

# FRUITLAND COAL COMPLETION DATA

## STANDARD PROCEDURE

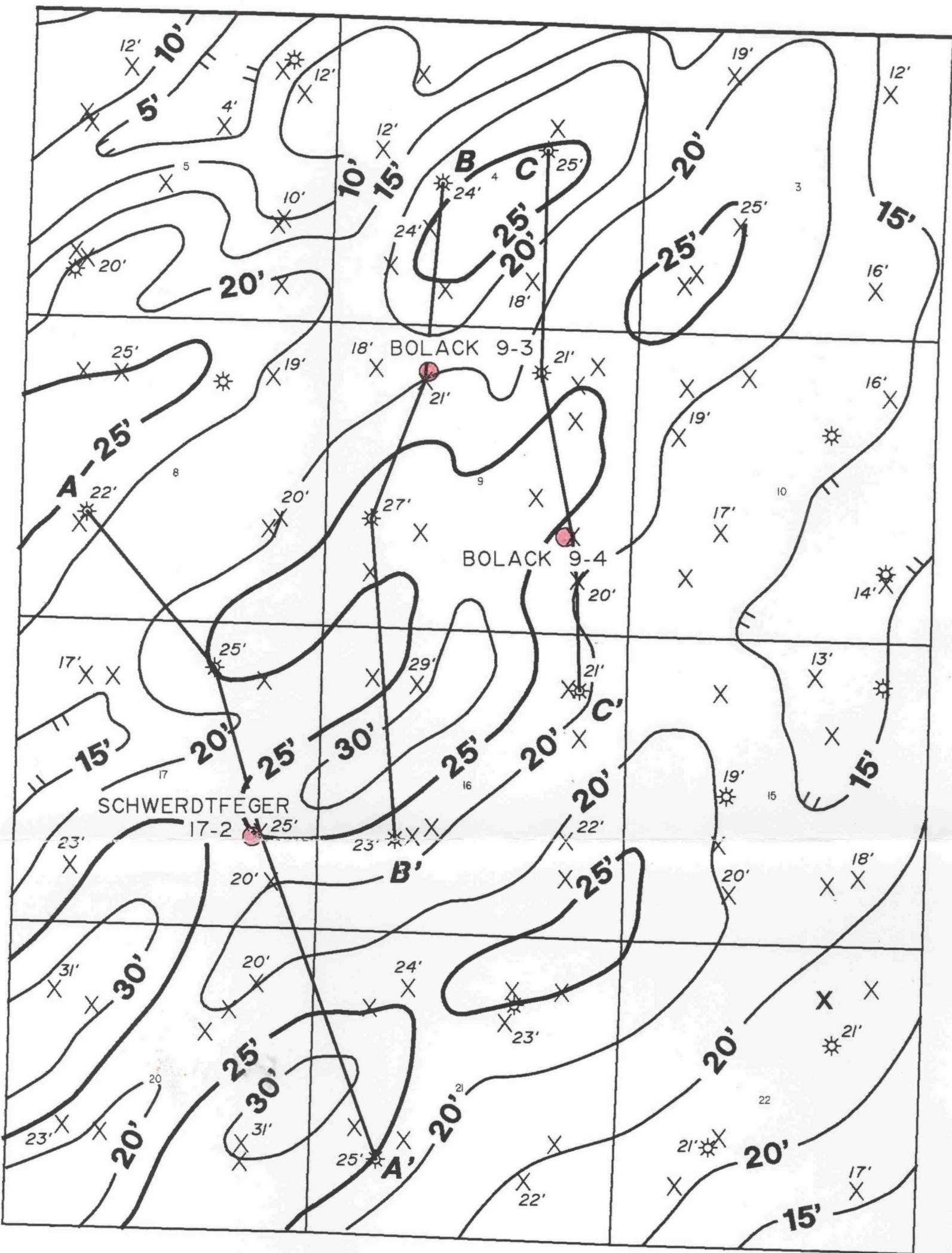
1. DRILL AND CASE WELL THROUGH COAL
2. PERFORATE COAL
  - \* - BOLACK No. 4-1 & SCHWERTFEGER No. 15C PERFORATED  
IN SHALE STRINGERS BETWEEN COAL SEAMS ON INITIAL COMPLETION
3. BREAKDOWN PERFORATIONS USING 15% HCL
4. FRACTURE STIMULATE COAL

| WELL                   | LOCATION           | STIMULATION<br>DATE | FRAC DESCRIPTION |                 |                |                  | POST FRAC<br>RATE<br>MCFD | CURRENT<br>RATE<br>MCFD | CUMULATIVE<br>PRODUCTION<br>MMCF |
|------------------------|--------------------|---------------------|------------------|-----------------|----------------|------------------|---------------------------|-------------------------|----------------------------------|
|                        |                    |                     | FLUID<br>TYPE    | FLUID<br>VOLUME | SAND<br>VOLUME | MAXIMUM<br>CONC. |                           |                         |                                  |
| BOLACK No. 4-1 *       | SW/4<br>SECTION 4  | 7/19/90             | 70 Q N2 FOAM     | 45,000 GAL      | 74,150#        | 4PPG             | TSTM                      | 442                     | 330                              |
|                        |                    | 8/15/90             | 70 Q N2 FOAM     | 75,000 GAL      | 85,000#        | 4 PPG            | 469                       |                         |                                  |
| BOLACK No. 4-2         | NE/4<br>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<br>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<br>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<br>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<br>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<br>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<br>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<br>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<br>SECTION 8  | 1/19/93             | 70 Q N2 FOAM     | 55,000 GAL      | 150,000#       | 6 PPG            | 303                       | 359                     | 42                               |
| SCHWERTFEGER No. 15C * | SW/4<br>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     | 85,000 GAL      | 150,000#       | 6 PPG            | 350                       |                         |                                  |
| SCHWERTFEGER No. 17-1  | NE/4<br>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<br>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. 10780-82  
Hearing Date: July 29, 1993

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- \* FRUITLAND COAL PRODUCER
- X FRUITLAND COAL PENETRATION
- PROPOSED DRILLSITE

Before the  
OIL CONSERVATION DIVISION  
Santa Fe, New Mexico

Case No. 10780 Exhibit No. 5

Submitted by: Marathon Oil Company

Hearing Date: July 29, 1993

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