

FRUITLAND COAL COMPLETION DATA

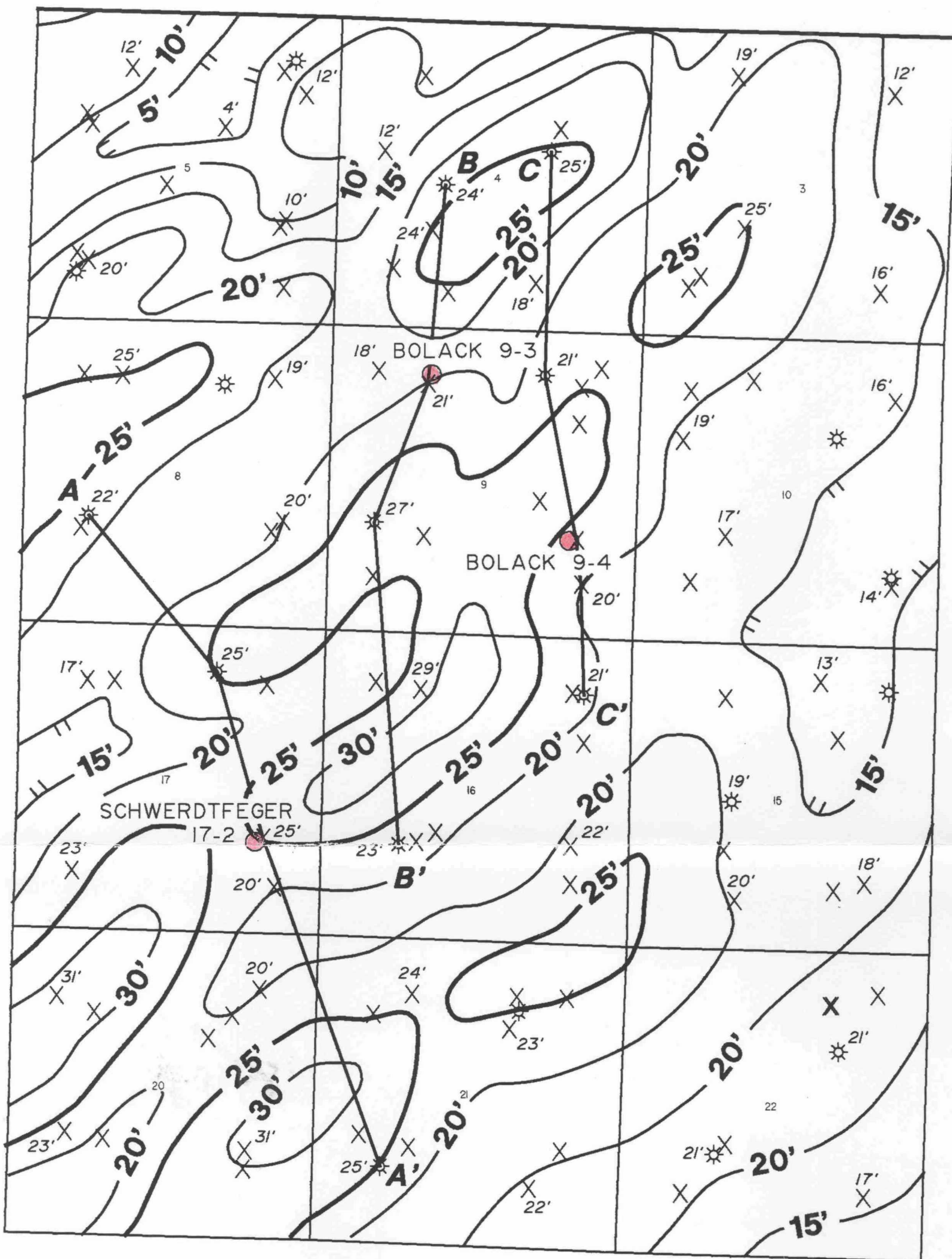
STANDARD PROCEDURE

1. DRILL AND CASE WELL THROUGH COAL
2. PERFORATE COAL
 - * - BOLACK No. 4-1 & SCHWERTFEGER No. 15C PERFORATED
IN SHALE STRINGERS BETWEEN COAL SEAMS ON INITIAL COMPLETION
3. BREAKDOWN PERFORATIONS USING 15% HCL
4. FRACTURE STIMULATE COAL

