

**DISTRICT I**

P.O. Box 1980, Hobbs, NM 88241-1980

**DISTRICT II**

P.O. Drawer DD, Artesia, NM 88211-0719

**DISTRICT III**

1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico  
Energy, Minerals and Natural Resources Department

**OIL CONSERVATION DIVISION**

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Form C-107  
Revised 4-1-91

Filing Instructions  
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**APPLICATION FOR MULTIPLE COMPLETION**

|                                                                                                                                                  |                                                                                              |                                                  |                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Operator</b>                                                                                                                                  |                                                                                              | <b>Address</b>                                   |                                                                                             |
| BONNEVILLE FUELS CORPORATION                                                                                                                     |                                                                                              | 1660 Lincoln: Suite 2200; Denver, Colorado 80264 |                                                                                             |
| <b>Lease</b>                                                                                                                                     | <b>Well No.</b>                                                                              | <b>Unit Ltr. - Sec - Twp - Rge</b>               | <b>County</b>                                                                               |
| Lake Shore Fed. S.C. 10-#2                                                                                                                       | Unit I                                                                                       | Section 10, T.21S., R.26E.,                      | Eddy County, New Mexico                                                                     |
| All applicants for multiple completion must complete Items 1 and 2 below.                                                                        |                                                                                              |                                                  |                                                                                             |
| <b>1. The following facts are submitted:</b>                                                                                                     | <b>Upper Zone</b>                                                                            | <b>Intermediate Zone</b>                         | <b>Lower Zone</b>                                                                           |
| a. Name of Pool and Formation                                                                                                                    | Burton Flat: STRAWN                                                                          |                                                  | Avalon: Morrow                                                                              |
| b. Top and Bottom of Pay Section (Perforations)                                                                                                  | EXISTING:<br>9724' to 9952': OA                                                              |                                                  | Existing:<br>10,743' to 10,848':<br>Over all                                                |
| c. Type of production (Oil or Gas)                                                                                                               | GAS                                                                                          |                                                  | GAS                                                                                         |
| d. Method of Production (Flowing or Artificial Lift)                                                                                             | FLOWING                                                                                      |                                                  | FLOWING                                                                                     |
| e. Daily Production<br><input checked="" type="checkbox"/> Actual :<br><input type="checkbox"/> Estimated<br>Oil Bbls.<br>Gas MCF<br>Water Bbls. | ACTUAL STRAWN:<br>1400 MCFD w/<br>13 STBOD<br>From Annulus Production:<br>1/11/99 to 2/11/99 |                                                  | Actual Morrow:<br>1585 MCFD with<br>12 STBOD<br>From tubing Production<br>2/21/99 to 3/8/99 |

2. The following must be attached:
- Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizer and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
  - Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
  - Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

**OPERATOR:**

I hereby certify above information is true and complete to best of my knowledge, and belief.

Signature

R. A. SCHWERTING, P.E.

Printed Name &amp; Title Operations Manager: SE NM

Date 3/12/99 Telephone (303) 376-2564

**OIL CONSERVATION DIVISION**

Approved by:

Title:

Date: 3-25-99

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

**FILING INSTRUCTIONS:**

- District Approval -- See rule 112-A-B -- Submit 4 copies of Form C-107 with attachments to appropriate district office.
- Division Director Administrative Approval -- See Rule 112-C -- Submit 2 copies of Form C-107 with attachments to Division office in Santa Fe and 2 copies of Form C-107 with attachments to appropriate district office.
- Multiple completions not qualifying for District or Division Director approval may be set for hearing as outlined in Rule 112-A-E.

Cement to surface w/  
1,050 ex. Cement

13 3/4" Surf. Casing  
@ 471'

EXHIBIT #1

Cement to surface w/ 1,200 sq. Cement

8 $\frac{5}{8}$ " Intermediate Casing  
@ 2,276'

2 Gas Production w/ Oil & Water  
5 From Strawn Fm. Up  
Tubing/Casing Annulus  
(Green)

Gas Production w/ Oil & Water  
From Morrow 'B' Fm. Up Tubing  
(Yellow)

Bradenhead Squeeze  
w/ 830 sk. Cement  
S Squeeze to 1,500 #  
Base of Cement @  
4430' (Temp. Survey)

← B.O.C.: Brackenhed Sproze @ 4,430.  
Void in Coverage @ 4,430' - 4,990'.

← T.O.C.: 2nd Stage @ 4,990'

5,000'

Cement 2nd Stage  
w/ 1,180 sq. Cement →  
w/ Last Circulation  
T.O.C. @ 4,990' (CBL)

5 2 7/8" G. 5# N-80 8rd. EUE Tubing  
Bottom at Tubing @ 10,443'

D.V. Tool @ 7,700' - 7,702'.

8,000'

Cement 1st Stg. to  
D.V. Tool w/:  
585 sx. Super'H' cement

5 1/2" 20# L-80 LTSC Casings

Tubing Detail: See Attached Diagram

Strawn Fr. Pnts.  
9,725' - 9,952' OA  
10,000'

Guiberson UNI-VI 10k

Packer @ 10,427' - 10,436': Isolates Straw & Nematode

Morrow 'B' Pents  
10,743' - 10,843' 10A

11,000' Morrow 'C' Pents  
10,924' - 10,942' 10A  
WET

- CIBA @ 10,910' w/ 3x. cement on top  
(Isolates Wet Morrow's Zone)

-CIBP@10,980'

- F<sub>11</sub> @ 10,985'

Float Collar @ 11,25'  
Float Shoe @ 11,342'

