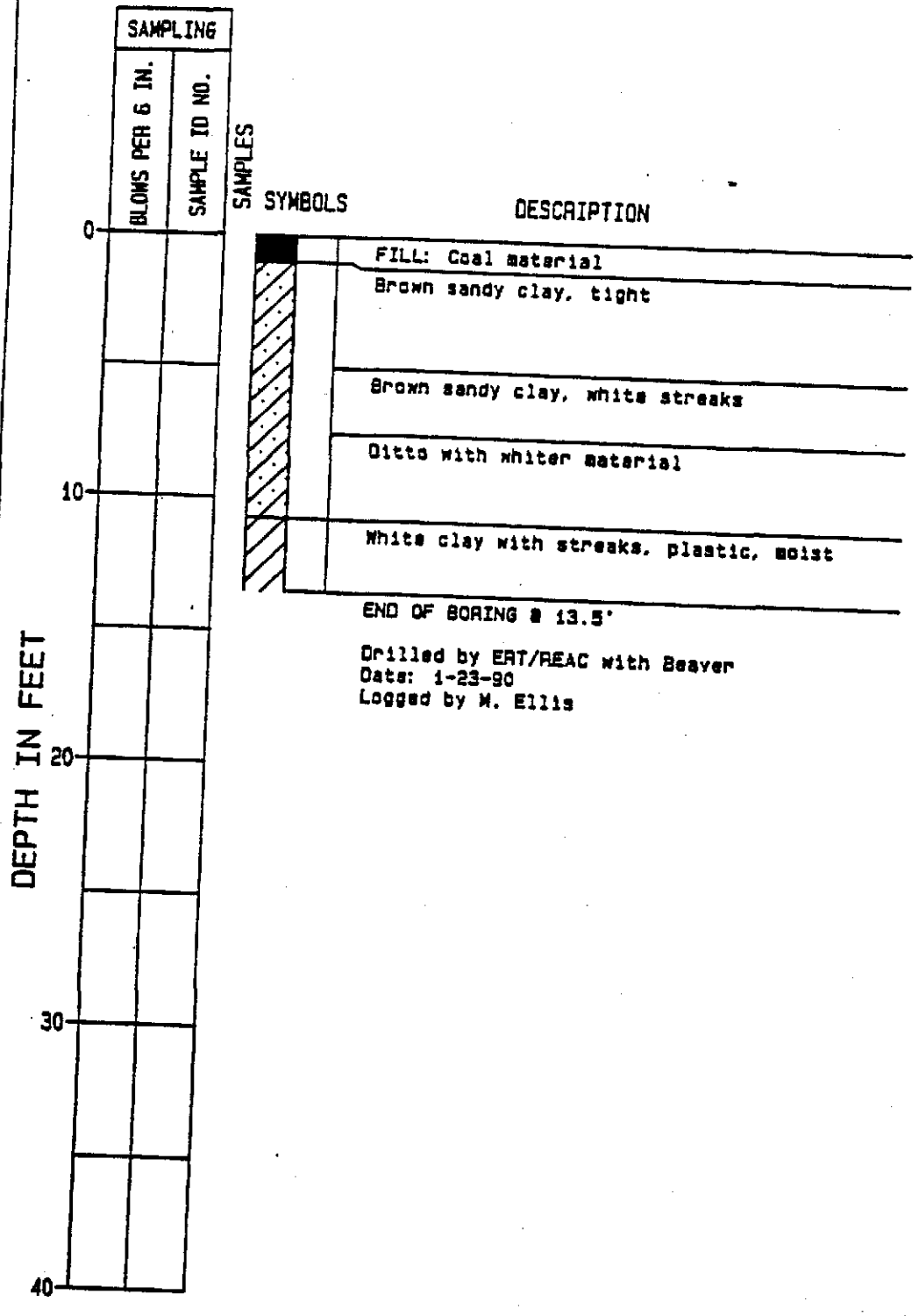
Summary of Site-Wide Borings, January and March 1990

Boring No.	Date	Prime Party	Driller*	Total Depth
B-01	1/23/90	EPA	REAC	13.5'
B-02.5	1/23/90	EPA	REAC	8.83'
B-3	1/23/90	EPA	REAC	8.17'
C-19	3/20/90	EPA	REAC	12'
C-20	3/20/90	EPA	REAC	14'
D- -1	3/19/90	EPA	REAC	14'
D-02	3/20/90	EPA	REAC	6'
D-03	3/20/90	EPA	REAC	3'
D-03A	3/20/90	EPA	REAC	10'
D-04	3/20/90	EPA	REAC	10'
D-06	3/20/90	EPA	REAC	14'
E-19	3/20/90	EPA	REAC	11'
E-20	1/24/90	EPA	REAC	4'
E-24	3/20/90	EPA	REAC	9'
E-25	3/20/90	EPA	REAC	9'
E-26	3/19/90	EPA	REAC	13'
E-27	3/19/90	EPA	REAC	8'