WELL	LOCATION	STIMULATION DATE	FRAC DESCRIPTION				POST FRAC RATE MCFD	CURRENT RATE MCFD	CUMULATIVE PRODUCTION MMCF
			FLUID TYPE	FLUID VOLUME	SAND VOLUME	MAXIMUM CONC.			
BOLACK No. 4-1 *	SW/4 SECTION 4	7/19/90	70 Q N2 FOAM	45,000 GAL	74,150#	4 PPG	TSTM	442	330
		8/15/90	70 Q N2 FOAM	75,000 GAL	85,000#	4 PPG	469		
BOLACK No. 4-2	NE/4 SECTION 4	1/14/93	70 Q N2 FOAM	55,000 GAL	155,000#	6 PPG	32	713	61
BOLACK No. 9-1	SW/4 SECTION 9	9/18/90	70 Q N2 FOAM	52,000 GAL	80,000#	4 PPG	66	34	69
		4/21/93	70 Q N2 FOAM	73,000 GAL	150,000 #	6 PPG	37		
BOLACK No. 9-2	NE/4 SECTION 9	9/21/90	70 Q N2 FOAM	55,000 GAL	80,000#	4 PPG	170	57	41
BOLACK No. 15-1	SW/4 SECTION 15	10/13/90	70 Q N2 FOAM	50,000 GAL	75,500#	4 PPG	461	528	445
BOLACK No. 16-2	NE/4 SECTION 16	10/13/90	70 Q N2 FOAM	50,000 GAL	80,000#	4 PPG	271	542	420
BOLACK No. 21-2	NE/4 SECTION 21	10/19/90	70 Q N2 FOAM	52,000 GAL	80,000#	4 PPG	TSTM	141	15
		11/13/90	70 Q N2 FOAM	112,000 GAL	90,000#	4 PPG	TSTM		
SCHWERTFEGER No. 5-1	NE/4 SECTION 5	9/25/90	70 Q N2 FOAM	45,000 GAL	66,100#	4 PPG	132	444	354
SCHWERTFEGER No. 8-1	NE/4 SECTION 8	10/2/90	70 Q N2 FOAM	55,000 GAL	82,800#	4 PPG	287	557	419
SCHWERTFEGER No. 8-2	SW/4 SECTION 8	1/19/93	70 Q N2 FOAM	55,000 GAL	150,000#	6 PPG	303	359	42
SCHWERTFEGER No. 15C *	SW/4 SECTION 16	9/8/89	70 Q N2 FOAM	20,000 GAL	30,100#	4 PPG	65	229	200
		4/21/93	70 Q N2 FOAM	65,000 GAL	150,000#	6 PPG	350		
SCHWERTFEGER No. 17-1	NE/4 SECTION 17	10/5/90	70 Q N2 FOAM	55,000 GAL	84,000#	4 PPG	TSTM	SI	0
		11/17/90	70 Q N2 FOAM	101,600 GAL	52,000#	3 PPG	15		
SCHWERTFEGER No. 21-1	SW/4 SECTION 21	10/10/90	70 Q N2 FOAM	55,000 GAL	80,000#	4 PPG	108	467	222

Before the
OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Marathon Oil Company
Exhibit No. 4 Case No. 1078-82
Hearing Date: July 29, 1993

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N

- ✱ FRUITLAND COAL PRODUCER
- X FRUITLAND COAL PENETRATION
- PROPOSED DRILLSITE

Before the
OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 10780 Exhibit No. 5
thru 82
Submitted by: Marathon Oil Company
Hearing Date: July 29, 1993

MARATHON OIL COMPANY	MID-CONTINENT REGION
KUTZ CANYON AREA SAN JUAN COUNTY, NEW MEXICO ISOPACH MAP GROSS FRUITLAND COAL C.I.: 5'	
ORIGINAL SCALE: 1"=2000'	DATE: 7/93
AUTHOR: J.CHAPMAN	REVISED:
DRAFTED BY: SB	PROJECT:
FILE LOC.: KUTZCAH.BMP EXPL	

