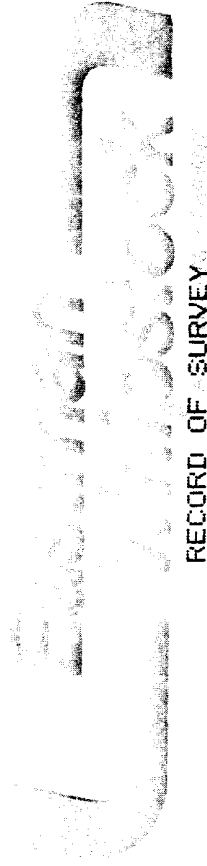


GULF OIL EXPLORATION AND PRODUCTION COMPANY  
WELL NAME: LEA C.S. ESTATE A-1  
LOCATION: LEA COUNTY, NEW MEXICO BD2-210  
DATE: 07-MAY-85  
LATITUDE: 32.90  
SLEW/SETTLE: 14/11  
TOOL: EW0240  
DISTRICT: WEST TEXAS  
SURVEYOR: STEVE COVINGTON  
CO. REP: BUD YANCY/BOBBY CONE  
HEAT SHIELD: 2 INCH HEAT SHIELD

EASTMAN WHIPSTOCK, INC.  
SEEKER I GYROSCOPIC SURVEY  
SURVEY DEPTHS:

WT0585-A0267  
(0'-9650')



RADIUS OF CURVATURE METHOD

GULF OIL EXPLORATION AND  
WELL NAME: LEA C.S. EST  
LOCATION: LEA COUNTY,

GULF OIL EXPLORATION AND PRODUCTION COMPANY  
WELL NAME: LEA C.S. ESTATE A-1  
LOCATION: LEA COUNTY, NEW MEXICO BD2-210

COMPUTATION PAGE NO. 1  
TIME DATE  
05:44:50 08-MAY-85

| MEASURED<br>DEPTH<br>FEET | DRIF<br>ANGL<br>D |
|---------------------------|-------------------|
| 3000.                     | 0 1               |
| 3100.                     | 0 3               |
| 3200.                     | 0 3               |
| 3300.                     | 0 3               |
| 3400.                     | 0 3               |
| 3500.                     | 0 2               |
| 3600.                     | 0 2               |
| 3700.                     | 0 2               |
| 3800.                     | 0 3               |
| 3900.                     | 0 2               |
| 4000.                     | 0 4               |
| 4100.                     | 0 3               |
| 4200.                     | 0 3               |
| 4300.                     | 0 2               |
| 4400.                     | 0 2               |
| 4500.                     | 0 2               |
| 4600.                     | 0 2               |
| 4700.                     | 0 2               |
| 4800.                     | 0 2               |
| 4900.                     | 0 2               |
| 5000.                     | 0 3               |
| 5100.                     | 0 4               |
| 5200.                     | 0 4               |
| 5300.                     | 0 5               |
| 5400.                     | 0 5               |
| 5500.                     | 1 1               |
| 5600.                     | 1 1               |
| 5700.                     | 1 1               |
| 5800.                     | 1                 |
| 5900.                     | 1                 |