* REAC = Response Engineering and Analytical Contract

BORING B-01

GULF STATE CREOSOTE
HATTIESBURG, MS

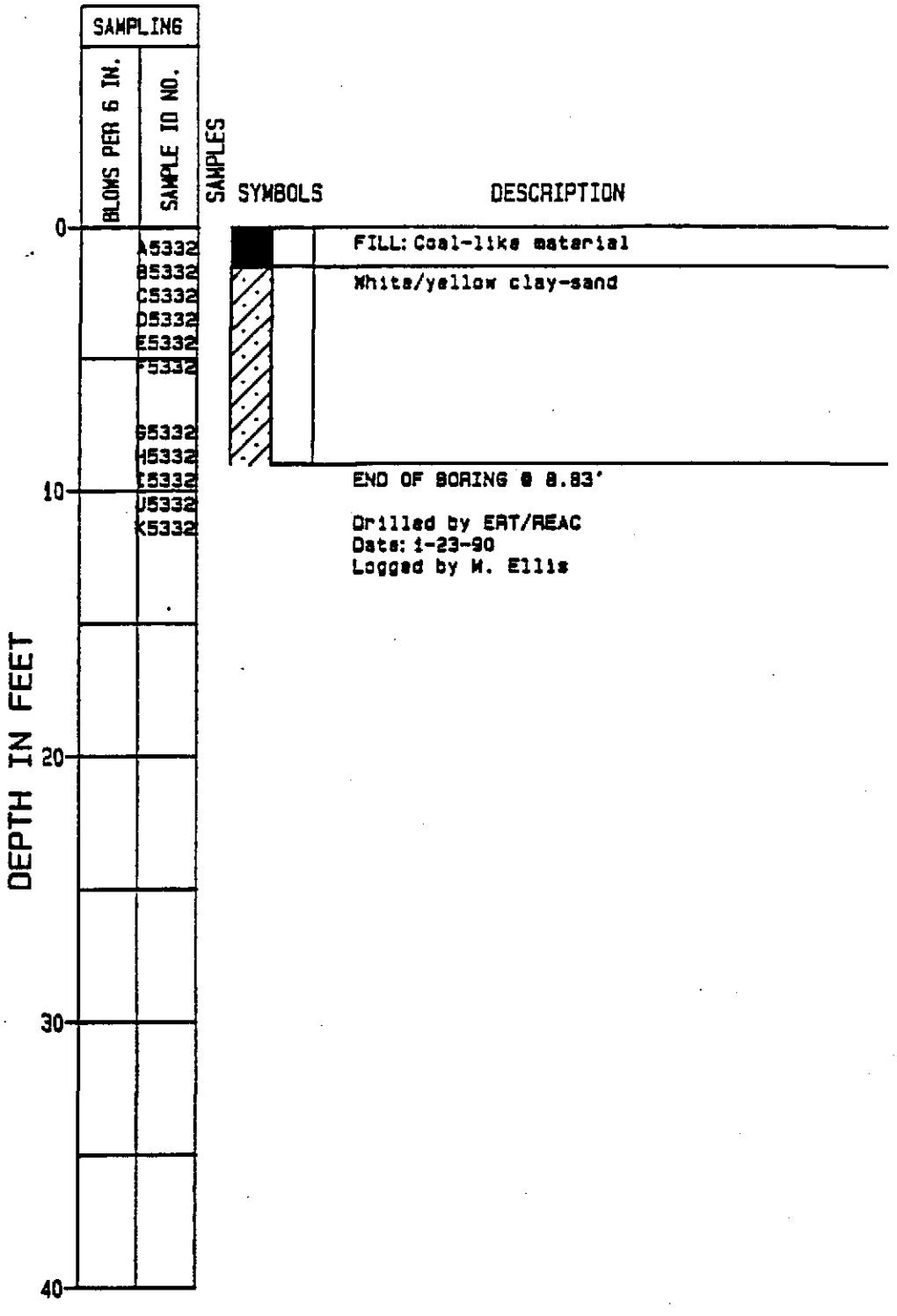


BORING LOG

Response Engineering and Analytical Contract

BORING B-02.5

GULF STATE CREOSOTE
HATTIESBURG, MS

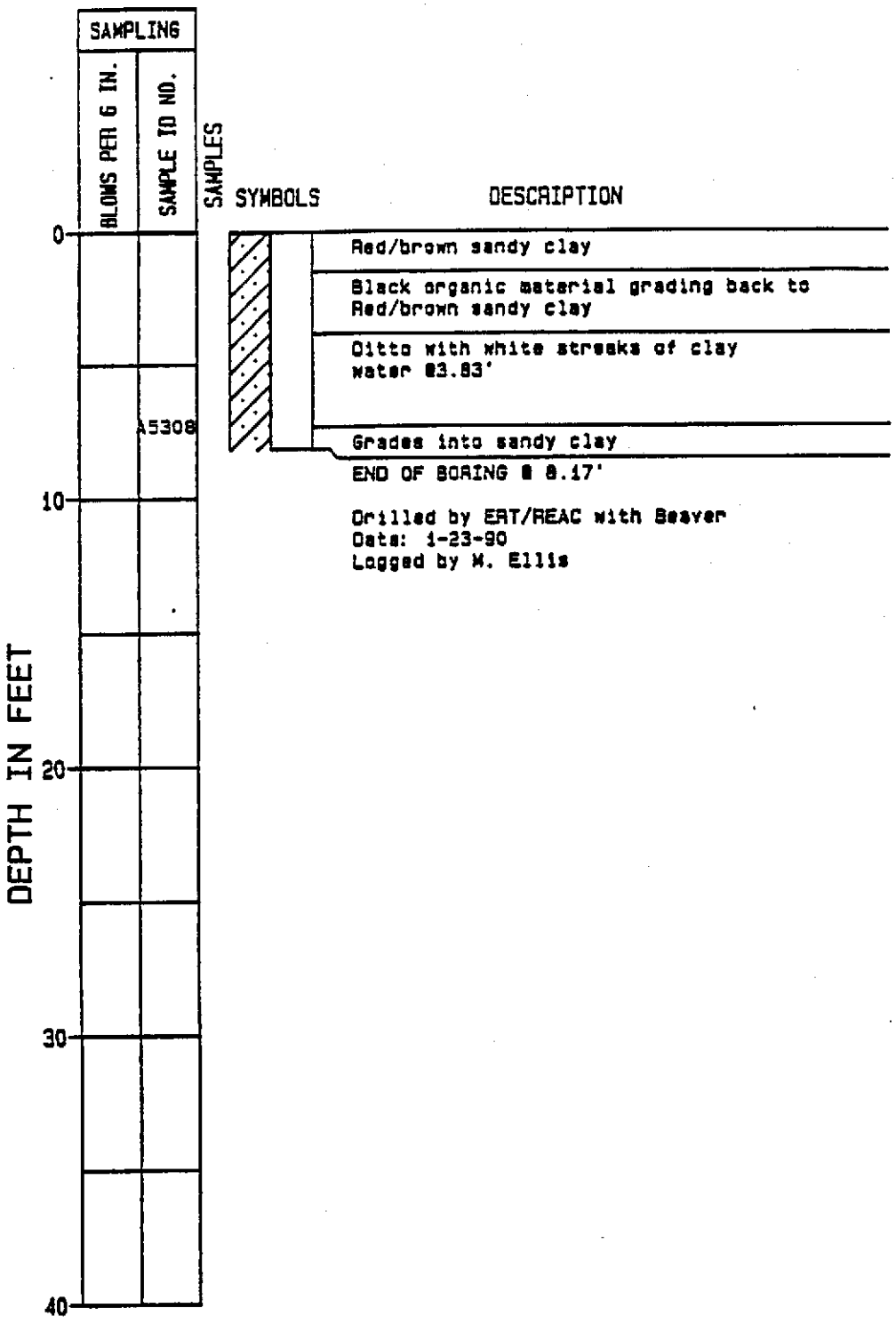


BORING LOG

Response Engineering and Analytical Contract

BORING B-3

GULF STATES CREOSOTE
HATTIESBURG, MS

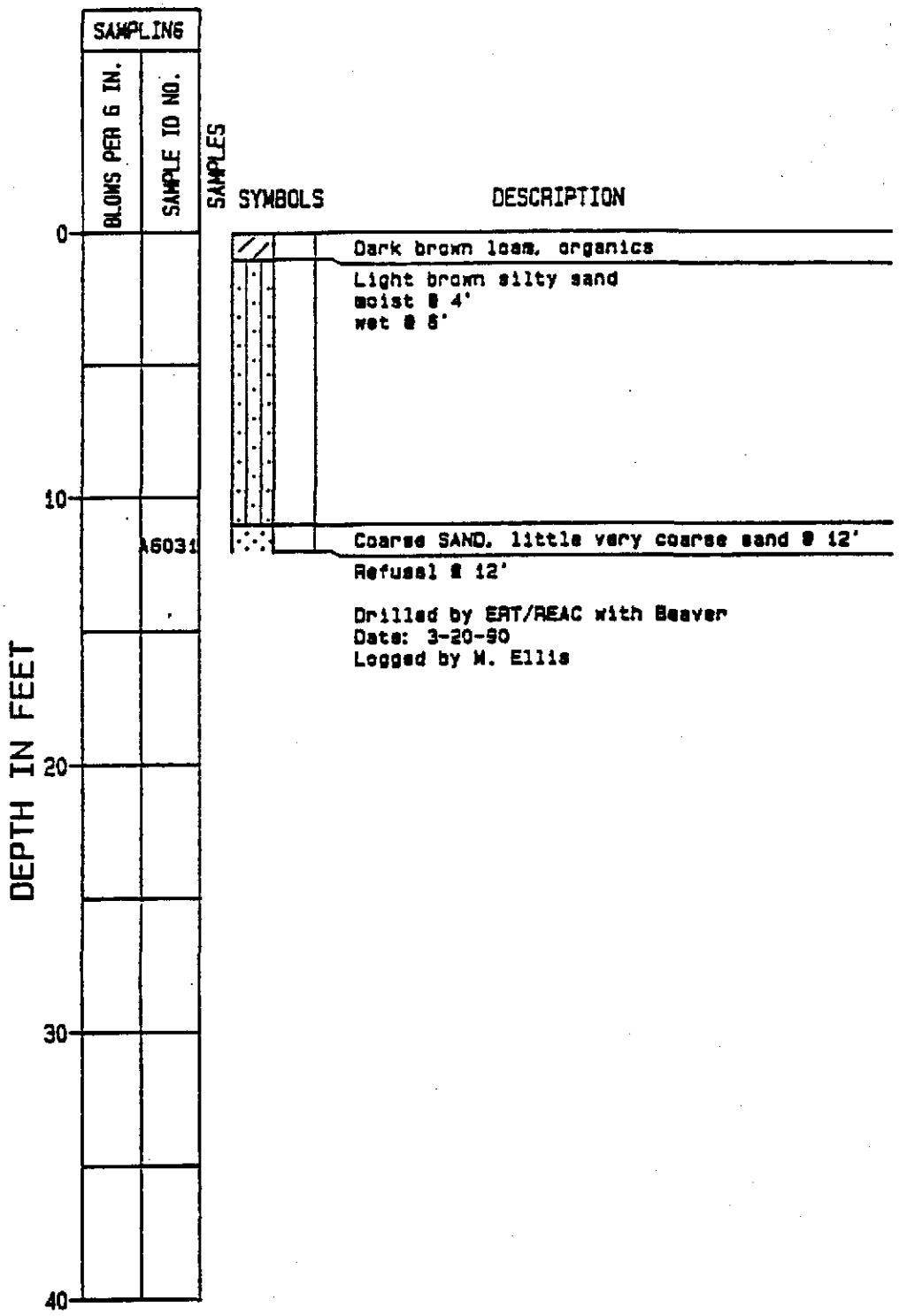


BORING LOG

Response Engineering and Analytical Contract

BORING C-19

GULF STATE CREOSOTE
HATTIESBURG, MS

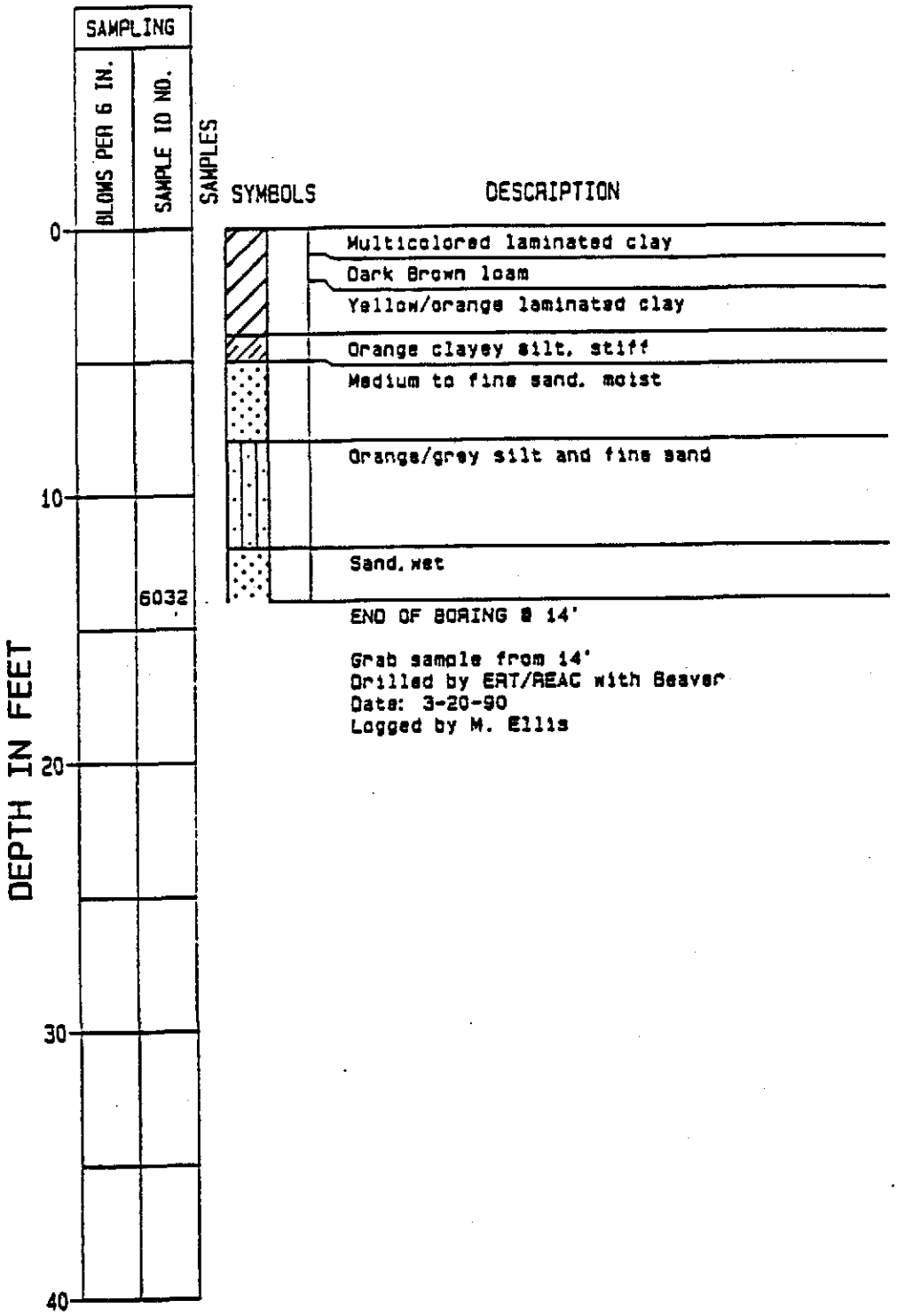


BORING LOG

Response Engineering and Analytical Contract

BORING C-20

GULF STATE CREOSOTE
HATTIESBURG, MS

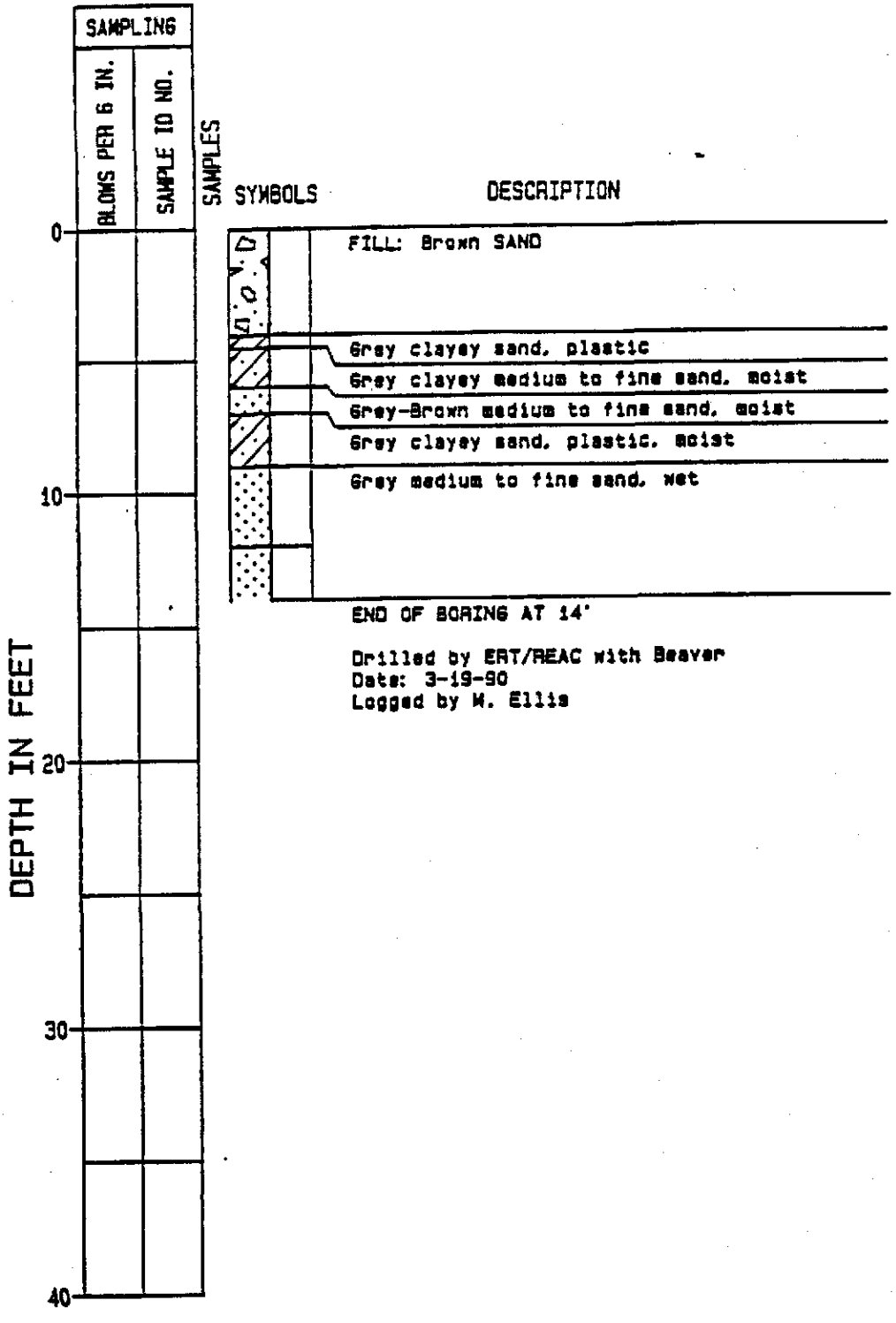


BORING LOG

Response Engineering and Analytical Contract

BORING D- -1

GULF STATE CREOSOTE
HATTIESBURG, MS

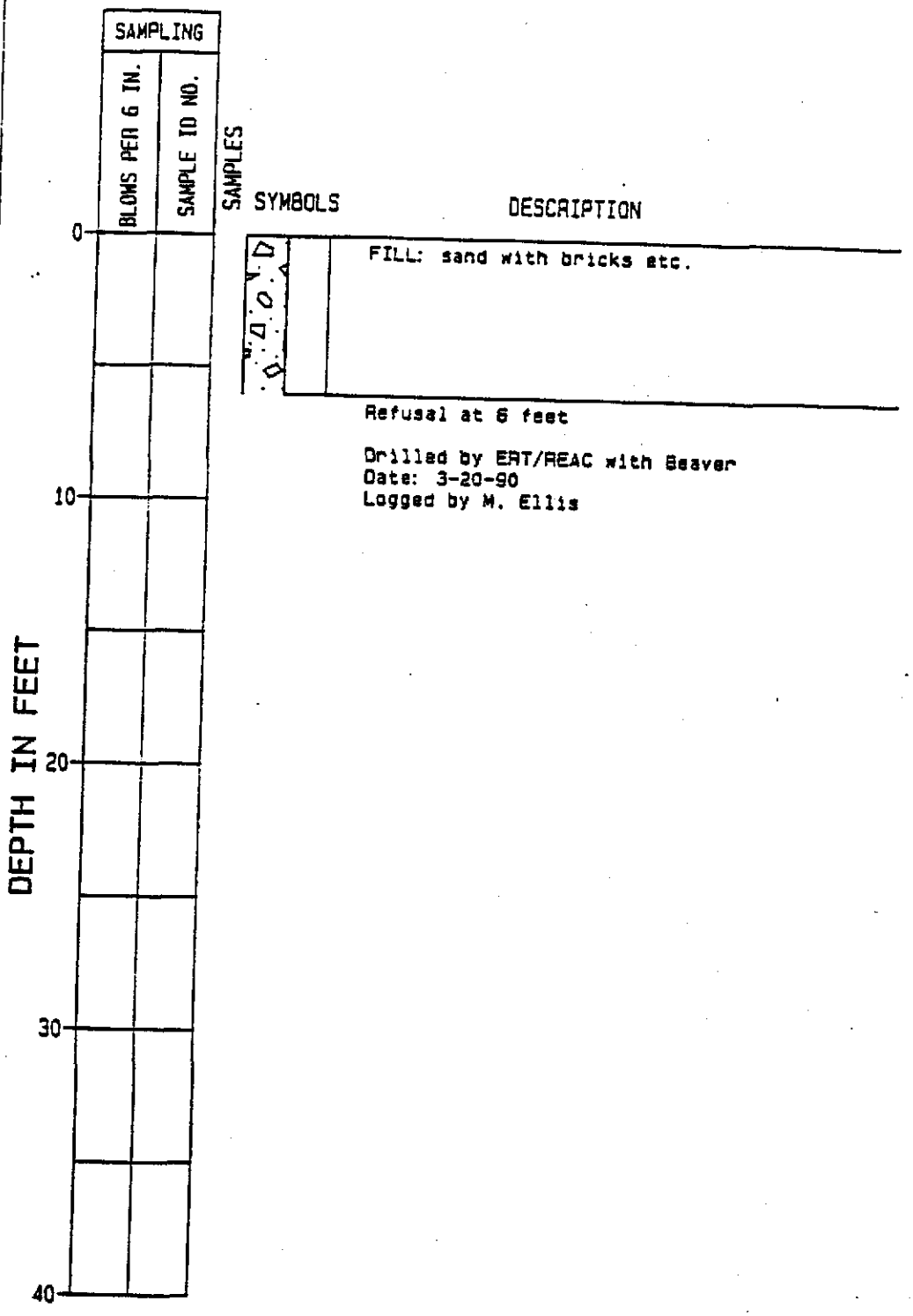


BORING LOG

Response Engineering and Analytical Contract

BORING D-02

GULF STATE CREOSOTE
HATTIESBURG, MS

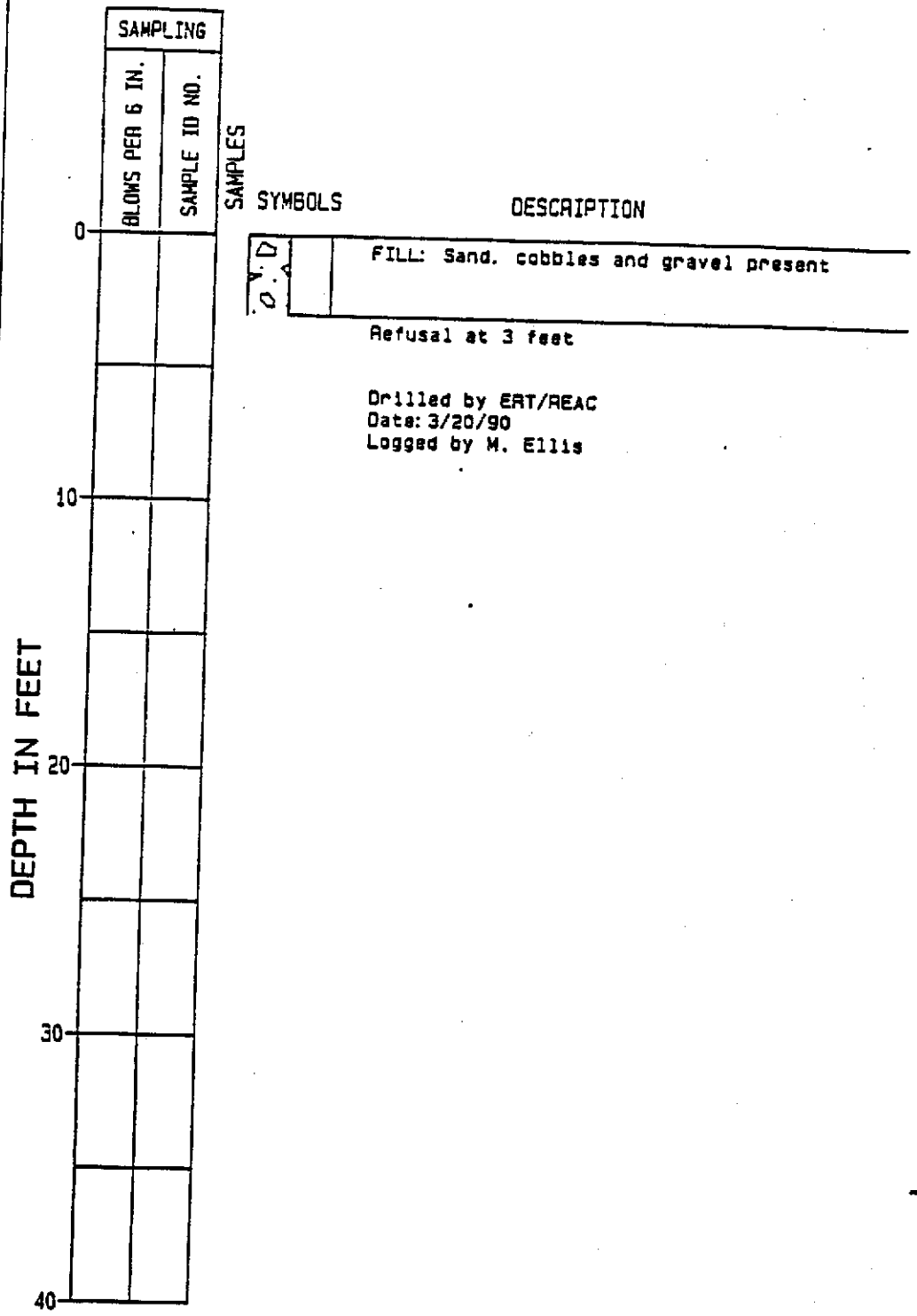


BORING LOG

Response Engineering and Analytical Contract

BORING D-03

GULF STATE CREOSOTE
HATTIESBURG, MS

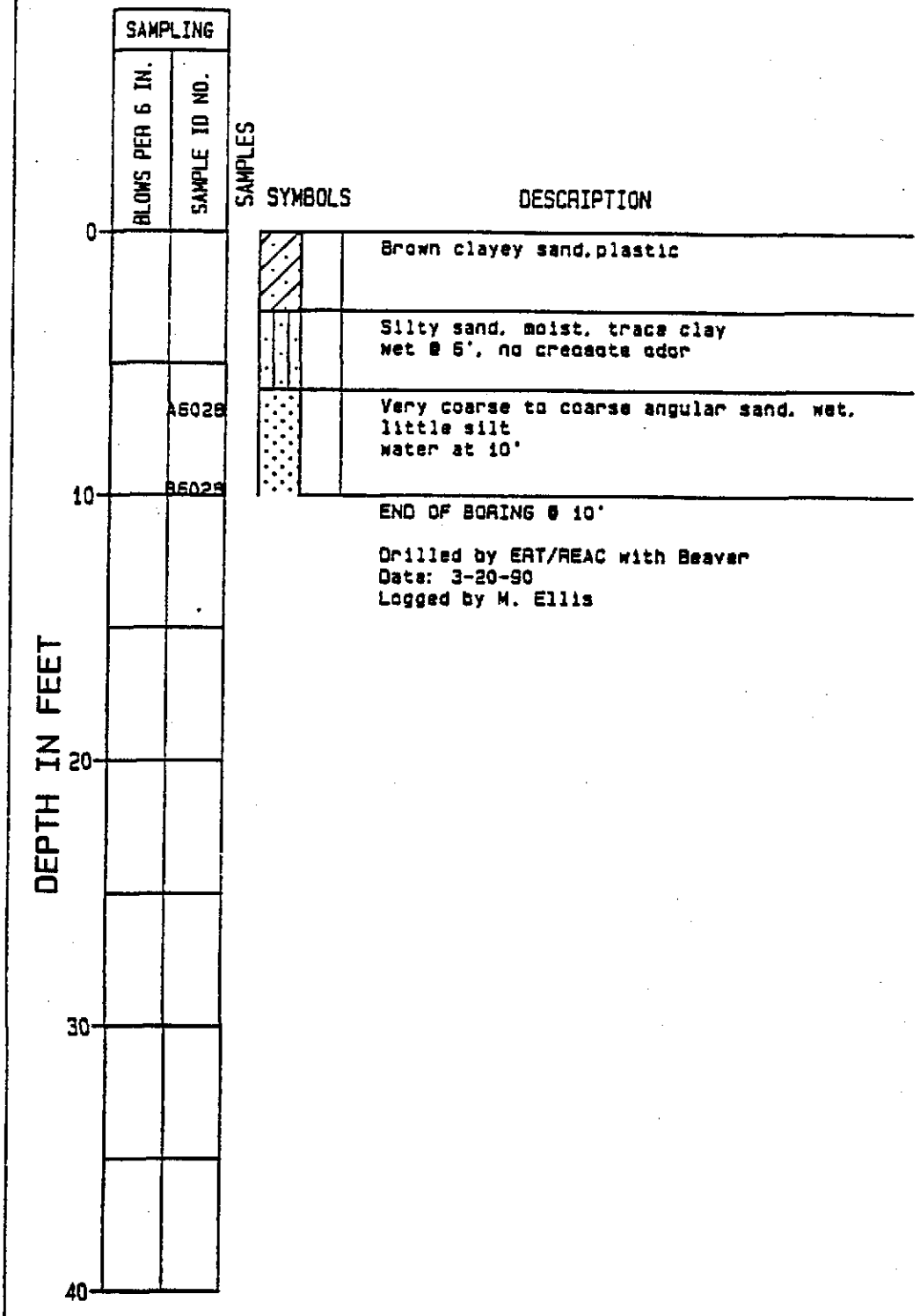


BORING LOG

Response Engineering and Analytical Contract

BORING D-03A

GULF STATE CREOSOTE
HATTIESBURG, MS

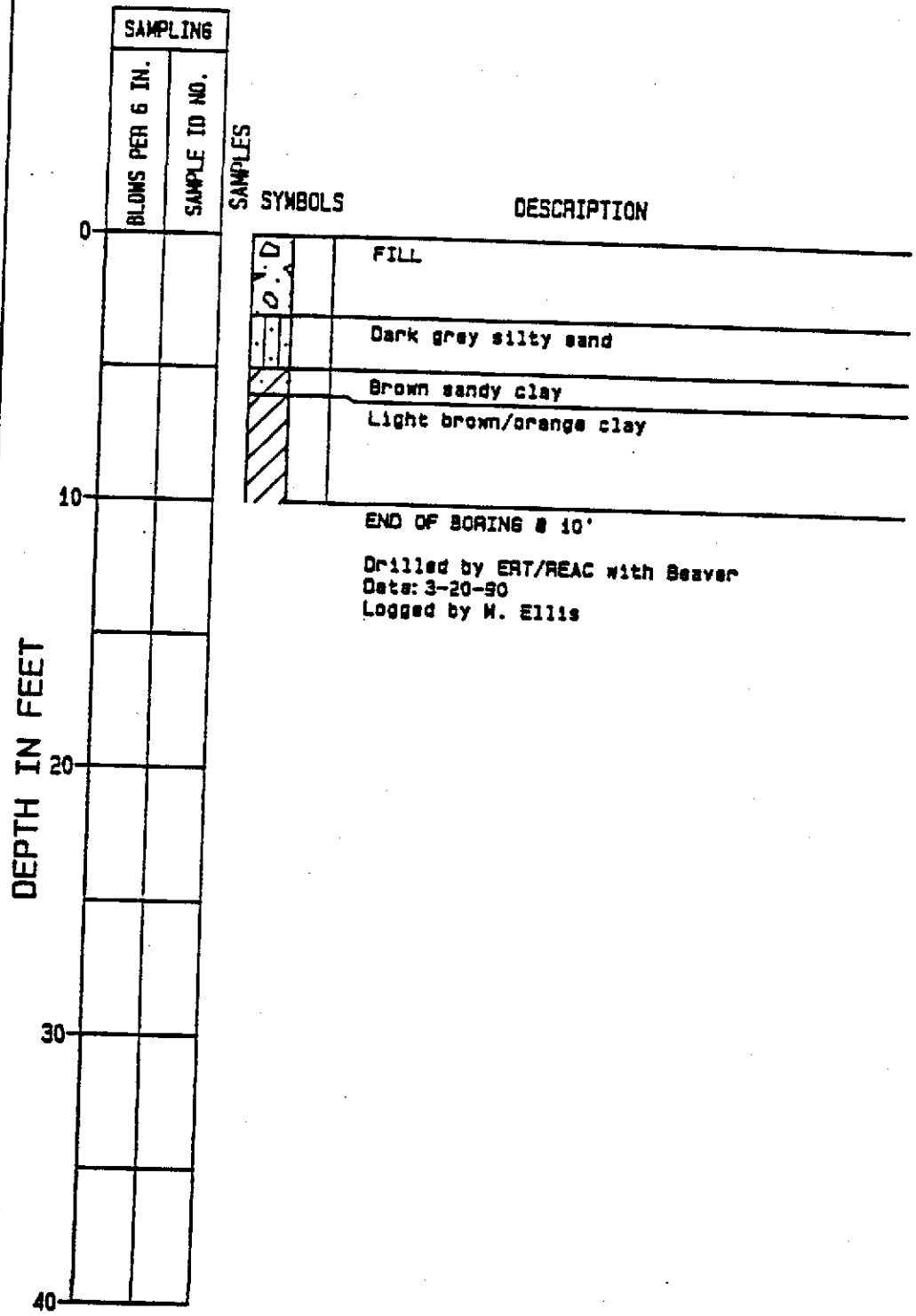


BORING LOG

Response Engineering and Analytical Contract

BORING D-04

GULF STATE CREOSOTE
HATTIESBURG, MS

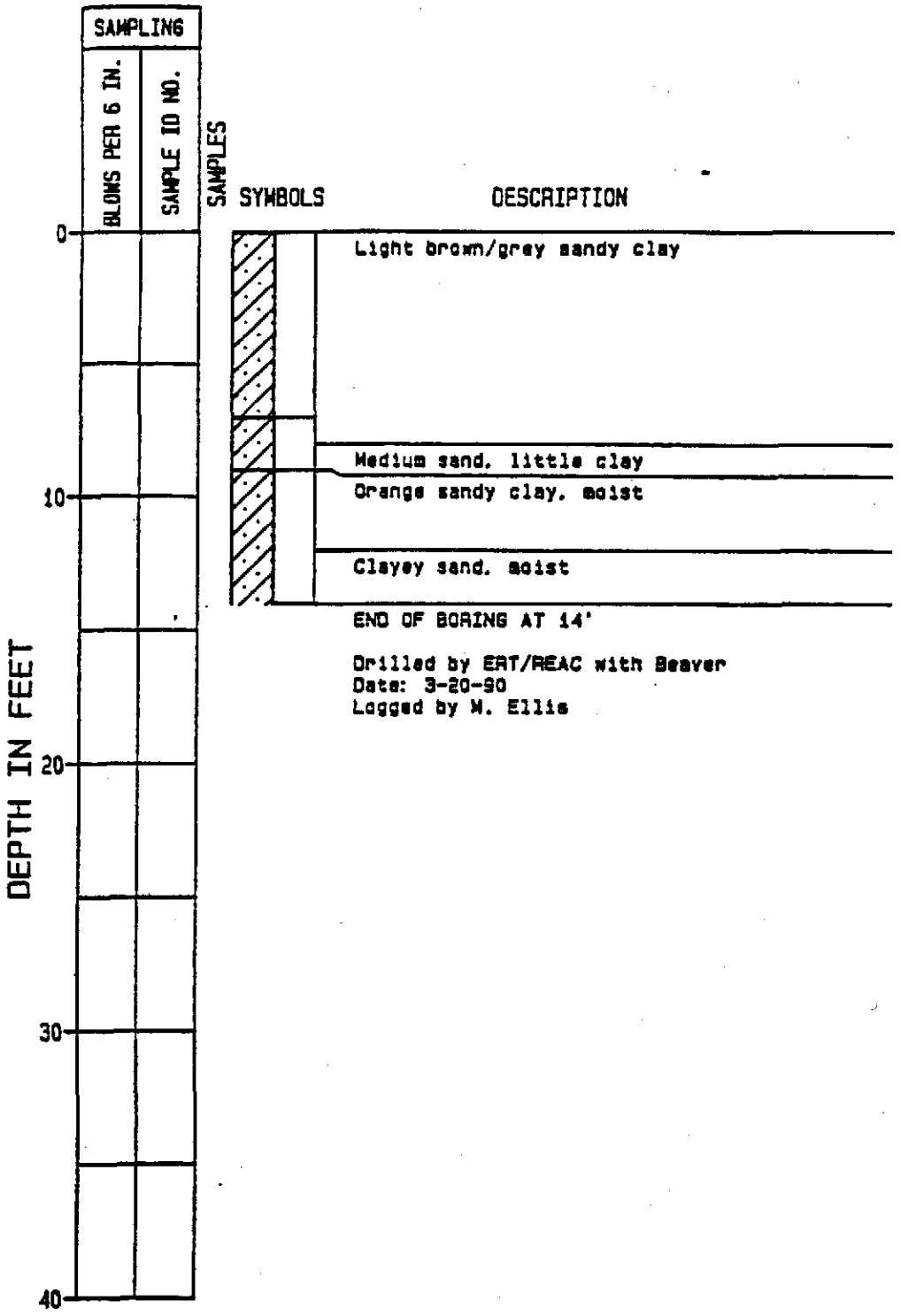


BORING LOG

Response Engineering and Analytical Contract

BORING D-06

GULF STATE CREOSOTE
HATTIESBURG, MS

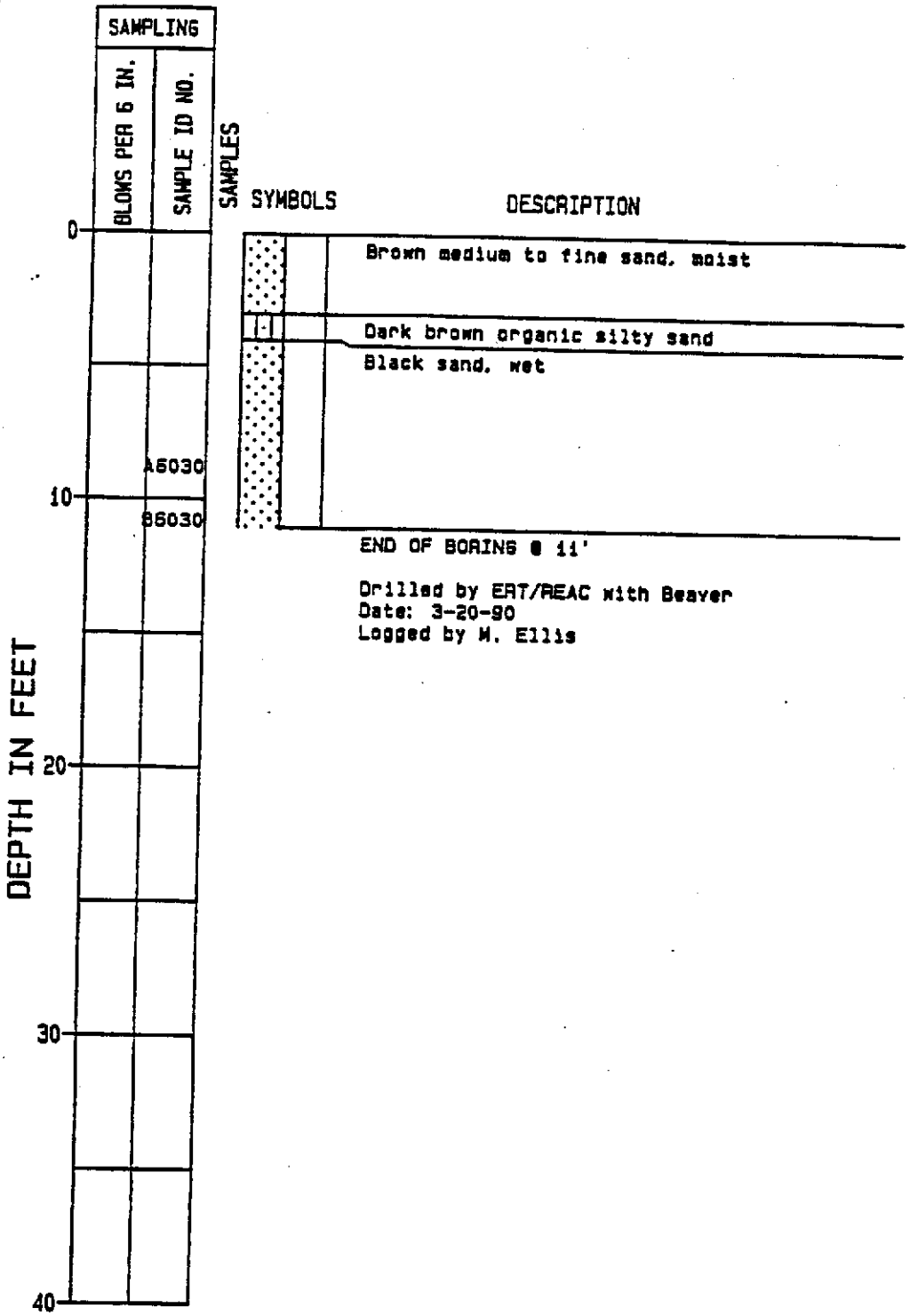


BORING LOG

Response Engineering and Analytical Contract

BORING E-19

GULF STATE CREOSOTE
HATTIESBURG, MS

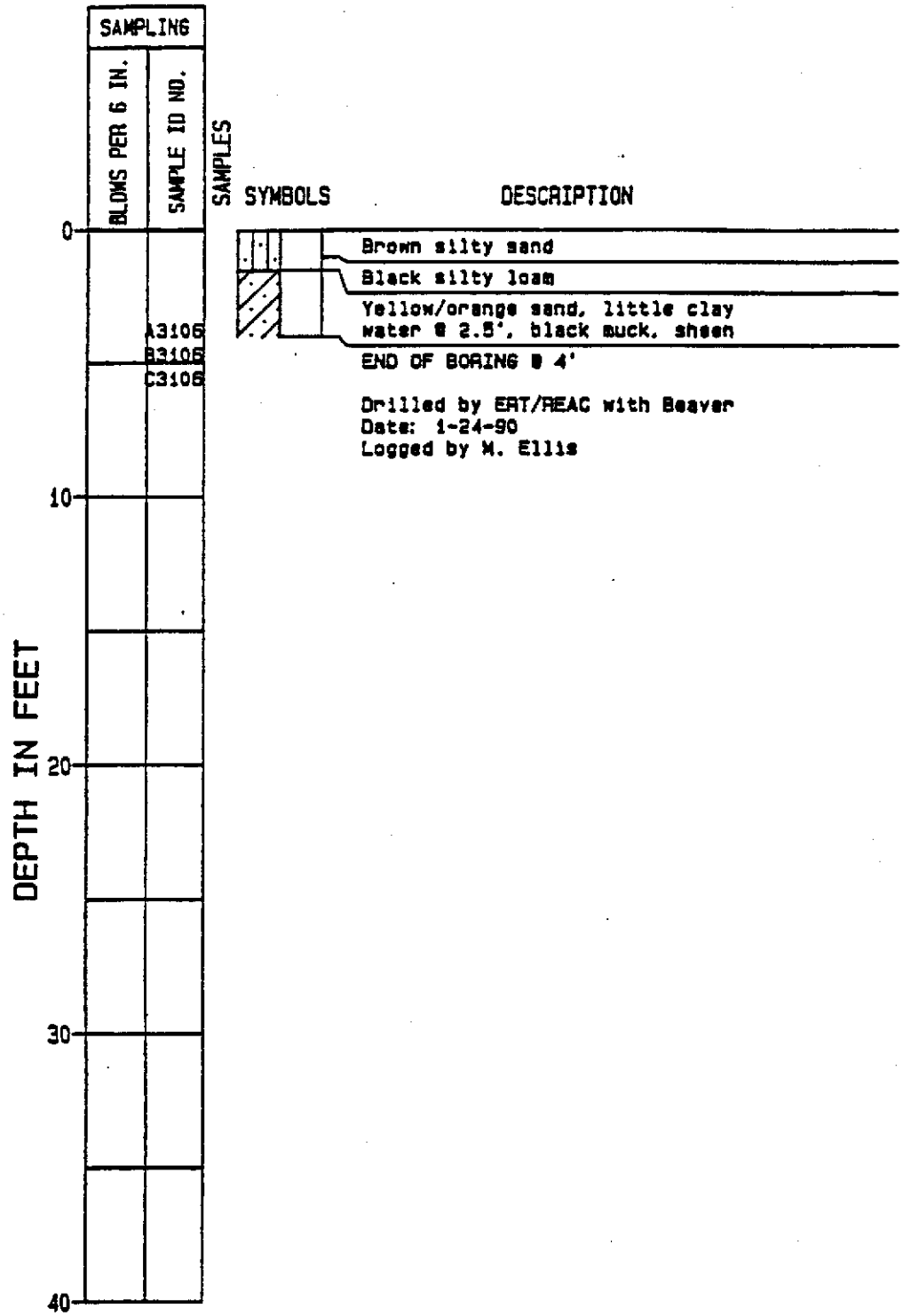


BORING LOG

Response Engineering and Analytical Contract

BORING E-20

GULF STATE CREOSOTE
HATTIESBURG, MS

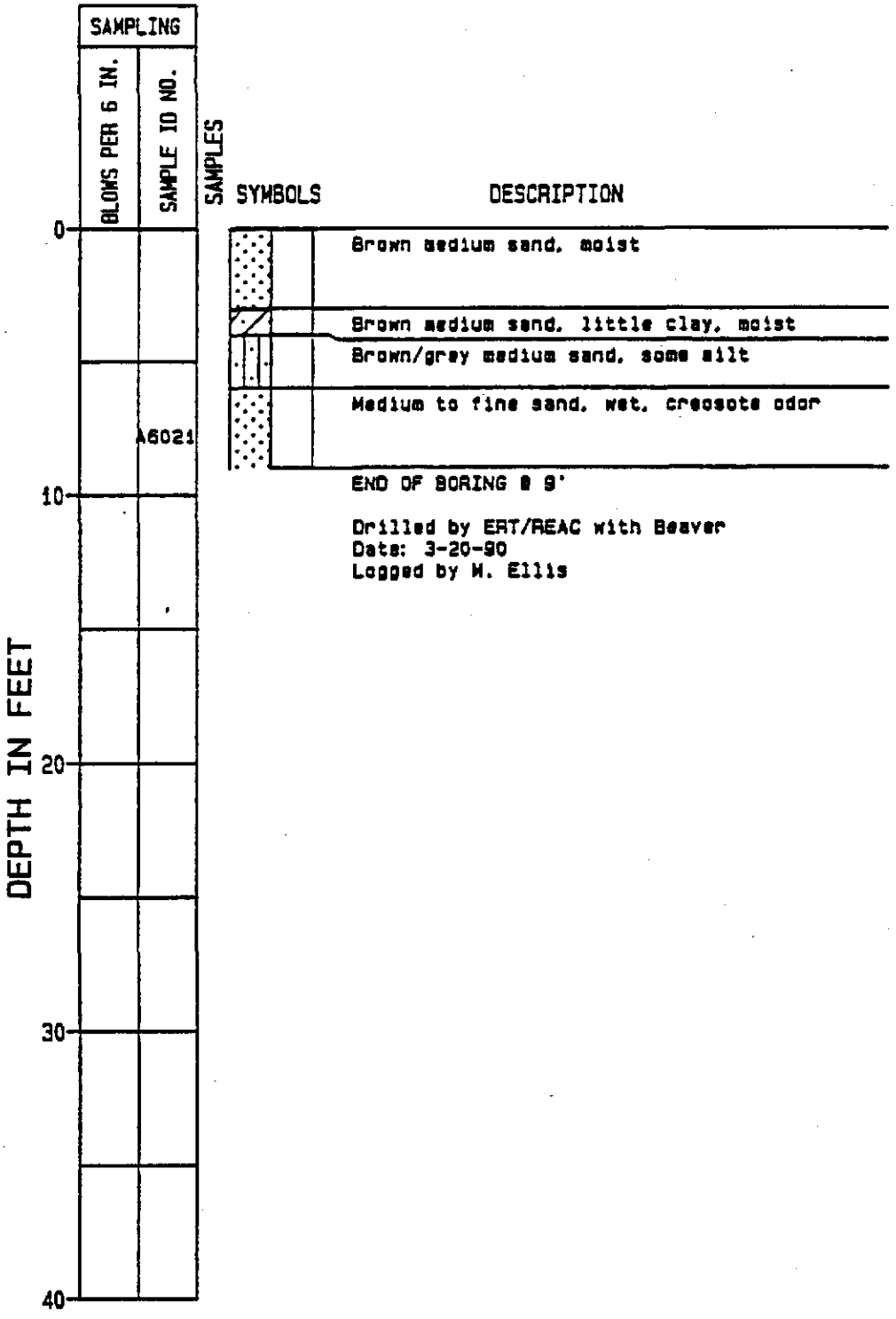


BORING LOG

Response Engineering and Analytical Contract

BORING E-24

GULF STATE CREOSOTE
HATTIESBURG, MS

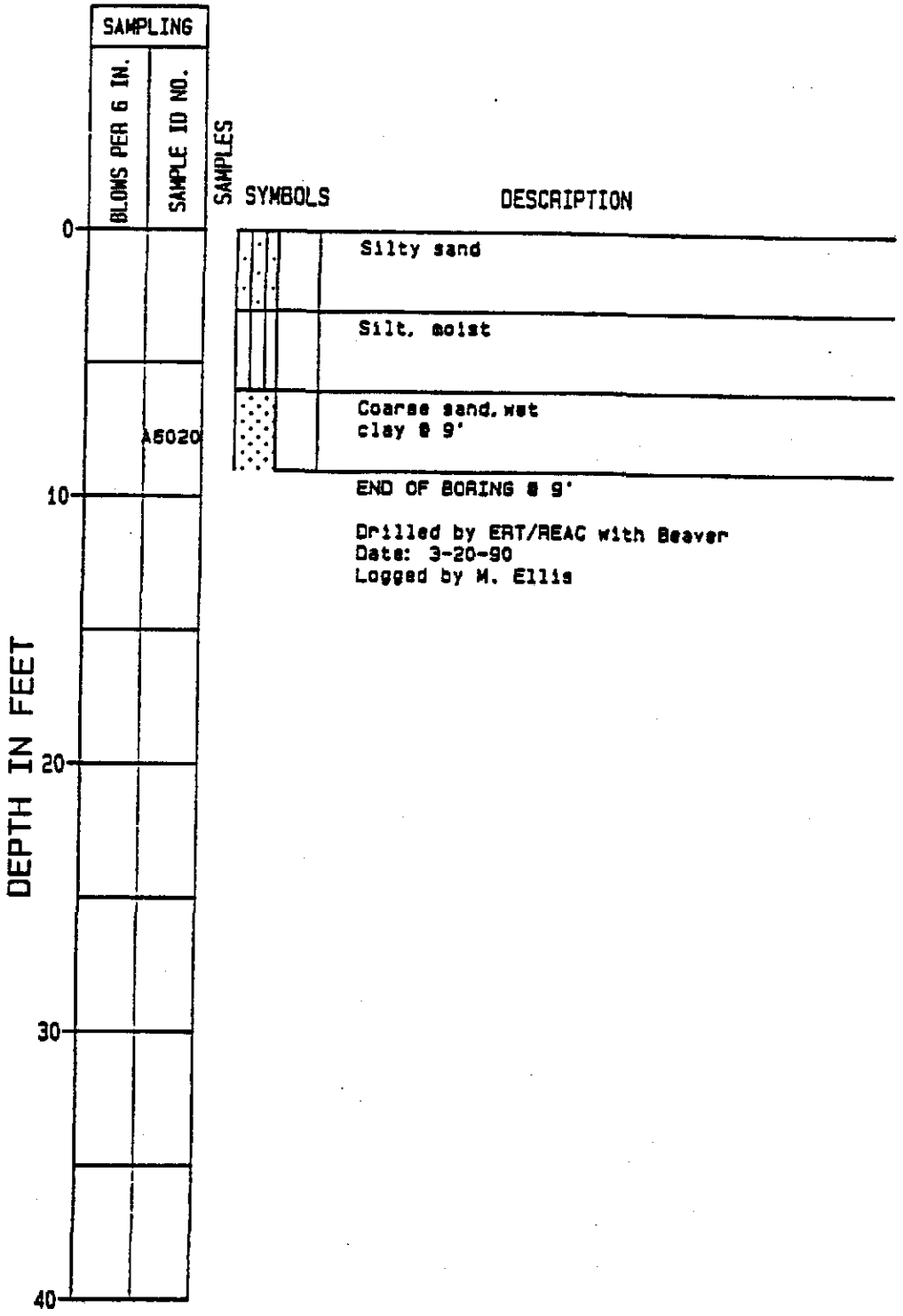


BORING LOG

Response Engineering and Analytical Contract

BORING E-25

GULF STATE CREOSOTE
HATTIESBURG, MS

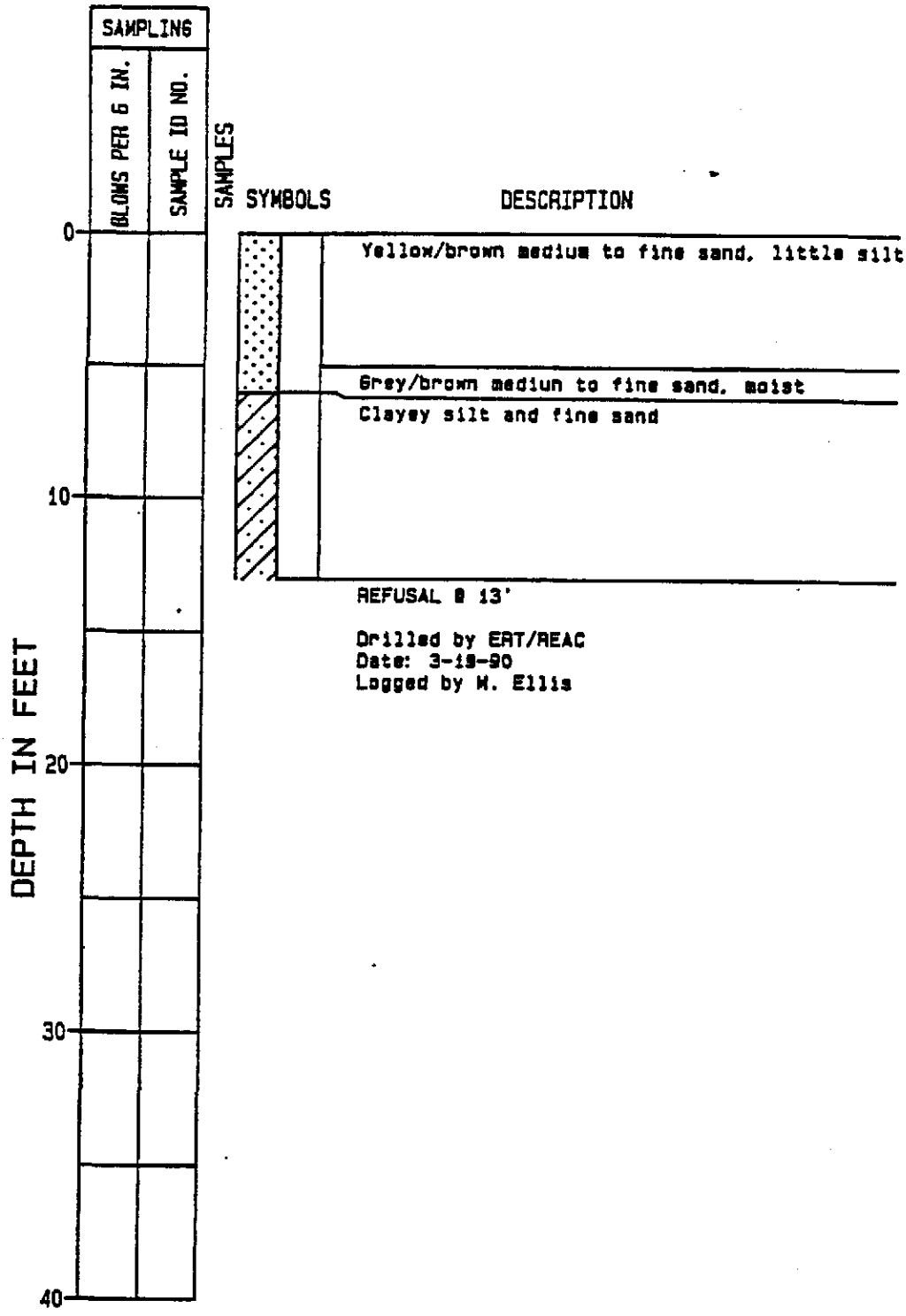


BORING LOG

Response Engineering and Analytical Contract

BORING E-26

GULF STATE CREOSOTE
HATTIESBURG, MS

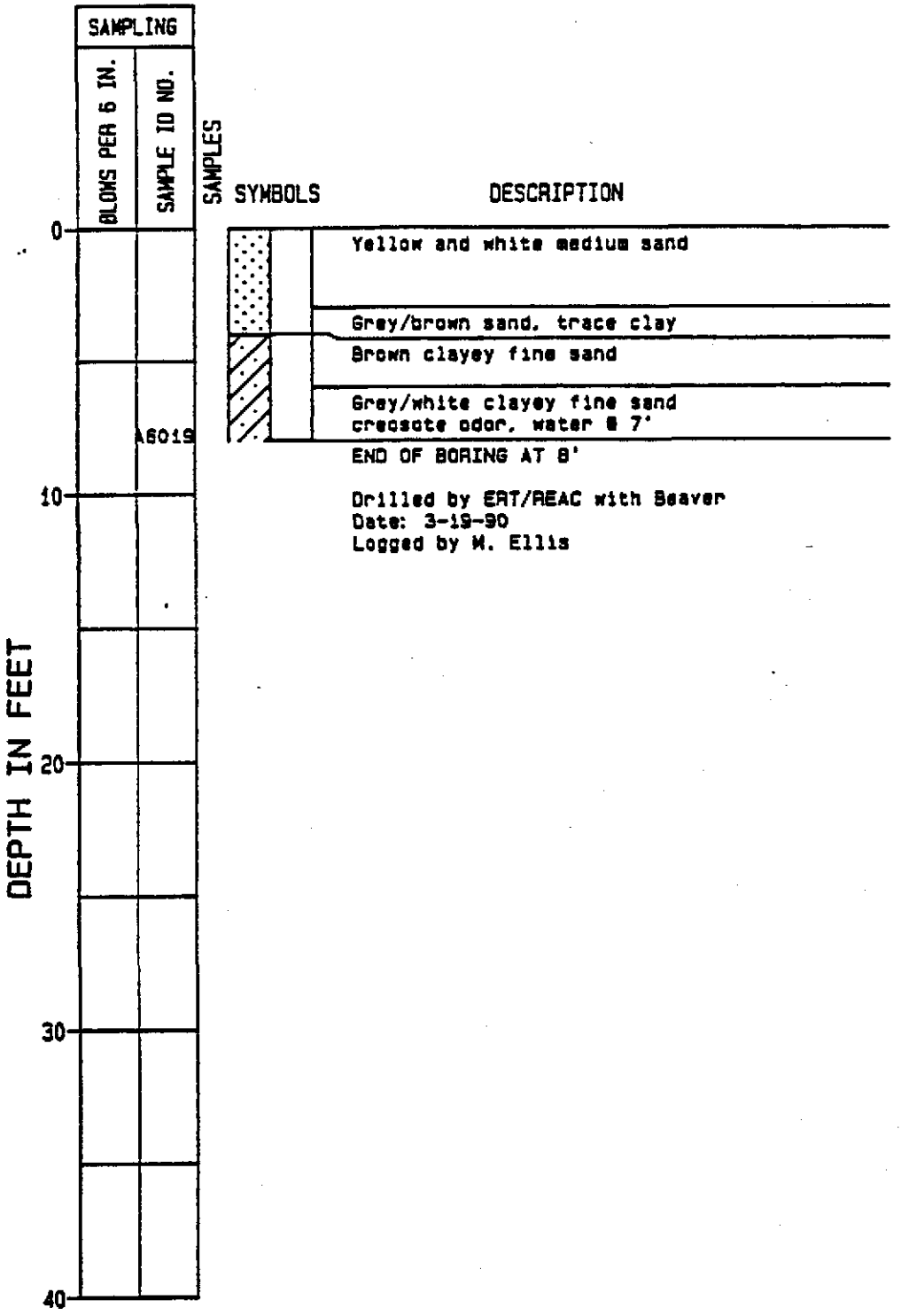


BORING LOG

Response Engineering and Analytical Contract

BORING E-27

GULF STATE CREOSOTE
HATTIESBURG, MS



BORING LOG

Response Engineering and Analytical Contract

Former Gulf States Creosoting Site
Hattiesburg, Mississippi