B

PROPOSED
MARATHON
BOLACK #9-3

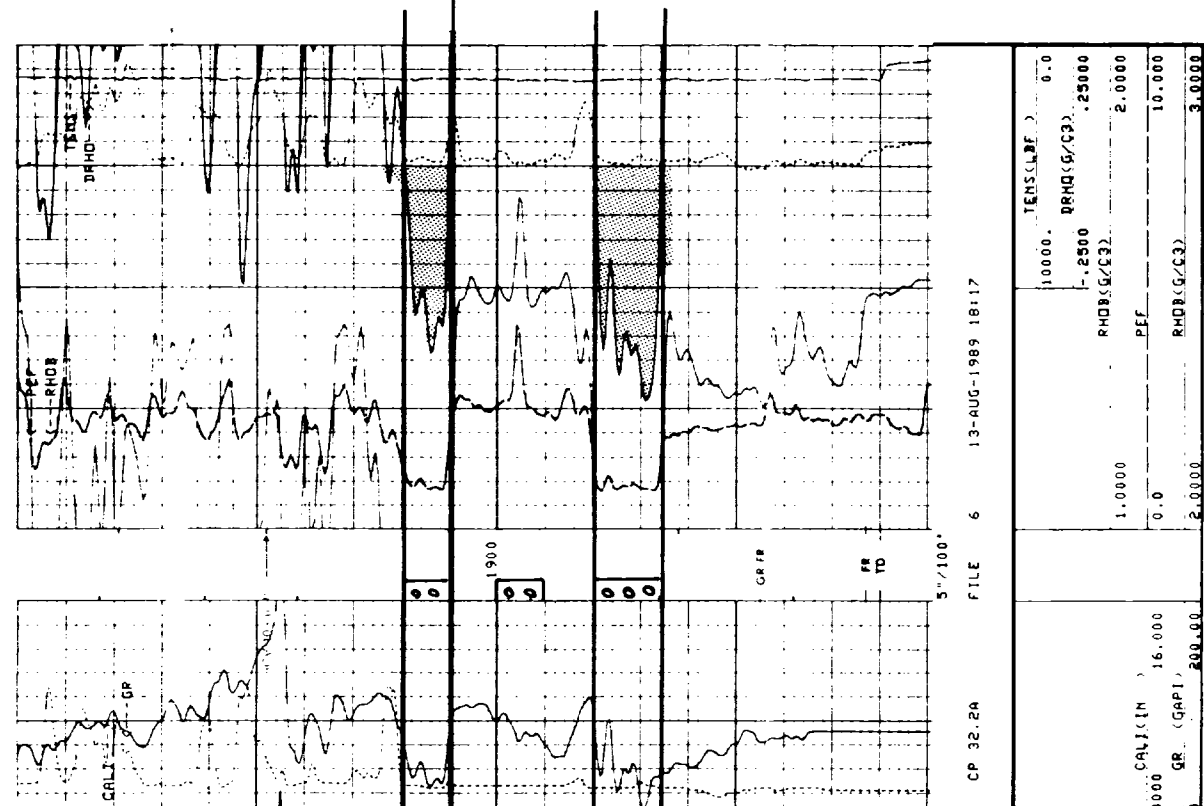