5 1/2" Casing @ 11,344' →



Dresser Oil Tools

DRESSER

## PACKER INSTALLATION PLAN

| PREPARED FOR                                                                                                                         |          | COMPANY              |          | DATE                                                                                                        |       |       |
|--------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------|----------|-------------------------------------------------------------------------------------------------------------|-------|-------|
| BILL HANSEN                                                                                                                          |          | BONNEVILLE FUELS     |          | FEB. 10, 1999                                                                                               |       |       |
| WELL NAME                                                                                                                            |          | LOCATION             |          | TYPE OF INSTALLATION                                                                                        |       |       |
| LAKE SHORE F.C.D.S.C. 10 #2                                                                                                          |          | EDDY CO., NEW MEXICO |          | NEW COMPLETION                                                                                              |       |       |
| INSTALLATION                                                                                                                         | LOGH     | FROM                 | TO       | DESCRIPTION                                                                                                 | DR.   | LR.   |
|                                                                                                                                      | 10.00    | -0-                  | 10.00    | K.B.                                                                                                        | 2.875 | 2.441 |
|                                                                                                                                      | 31.50    | 10.00                | 41.50    | 1 - JOINT 2 7/8" N-80 TBG.                                                                                  | 2.875 | 2.441 |
|                                                                                                                                      | 5.93     | 41.50                | 47.43    | 2 7/8" X 6' N-80 SUB.                                                                                       | 2.875 | 2.441 |
|                                                                                                                                      | 3.97     | 47.73                | 51.40    | 2 7/8" X 4' N-80 SUB.                                                                                       | 2.875 | 2.441 |
|                                                                                                                                      | 6.13     | 51.40                | 57.53    | 2 7/8" X 6' N-80 SUB.                                                                                       | 2.875 | 2.441 |
|                                                                                                                                      | 10.00    | 57.53                | 67.53    | 2 7/8" X 10' N-80 SUB.                                                                                      | 2.875 | 2.441 |
|                                                                                                                                      | 10290.56 | 67.53                | 10358.09 | 327 JOINTS 2 7/8" N 80 TUBING.                                                                              | 2.875 | 2.441 |
|                                                                                                                                      | 1.10     | 10358.09             | 10359.19 | 2 7/8" SEATING NIPPLE WITH 2.28" I.D.                                                                       | 2.875 | 2.280 |
|                                                                                                                                      | 31.60    | 10359.19             | 10390.79 | 1 - JOINT 2 7/8" N-80 TUBING.                                                                               | 2.875 | 2.441 |
|                                                                                                                                      | 2.85     | 10390.79             | 10393.64 | 2 7/8" X 2 3/8" "GL" SLIDING <del>W/1.875" "F" PROFILE</del> (CLOSED POSITION),                             | 3.668 | 2.250 |
|                                                                                                                                      | 31.50    | 10393.64             | 10425.14 | 1 - JOINT 2 7/8" N-80 TBG.                                                                                  | 2.875 | 2.441 |
|                                                                                                                                      | .41      | 10425.11             | 10425.55 | 2 7/8" X 2 3/8" CROSS-OVER                                                                                  | 3.750 | 1.938 |
|                                                                                                                                      | 1.97     | 10425.55             | 10427.52 | 5 1/2" X 2 3/8" "XL" ON/OFF TOOL W/1.875" "F" PROFILE.                                                      | 4.375 | 1.875 |
|                                                                                                                                      | 8.25     | 10427.52             | 10435.77 | <del>2 3/8" 17-200 W/L</del> <del>1.875" "R" PROFILE</del> <del>W/1.822" NO-GO.</del> <del>Production</del> | 4.625 | 1.938 |
|                                                                                                                                      | 6.14     | 10435.77             | 10441.91 | 6' X 2 3/8" N-80 SUB.                                                                                       | 2.875 | 1.995 |
|                                                                                                                                      | .86      | 10441.91             | 10442.77 | 1.875" "R" PROFILE NIPPLE W/1.822 NO-GO.                                                                    | 3.063 | 1.822 |
|                                                                                                                                      | .41      | 10442.77             | 10443.18 | 2 3/8" RE-ENTRY GUIDE.                                                                                      | 3.063 | 2.548 |
| <p>GENERAL REMARKS:</p> <p>PACKER HUNG IN 15,000# COMPRESSION.</p> <p>PACKER CENTER RUBBER @ 10,430'.</p> <p>RIGHT HAND RELEASE.</p> |          |                      |          |                                                                                                             |       |       |
| WITS REPRESENTATIVE                                                                                                                  |          | SERVICE CENTER       |          | TELEPHONE NUMBER                                                                                            |       |       |
| BILL PIERCE                                                                                                                          |          | HOBBS, NEW MEXICO    |          | (505) 392-5583                                                                                              |       |       |

PBDc  
10,885'

## CASING AND CEMENTING REPORT

|      |                            |         |         |      |        |
|------|----------------------------|---------|---------|------|--------|
| WELL | Lake Shore Fed. S.C. 10-#2 | AFE NO. | DF 0245 | DATE | 3/6/98 |
|------|----------------------------|---------|---------|------|--------|

CLASSING STRING: COND/SURF/P1/P2/P3/P4/PROD (CIRCLE ONE)

HO: 11,344' TVD 11,344' BIT SIZE 7 7/8" OPEN HOLE VOLUME 3,904.44 FT<sup>3</sup>

MUD PROPERTIES: TYPE MUD KCl-A, non-Gel MW 9.25 PV/YP 15/12

API W.L. 5.8, HTHP @ 180°F: 16 cc, LB/BBL LIGNOSULFONATE No

APL W.L. 0 ; HALL E 10073  
 IHLT: 160 °F TIME SINCE CIRCULATING 6 HRS BHST: 180 °F

MUD FLOWLINE TEMP: 110 °F MUD SUCTION TEMP: 60 °F SURFACE TEMP: 40 °F

MOD FLOWLINE TEST. 1957  
OLE PROBLEMS ENCOUNTERED WHILE DRILLING HIGH GAS, LOST CIRC, TIGHT HOLE, OTHER

FULL STRING/LINER

CASING DESCRIPTION (BOTTOM TO TOP)

[illegible]
$$\begin{array}{r} 11,355.\overset{69}{\underline{\phantom{00}}} \\ - \quad 26.\overset{30}{\underline{\phantom{00}}} \\ \hline 11,329.\overset{39}{\underline{\phantom{00}}} \\ + \quad 14.\overset{61}{\underline{\phantom{00}}} \\ \hline 11,344 \end{array}$$