Summary of Process Area Borings, May 1994

Boring No.	Date	Prime Party	Driller	Total Depth
SB1	5/24/94	EPS	Griner Drilling Service	30.0'
SB2	5/24/94	EPS	Griner Drilling Service	20.0'
SB3	5/24/94	EPS	Griner Drilling Service	20.0'
SB4-1	5/24/94	EPS	Griner Drilling Service	5.5'
SB4-2	5/24/94	EPS	Griner Drilling Service	3.0'
SB4-3	5/25/94	EPS	Griner Drilling Service	33.0'
SB5	5/24/94	EPS	Griner Drilling Service	20.0'
SB6	5/24/94	EPS	Griner Drilling Service	4.0'
SB7	5/25/94	EPS	Griner Drilling Service	12.0'
SB8	5/25/94	EPS	Griner Drilling Service	2.0'
SB9	5/25/94	EPS	Griner Drilling Service	1.5'
SB10	5/25/94	EPS	Griner Drilling Service	35.0'
SB11	5/26/94	EPS	Griner Drilling Service	2.0'
SB12	5/26/94	EPS	Griner Drilling Service	3.0'
SB13	5/26/94	EPS	Griner Drilling Service	20.0'
SB14	5/26/94	EPS	Griner Drilling Service	36.0'

Summary of Monitor Well Construction, May 1994

Well No.	Date	Prime Party	Driller	Total Depth
1	5/26/94	EPS	Griner Drilling Service	35.0'
2	5/25/94	EPS	Griner Drilling Service	33.0'
3	5/25/94	EPS	Griner Drilling Service	30.0'
4	5/26/94	EPS	Griner Drilling Service	36.0'

Environmental Protection Systems	5360 I-55 NORTH JACKSON, MISSISSIPPI 39211	PROJECT: GULF STATES CREOSOTE, PHASE II HATTIESBURG, MISSISSIPPI	BORING NO. SB1/MW3 SHEET 1 OF 1 DATE: 5-24-94 PROJECT NO. 1.V7101.002

'ING COMPANY: GRINER DRILLING SERVICE
'MAN: K. GRINER
EOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION: RELATIVE 99.33
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS			
DATE	DEPTH	CASING	STABILIZATION TIME
5-27-94	16.7"	WELL	24 HRS.
5-24-94	22.0'	AUGER	

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY/YELLOW CLAY. CLAY IS COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING. CREOSOTE-LIKE ODOR.	CLAY (GRAY/YELLOW)		SEE GROUNDWATER MONITORING WELL REPORT FOR INSTALLATION DETAIL
5'	001	24"	3-5	27				
	002	24"	8-10	33	SAME AS ABOVE. MOIST.			
15'	003	24"	13-15	31	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING.	(GRAY)		
20'	004	24"	18-20	20	SAME AS ABOVE. CREOSOTE-LIKE ODOR.			
22'						22.0'		
					WHITE SAND. MEDIUM TO FINE-GRAINED. WATER BEARING UNIT. SOME WHITE CLAY. CLAY IS COMPACT AND VERY FINE-GRAINED.	SAND (WHITE)		
25'								B.O.B. 30.0'

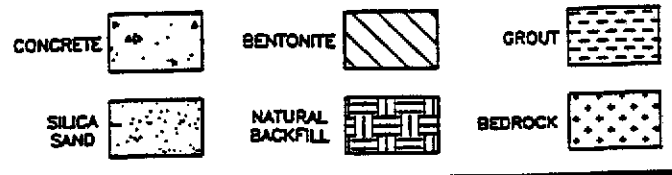
PROPORTIONS USED
- E 0 TO 10%
- E 10 TO 20%
- SOME 20 TO 35%
- AND 35 TO 50%

B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND



Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB2
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY/YELLOW CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. SOME GRAVELLY SAND AND COBBLES. CREOSOTE-LIKE ODOR. WOOD TIMBERS. CREOSOTE TREATED STUMP VISIBLE ON AUGER.	CLAY (GRAY/YELLOW)		