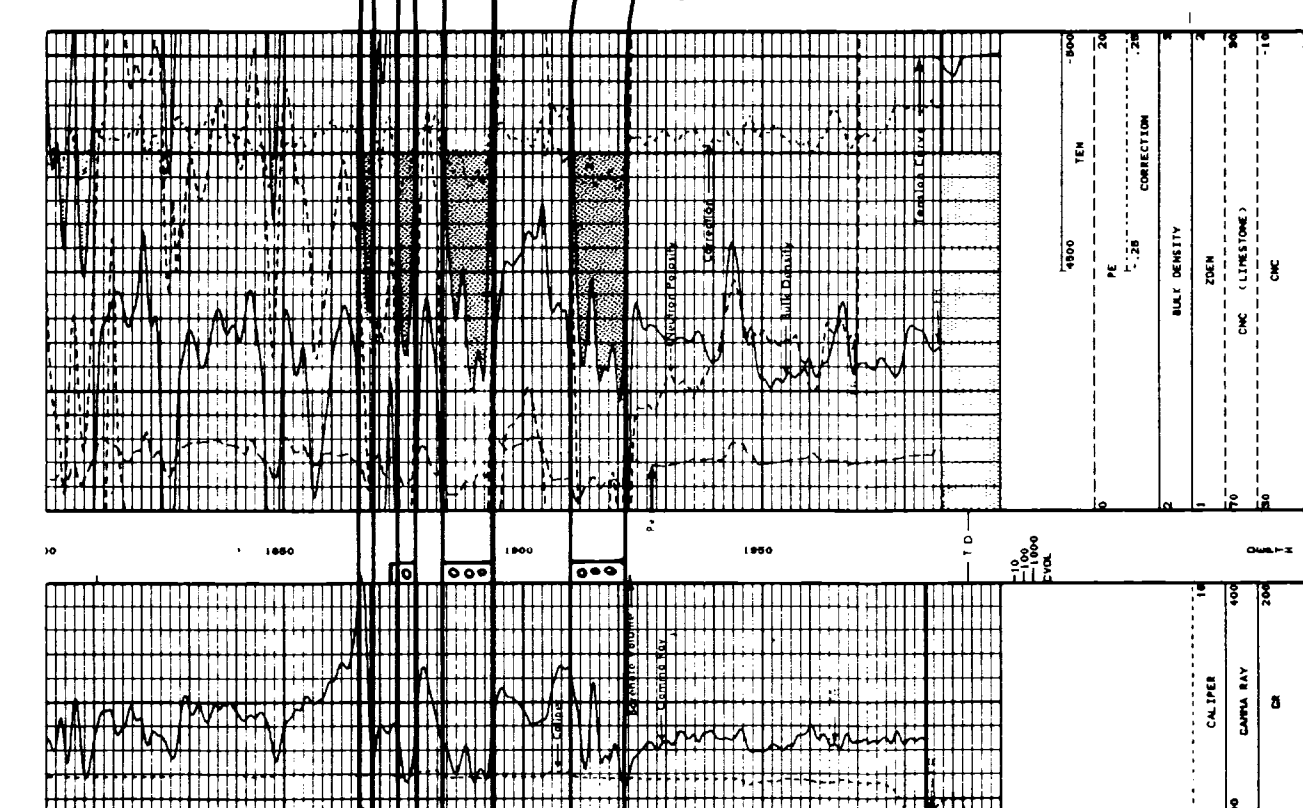
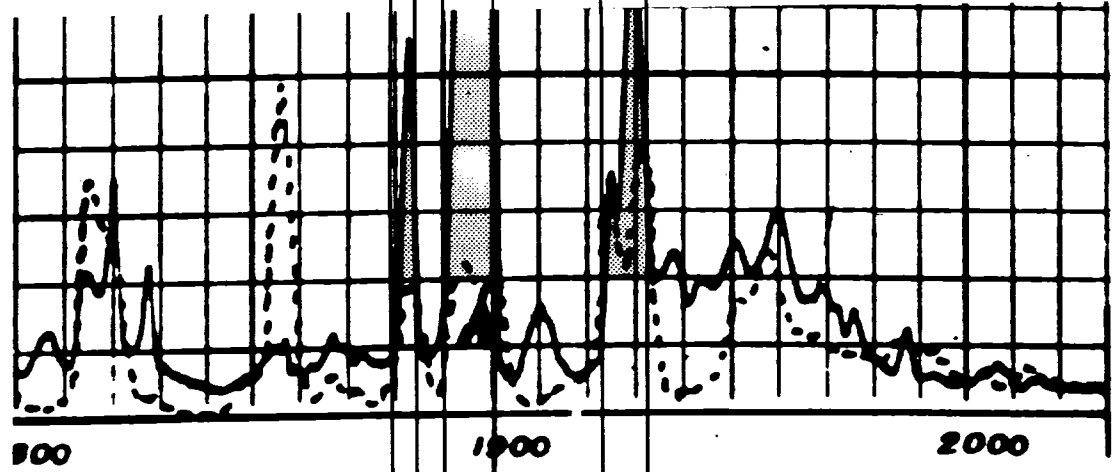