TOTAL PIPE RUN IN HOLE

LESS CUTOFF PIPE

TOTAL PIPE TALLY LEFT IN HOLE API: API Modified Cope

RKB TO CUTOFF

TOTAL SETTING DEPTH

TL: Thread-Locked  
w/ Tube-Lok

AP1: AP1 Mediated Dope

\*\* Marker Jts. (20') are N'80

LINER HANGER COMPANY (MWL, TIW, BOT, OTIS, OTHER, NONE) SUCESS (Y/N)

CENTRALIZERS: MANUFACTURER Gemoco / Howes TYPE 12-Turbolizer NUMBER RUN X  
64-Centralizer

PLACEMENT (DEPTHS): Centralizers: 11,300; 11,214; 11,135; 11,051; 11,012; 10,928; 10,868; 10,785;  
10,747; 10,667; 10,625; 10,562; 10,442; 10,321; 10,197; 10,113; 10,031; 9,948; 9,823; 9,740; 9,639;  
9,516; 9,433; 9,373; 9,353; 9,331; 9,207; 9,002; 8,840; 8,675; 8,633; 8,591; 8,551; 8,515; 8,435;  
8,352; 8,192; 7,986; 7,780; 7,741; 7,615; 7,658; 7,574; 7,455; 7,207; 6,961; 6,718; 6,437; 6,148; 6,064;  
5,812; 5,533; 5,412; 5,242; 4,866; 4,623; 4,378; 4,100; 3,822; 3,578; 3,137; 2,895; 2,651; 2,446; 2,281.  
Wobblers: 11,330; 10,970; 10,826; 9,968; 9,781; 9,557; 9,473; 8,646; 7,690; 4,270; 3,420; 3,295.

\* ATTACH PIPE TALLY

| ATTACH PIPE TALLY |               |            |                                  |
|-------------------|---------------|------------|----------------------------------|
| Marker Jt's:      | Morrow 'C'    | 11,907.20' | to 11,928.49' : N-80 ** : 21.29' |
|                   | Morrow 'A'    | 10,561.96' | to 10,561.96' : N-80 ** : 20.98' |
|                   | Strawen       | 9,679.08'  | to 9,699.26' : N-80 ** : 20.82'  |
|                   | Cisco         | 9,330.85'  | to 9,351.17' : N-80 ** : 20.32'  |
|                   | Wolfcamp      | 8,515.23'  | to 8,550.52' : L-80 : 35.29'     |
|                   | Brushy Canyon | 4,100.26'  | to 4,134.61' : L-80 : 34.35'     |
|                   | Cherry Canyon | 3,215.39'  | to 3,253.29' : L-80 : 37.90'     |
|                   | Cherry Canyon | 3,136.79'  | to 3,174.39' : L-80 : 37.62'     |
|                   | Cherry Canyon | 2,892.17'  | to 2,931.57' : L-80 : 36.44'     |

FRM2

T.O. 11,344'

5 1/2" 20# L-80 CTS C<sub>av</sub>,  
Frac String

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| Torque     |    | Frac String |         | Torque  |     | Frac String |    |
|------------|----|-------------|---------|---------|-----|-------------|----|
| Mount shoe | 1  | 31          | 6700 TL | 17.0    | 49  | 39          | 76 |
|            | 1  | 42          | 6700 TL |         | 50  | 41          | 81 |
|            | 2  | 42          | 6000 TL | Marker  | 51  | 20          | 28 |
|            | 3  | 42          | 6000 TL |         | 52  | 42          | 01 |
|            | 4  | 37          | 5000 TL | IT.O.   | 53  | 41          | 95 |
|            | 5  | 41          | 4000    |         | 54  | 39          | 17 |
|            | 6  | 41          | 4200    |         | 55  | 39          | 80 |
|            | 7  | 41          | 4200    |         | 56  | 39          | 81 |
|            | 8  | 39          | 4200    |         | 57  | 41          | 91 |
|            | 9  | 41          | 4200    |         | 58  | 41          | 94 |
|            | 10 | 373         | 11,970  | 2,341   | 59  | 41          | 78 |
|            | 11 | 41          | 4200    |         | 60  | 38          | 26 |
| Marker     | 12 | 21          | 4200    |         | 61  | 41          | 76 |
| Core 5 min | 13 | 38          | 4200    |         | 62  | 41          | 17 |
|            | 14 | 41          | 4200    |         | 63  | 41          | 88 |
|            | 15 | 41          | 4200    |         | 64  | 40          | 09 |
|            | 16 | 38          | 4200    |         | 65  | 41          | 78 |
|            | 17 | 42          | 4200    |         | 66  | 39          | 85 |
|            | 18 | 42          | 4200    |         | 67  | 41          | 66 |
|            | 19 | 42          | 4200    |         | 68  | 41          | 39 |
| Hot 9/6    | 20 | 387         | 10,582  | 2,752   | 69  | 42          | 87 |
| Marker     | 21 | 20          | 4200    |         | 70  | 40          | 07 |
|            | 22 | 41          | 4200    | Marker  | 71  | 35          | 13 |
|            | 23 | 38          | 4200    |         | 72  | 38          | 83 |
|            | 24 | 39          | 4200    |         | 73  | 41          | 29 |
|            | 25 | 40          | 4200    |         | 74  | 40          | 60 |
|            | 26 | 41          | 4200    |         | 75  | 42          | 87 |
|            | 27 | 41          | 4200    |         | 76  | 39          | 07 |
|            | 28 | 40          | 4200    |         | 77  | 41          | 83 |
|            | 29 | 41          | 4200    |         | 78  | 38          | 22 |
|            | 30 | 385         | 10,197  | 3,151   | 79  | 40          | 02 |
|            | 31 | 41          | 4200    |         | 80  | 42          | 10 |
|            | 32 | 42          | 4200    |         | 81  | 37          | 01 |
|            | 33 | 39          | 4200    |         | 82  | 40          | 28 |
|            | 34 | 40          | 4200    |         | 83  | 41          | 82 |
|            | 35 | 41          | 4200    |         | 84  | 42          | 91 |
|            | 36 | 41          | 4100    |         | 85  | 41          | 03 |
|            | 37 | 41          | 4200    |         | 86  | 41          | 12 |
|            | 38 | 40          | 4200    |         | 87  | 41          | 66 |
|            | 39 | 41          | 4200    |         | 88  | 41          | 27 |
|            | 40 | 415         | 9,781   | 3,564   | 89  | 41          | 42 |
|            | 41 | 40          | 4200    |         | 90  | 39          | 41 |
| Marker     | 42 | 20          | 4200    | IV Tool | 91  | 38          | 15 |
|            | 43 | 39          | 4200    |         | 92  | 41          | 41 |
|            | 44 | 39          | 4200    |         | 93  | 42          | 13 |
|            | 45 | 41          | 4200    |         | 94  | 42          | 84 |
|            | 46 | 41          | 4150    |         | 95  | 38          | 00 |
|            | 47 | 41          | 4200    |         | 96  | 40          | 08 |
|            | 48 | 40          | 4200    |         | 97  | 40          | 66 |
|            | 49 | 348         | 9,432   | 3,889   | 98  | 40          | 28 |
|            | 50 | 365         | 5,407   |         | 99  | 41          | 43 |
|            | 51 | 365         | 5,407   |         | 100 | 41          | 98 |