5'	001	15"	3-5	20				
						8.0'		
	002	15"	8-10	70	GRAY AND WHITE CLAYEY SAND. RED IRON VEINING. COMPACT.	CLAYEY SAND (GRAY AND WHITE)		
15'	003	23"	13-15	27	SAME AS ABOVE.			
						18.0'		
						CLAY (GRAY)		
20'	004	20"	18-20	18	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING.	20.0' B.O.B.		
25'								

PROPORTIONS USED

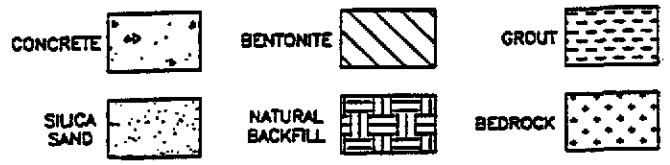
	0 TO 10%
-	10 TO 20%
SOME	20 TO 35%
AND	35 TO 50%

B.O.S. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND



Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB3
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY CLAYEY SAND. COMPACT. RED IRON VEINING. CREOSOTE-LIKE ODOR.			
						CLAYEY SAND (GRAY)		
5'	001	24"	3-5	26				
						8.3'		
	002	24"	8-10	34	SAME AS ABOVE GRADING DOWN TO GRAY CLAY. INTERFACE OCCURS AT 8.3 FEET. CLAY IS COMPACT, PLASTIC, DENSE AND FINE-GRAINED.			
						CLAY (GRAY)		
15'	003	24"	13-15	18	SAME AS ABOVE.			
						19.0'		
						SAND		
20'	004	24"	18-20	28	SAME AS ABOVE GRADING DOWN TO GRAY/WHITE SAND. INTERFACE OCCURS AT 19 FEET. SAND IS MEDIUM TO FINE-GRAINED. WATER BEARING UNIT.	20.0' B.O.B.		
25'								

PROPORTIONS USED
0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB4-1
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
ENV GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

	SAMPLE NO.	SAMPLE REC.	SAMPLE DEPTH	SAMPLE BLOWS	SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
					RED CLAY FILL 0-0.5 FEET GRADING DOWN TO BLACK SAND AND GRAVEL. CREOSOTE TREATED TIMBERS.	FILL		
5'	001	10"	3-5	BOUNCED	HIT REFUSAL AT 5.5 FEET. BUBBLING LIQUID SOUND EVIDENT AS AUGER BOUNCED UP AND DOWN. TIMBERS VISIBLE ON AUGER.	5.5' B.O.B.		
15'								
20'								
25'								

PORTIONS USED

TRACE	0 TO 10%
LITTLE	10 TO 20%
SOME	20 TO 35%
AND	35 TO 50%

B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND

CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB4-2
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
EPS GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE NO.	SAMPLE REC.	SAMPLE DEPTH	SAMPLE BLOWS	SAMPLE DESCRIPTION	STRATA, CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
					FILL		
		3'	BOUNCED	HIT REFUSAL AT 3 FEET. FILL AND CREOSOTE TREATED TIMBERS ON AUGER. NO SAMPLE TAKEN.	3.0' B.O.B.		
		5'					
		15'					
		20'					
		25'					

PROPORTIONS USED

TRACE	0 TO 10%
LITTLE	10 TO 20%
SOME	20 TO 35%
AND	35 TO 50%

B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND

CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB4-3/MW2
SHEET 1 OF 1
DATE: 5-25-94 PROJECT NO. 1.V7101.002

G COMPANY: GRINER DRILLING SERVICE
IAN: K. GRINER