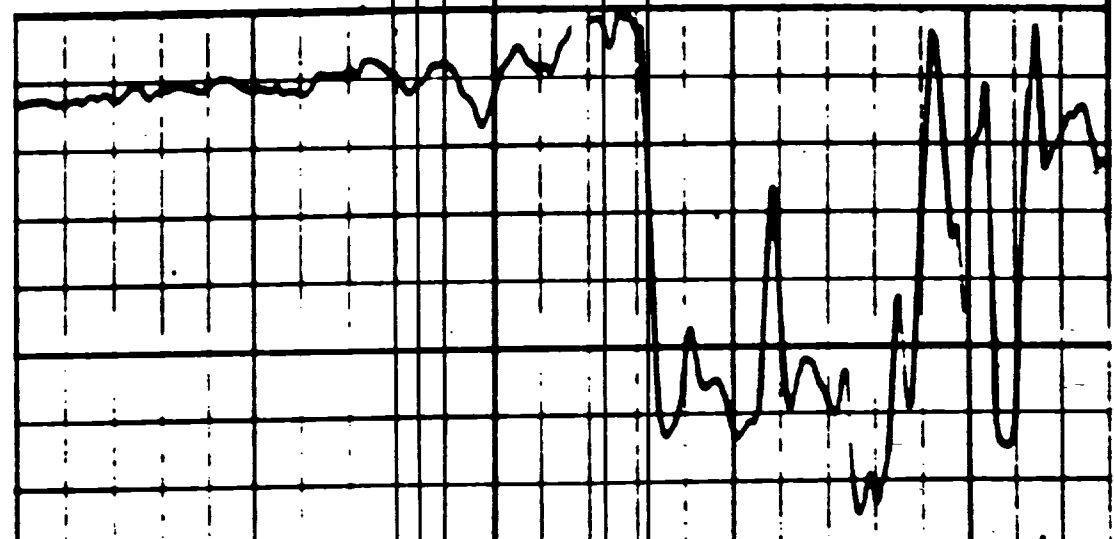
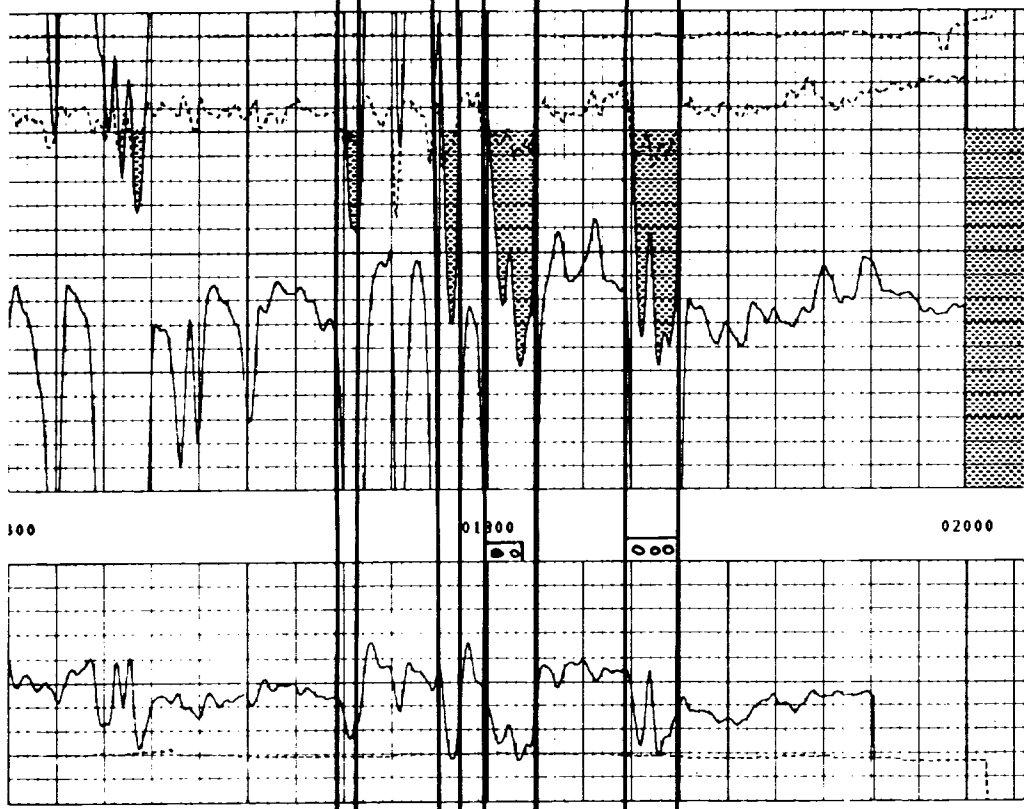
MARATHON
BOLACK #4-1