| MEASURED<br>DEPTH<br>FEET | DRIFT<br>ANGLE<br>D M | DRIFT<br>DIRECTION<br>D | COURSE<br>LENGTH<br>FEET | TRUE<br>VERTICAL<br>DEPTH<br>FEET | R E C T A N G U L A R<br>C O O R D I N A T E S<br>FEET | DOSLEG<br>SEVERITY<br>DG/100FT |
|---------------------------|-----------------------|-------------------------|--------------------------|-----------------------------------|--------------------------------------------------------|--------------------------------|
| 0.                        | 0 0                   | 0                       | 0.                       | 0.00                              | 0.00                                                   | 0.00                           |
| 100.                      | 0 2                   | S 28 E                  | 100.                     | 100.00                            | 0.03 S                                                 | 0.01 E                         |
| 200.                      | 0 3                   | N 22 W                  | 100.                     | 200.00                            | 0.00 S                                                 | 0.07 E                         |
| 300.                      | 0 7                   | N 9 E                   | 100.                     | 300.00                            | 0.16 N                                                 | 0.05 E                         |
| 400.                      | 0 18                  | N 23 E                  | 100.                     | 400.00                            | 0.52 N                                                 | 0.16 E                         |
| 500.                      | 0 17                  | N 50 E                  | 100.                     | 500.00                            | 0.93 N                                                 | 0.46 E                         |
| 600.                      | 0 11                  | N 45 E                  | 100.                     | 600.00                            | 1.21 N                                                 | 0.78 E                         |
| 700.                      | 0 14                  | N 0 E                   | 100.                     | 700.00                            | 1.54 N                                                 | 0.92 E                         |
| 800.                      | 0 17                  | N 18 E                  | 100.                     | 800.00                            | 2.01 N                                                 | 1.00 E                         |
| 900.                      | 0 17                  | N 28 E                  | 100.                     | 899.99                            | 2.48 N                                                 | 1.20 E                         |
| 1000.                     | 0 20                  | N 7 E                   | 100.                     | 999.99                            | 3.00 N                                                 | 1.37 E                         |
| 1100.                     | 0 9                   | N 3 W                   | 100.                     | 1099.99                           | 3.44 N                                                 | 1.38 E                         |
| 1200.                     | 0 8                   | N 28 E                  | 100.                     | 1199.99                           | 3.63 N                                                 | 1.44 E                         |
| 1300.                     | 0 11                  | N 35 W                  | 100.                     | 1299.99                           | 3.95 N                                                 | 1.42 E                         |
| 1400.                     | 0 6                   | N 73 E                  | 100.                     | 1399.99                           | 4.16 N                                                 | 1.49 E                         |
| 1500.                     | 0 10                  | S 14 E                  | 100.                     | 1499.99                           | 4.05 N                                                 | 1.68 E                         |
| 1600.                     | 0 12                  | S 0 W                   | 100.                     | 1599.99                           | 3.74 N                                                 | 1.72 E                         |
| 1700.                     | 0 16                  | S 2 W                   | 100.                     | 1699.99                           | 3.31 N                                                 | 1.71 E                         |
| 1800.                     | 0 34                  | S 12 W                  | 100.                     | 1799.99                           | 2.59 N                                                 | 1.61 E                         |
| 1900.                     | 0 27                  | S 26 W                  | 100.                     | 1899.98                           | 1.75 N                                                 | 1.31 E                         |
| 2000.                     | 0 28                  | S 21 W                  | 100.                     | 1999.98                           | 1.01 N                                                 | 0.98 E                         |
| 2100.                     | 0 34                  | S 36 W                  | 100.                     | 2099.97                           | 0.21 N                                                 | 0.53 E                         |
| 2200.                     | 0 15                  | S 54 W                  | 100.                     | 2199.97                           | 0.29 S                                                 | 0.02 E                         |
| 2300.                     | 0 6                   | S 11 E                  | 100.                     | 2299.97                           | 0.56 S                                                 | 0.09 W                         |
| 2400.                     | 0 12                  | S 52 E                  | 100.                     | 2399.97                           | 0.79 S                                                 | 0.05 E                         |
| 2500.                     | 0 9                   | S 77 E                  | 100.                     | 2499.97                           | 0.93 S                                                 | 0.34 E                         |
| 2600.                     | 0 11                  | N 67 E                  | 100.                     | 2599.97                           | 0.90 S                                                 | 0.63 E                         |
| 2700.                     | 0 14                  | N 69 E                  | 100.                     | 2699.97                           | 0.76 S                                                 | 0.98 E                         |
| 2800.                     | 0 13                  | N 89 E                  | 100.                     | 2799.97                           | 0.68 S                                                 | 1.40 E                         |
| 2900.                     | 0 6                   | S 88 E                  | 100.                     | 2899.97                           | 0.68 S                                                 | 1.69 E                         |