EPS GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION: RELATIVE 97.64
DATE STARTED: 5-25-94 DATE ENDED: 5-25-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME
5-27-94	17.6'	WELL	24 HRS.
5-25-94	23.0'	AUGER	

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					NO RECOVERY. WOOD TIMBERS AND TOP SOIL VISIBLE ON AUGER.	TOP SOIL		SEE GROUNDWATER MONITORING WELL REPORT FOR INSTALLATION DETAIL
5'			3-5	4				
						8.0'		
	002	18"	8-10	34	GRAY/YELLOW CLAYEY SAND. CREOSOTE-LIKE ODOR. BLACK TAR-LIKE VEINING INCREASES WITH DEPTH OF BORING. MOIST.			
						CLAYEY SAND (GRAY/YELLOW)		
15'	003	24"	13-15	16	SAME AS ABOVE.			
						20.0'		
20'	004	24"	18-20	30	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING.	CLAY (GRAY)		
23'						23.0'		
					WHITE SAND. MEDIUM TO FINE-GRAINED. SOME WHITE CLAY. GOLDEN SHEEN AND BLACK TAR-LIKE OOZE ON SPLIT SPOON. WATER BEARING UNIT.	SAND (WHITE)		B.O.B. 33.0'
25'								

PORTIONS USED

CE	0 TO 10%
LITTLE	10 TO 20%
SOME	20 TO 35%
AND	35 TO 50%

B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND

CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. S85
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

ING COMPANY: GRINER DRILLING SERVICE
'IAN: K. GRINER
:EOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY CLAYEY SAND. SOME ASPHALT. RED IRON VEINING.			
5'	001	20"	3-5	9		CLAYEY SAND (GRAY)		
	002	24"	8-10	18	SAME AS ABOVE. CREOSOTE-LIKE ODOR.			
						14.0'		
15'	003	24"	13-15	18	SAME AS ABOVE GRADING DOWN TO WHITE CLAY. INTERFACE OCCURS AT 14 FEET. CLAY IS COMPACT, PLASTIC, DENSE AND FINE-GRAINED. CREOSOTE-LIKE ODOR. MOIST.	CLAY (WHITE)		
20'	004	24"	18-20	23	SAME AS ABOVE.	20.0' B.O.B.		
25'								

PROPORTIONS USED
0 TO 10%
. 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB6
SHEET 1 OF 1
DATE: 5-24-94 PROJECT NO. 1.V7101.002

ING COMPANY: GRINER DRILLING SERVICE
AN: K. GRINER
OLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-24-94 DATE ENDED: 5-24-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

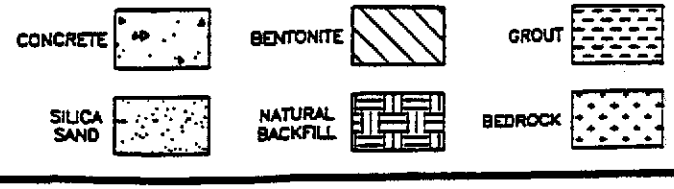
SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
						FILL		
4'				BOUNCED	HIT REFUSAL AT 4 FEET. FILL AND CONCRETE PIECES VISIBLE ON AUGER. NO VISIBLE DISCOLORATION/STAINING OF FILL. NO SAMPLE TAKEN.	4.0'		
5'						B.O.B.		
15'								
20'								
25'								

PROPORTIONS USED
- 0 TO 10%
- 10 TO 20%
- Some 20 TO 35%
- AND 35 TO 50%
- B.O.B. – BOTTOM OF BORING
- ND – NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0–4	VERY LOOSE	0–2	VERY SOFT
5–9	LOOSE	3–4	SOFT
10–29	MED. DENSE	5–8	MED. STIFF
30–49	DENSE	9–15	STIFF
50+	VERY DENSE	16–30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND



Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB7
SHEET 1 OF 1
DATE: 5-25-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
ENV. GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-25-94 DATE ENDED: 5-25-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA, CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY CLAY MIXED WITH FILL (COARSE GRAVEL AND SAND). STRONG CREOSOTE-LIKE ODOR. FIRST ENCOUNTERED LIQUID IN BORING AT 3 FEET. BLACK LIQUID HAS 2 DENSITIES. LESS DENSE LIQUID APPEARS TO BE CREOSOTE, OTHER WATER.			
5'	001	10"	3-5	18		FILL/CLAY (GRAY)		
		4"	8-10	18	SAME AS ABOVE. SAMPLE NOT SUBMITTED FOR ANALYSIS DUE TO POOR RECOVERY.			
12'				BOUNCED	HIT REFUSAL	12.0' B.O.B.		
15'								
20'								
25'								

PROPORTIONS USED
TRACE 0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB8
SHEET 1 OF 1
DATE: 5-25-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
EPS GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-25-94 DATE ENDED: 5-25-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					HIT REFUSAL AT 2 FEET. RED CLAY FILL AND COARSE GRAVELLY SAND VISIBLE ON AUGER. FIRST ENCOUNTERED LIQUID IS AT 2 FEET. LIQUID IS BLACK, DENSE AND TAR-LIKE. CREOSOTE-LIKE ODOR. GRAB SAMPLE TAKEN FROM AUGER. LIQUIDS HAVE 2 DENSITIES.	FILL		
2'	001					2.0'		
						B.O.B.		
5'								
15'								
20'								
25'								

PROPORTIONS USED
TRACE 0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE
BENTONITE
GROUT
SILICA SAND
NATURAL BACKFILL
BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB9
SHEET 1 OF 1
DATE: 5-25-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER'S MAN: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-25-94 DATE ENDED: 5-25-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
1.5'	001			BOUNCED	RED CLAY FILL 0-0.5 FEET GRADING DOWN TO BLACK SAND AND GRAVEL. CREOSOTE--LIKE ODOR. REINFORCING WIRE MESH AND CONCRETE PULLED-UP BY AUGER. HIT REFUSAL. GRAB SAMPLE TAKEN FROM AUGER.	FILL 1.5' B.O.B.		
5'								
15'								
20'								
25'								

PROPORTIONS USED

TRACE	0 TO 10%
LITTLE	10 TO 20%
SOME	20 TO 35%
AND	35 TO 50%

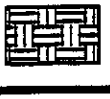
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND

CONCRETE  BENTONITE  GROUT 

SILICA SAND  NATURAL BACKFILL  BEDROCK 

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB10/MW1
SHEET 1 OF 1
DATE: 5-25-94 PROJECT NO. 1V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLERMAN: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION: RELATIVE 99.20
DATE STARTED: 5-25-94 DATE ENDED: 5-25-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME
5-27-94	16.88'	WELL	24 HRS.
5-25-94	22.0'	AUGER	

SAMPLE	NO.	REC.	DEPTH	BLOWS	SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
					GRAY/YELLOW CLAYEY SAND. VERY STRONG CREOSOTE-LIKE ODOR. VISIBLE BLACK TAR-LIKE SUBSTANCE THROUGHOUT BOREHOLE AND IN SOIL CUTTINGS.		HNU = 1.0ppm IN BREATHING ZONE	SEE GROUNDWATER MONITORING WELL REPORT FOR INSTALLATION DETAIL
5'	001	24"	3-5	15		CLAYEY SAND (GRAY/YELLOW)		
	002	24"	8-10	28	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING. VERY STRONG CREOSOTE-LIKE ODOR.	10.0'		
						CLAY (GRAY)		
15'	003	24"	13-15	19	GRAY CLAYEY SAND. RED IRON VEINING.	15.0'		
						CLAYEY SAND (GRAY)		
20'	004	12"	18-20	20	WHITE CLAYEY SAND. STRONG CREOSOTE-LIKE ODOR.	(WHITE)		
22'						22.0'		
					WHITE SAND. WATER BEARING UNIT. MEDIUM TO FINE-GRAINED.	SAND (WHITE)		
25'								B.O.B. 35.0'

PROPORTIONS USED
TRACE 0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB11
SHEET 1 OF 1
DATE: 5-26-94 PROJECT NO. 1.V7101.002

RING COMPANY: GRINER DRILLING SERVICE
MAN: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-26-94 DATE ENDED: 5-26-94

AUGER		SAMPLER		OTHER:
SIZE	8.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

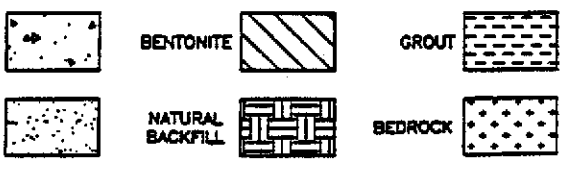
SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					HIT REFUSAL AT 2 FEET. RED CLAY FILL AND BLACK GRAVELLY SAND VISIBLE IN BORING AND ON AUGER. CREOSOTE-LIKE ODOR. GRAB SAMPLE TAKEN FROM AUGER.	FILL		
2'	001					2.0'		
						B.O.B.		
5'								
15'								
20'								
25'								

PROPORTIONS USED
- 0 TO 10%
- 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND



Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB12
SHEET 1 OF 1
DATE: 5-26-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
ENGR. GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-26-94 DATE ENDED: 5-26-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					HIT REFUSAL AT 3 FEET. CLAYEY SAND AND FILL VISIBLE IN SOIL CUTTINGS. CONCRETE PIECES VISIBLE ON AUGER. GRAB SAMPLE TAKEN FROM AUGER.	FILL		
3'	001					3.0' B.O.B.		
5'								
15'								
20'								
25'								

PROPORTIONS USED
TRACE 0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. – BOTTOM OF BORING
ND – NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0–4	VERY LOOSE	0–2	VERY SOFT
5–9	LOOSE	3–4	SOFT
10–29	MED. DENSE	5–8	MED. STIFF
30–49	DENSE	9–15	STIFF
50+	VERY DENSE	16–30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB13
SHEET 1 OF 1
DATE: 5-26-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER: K. GRINER
GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION:
DATE STARTED: 5-26-94 DATE ENDED: 5-26-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY/YELLOW CLAYEY SAND. RED IRON VEINING. SOME BLACK COARSE-GRAINED GRAVEL. SOME WOOD TIMBERS. CREOSOTE-LIKE ODOR.			
5'	001	21"	3-5	25		CLAYEY SAND (GRAY/YELLOW)		
						8.5'		
	002	23"	8-10	44	SAME AS ABOVE GRADING DOWN TO GRAY CLAY. INTERFACE OCCURS AT 8.5 FEET. CLAY IS COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING. SOME COARSE-GRAINED GRAVELLY SAND WITH WOOD TIMBERS. CREOSOTE-LIKE ODOR.	CLAY (GRAY)		
						13.0'		
15'	003	24"	13-15	28	GRAY/YELLOW CLAYEY SAND. SAME AS 3-5 FOOT INTERVAL. CREOSOTE-LIKE ODOR.	CLAYEY SAND (GRAY/YELLOW)		
						18.0'		
						CLAY (GRAY)		
20'	004	24"	18-20	27	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING. CREOSOTE-LIKE ODOR.	20.0' B.O.B.		
25'								

PROPORTIONS USED
- T 0 TO 10%
- L 10 TO 20%
- SOME 20 TO 35%
- AND 35 TO 50%
- B.O.B. - BOTTOM OF BORING
- ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Environmental Protection Systems
5360 I-55 NORTH
JACKSON, MISSISSIPPI
39211

PROJECT:
GULF STATES CREOSOTE, PHASE II
HATTIESBURG, MISSISSIPPI

BORING NO. SB14/MW4
SHEET 1 OF 1
DATE: 5-26-94 PROJECT NO. 1.V7101.002

DRILLING COMPANY: GRINER DRILLING SERVICE
DRILLER MAN: K. GRINER
LOGGED BY GEOLOGIST: S. KIRCHOFF

BORING LOCATION: SEE SITE PLAN
GROUND ELEVATION: RELATIVE 98.62
DATE STARTED: 5-26-94 DATE ENDED: 5-26-94

AUGER		SAMPLER		OTHER:
SIZE	6.25" ID	TYPE	SPLIT SPOON	
HAMMER		HAMMER	140 LBS	
FALL		FALL	30"	

GROUNDWATER READINGS

DATE	DEPTH	CASING	STABILIZATION TIME
5-27-94	19.72'	WELL	24 HRS.
5-26-94	26.0'	AUGER	

SAMPLE					SAMPLE DESCRIPTION	STRATA CHANGE AND GENERAL DESCRIPTION	FIELD TESTING HNU OR OVA	EQUIPMENT OR WELL INSTALLED
	NO.	REC.	DEPTH	BLOWS				
					GRAY/YELLOW CLAYEY SAND. BLACK TAR-LIKE VEINING AND RED IRON VEINING.			SEE GROUNDWATER MONITORING WELL REPORT FOR INSTALLATION DETAIL
5'	001	24"	3-5	32		CLAYEY SAND		
						9.0'		
	002	23"	8-10	20	GRAY/YELLOW CLAY GRADING DOWN TO GRAY CLAY. INTERFACE OCCURS AT 9 FEET. CLAY IS COMPACT, PLASTIC, DENSE AND FINE-GRAINED. RED IRON VEINING.	CLAY (GRAY/YELLOW)		
15'	003	24"	13-15	17	SAME AS ABOVE. BLACK COARSE-GRAINED CHUNKS OF MATERIAL IN CLAY. MOIST.			
20'	004	24"	18-20	16	GRAY CLAY. COMPACT, PLASTIC, DENSE AND FINE-GRAINED.	(GRAY)		
25'						▼ 26.0'		B.O.B. 36.0'

PROPORTIONS USED
TRACE 0 TO 10%
LITTLE 10 TO 20%
SOME 20 TO 35%
AND 35 TO 50%
B.O.B. - BOTTOM OF BORING
ND - NOT DETECTED

PENETRATION RESISTANCE
140 LB WT FALLING 30" ON 2" O.D. SAMPLER

COHESIONLESS DENSITY		COHESIVE CONSISTENCY	
0-4	VERY LOOSE	0-2	VERY SOFT
5-9	LOOSE	3-4	SOFT
10-29	MED. DENSE	5-8	MED. STIFF
30-49	DENSE	9-15	STIFF
50+	VERY DENSE	16-30	VERY STIFF
		31+	HARD

WELL CONSTRUCTION LEGEND
CONCRETE, BENTONITE, GROUT, SILICA SAND, NATURAL BACKFILL, BEDROCK

Former Gulf States Creosoting Site
Hattiesburg, Mississippi

Summary of Borings, May 1996

Boring No.	Date	Prime Party	Driller	Total Depth
SB-1	5/30/96	McLaren-Hart	Griner Drilling	50'
GP-1	5/30/96	McLaren-Hart	C-K Associates	20'
GP-2	5/30/96	McLaren-Hart	C-K Associates	20'
GP-3	5/30/96	McLaren-Hart	C-K Associates	20'
GP-4	5/30/96	McLaren-Hart	C-K Associates	20'
GP-5	5/31/96	McLaren-Hart	C-K Associates	20'
GP-6	5/31/96	McLaren-Hart	C-K Associates	20'
GP-7	5/31/96	McLaren-Hart	C-K Associates	20'
SB-2	5/31/96	McLaren-Hart	Griner Drilling	35'

SOIL DRILLING LOG

SB/MW #: SB-1
I.D.-
Page 1 of 1
Geologist: D. Stillnes

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 5/30/96 5/30/96 TOTAL DEPTH 50.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT Griner Drilling/Failing F-10
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
2.5				Asphalt parking lot.			
5.0				FILL, sand and gravel, bricks, wet, slight oily odor, black.			
7.5				SAND and gravel, wet, strong creosote odor, black.	GP		
10.0							
12.5				CLAY, silty, 10 YR 7/1 with 10 YR 5/8 mottling and black mottling, creosote odor.	CL		
15.0							
17.5				CLAY, silty, 10 YR 7/1 with 10 YR 5/8 mottling, creosote odor.	CL		
20.0							
22.5				SAND, clayey, moist, 10 YR 7/1 with black layers, oily (wet with oil), strong creosote odor.	SC		
25.0							
27.5				SAND, fine grain, silty, moist to wet, 10 YR 7/1, with black oily layer, strong creosote odor.	SM		
30.0							
32.5				SAND, fine grain, silty, wet (flowing), 2.5 Y 6/2, trace creosote odor. (Sample was probably layered or mottled with two colors, but flowing conditions mixed sample into a homogeneous texture and color.)	SM		
35.0							
37.5				SAND, fine grain, silty, wet, trace creosote odor, 10 YR 7/1.	SM		
40.0							
42.5				SAND, fine grain, with silt, wet, 2.5 Y 5/2, faint but distinct creosote odor.	SM		
45.0							
47.5				CLAY, hard, tight, dense, slightly moist, no odor, chart 2 for gley: 10 G 6/1.	CL		
50.0				End of boring.			

DEPOSITION EXHIBIT
1
Abshire

SOIL DRILLING LOG

SB/MW #: SB-2
D-
Page 1 of 1
Geologist: D. Stiffens

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 5/31/96 5/31/96 TOTAL DEPTH 35.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT Grinet Drilling/Failing F-10
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				Grass and shrub cover.			
2.5				SAND, fine grain, moist, faint creosote odor, 10 YR 6/1.	SP		
5.0							
7.5				SAND, medium grain, moist, visible oil, strong creosote odor, dark brown to black.	SP		
10.0							
12.5				SAND, fine, moist to wet, 10 BG 6/1 (chart 2 for gley) with dark brown oily staining (mottling), strong creosote odor.	SP		
15.0							
17.5				SAND, medium grain, trace silt, wet, 10 BG 6/1 (chart 2 for gley), strong creosote odor.	SP		
20.0							
22.5				SILT and fine sand, trace clay, moist, soft, mottled 5GY 6/1 and 10 OY 5/1 (chart 1 for gley), very faint creosote odor.	ML		
25.0							
27.5				CLAY, silty, slightly moist, firm, no odor, mottled 10 OY 6/1 (chart 1 for gley) and 10 YR 6/2 and 10 YR 5/6.	CL		
30.0							
32.5				CLAY, hard, firm, tight, slighly moist to dry, no odor, 10 YR 4/4.	CL		
35.0				End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-1
D-
Page 1 of 1
Geologist: D. Stillings

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION _____ (MSL) DATE(S) 5/30/96 5/30/96 TOTAL DEPTH 20.0'
MONITORING DEVICE _____ SCREENED INTERVAL _____
SAMPLING METHOD _____ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO _____
MEMO _____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				Asphalt and gravel driveway.			
				FILL, sand and gravel, dry, 10 YR 7/2.			
				CLAY, sandy, trace pebbles, slightly moist, 10 YR 5/6.	CL		
				SAND (foundry type) and gravel, black, dry, no odor.			
2.5				CLAY, sandy, trace pebbles, moist, 10 YR 5/6.	CL		
5.0				CLAY, silty, slightly moist (top 6" wet), no odor, 10 YR 5/8 with 10 YR 6/1 mottling and trace 5 YR 5/8 mottling.	CL		
7.5				CLAY, silty, slighty moist, no odor, 10 YR 5/8 with 10 YR 6/1 mottling and trace 5 YR 5/8 mottling.			
10.0							
12.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with slight trace of 10 YR 6/8 mottling.			
15.0							
17.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with 10 YR 6/8 mottling (strong mottling).			
20.0				End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-2
D-
Page 1 of 1
Geologist: D. Stillings