FRONTIER
BOLACK #6

MARATHON
BOLACK #9-1

MARATHON
SCHWERTFEGER #15-6

B'



IP 469 MCFD
1ST PROD. 12/90
AS OF 3/93
DAILY RATE 442 MCFD
CUMULATIVE 330 MMCF

Before the
OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Case No. 1070 Exhibit No. 2
Submitted by: Marathon Oil Company
Hearing Date: Aug 29, 1993

IP 66 MCFD
1ST PROD. 1/91
AS OF 3/93
DAILY RATE 34 MCFD
CUMULATIVE 69 MMCF

IP 65 MCFD
1ST PROD. 2/90
AS OF 3/93
DAILY RATE 229 MCFD
CUMULATIVE 200 MMCF

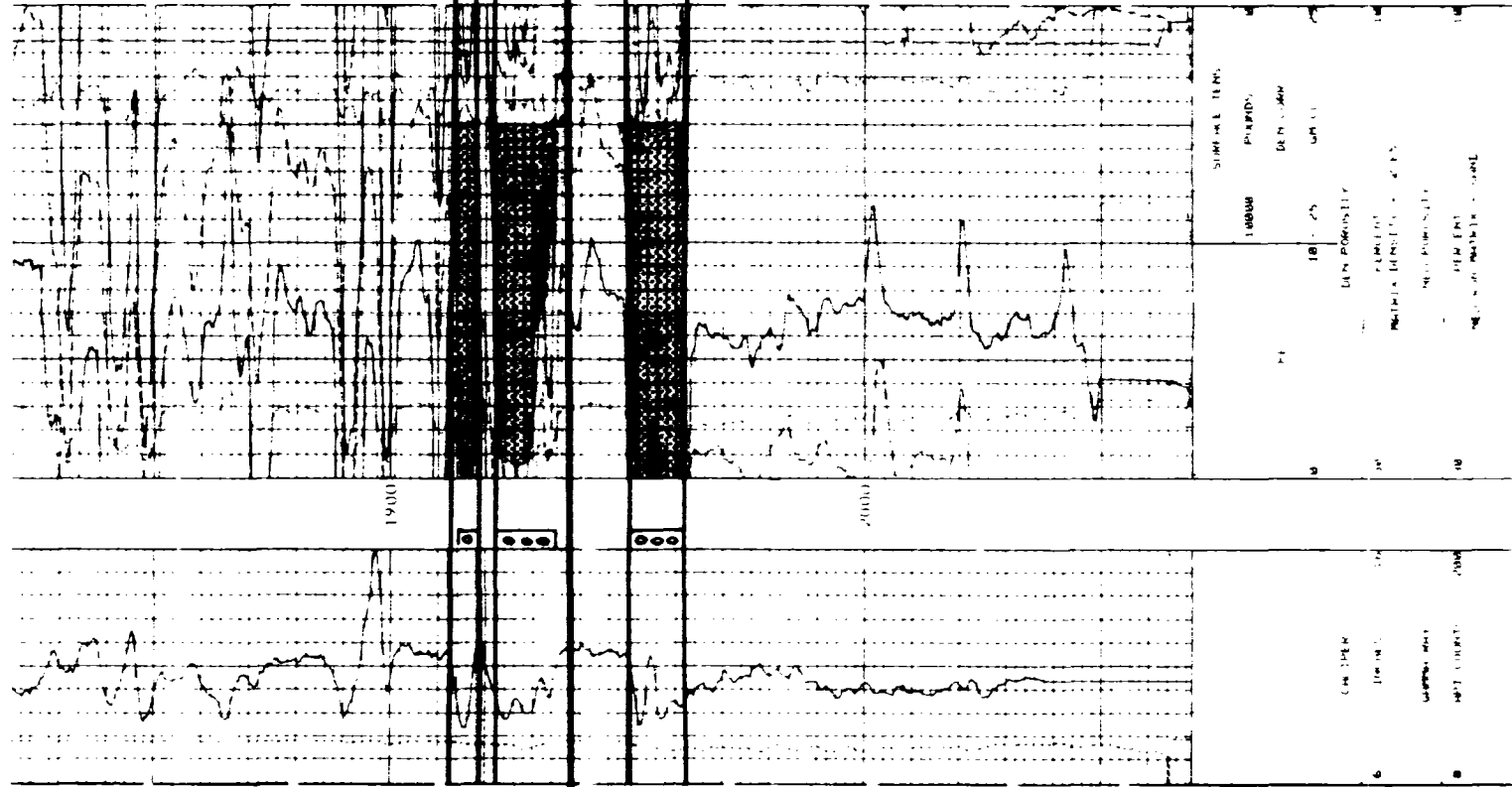


MARATHON OIL COMPANY
MID-CONTINENT REGION

STRATIGRAPHIC
CROSS SECTION
B - B'
FRUITLAND COAL

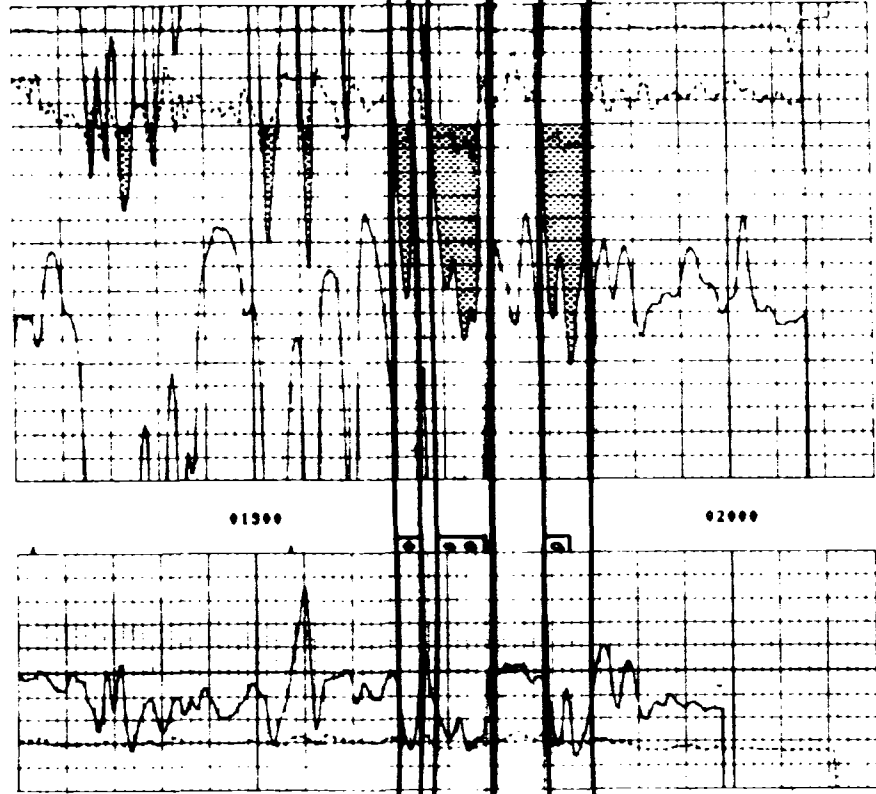
C

MARATHON
BOLACK #4-2



IP 34 MCFD
1st. PROD. 4.93
AS OF 6.93
DAILY RATE 713 MCFD
CUMULATIVE 41 MMCF

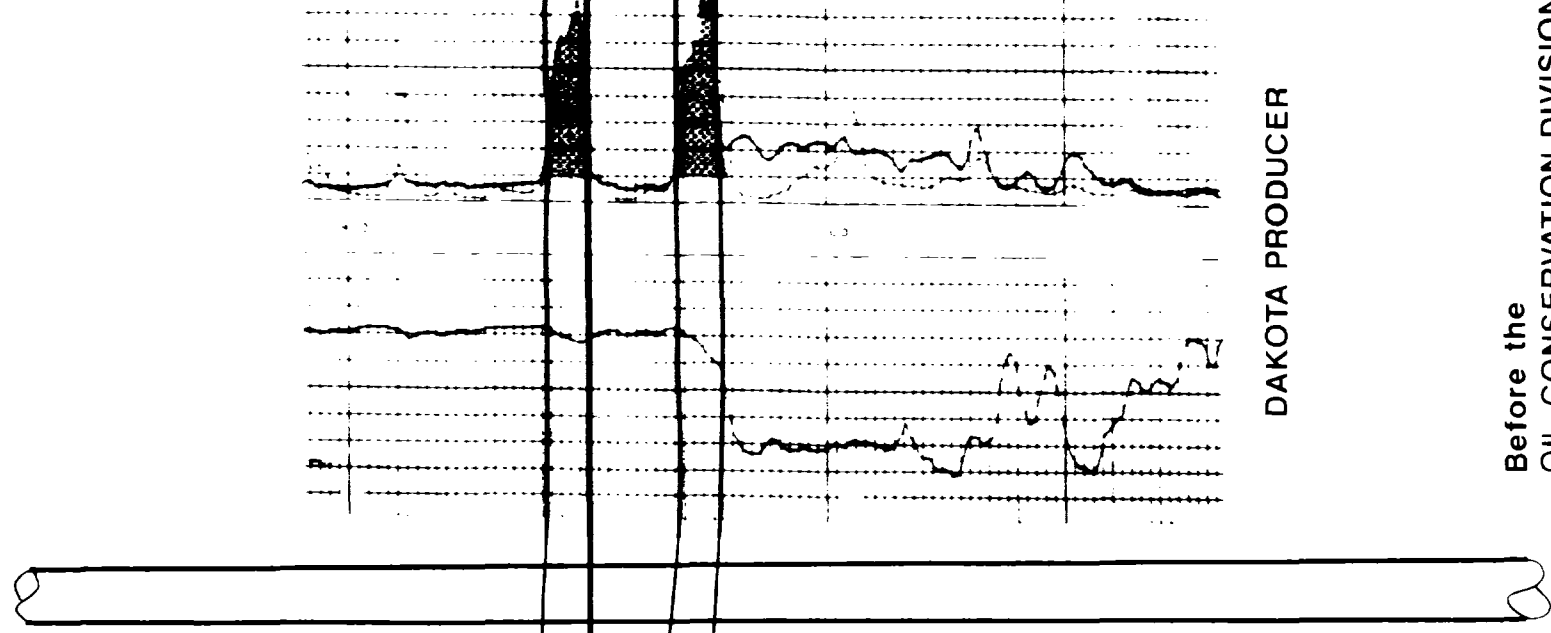
MARATHON
BOLACK #9-2



IP 170 MCFD
1st. PROD. 1/91
AS OF 3/93
DAILY RATE 57 MCFD
CUMULATIVE 41 MMCF

