

15-173-20197  
22-29-4W

DRILLERS LOG

Derrick-American Oil, Inc.  
Koster #1 "A"  
NW NW SE  
Sec. 22-29s-4w  
Sedgwick County, Kansas

Elev. - Not available  
Surface Casing: 194' of 8 5/8"

Commenced: 11-20-78  
Completed: 12-01-78

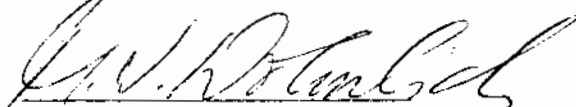
FORMATION

DEPTH

|                  |                 |
|------------------|-----------------|
| Surface Hole     | 194             |
| Shale            | 194 - 573       |
| Shale            | 573 - 792       |
| Shale - Lime     | 792 - 950       |
| Shale & Lime     | 950 - 1285      |
| Shale & Lime     | 1285 - 1591     |
| Shale - Lime St. | 1591 - 1950     |
| Shale & Lime     | 1950 - 2265     |
| Shale & Lime     | 2265 - 2570     |
| Shale - Lime     | 2570 - 2810     |
| Shale - Lime     | 2810 - 3090     |
| Shale & Lime     | 3090 - 3294     |
| Shale - Lime     | 3294 - 3434     |
| K.C. Lime        | 3434 - 3477     |
| Lime             | 3477 - 3585     |
| Shale - Lime     | 3585 - 3693     |
| Shale - Lime     | 3693 - 3723     |
| Shale & Lime     | 3723 - 3805     |
| Shale & Lime     | 3805 - 3902     |
| Shale & Lime     | 3902 - 3946     |
| Mississippi      | 3946 - 4075     |
| Shale & Lime     | 4075 - 4185     |
| Shale - Lime St. | 4185 - 4258     |
| Shale - Lime     | 4258 - 4308     |
| Shale & Lime     | 4308 - 4325     |
| Shale & Lime     | 4325 - 4365 RTD |

I do hereby certify that the foregoing statements are true and correct  
to the best of my knowledge and belief.

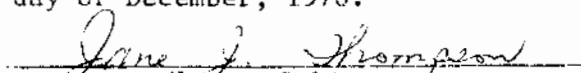
PIONEER DRILLING CO.



STATE OF COLORADO )  
                                  ) ss.  
County of Denver )

Subscribed and sworn to before me this 4th day of December, 1978.

My Commission Expires: July 1, 1980

  
Notary Public

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