T.W. © 11,344'

5 1/2" 20# L-80 L75C Casing  
Frac String

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|        |     |      |    |                  |        |          |      |    |          |           |           |      |        |        |           |
|--------|-----|------|----|------------------|--------|----------|------|----|----------|-----------|-----------|------|--------|--------|-----------|
|        | 148 | 41.  | 87 | C 4300           |        | 147      | 41.  | 22 | 4200     |           | 247       | 41.  | 78     | 4200   |           |
|        | 149 | 41.  | 81 | 5000             |        | 148      | 40.  | 92 | 4200     |           | 248       | 41.  | 77     | 4200   |           |
|        | 150 | 41.  | 76 | 4800             |        | 199      | 42.  | 03 | 4200     |           | 249       | 41.  | 76     | 4200   |           |
|        | 151 | 41.  | 71 | 4200             |        | 200      | 41.  | 88 | 4200     |           | 250       | 41.  | 70     | 4300   |           |
|        | 152 | 41.  | 96 | 4200             | Marker | 201      | 37.  | 90 | 4200     |           | 251       | 41.  | 76     | 4200   |           |
|        | 153 | 41.  | 71 | 4200             |        | 202      | 41.  | 00 | 4200     |           | 252       | 41.  | 76     | 4200   |           |
|        | 154 | 39.  | 99 | 4200             | Marker | 203      | 37.  | 62 | 4200     |           | 253       | 39.  | 10     | 4200   |           |
|        | 155 | 42.  | 02 | 4200             |        | 204      | 42.  | 02 | 4200     |           | 254       | 41.  | 78     | 4200   |           |
|        | 156 | 42.  | 49 | 4400             |        | 205      | 41.  | 85 | 4200     |           | 255       | 38.  | 34     | 4200   |           |
|        | 157 | 40.  | 81 | 4800             |        | 206      | 41.  | 12 | 4300     |           | 256       | 41.  | 83     | 4200   |           |
|        | 158 | 42.  | 03 | 4200             |        | 207      | 41.  | 88 | 4200     |           | 257       | 37.  | 88     | 4200   |           |
| 6,393  | 90  | 457. | 87 | 4,950.10         |        | 8,374.10 | 450. | 18 | 2,969.90 | 10,413.92 | 450.      | 76   | 930.53 |        |           |
|        | 159 | 41.  | 84 | 4500             |        | 208      | 38.  | 33 | 4200     |           | 258       | 41.  | 80     | 4200   |           |
|        | 160 | 42.  | 02 | C 4300           | Marker | 209      | 36.  | 44 | C 4600   | ITO       | 259       | 41.  | 97     | 4200   |           |
|        | 161 | 41.  | 85 | 4200             |        | 210      | 37.  | 24 | 4200     |           | 260       | 39.  | 51     | 4200   |           |
|        | 162 | 41.  | 10 | 4200             |        | 211      | 41.  | 46 | 4200     |           | 261       | 41.  | 91     | 4200   |           |
|        | 163 | 39.  | 80 | 4200             |        | 212      | 42.  | 02 | 4200     |           | 262       | 42.  | 25     | 4200   |           |
|        | 164 | 40.  | 48 | 4200             |        | 213      | 37.  | 70 | 4200     |           | 263       | 41.  | 82     | 4200   |           |
|        | 165 | 38.  | 30 | 4300             |        | 214      | 41.  | 34 | 4200     | TFE       | 264       | 38.  | 54     | 4200   |           |
|        | 166 | 41.  | 35 | C 4300           |        | 215      | 42.  | 02 | C 4200   |           | 265       | 42.  | 28     | 4200   |           |
|        | 167 | 41.  | 48 | 5000 1/2 TO      |        | 216      | 41.  | 92 | 4200     |           | 266       | 41.  | 82     | 4200   |           |
|        | 168 | 41.  | 26 | 4200             |        | 217      | 41.  | 11 | 4200     |           | 267       | 42.  | 05     | 4200   | DBS       |
| 6,803  | 28  | 409. | 38 | 4,540.28         |        | 8,775.88 | 401. | 78 | 2,568.28 | 10,827.42 | 413.      | 15   | 516.28 |        |           |
|        | 169 | 41.  | 21 | 4200             |        | 218      | 42.  | 15 | 4200     |           | 268       | 39.  | 10     | 4200   |           |
|        | 170 | 39.  | 21 | 4200             |        | 219      | 41.  | 72 | 4200     |           | 269       | 38.  | 66     | 4200   |           |
|        | 171 | 40.  | 35 | 4300             |        | 220      | 38.  | 47 | C 4200   |           | 270       | 41.  | 95     | 4200   |           |
|        | 172 | 40.  | 47 | C 4200           |        | 221      | 41.  | 94 | 4500     |           | 271       | 41.  | 86     | 4200   |           |
|        | 173 | 40.  | 71 | 4200             |        | 222      | 40.  | 91 | 4200     |           | 272       | 41.  | 89     | 4200   |           |
|        | 174 | 41.  | 86 | 4200             |        | 223      | 41.  | 89 | 4200     |           | 273       | 38.  | 74     | 4200   |           |
|        | 175 | 39.  | 92 | 4200             | 4270   | 224      | 40.  | 02 | C 4200   |           | 274       | 37.  | 77     | 4200   |           |
|        | 176 | 40.  | 62 | 4200             |        | 225      | 41.  | 88 | 4200     |           | 275       | 41.  | 89     | 4200   |           |
|        | 177 | 42.  | 03 | 4200             |        | 226      | 38.  | 71 | 4200     | TFE       | 276       | 42.  | 94     | 4200   |           |
|        | 178 | 38.  | 78 | 4200             |        | 227      | 41.  | 92 | 4200     |           | 277       | 41.  | 81     | 4200   |           |
| 7,209  | 32  | 406. | 11 | 4,134.61         |        | 9,185.42 | 409. | 61 | 2,158.51 | 11,236.98 | 404.      | 56   | 112.02 |        |           |
| Marker | 179 | 34.  | 35 | C 4200           |        | 228      | 36.  | 53 | 4200     |           | 278       | 39.  | 73     | 4200   | 11,311.59 |
|        | 180 | 39.  | 11 | 4200             |        | 229      | 41.  | 87 | 4200     |           | 279       | 42.  | 92     | 4200   |           |
|        | 181 | 40.  | 34 | 4200             |        | 230      | 41.  | 70 | 4200     |           | 280       | 41   | 95     | +11.69 |           |
|        | 182 | 40.  | 30 | 4200             |        | 231      | 38.  | 41 | 4200     | Overall = | 11,355.69 |      |        |        |           |
|        | 183 | 39.  | 25 | 4200             |        | 232      | 41.  | 84 | 4200     |           |           |      |        |        |           |
| LD     | 184 | 39.  | 82 | 5100 1/2 Threads |        | 233      | 41.  | 07 | 4200     |           |           |      |        |        |           |
|        | 184 | 38.  | 23 | 4200             |        | 234      | 38.  | 48 | 4200     | Tri-Lob   | M.x.      | 8400 | 8pt.   | 6700   | M.in.     |
|        | 185 | 40.  | 13 | C 4200           |        | 235      | 39.  | 40 | 4200     | HL        | 5250      | 5200 | 3150   |        |           |
|        | 186 | 41.  | 81 | 4200             |        | 236      | 41.  | 91 | 4200     |           |           |      |        |        |           |
|        | 187 | 39.  | 33 | 4200             |        | 237      | 41.  | 92 | 4200     |           |           |      |        |        |           |
| 7,562  | 80  | 353. | 41 | 3,781.20         |        | 9,588.82 | 403. | 33 | 1,755.82 |           |           |      |        |        |           |
|        | 188 | 40.  | 11 | 4200             |        | 238      | 38.  | 65 | 4200     |           |           |      |        |        |           |
|        | 189 | 40.  | 39 | 4200             |        | 239      | 41.  | 25 | 4200     |           |           |      |        |        |           |
|        | 190 | 41.  | 88 | 4200             |        | 240      | 41.  | 82 | 4200     |           |           |      |        |        |           |
|        | 191 | 39.  | 49 | 4200             |        | 241      | 41.  | 90 | 4200     |           |           |      |        |        |           |
|        | 192 | 41.  | 86 | C 4200           |        | 242      | 42.  | 26 | 4200     |           |           |      |        |        |           |
|        | 193 | 38.  | 40 | 4200             |        | 243      | 41.  | 27 | 4200     |           |           |      |        |        |           |
|        | 194 | 41.  | 98 | 4200             |        | 244      | 41.  | 98 | 4200     |           |           |      |        |        |           |
|        | 195 | 38.  | 63 | 4200             |        | 245      | 41.  | 88 | 5150     | ITO       |           |      |        |        |           |
|        | 196 | 38.  | 32 | 4200             |        | 246      | 41.  | 87 | 4200     |           |           |      |        |        |           |
| 7,923  | 92  | 361. | 12 | 3,420.08         |        | 9,962.21 | 373. | 89 | 1,381.29 |           |           |      |        |        |           |