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION (MSL) DATE(S) 5/30/96 5/30/96 TOTAL DEPTH 20.0'
MONITORING DEVICE SCREENED INTERVAL
SAMPLING METHOD SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO
MEMO

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				CLAY, sandy, dry, no odor, dark brown.	CL		
				FILL, wood, burned, roots, dry, dark brown.			
				CLAY, sandy, roots, dry, 10 YR 5/8.	CL		
				FILL, foundry-type sand, pebbles, dry, no odor, black.			
2.5				CLAY, silty, slightly moist, no odor, 10 YR 5/8 with trace grey mottling at four feet.	CL		
				CLAY, silty, slightly moist to dry, no odor, 10 YR 5/8 with trace 10 YR 7/1 and 5 YR 5/8 mottling.			
5.0							
7.5				CLAY, silty, slightly moist to dry, no odor, 10 YR 5/8 with 10 YR 7/1 and trace 5 YR 5/8 mottling.			
10.0				CLAY, silty, slightly moist to dry, no odor, 10 YR 7/1 with trace 10 YR 5/8 mottling.			
				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with 10 YR 5/8 mottling, trace 5 YR 5/8 mottling.			
12.5				PEBBLE layer (1/2"), slightly moist.			
15.0				CLAY, silty, slightly moist, no odor, 10 YR 5/8 with trace 10 YR 7/1.			
17.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with trace 5 YR 5/8.			
20.0				End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-3
I.D.:
Page 1 of 1
Geologist: D. Stiffens

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 5/30/96 5/30/96 TOTAL DEPTH 20.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				CLAY, sandy, pebbles, roots, dry, dark brown.	CL		
				CLAY, sandy, pebbles, trace roots and wood chips, dry, 10 YR 4/2.	CL		
				FILL, foundry-type sand, pebbles, dry, no odor, black.	CL		
2.5				CLAY, dry, no odor, 10 YR 5/3 with black mottling.	CL		
				CLAY, trace silty, slightly moist, no odor, 10 YR 6/8.			
5.0				CLAY, trace silt, slightly moist to dry, no odor, 10 YR 6/8 with trace 10 YR 7/1 mottling and slight trace 5 YR 5/8 mottling.			
7.5				CLAY, trace silt, slightly moist to dry, no odor, 10 YR 6/3 and 10 YR 7/1 mottled.			
10.0							
12.5				CLAY, trace silt, slightly moist to dry, no odor, 10 YR 6/3 and 10 YR 7/1 and 10 R 3/6 mottling. CLAY, trace silt, slightly moist, no odor, 10 YR 7/1 with trace 10 YR 6/8 mottling.			
15.0							
17.5				CLAY, trace silt, trace sand, becoming sandy at 18 feet, slightly moist, no odor, 10 YR 7/1 with strong 10 YR 6/8 mottling.			
20.0				End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-6
D:
Page 1 of 1
Geologist: D. Stillions

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 6/30/96 6/30/96 TOTAL DEPTH 20.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL.SAND.SILT.CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				Asphalt parking lot.			
				FILL, sand and gravel, black.	CL		
				CLAY, trace silt, slightly moist, no odor, 10 YR 6/8.			
2.5							
				CLAY, trace silty, dry to slightly moist, no odor, 10 YR 6/8 with slight trace 10 YR 7/1 mottling.			
5.0							
7.5							
				SAND, silty, dry to slightly moist, no odor, 10 YR 6/8 with 2.5 YR 4/6 mottling.	SP		
10.0							
				SAND, silty, dry to slightly moist, no odor, 2.5 YR 4/6. SAND, fine to medium grain, trace silt, slightly moist, no odor, 7.5 YR 5/8.			
12.5							
15.0							
				SAND, fine grain, silty, trace medium and coarse sand, slightly moist, no odor 5 YR 5/8. SAND and pebbles (limestone and shale pebbles), silty, slightly moist, no odor, 5 YR 5/8. SAND, silt, trace clay, hard, slightly moist, no odor, 10 YR 7/1 with strong 10 YR 4/8 mottling.			
17.5							
20.0				End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-5
I.D.-
Page 1 of 1
Geologist: D. Stiffler

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 5/31/96 6/31/96 TOTAL DEPTH 20.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				Asphalt parking lot			
2.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with 10 YR 6/8 mottling.	CL		
5.0				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with 10 YR 6/8 mottling.			
7.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with 10 YR 6/8 mottling. SAND, coarse, (1/2"), dry, no odor, black.			
10.0							
12.5				CLAY, silty, slightly moist to dry, firm and hard, no odor, 10 YR 7/1 with 10 YR 6/8 mottling.			
15.0				CLAY, silty, slightly moist to dry, no odor, 10 YR 7/1 with 10 YR 6/8 mottling (less mottling at depth).			
17.5				SAND and pebbles (3"), dry, no odor, black.	SP CL		
20.0				End of boring.			

GW_MW4.LOG.DB

SOIL DRILLING LOG

SB/MW #: GP-6
D-
Page 1 of 1
Geologist: D. Stillings

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ___ (MSL) DATE(S) 5/31/96 5/31/96 TOTAL DEPTH 20.0'
MONITORING DEVICE ___ SCREENED INTERVAL ___
SAMPLING METHOD ___ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL,SAND,SILT,CLAY) MEMO ___
MEMO ___

Depth Below Surface (ft.)	Samples Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
				FILL, sand and gravel, clayey, dry, roots throughout column, no odor, dominantly 10 YR 5/8, but mottled with brown and grey.			
2.5				SILT and fine sand, trace clay, dry, trace roots, no odor. 10 YR 5/8 (no mottling).	ML		
5.0				SILT and fine sand, trace clay, dry, no odor, 10 YR 5/8 with trace 10 R 4/6 mottling. SILT and fine sand, clayey, dry, no odor, 10 YR 5/8 with trace 10 YR 4/6 and 10 YR 7/1 mottling.	ML		
7.5 – 10.0				CLAY, silty, trace sand, dry to slightly moist, no odor, 10 YR 7/1 with 10 YR 5/8 mottling. CLAY, silty, trace sand, dry to slightly moist, no odor, 10 YR 7/1 and 10 YR 5/8 mottled.	CL		
12.5				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with trace 10 YR 5/8 and 10 R 3/6 mottling.			
15.0				SAND, medium to fine grain, trace silt, moist, no odor, 10 YR 5/8 with 10 R 3/6 and 10 YR 7/1 mottling.	SP		
				CLAY, silty, slightly moist, no odor, 10 YR 7/1 with trace 10 YR 5/8 and 10 R 3/6 mottling.	CL		
				CLAY, moist, soft, no odor, 10 YR 5/8 with slight trace of 10 YR 7/1 mottling.	SP		
17.5				CLAY, moist, soft, no odor, 10 YR 5/8 with trace 10 YR 7/1 mottling.	CL		
				SAND, medium to fine grain, trace silt, wet, no odor, 2.5 YR 6/6.			
20.0				CLAY, trace silt, moist, soft, no odor, 10 YR 7/1 with 10 YR 5/8 mottling (less mottling at 20 feet). End of boring.			

SOIL DRILLING LOG

SB/MW #: GP-7
I.D.:
Page 1 of 1
Geologist: D. Stillings

McLaren Hart

SIGNATURE OF GEOLOGIST

PROJECT Gulf States Creosote Site LOCATION Hattiesburg, MS
TOC ELEVATION ____ (MSL) DATE(S) 5/31/96 5/31/96 TOTAL DEPTH 20.0'
MONITORING DEVICE ____ SCREENED INTERVAL ____
SAMPLING METHOD ____ SUBCONTRACTOR & EQPT W. Abshire/Geoprobe
PERCENTAGE ORDER: (GRAVEL, SAND, SILT, CLAY) MEMO ____
MEMO ____

Depth Below Surface (ft.)	Sampler Interval/ Recovery	Sample ID #	PID Reading (ppm)	Soil Description Color, Texture, Moisture, Etc.	Unified Classification	Graphic Log	Borehole Abandonment/ Well Construction Details
0				SAND, fine grain, with trace medium and coarse sand, dry, soft, no odor. 10 YR 6/3.	SP		
2.5				SAND, fine grain, trace medium grain, becoming silty at 5 feet, slightly moist at 4 feet, moist to wet at 8 feet, no odor. 10 YR 6/3.			
5.0				10 YR 6/8.			
7.5				Sand, medium grain, silty. SAND, medium grain, trace silty, trace pebbles, wet, no odor. 10 YR 8/2.			
10.0				SAND, fine grain, silty, wet, no odor, 10 YR 6/8.			
				SILT, trace clay, becoming clayey at 12 feet, moist, no odor, 10 YR 7/1.	ML		
12.5				Slough, sand and pebbles, wet.			
				CLAY, silty, moist, firm, no odor, chart 2 for gley: 5B 6/1.	CL		
15.0				SILT and fine sand, clayey, moist, firm, no odor, chart 2 for gley: 10 BG 6/1.	ML		
17.5				Unknown recovery, couldn't remove tube from sampling spoon, "hammered" out a medium grain sand, wet, noticeable creosote odor, chart 2 for gley: 10 BG 6/1.	SP		
20.0				End of boring.			

GEO/STRAT/LOG/GP7

Former Gulf States Creosoting Site
Hattiesburg, Mississippi

Summary of Borings, June 1996

Boring No.	Date	Prime Party	Driller	Total Depth
B-1	6/10/96	Kerr-McGee	TDS, Inc.	51'
B-2	6/11/96	Kerr-McGee	TDS, Inc.	51'
B-3	6/11/96	Kerr-McGee	TDS, Inc.	51'
B-4	6/12/96	Kerr-McGee	TDS, Inc.	51'
B-5	6/12/96	Kerr-McGee	TDS, Inc.	51'
B-6	6/13/96	Kerr-McGee	TDS, Inc.	16'

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: Hartsburg KM
Client:
Date: 6/10/96 (start 1:07 pm - end 6/11 12:20 pm)
Drill Method: 4 1/4" I.D. HSA w/SPT Sampling
Boring No: RC 1
Location:
Total Depth: 51'
Drilled by: Curtis Lee & Crew

W.L. measured 6/12/96 — 7' BLS

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
				post hole to 2'	
2				gray vf silty sand (7.5YR 4/1)	
3				& mottled rd yel (7.5YR 6/8) & pinkish gray (7.5YR 7/2) clay	4 3
4				mottled rd yel & pinkish gray clay	3 1
6					2 2 3
7				Same to 8.0' lt gry (2.5Y 7/1) fin sand	
9				wet @ 9.0	3 4 6
				Same to 10	7 5
				silt (2.5Y 8/2) wet sand (10'-10.5')	6
				mottled rd yel (7.5YR 6/8) & pinkish gray 7.5YR (7/2) clay (10.5'-11')	4 3
12				lt yel br (2.5Y 6/4) crs sand to 13' wet to md sorted (poorly graded)	2 2
				lt gray (2.5Y 7/1) clay	4 5
15				gray (2.5Y 6/1) clay to 15.5' (wet)	1 2
				mottled gray (same) & dk yel (2.5Y 6/8) clay to 16	4 5
18				same mottled gray & olive yel clay (soft) (moist)	1 3 5
19				same	6 1 3
21					4 6
				lt gray (10YR 7/1) sandy clay (wet) (soft)	1 2
24					2 3

Project: _____ Page 2 of 2

Client: _____ Boring No: B-1

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Materials Description	Standard Penetration (Blows per Foot) 0 20 40 60
27				fine well sorted gray (10YR 7/1) sand to 24.5' sandy gray clay (10YR 7/1) to 25' clayey gray (same) sand	WH WH WH 2 -
30				gray (same) md well sorted sand to 28; gravel 28 to 28.75' clay, gray (10YR 7/1) 28.75-29' (stiff)	WH WH 2 3
33				gray (same) fine to md sand minor amounts of well rounded gravel (moist)	6 5 6
36				gray (5Y 6/1) stiff clay	3 5 6 7
39				Same to 35' red brown (10YR 5/4) & gray (5Y 6/1) mottled clay	4 6 8 10
42				brown (7.5YR 4/3) stiff clay	5 9 9 12
45				brown (same) and gray (10YR 7/1) mottled clay	3 6 10 11
48				Same	5 7 11
51				Same	4 4 7 11 14
				gray (10YR 7/1) clay	6 8 9 10
				Same TD @ 51'	3 6 11 11

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Background 1.9

Job Name:
Location: Hattiesburg, Miss
Job Number:
Sampler: Randy Oglesby
PID Make/Model: Model 580B OVM # 6085
Calibration Date/Time: 6/7/96
Page 1 / 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B1	2-4	sand, clay	6/10/96	13:07				1.9
	4-6	clay						1.9
	7-9	clay, sand						1.9
	9-11	sand, clay						1.9
	12-14	sand, clay						1.9
	14-16	clay		13:29				1.9
	17-19	clay						1.9
	19-21	clay						1.9
	22-24	clay						1.9
	24-26	sandy clay						1.9
	27-29	sand		13:58				1.9
	29-31	sand						1.9

Comments:

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name:
Location: Hattiesburg Miss

Job Number:
Sampler: R. Oglesby

PID Make/Model: Model 580B OVM #6085
Calibration Date/Time: 6/7/96

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B1	32-34	clay						1.9
	34-36	clay	6/10/96	14:15				1.9
	37-39	clay	6/10/96					1.9
	39-41	clay	6/10/96	14:32				1.9
	42-44	clay	6/10/96					1.9
	44-46	clay	6/11/96	11:35				1.9
	47-49	clay	6/11/96	11:40				1.9
	49-51	clay	6/11/96	11:58				1.9

Comments:

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: Hattiesburg - KM
Boring No: B-2
Client:
Location:
Date: 6/11/96 (started 2:50 and 4:20 PM)
Total Depth: 51'
Drill Method: 4 1/4" I.D. HSA w/SPT Sampling
Drilled by: Curtis Lee & Crew

W.L. measured 6/12/96 — 10.5' BLS

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
				lt brn	2
2				lt brownish gray (2.5Y6/2) clay	3
3					5
4				lt yel brn (10YR 6/4) clay to 4.5	4
				dk yel brn (10YR 3/4) silt to 5	4
				yel brn silt (10YR 5/4) to 5.5	3
6				dk brn sandy silt (10YR 3/3) to 6	3
7				brn mottled (10YR 6/8) fn to ~~silty fine sand~~ med sandy silt	2
					2
9					4
				same to 10.5	4
				very pale brn (10YR 8/3) sand med grn well sorted (wet)	4
11					6
12					6
				same to 13 sand	4
				very pale brn (same) w/ lt gray (10YR 7/1) clay	7
14					5
				lt gl brn (10YR 6/4) fn-md sand (silty) to 15	4
15				gray fn sand (10YR 6/1) to 16 silty	2
					3
16					3
17					1
18	Sample			Same to 18 (wet) gray (5Y5/1) clay to 19	2
					3
19					3
				same moist soft at 20-21	1
					2
21					3
					4
22					
				same w/ lt olive brown (2.5Y5/4) mottling or iron staining	2
					4
24					4
					6

Project: Hattiesburg

Client:

Boring No: B-2

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Materials Description	Standard Penetration (Blows per Foot) 0 20 40 60
				Same to 25	1
				no iron stains or mottling 25 to 26	3
					4
26					4
27					
				gray (5Y 5/1) silty to sandy clay to 28.5	1
				hard gray (same) clay 28.5-29	2
29					2
				gray (same) & lt olive brn (2.5Y5/4 mottled clay	3
30					1
					3
					6
31					9
32					
33				Same	4
					5
					8
34					8
					4
				Same to 35.5	5
				yel brown (10YR5/6) & gray (5Y5/1)	8
36				clay	9
37					
				brown (7.5YR4/3) & gray (same)	5
				clay	6
39					10
					10
				Same	4
					6
					9
41					10
42					
					4
				Same	8
					10
44					12
45					3
				Same	7
					9
46					11
47					
48				gray (10YR 7/1) & brown (7.5YR4/3)	7
					8
					9
49				clay	11
					8
				Same	11
51				TD@51'	12