MARATHON
BOLACK #9-4

FRONTIER #1-B

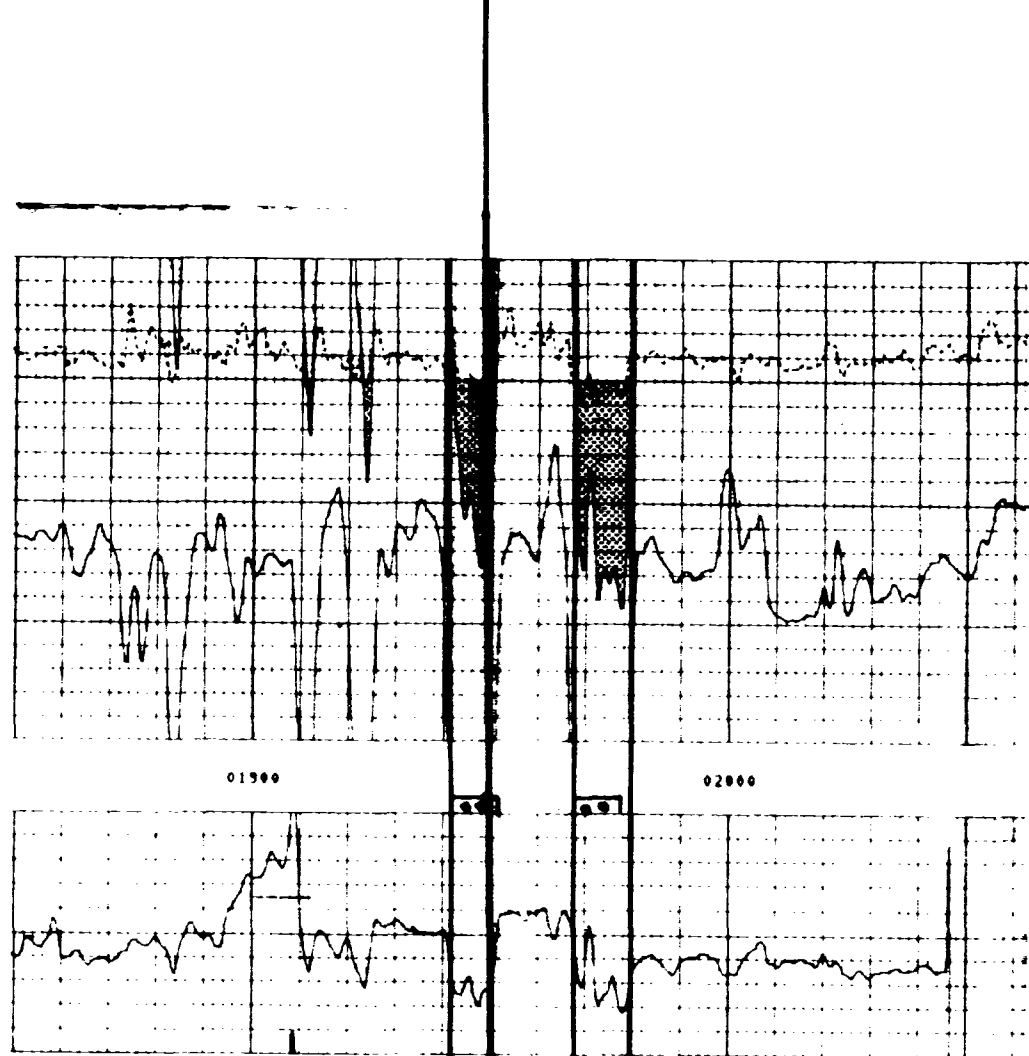


DAKOTA PRODUCER

IP 271 MCFD
1st. PROD. 1/91
AS OF 3/93
DAILY RATE 542 MCFD
CUMULATIVE 420 MMCF

Before the
OIL CONSERVATION DIVISION
Santa Fe New Mexico
Case No. 1072 Exhibit No. 8
Submitted by: Marathon Oil Company
Hearing Date: 2/27/93

MARATHON
BOLACK #16-2



FRUITLAND
COALS

PICTURED CLIFFS
SANDSTONE



STRATIGRAPHIC
CROSS SECTION
C - C'
FRUITLAND COAL