3/6/98  
Freddie Cowan  
The 'H' Team

Lake Shore Fed. S.C. 10-#2

2nd Stage: 3 Slurries

# II. PRIMARY CEMENTING DETAIL

CEMENTING CO: (HOWCO, DOWELL, BJ, WESTERN)

LEAD: TYPE: Super C VOL: 550 SX WT: 13.9 PPG YIELD 1.67 FT<sup>3</sup>/SK MIX WTR 8.29 GAL/SK  
ADDITIVES: 70% 'C' + 17% Pozmix 'A' + 13% Silica Flour + 2# 5x KCl + 0.3% Halad-9

LAB MEASUREMENTS: 12/24 HR. COMPRESSIVE STRENGTH \_\_\_\_\_ PSI/ \_\_\_\_\_ PSI AT \_\_\_\_\_ °F  
BHCT \_\_\_\_\_ °F API W.L. \_\_\_\_\_ CC/30MIN FREE WATER \_\_\_\_\_ % N' \_\_\_\_\_ K' \_\_\_\_\_

THICKENING TIME (100UC) \_\_\_\_\_ HRS. PUMPING TIME (70 UC) \_\_\_\_\_ HRS. 20MIN UC TEST \_\_\_\_\_ UC

Middle: Type: Latent H<sub>2</sub>O Vol. 230 SX WT: 11.9 PPG Yield: 2.45 FT<sup>3</sup>/SK MIX WTR \_\_\_\_\_ GAL/SK  
Additives: 50% 'H' + 50% Pozmix 'A' + 10% Gel + 8 # 5x KCl

TAIL: TYPE: 50/50 H<sub>2</sub>O VOL: 350 SX WT: 14.4 PPG YIELD 1.27 FT<sup>3</sup>/SK MIX WTR \_\_\_\_\_ GAL/SK  
ADDITIVES: 50% 'H' + 50% Pozmix 'A' + 2% Gel + 1.5 # 5x KCl + 0.4% Halad-9

LAB MEASUREMENTS: 12/24 HR. COMPRESSIVE STRENGTH 588 PSI/ 1800 PSI AT 140 °F  
BHCT 110 °F API W.L. 459 CC/30MIN FREE WATER 0 % N' 0.42 K' 0.02

THICKENING TIME (100VC) 57 HRS. PUMPING TIME (70 UC) 5:15 HRS. 20MIN UC TEST \_\_\_\_\_ UC

CONDITIONING TIME WITH CASING AT T.D. 6 HRS AT 7 BPM AND 200 PSI

SPACER TYPE: H<sub>2</sub>O BBLs: 30 WT: 8.34 VISC: 27 PV/YP -/-

MIXED AND PUMPED 363 BBLs CEMENT FOR 0:55 HRS AT 5-8 BPM AND 250-300 PSI

DISPLACED CEMENT WITH 170 BBLs FOR 0:27 HRS AT 8-1 BPM AND 150-3000 PSI

CALCULATED DISPLACEMENT 170 BBLs BUMPED PLUG (Y/N) Yes WITH 3000 PSI (TOTAL)

BATCH MIX CEMENT (Y/N) No RETURNS (FULL, PARTIAL, NONE) Partial RECIPROCATED PIPE (Y/N) No

CEMENT TO SURFACE (Y/N) No CALCULATED TOC: 1976 W/ 0 EXCESS AND Caliper HOLE SIZE

REMARKS: Bumped Plug & Closed DV Tool.  
\* Had Partial Returns from 1/3 Job to end.  
Uncore of TOC

TAG TOC AT NOC TESTED TOL TO \_\_\_\_\_ PPG TESTED SHOE TO \_\_\_\_\_ PPG

SUCCESSFUL CEMENT JOB (Y/N) Yes SQUEEZE (TOL, SHOE, ZONE) \_\_\_\_\_ CBL BOND (GOOD/FAIR/POOR) NOC

STAGE JOB (Y/N) Yes DV TOOL AT 7700.21' IF SO, COMPLETE ANOTHER DETAIL FOR 2ND STAGE

# II. SECONDARY CEMENT JOB

CEMENTING CO: (HOWCO, DOWELL, BJ, WESTERN)

TYPE OF REMEDIAL WORK (SHOE/TOL/ZONE) \_\_\_\_\_ ATTEMPT NO: \_\_\_\_\_

BREAKDOWN PRESSURE: \_\_\_\_\_ PSI AT RATE OF \_\_\_\_\_ BPM

INJECTION PRESSURE: INITIAL \_\_\_\_\_ PSI AT \_\_\_\_\_ BPM; FINAL: \_\_\_\_\_ PSI AT \_\_\_\_\_ BPM

TYPE SQUEEZE (RUNNING/HESITATION/DISPLACE & HOLD): \_\_\_\_\_, ISIP \_\_\_\_\_ PSI

HELD \_\_\_\_\_ PSI FOR \_\_\_\_\_ HRS. HAD \_\_\_\_\_ BBLs. BLEED BACK

SLURRY: TYPE: \_\_\_\_\_ VOL: \_\_\_\_\_ SX WT: \_\_\_\_\_ PPG YIELD \_\_\_\_\_ FT<sup>3</sup>/SK MIX WTR \_\_\_\_\_ GAL/SK

ADDITIVES: \_\_\_\_\_

SUCCESSFUL SQUEEZE JOB (Y/N) \_\_\_\_\_ TESTED SHOE TO \_\_\_\_\_ PPG TESTED TOL TO \_\_\_\_\_ PPG

REMARKS: \_\_\_\_\_

FRM22

R.A. [Signature]  
F. Coway  
The 'A' Team



Liabe Shore Fecl. S.C. 10 #2 1st Stage @ 11,344'

PRIMARY CEMENTING DETAIL

CEMENTING CO: (HOWCO, DOWELL, BJ, WESTERN)

AD: TYPE: Super 'H' VOL: 50 SX WT: 13.0 PPG YIELD 1.67 FT<sup>3</sup>/SK MIX WTR 8.25 GAL/SK  
ADDITIVES: 70% 'H' + 17% Pozmix 'A' + 13% Silica Flour + 2% KCl/SX + 0.5% H<sub>2</sub>O<sub>2</sub> + 0.4% CFR-3  
LAB MEASUREMENTS: 12/24 HR. COMPRESSIVE STRENGTH 350 PSI / 1,126 PSI AT 160 °F  
BHCT 140 °F API W.L. 76 CC/30MIN FREE WATER 0.2 % N' 0.62 K' 0.023  
THICKENING TIME (100UC) 8 HRS. PUMPING TIME (70 UC) 6:20 HRS. 20MIN UC TEST UC

IL: TYPE: Super 'H' VOL: 535 SX WT: 13.5 PPG YIELD 1.50 FT<sup>3</sup>/SK MIX WTR 7.55 GAL/SK  
ADDITIVES: 70% 'H' + 17% Pozmix 'A' + 13% Silica Flour + 2% KCl/SX + 0.5% H<sub>2</sub>O<sub>2</sub> + 0.4% CFR-3  
LAB MEASUREMENTS: 12/24 HR. COMPRESSIVE STRENGTH 1,212 PSI / 2,338 PSI AT 160 °F  
BHCT 140 °F API W.L. 69 CC/30MIN FREE WATER 0 % N' 0.24 K' 0.0003  
THICKENING TIME (100VC) 12 HRS. PUMPING TIME (70 UC) 4:00 HRS. 20MIN UC TEST UC

CONDITIONING TIME WITH CASING AT T.D. 6 HRS AT 6 BPM AND 180 PSI  
PACER TYPE: Super Floet WT: 1,000 VISC: 50+ PV/YP 1/100  
FIXED AND PUMPED 157 BBLs CEMENT FOR 0:25 HRS AT 7.7 BPM AND 380-700 PSI  
DISPLACED CEMENT WITH 252 BBLs FOR 0:35 HRS AT 8-3-8-2 BPM AND 20-1000 PSI  
CALCULATED DISPLACEMENT 250 BBLs BUMPED PLUG (Y/N) NO WITH N/A PSI (TOTAL)  
ATCH MIX CEMENT (Y/N) Yes RETURNS (FULL, PARTIAL, NONE) FULL RECIPROCATED PIPE (Y/N) NO  
EMENT TO SURFACE (Y/N) NO CALCULATED TOC: 7,700 W/ 0 EXCESS AND Caliper HOLE SIZE

REMARKS: Circ. 10 B61. F/W KCl flush to pit. after

Dropped Bomb & Opened Tool.