PHOTOI...IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____ PID Make/Model: Model 580 B OVM # 6085
Location: Hattiesburg Miss Sampler: R. Oglesby Calibration Date/Time: June 7, 1996
Page 1 / 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B2	2-4	clay	6/11/96	14:50				0.9
B2	4-6	clay	6/11/96					0.9
B2	7-9	sand	6/11/96					0.9
B2	9-11	sand	6/11/96					0.9
B2	12-14	sand	6/11/96					0.9
B2	14-16	sand	6/11/96					0.9
B2	17-19	sand, clay	6/11/96	15:17				0.9
B2	19-21	clay	6/11/96					0.9
B2	22-24	clay	6/11/96					0.9
B2	24-26	clay	6/11/96					0.9
B2	27-29	clay	6/11/96					0.9
B2	29-31	clay	6/11/96					0.9

Comments:

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____
Location: Hattiesburg Sampler: R. Oglesby

PID Make/Model: Model 580B DUH#6085
Calibration Date/Time: June 7, 1996
Page 2/3

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B2	32-34	clay	6/11/96					0.9
B2	34-36	clay	6/11/96					0.9
B2	37-39	clay	6/11/96					0.9
B2	39-41	clay	6/11/96					0.9
B2	41.5-43.5	clay	6/11/96					0.9
B2	44-46	clay	6/11/96					0.9
B2	47-49	clay	6/11/96					0.9
B2	50-51	clay	6/11/96	16:31				0.9

Comments:

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: Hattiesburg - KM Boring No: B-3
Client: Kerr McGee Location:
Date: 6/11/96 (start 6:00 end 7:20) Total Depth:
Drill Method: 4 1/4" I.D. HSA w/SPT Sampling Drilled by: Curtis Lee & Crew

Water level measured 6/12/96 — 9.5' BLS

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
3				v. dark gray (2.5Y 3/1) silt & grayish brown (2.5Y 5/2) silt	3 WH WH
4				olive yel (2.5Y 6/6) silty clay (moist)	2 1 1
6					2 3
7				Same to 7.75 olive yel (2.5Y 6/7) & lt gray (10YR 7/1) silty clay to 8.0 (mottled)	1 4
9				lt gray (10YR 7/1) silty fine sand 8'-9'	4 6
11				lt gray (same) & olive yel (2.5Y 6/7) fine silty sand (mottled) minor amt of clay @ 11'	4 5 6 7
12	Sample				
14				Same to 12.5 (minor gravel) lt gray & olive yel (same) mottled clay	3 4 5 7
15				olive yel (same) & lt gray (same) mottled clay to 14.5 lt gray (same) clay (soft) (moist)	1 3 4 5
17					
18				Sand w/minor olive yel (same) mottling	1 3 4
19				Same to 20.25	4 WH
21				lt gray fn - md poorly sorted sand (wet)	2 3 6
22				Same to 22.25 (wet)	2
24				lt gray clay (moist)	1 1 WH

Project: _____ Page 2 of 2

Client: _____ Boring No: B-3

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Materials Description	Standard Penetration (Blows per Foot) 0 20 40 60
				same (soft) (moist)	WR
					WH
26					1
27					2
				lt gray (10YR 7/1) md well sorted sand to 28	WH
			gravel	sand & gravel to 28.75'	WH
				lt gray (same) sandy clay to 29	5
29			gravel	lt gray (same) sand & gravel to 30 (wet)	6
30				lt gray (same) clay (moist)	3
					4
31					5
32					5
33				lt gray (same) & lt olive brown (2.5Y 5/6) clay (moist) mottled	4
					6
					8
34					9
				light olive brown sand & less lt gray (same) clay	3
36					6
					7
37					9
				same	5
					6
39					9
				3" sand & gravel lens @ 39	11
				lt olive brown (same) and lt gray (same) mottled clay	5
					7
					9
41					11
42				same	4
					7
					10
44					13
45				same	4
					7
46					9
					10
47 48				lt gray (10YR 7/1) clay	5
					9
49				silty cl @ 49	11
					15
					4
					9
51				TD @ 51'	11
					12

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Background 1.9

Job Name: _____ Job Number: _____
Location: Hattiesburg MSS Sampler: R. Oglesby

PID Make/Model: Model 580B OVM #6065
Calibration Date/Time: 6/7/96
Page 1 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B3	2-4	silty topsoil	6/11/96	18:03				1.9
B3	4-6	clay						1.9
B3	7-9	clay						1.9
B3	9-11	sand						1.9
B3	12-14	sand, clay		18:19				1.9
B3	14-16	clay						1.9
B3	17-19	clay						1.9
B3	19-21	clay sand						1.9
B3	22-24	sand						1.9
B3	24-26	clay						1.9
B3	27-29	sandy gravel						1.9
B3	29-31	clay						1.9

Comments:

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____ PID Make/Model: _____
Location: _____ Sampler: _____ Calibration Date/Time: _____
Page 2/2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B3	32-34	clay	6/11/96					1.9
B3	34-36	clay						1.9
B3	37-39	clay						1.9
B3	39-41	clay						1.9
B3	42-44	clay						1.9
B3	44-46	clay						1.9
B3	46-48	clay						1.9
B3	49-51	clay		19:19				1.9

Comments:

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: Hattiesburg - KM
Boring No: B-4
Client:
Location:
Date: 6/12/96 start 9:15 end 10:40
Total Depth: 51'
Drill Method: 4 1/4" I.D. HSA w/SPT Sampling
Drilled by: Curtis Lee & Crew
10.0 feet

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
2				reddish gray (2.5YR 7/1) & red (2.5YR 6/8) clay Asphalt reddish yel (7.5YR 6/6) clay (Fill)	3
3					6
4				red yellow (7.5YR 6/8) & brown (7.5YR 5/4) silty clay	10
6					10
7				gray (10YR 7/1) silty clay	1
9				wet @ 8.5	2
				same to 10.5	2
				gray (same) sand & gravel at 10.5 - 11 (wet)	1
11			gravel		1
12				gray (same) & white (10YR 8/1) sand & gravel (wet)	2
					2
14			gravel		3
15	Sample			same to 15.25	
				gray (same) clay 15.25 - 16 (wet)	7
16					4
17				same	4
18				2" sand & gravel lens at 17.5 (wet)	3
				moist below sand lens	1
19				gray (same) clay to 19.5	1
				fn-md sand gray (10YR 7/1) (wet)	3
21					WH
					2
22				same to 23.75	3
				gray (same) clay to 24	4
24					WH
					3
					4
					3
					1
					1
					2
					2

Project: _____ Page 2 of 2

Client: _____ Boring No: B-4

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Materials Description	Standard Penetration (Blows per Foot) 0 20 40 60
26				lt. gray (some) clay	WR
				sandy clay at 25.5	WR
				(wet)	WR
27					WR
				sandy gray (some) clay to 27.25	WR
				lt. gray (some) & yel (10YR 7/8) mottled clay	1
				1/8" ironstone lens @ 28.5 (moist)	3
29					6
30				lt. gray (some) clay	4
				(moist)	4
31					7
					8
32					
33				lt. gray (some) clay to 33 (silty)	1
				vfn silty sand to 34	7
				(wet)	9
34					12
				lt. gray (some) clay (moist) silty to 35.5	3
				vfn silty sand 35.5 - 36 wet	5
36					7
					11
37					
				lt. gray (some) & dark yel brn (10YR 4/6) clay (mottled)	4
				(moist)	6
39					9
					12
				same	4
					8
					10
41					10
42					
				dark yel brn (10YR 4/6) & lt gray (10YR 7/1) clay (mottled)	4
					8
					11
44					13
45				same	4
					7
					9
46					11
47					
				same	3
48					5
					7
47					9
				lt gray (10YR 7/1) clay	3
					7
					9
51				TD @ 51	11

PHOTOI...IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name:
Location: Hattiesburg Miss

Job Number:
Sampler: R Oglesby

PID Make/Model: Model 580 B OVM #6085
Calibration Date/Time: 6/7/96
Page 2 / 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B4	32-34	clay sand	6/12/96					0.9
B4	34-36	clay	6/12/96					0.9
B4	37-39	sand clay	6/12/96					0.9
B4	39-41	clay	6/12/96					0.9
B4	42-44	clay	6/12/96					0.9
B4	44-46	clay	6/12/96					0.9
B4	47-49	clay	6/12/96					0.9
B4	49-51	clay	6/12/96	10:41				0.9

Comments:

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____
Location: Hattiesburg Miss Sampler: R. Oglesby

PID Make/Model: Model 580B OVM #6085
Calibration Date/Time: 6/7/96
Page 1 / 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B4	2-4	clay	6/12/96	9:15				0.9
B4	4-6	clay	6/12/96					0.9
B4	7-9	clay	6/12/96					0.9
B4	9-11	clay	6/12/96					0.9
B4	12-14	sandy gravel	6/12/96					0.9
B4	14-16	sandy gravel	6/12/96	10:10				0.9
B4	17-19	clay	6/12/96					0.9
B4	19-21	sand	6/12/96					0.9
B4	22-24	sand	6/12/96					0.9
B4	24-26	clay	6/12/96					0.9
B4	27-29	clay	6/12/96					0.9
B4	29-31	clay	6/12/96					0.9

Comments:

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: _____ Boring No: B-5

Client: _____ Location: _____

Date: 6/12/96 Start 3:30p end 5:25 Total Depth: _____

Drill Method: 4 1/4" I.D. HSA w/SPT Sampling Drilled by: Curtis Lee & Crew

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
				dark brown silt (10YR 3/3)	-
				vfn silty sand (10YR 8/6)	2
3					3
					4
				lt gray (10YR 7/1) vfn silty sand w/organics	6
					5
6					5
					6
7				same to 7.5	7
				lt gray (same) silty clay	2
					3
9					4
				lt gray (same) vfn sandy silt to 10.9'	5
					2
				gray brown yel (10YR 6/8) vfn sand & gravel (moist)	4
11					4
12					6
				lt gray (10YR 7/1) & brn yel (same) silty clay (mottled) (moist)	2
					3
					3
					4
14				same to 15.5	1
15				lt gray (same) vfn - fn sand (wet) 15.5-16	3
					7
					10
				lt gray (same) sandy clay to 18	2
17					3
18				lt gray & yel brown clay to 19 (moist)	4
					4
19					1
				same (wet)	3
					3
21					4
				same to 22.5 (wet)	WR
22				gray sandy clay to 23.5 (wet)	1
				gray vfn - md sand 23.5-24 (wet)	2
24					3

Project: _____ Page 2 of ___

Client: _____ Boring No: B-5

WL measured 6/13/94 - 12.0' BLS

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Materials Description	Standard Penetration (Blows per Foot) 0 20 40 60
				fn-md ltgray sand to 25 (wet)	WR
				ltgray (same) clay 25-26 (moist)	WH
26					2
27					3
				same to 28	2
				ltgray (same) ; brown 7.5YR5/4) mottled clay (silty)	5
29					5
					9
30				brown (same) silty clay w/ minor ltgray (same) mottling	11
					8
31					10
					12
32					7
33				same	8
					10
34					12
				same	7
36					10
					13
37					13
				same	10
					11
39					12
				same	13
					6
41					8
42					9
				ltgray (10YR7/1) clay (moist)	10
					8
44					10
45				ltgray (same) clay w/ brown (7.5YR5/4) mottling	10
					11
46					8
					10
48				ltgray (same) clay (moist)	11
					12
49				same	9
					11
51					12
					13
					10
					12
					13
					13

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

Background 0.9

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____
Location: Hattiesburg MISS Sampler: R Oglesby

PID Make/Model: Model 580B OVM #6085
Calibration Date/Time: 6/7/96
Page 1 of 2

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B5	2-4	sand	6/12/96	15:40				0.9
	4-6	sand	6/12/96					0.9
	7-9	sand, clay	6/12/96					0.9
	9-11	clay gravel	6/12/96	15:54				0.9
	12-14	clay	6/12/96					0.9
	14-16	clay sand	6/12/96					0.9
	17-19	clay	6/12/96					0.9
	19-21	clay	6/12/96					0.9
	22-24	clay, sand	6/12/96					0.9
	24-26	sand, clay	6/12/96					0.9
	27-29	clay	6/12/96					0.9
	29-31	clay	6/12/96					0.9

Comments:

815841

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

Background 0.9

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____
Location: Hattiesburg Sampler: R. Oglesby

PID Make/Model: Model 580B OVM # 6085
Calibration Date/Time: 6/7/96

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
BS	32-34	clay	6/12/96					0.9
	34-36	clay	6/12/96					0.9
	37-39	clay	6/12/96					0.9
	39-41	clay	6/12/96					0.9
	42-44	clay	6/12/96					0.9
	44-46	clay	6/12/96					0.9
	47-49	clay	6/12/96					0.9
	49-51	clay	6/12/96	17:26				0.9

Comments:

TECHNICAL DRILLING SERVICES, INC. - KNOXVILLE, ALABAMA - (205) 758-7454

Project: Hattiesburg - KM
Boring No: B-6
Client:
Location:
Date: 4/13/94
Total Depth:
Drill Method: 4 1/4" I.D. HSA w/SPT Sampling
Drilled by: Curtis Lee & Crew

No water level measured

Depth (Feet)	Sample Interval	Soil Type Symbol	Graphic Log	Description of Materials	Standard Penetration (Blows per Foot) 0 20 40 60
3				yel (10YR 7/6) silty clay	3
4				v dk gray brn (10YR 3/2) - and yellowish brn 10YR 5/6) silty clay (10YR 7/1) (10YR 3/1) gray & black wet clay @ 6	7 7 2 3 2 2
6					2
7				yel brn (10YR 5/8) & blk (10YR 2/1) clay to 7.5	1 1
9	sample			Black & gray (10YR 7/1) wet clay	6 7
				dk gray (10YR 4/1) ~~sandy~~ sand (wet)	1
11				do 10.5	1 5 4
12				lt gray clay (10YR 7/1) @ 10.5-11 (wet)	
				dk brn (same) med-crs sand (wet)	1
				lt gray (same) fn-med sand (wet)	1
14				dk brn (sandy) sand/gravel ltgry clay @ 14	1 2
15				lt gray clay to 16'	5
16					5 0
18					
19					
21					
24					

PHOTOI..IZATION DETECTOR

FIGURE 1
HEADSPACE MEASUREMENT RECORD

Background

HEADSPACE MEASUREMENT RECORD

Job Name: _____ Job Number: _____
Location: Hattiesburg Miss Sampler: Randy Oglesby

PID Make/Model: Model 580B own # 6085
Calibration Date/Time: 6/7/96
Page 1 11

Sample Number	Location/Depth	Sample Description	Date Sampled	Time Sampled	Time of HS Test	Elapsed Time	Ambient Temp.	PID Reading
B6	2-4	clay	6/13/96					0.9
	4-6	clay	6/13/96					0.9
	7-9	clay	6/13/96					0.9
	9-10	sand 72.3 ppm	6/13/96		8:37		87°F	29.0
	10-10.5	sand 82.7	6/13/96		8:37		87°F	15.1
	10.5-11.0	clay 18.8	6/13/96		8:40		87°F	5.6
	12-12.8	sand 82.7	6/13/96		8:43		87°F	5.6
	12.8-13.5	sand 4.7	6/13/96		8:44		87°F	3.7
	13.5-14.0	sand 73.3	6/13/96		8:45		87°F	11.2
	14.0-15.0	clay 1.8	6/13/96		8:45		87°F	0.9
	15.0-16.0	clay 1.8	6/13/96		8:46		87°F	0.9

Comments: