

SPERRY-SUN INCORPORATED  
EDDY COUNTY, NEW MEXICO

BASS ENTERPRISES  
JAMES RANCH WELL NO.13

SEPTEMBER 1981

| TOTAL<br>DEPTH | DIRECTION<br>DEG MIN | ANGLE<br>DEG MIN | VERTICAL<br>DEPTH | LATITUDE<br>FEET | DEPARTURE<br>FEET | VERTICAL<br>SECTION |
|----------------|----------------------|------------------|-------------------|------------------|-------------------|---------------------|
| 12400          | N 17 1 E             | 20 55            | 12011.62          | 1585.01 N        | 536.79 E          | 1663.7              |
| 12500          | N 12 7 E             | 23 40            | 12104.14          | 1621.72 N        | 546.23 E          | 1701.2              |
| 12600          | N 9 9 E              | 26 30            | 12194.71          | 1663.38 N        | 554.00 E          | 1748.7              |
| 12700          | N 7 33 E             | 31 55            | 12281.96          | 1711.64 N        | 561.03 E          | 1797.2              |
| 12800          | N 4 28 E             | 30 45            | 12367.37          | 1763.34 N        | 566.49 E          | 1844.7              |
| 12900          | N 4 3 E              | 30 10            | 12453.57          | 1813.89 N        | 570.26 E          | 1894.2              |
| 13000          | N 3 35 E             | 29 55            | 12540.14          | 1863.84 N        | 573.59 E          | 1943.7              |
| 13100          | N 2 42 E             | 29 30            | 12626.99          | 1913.33 N        | 576.30 E          | 1992.2              |
| 13200          | N 1 36 E             | 27 0             | 12715.07          | 1960.62 N        | 578.10 E          | 2039.7              |
| 13300          | N 0 7 E              | 27 10            | 12804.10          | 2006.14 N        | 578.78 E          | 2088.2              |
| 13400          | N 0 21 W             | 26 30            | 12893.34          | 2051.27 N        | 578.69 E          | 2127.7              |
| 13500          | N 1 38 W             | 25 20            | 12983.28          | 2094.97 N        | 577.94 E          | 2170.2              |
| 13600          | N 0 57 W             | 24 0             | 13074.15          | 2136.69 N        | 576.99 E          | 2210.7              |
| 13700          | N 2 12 W             | 24 10            | 13165.44          | 2177.48 N        | 575.87 E          | 2250.2              |
| 13800          | N 2 44 W             | 24 0             | 13256.74          | 2218.25 N        | 574.11 E          | 2289.7              |
| 13900          | N 1 6 W              | 22 30            | 13348.61          | 2257.70 N        | 572.77 E          | 2328.2              |
| 14000          | N 1 21 W             | 21 10            | 13441.44          | 2294.88 N        | 571.98 E          | 2364.7              |
| 14100          | N 1 38 W             | 20 10            | 13534.99          | 2330.16 N        | 571.06 E          | 2398.2              |
| 14200          | N 2 50 W             | 19 45            | 13628.98          | 2364.26 N        | 569.73 E          | 2431.7              |
| 14300          | N 5 0 W              | 19 25            | 13723.20          | 2397.70 N        | 567.45 E          | 2463.2              |
| 14400          | N 7 14 W             | 20 0             | 13817.34          | 2431.22 N        | 563.84 E          | 2495.7              |
| 14500          | N 5 12 W             | 18 15            | 13911.82          | 2463.79 N        | 560.27 E          | 2526.2              |
| 14600          | N 0 31 W             | 15 30            | 14007.50          | 2492.75 N        | 558.73 E          | 2554.7              |
| 14700          | N 3 18 E             | 12 45            | 14104.47          | 2517.13 N        | 559.25 E          | 2579.2              |
| 14800          | N 7 1 E              | 11 5             | 14202.31          | 2537.69 N        | 561.06 E          | 2598.7              |
| 14900          | N 14 36 E            | 9 15             | 14300.75          | 2555.01 N        | 564.26 E          | 2616.2              |

THE DOGLEG SEVERITY IS IN DEGREES PER ONE HUNDRED FEET.  
THE VERTICAL SECTION WAS COMPUTED ALONG N 12 27 E

BASED UPON MINIMUM CURVATURE TYPE CALCULATIONS. THE BOTTOM HOLE  
DISPLACEMENT IS 2616.57 FEET, IN THE DIRECTION OF N 12 27 E  
BOTTOM HOLE DISPLACEMENT IS RELATIVE TO WELLHEAD.  
VERTICAL SECTION IS RELATIVE TO WELLHEAD.  
SU175-6032, SU175-6120, MS-6039