GULF OIL EXPLORATION AND PRODUCTION COMPANY  
WELL NAME: LEA C.S. ESTATE A-1  
LOCATION: LEA COUNTY, NEW MEXICO BD2-210

COMPUTATION PAGE NO. 3  
TIME DATE  
05:44:50 08-MAY-85

| MEASURED<br>DEPTH<br>FEET | DRIFT<br>ANGLE<br>D M | DRIFT<br>DIRECTION<br>D | COURSE<br>LENGTH<br>FEET | TRUE<br>VERTICAL<br>DEPTH<br>FEET | R E C T A N G U L A R<br>C O O R D I N A T E S<br>FEET | DOGLEG<br>SEVERITY<br>DG/100FT |
|---------------------------|-----------------------|-------------------------|--------------------------|-----------------------------------|--------------------------------------------------------|--------------------------------|
| 6000.                     | 0 55                  | S 20 W                  | 100.                     | 5999.73                           | 25.90 S 1.41 E                                         | 0.20                           |
| 6100.                     | 0 49                  | S 26 W                  | 100.                     | 6099.72                           | 27.29 S 0.81 E                                         | 0.13                           |
| 6200.                     | 0 41                  | S 21 W                  | 100.                     | 6199.71                           | 28.50 S 0.27 E                                         | 0.16                           |
| 6300.                     | 0 38                  | S 28 W                  | 100.                     | 6299.70                           | 29.54 S 0.22 W                                         | 0.09                           |
| 6400.                     | 0 31                  | S 19 W                  | 100.                     | 6399.70                           | 30.47 S 0.63 W                                         | 0.15                           |
| 6500.                     | 0 28                  | S 14 W                  | 100.                     | 6499.70                           | 31.31 S 0.89 W                                         | 0.06                           |
| 6600.                     | 0 39                  | S 6 E                   | 100.                     | 6599.69                           | 32.29 S 0.95 W                                         | 0.28                           |
| 6700.                     | 0 23                  | S 3 W                   | 100.                     | 6699.69                           | 33.20 S 0.92 W                                         | 0.28                           |
| 6800.                     | 0 31                  | S 36 E                  | 100.                     | 6799.68                           | 33.95 S 0.70 W                                         | 0.34                           |
| 6900.                     | 0 20                  | S 35 E                  | 100.                     | 6899.68                           | 34.56 S 0.25 W                                         | 0.18                           |
| 7000.                     | 0 31                  | S 41 E                  | 100.                     | 6999.68                           | 35.16 S 0.23 E                                         | 0.18                           |
| 7100.                     | 0 26                  | S 67 E                  | 100.                     | 7099.67                           | 35.64 S 0.91 E                                         | 0.22                           |
| 7200.                     | 0 25                  | S 29 E                  | 100.                     | 7199.67                           | 36.12 S 1.46 E                                         | 0.28                           |
| 7300.                     | 0 27                  | S 43 E                  | 100.                     | 7299.67                           | 36.75 S 1.93 E                                         | 0.11                           |
| 7400.                     | 0 34                  | S 58 E                  | 100.                     | 7399.66                           | 37.31 S 2.62 E                                         | 0.18                           |
| 7500.                     | 0 44                  | S 67 E                  | 100.                     | 7499.66                           | 37.84 S 3.64 E                                         | 0.19                           |
| 7600.                     | 1 16                  | S 65 E                  | 100.                     | 7599.64                           | 38.54 S 5.25 E                                         | 0.54                           |
| 7700.                     | 1 35                  | S 66 E                  | 100.                     | 7699.61                           | 39.58 S 7.54 E                                         | 0.32                           |
| 7800.                     | 1 48                  | S 68 E                  | 100.                     | 7799.57                           | 40.72 S 10.27 E                                        | 0.21                           |
| 7900.                     | 1 48                  | S 65 E                  | 100.                     | 7899.52                           | 41.95 S 13.17 E                                        | 0.08                           |
| 8000.                     | 1 59                  | S 68 E                  | 100.                     | 7999.46                           | 43.24 S 16.21 E                                        | 0.20                           |
| 8100.                     | 1 54                  | S 70 E                  | 100.                     | 8099.40                           | 44.43 S 19.39 E                                        | 0.12                           |
| 8200.                     | 2 12                  | S 69 E                  | 100.                     | 8199.34                           | 45.67 S 22.75 E                                        | 0.30                           |
| 8300.                     | 2 22                  | S 68 E                  | 100.                     | 8299.26                           | 47.12 S 26.47 E                                        | 0.17                           |
| 8400.                     | 3 0                   | S 66 E                  | 100.                     | 8399.15                           | 48.94 S 30.80 E                                        | 0.64                           |
| 8500.                     | 4 5                   | S 65 E                  | 100.                     | 8498.96                           | 51.44 S 36.46 E                                        | 1.07                           |
| 8600.                     | 4 30                  | S 66 E                  | 100.                     | 8598.67                           | 54.47 S 43.30 E                                        | 0.42                           |
| 8700.                     | 4 8                   | S 65 E                  | 100.                     | 8698.39                           | 57.55 S 50.18 E                                        | 0.37                           |
| 8800.                     | 3 50                  | S 61 E                  | 100.                     | 8798.15                           | 60.64 S 56.43 E                                        | 0.39                           |
| 8900.                     | 3 36                  | S 60 E                  | 100.                     | 8897.94                           | 63.78 S 62.11 E                                        | 0.27                           |

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TIME DATE  
05:44:50 08-MAY-85

FINAL CLOSURE - DIRECTION:  
DISTANCE:

S 47 DEGS 41 MINS E  
120.70 FEET