Floats Held.

Est. T.O.C. @ 8,550' (Middle of Wolfcamp Pay)

\* Unsuccessful in bringing cement to DV Tool.

AG TOC AT W.O.C. TESTED TOL TO N/A PPG TESTED SHOE TO N/A PPG  
UCCESSFUL CEMENT JOB (Y/N) Yes SQUEEZE (TOL, SHOE, ZONE) No CBL BOND (GOOD/FAIR/POOR) W.O.C.  
TAGE JOB (Y/N) Yes DV TOOL AT 7,700'. IF SO, COMPLETE ANOTHER DETAIL FOR 2ND STAGE

SECONDARY CEMENT JOB

CEMENTING CO: (HOWCO, DOWELL, BJ, WESTERN)

PE OF REMEDIAL WORK (SHOE/TOL/ZONE) \_\_\_\_\_ ATTEMPT NO: \_\_\_\_\_  
REAKDOWN PRESSURE: \_\_\_\_\_ PSI AT RATE OF \_\_\_\_\_ BPM  
NJECTION PRESSURE: INITIAL \_\_\_\_\_ PSI AT \_\_\_\_\_ BPM; FINAL: \_\_\_\_\_ PSI AT \_\_\_\_\_ BPM  
YPE SQUEEZE (RUNNING/HESITATION/DISPLACE & HOLD): \_\_\_\_\_, ISIP \_\_\_\_\_ PSI  
ELD \_\_\_\_\_ PSI FOR \_\_\_\_\_ HRS. HAD \_\_\_\_\_ BBLs. BLEED BACK  
LURRY: TYPE: \_\_\_\_\_ VOL: \_\_\_\_\_ SX WT: \_\_\_\_\_ PPG YIELD \_\_\_\_\_ FT<sup>3</sup>/SK MIX WTR \_\_\_\_\_ GAL/SK  
ADDITIVES: \_\_\_\_\_

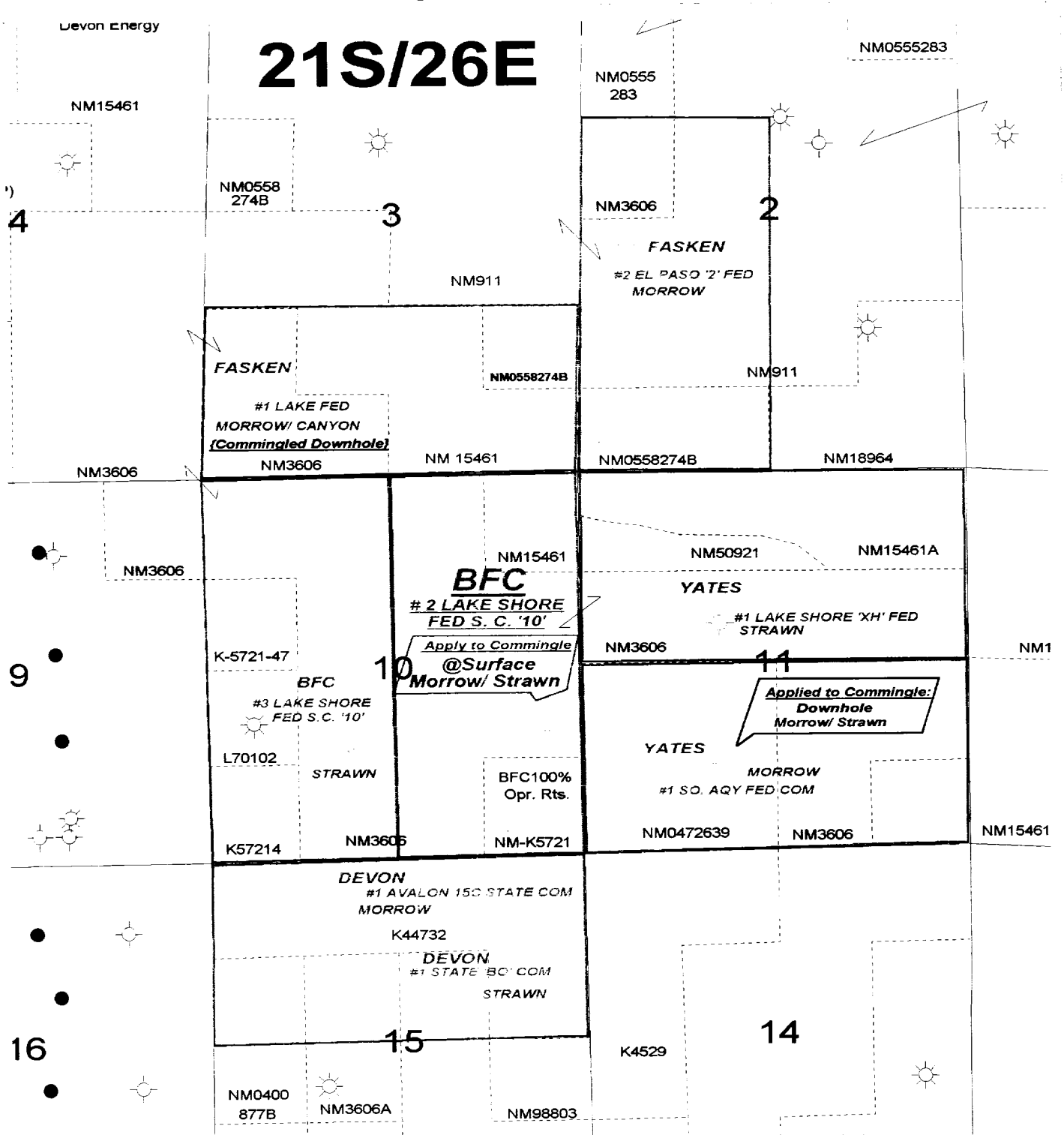
UCCESSFUL SQUEEZE JOB (Y/N) \_\_\_\_\_ TESTED SHOE TO \_\_\_\_\_ PPG TESTED TOL TO \_\_\_\_\_ PPG

REMARKS: \_\_\_\_\_

*R. Cowart*  
R. Cowart

FRM227

FIGURE 3



|                                                                                           |            |             |
|-------------------------------------------------------------------------------------------|------------|-------------|
| Bonneville Fuels Corp.                                                                    |            |             |
| Eddy County, New Mexico<br>Multiple Completion Application<br>#2 LAKE SHORE FED. S. C. 10 |            |             |
| Philip Wood                                                                               | 1" = 2000' | March, 1999 |
| Scale 1:24000.                                                                            |            |             |

# FIGURE 4

LAKE SHORE FEDERAL S. C. 10-#2  
E/2 SECTION 10, T21S, R26E  
APPLICATION FOR MULTIPLE COMPLETION

## OFFSET OPERATOR ADDRESS LIST

| <u>Operator</u>                                                                                                                  | <u>Well(s)</u>                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Devon Energy Corporation (Nevada)<br>20 North Broadway, Suite 1500<br>Oklahoma City, Oklahoma 73102-8260<br>Attn: Ms. Carla Wood | Avalon 15-C State Com. #1<br>Section 15: NW/4<br>State "BO" Com. #1<br>Section 15: NE/4 |
| Yates Petroleum Corporation<br>105 South Fourth Street<br>Artesia, New Mexico 88210<br>Attn: Ms. Janet Richardson                | So. AQY Fed. Com. #1<br>Section 11: SW/4<br>LakeShore XH Fed. #1<br>Section 11: NW/4    |
| Fasken Oil And Ranch, Ltd.<br>303 West Wall Avenue, Suite 1900<br>Midland, Texas 79701<br>Attn: Ms. Sally M. Kvasnicka           | El Paso Federal #2<br>Section 2: CW/2<br>Lake Federal #1<br>Section 3: SW/3             |



100  
+

GR: API UNITS

201  
100

30%

20%

10%

0%

10300

10400

Gibson  
Rackon

Morrow

10500

10600

10700

10800

Corros

10900

C13P

WET

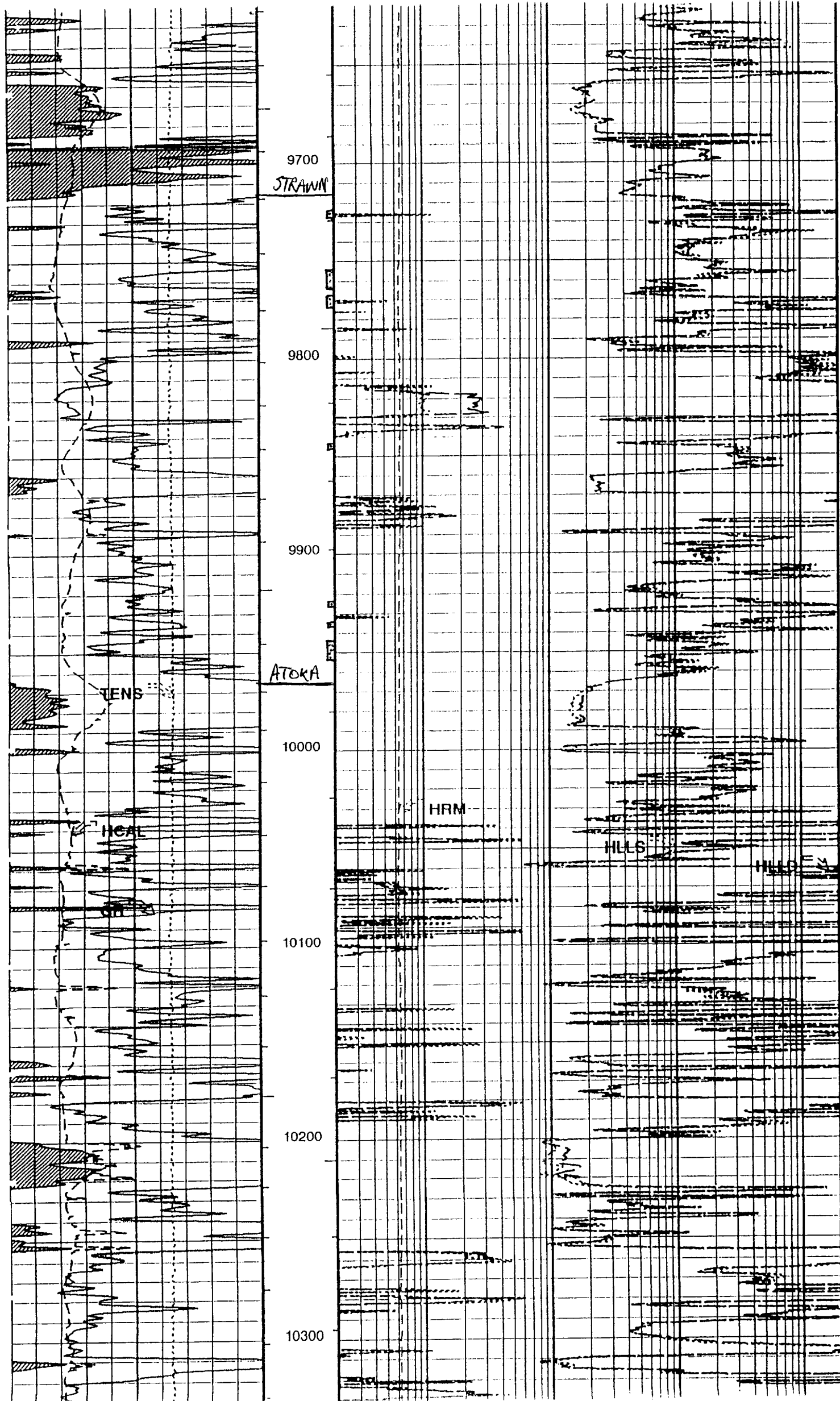
C13P<sub>2</sub>

Fill

1.2

10.2 12-M. 100.2

1000.0



1.0

10.0 12-M. 100.0

1000.0

