

**MERRION**

OIL & GAS

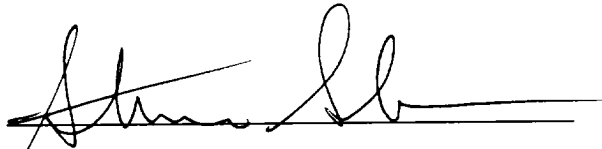
**EMU No. 2**

Section 13, T19N, R4W  
Sandoval County, New Mexico

**RECEIVED**  
MAY - 2 1995  
**OIL CON. DIV.**  
DIST. 3

State of New Mexico                    }  
                                                  } ss  
County of San Juan                    }

I, Steven S. Dunn, being first duly sworn, depose and state that the attach and foregoing depth and hole deviation figures are true and correct to the best of my information and belief.



Subscribed and sworn before me this 1st day of May, 1995.



Esther J. Greyeyes  
Notary Public

My Commission Expires: August 7th, 1998

DRILEX SYSTEMS INC.  
OKLAHOMA CITY, OKLAHOMA

PETROLEUM DEVELOPMENT CORP.

|                     |                               |
|---------------------|-------------------------------|
| Well Name           | : EAGLE MESA FEDERAL # 2      |
|                     | :                             |
|                     | : SECTION 13 T119N R4W        |
|                     | : SANDOVAL COUNTY, NEW MEXICO |
| Date Surveyed       | : 4-23-95                     |
| Job No.             | : 050306                      |
| Survey Performed By | : DRILEX                      |

This survey is correct to the best of my knowledge  
and is supported by actual field data.

..... COMPANY REPRESENTATIVE

DRILEX SYSTEMS INC.

Client : PETROLEUM DEVELOPMENT CORP.  
Well Name : EAGLE MESA FEDERAL # 2  
:  
: SECTION 13 T119N R4W  
: SANDOVAL COUNTY, NEW MEXICO

Date 4-23-95  
Filename : EMF2

No Interpolation

Height of Platform Datum above Customer Datum 0.00 ft  
Height of Well Datum above Platform Datum 0.00 ft  
All TVDs are relative to the Well Datum Level

Plane of Vertical Section : 187.7x  
Latitude & Departure relate to : PLATFORM CENTRE  
Vertical Section Originates at : PLATFORM CENTRE  
Slot Coordinates : Lat 0.000ft  
: Dep 0.000ft  
Directions Referenced To : GRID NORTH  
Depth at Drill Floor : 0.00 ft

Calculation Method : MINIMUM CURVATURE

Magnetic Declination : +11.18x  
PLATFORM North : +0x 0' 0'' (T)  
Grid convergence : +0.0000x

DRILEX SYSTEMS INC.

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Page 1 of 4  
Date 4-23-95  
Filename : EMF2

No Interpolation

Height of Platform Datum above Customer Datum 0.00 ft  
Height of Well Datum above Platform Datum 0.00 ft  
All TVDs are relative to the Well Datum Level

| MD   | INC | DIR   | TVD  | LAT | DEP | VS | D'LEG | BUILD | TURN  |
|------|-----|-------|------|-----|-----|----|-------|-------|-------|
| ft   | deg | deg   | ft   | ft  | ft  | ft | x/100 | x/100 | x/100 |
| 0    | 0.0 | 0.0   | 0    | 0   | 0   | 0  | 0.0   | 0.0   | 0.0   |
| 100  | 0.4 | 245.7 | 100  | -0  | -0  | 0  | 0.4   | 0.4   | -99.0 |
| 200  | 0.9 | 193.7 | 200  | -1  | -1  | 1  | 0.7   | 0.4   | -52.0 |
| 300  | 1.4 | 180.8 | 300  | -3  | -1  | 3  | 0.5   | 0.5   | -12.9 |
| 400  | 2.0 | 179.6 | 400  | -6  | -1  | 6  | 0.6   | 0.6   | -1.2  |
| 500  | 2.5 | 180.3 | 500  | -10 | -1  | 10 | 0.5   | 0.5   | 0.7   |
| 600  | 2.5 | 180.7 | 600  | -14 | -1  | 14 | 0.0   | 0.0   | 0.4   |
| 700  | 2.3 | 180.2 | 700  | -18 | -1  | 18 | 0.2   | -0.2  | -0.5  |
| 800  | 2.4 | 176.9 | 800  | -22 | -1  | 22 | 0.1   | 0.1   | -3.2  |
| 900  | 2.5 | 174.9 | 900  | -27 | -1  | 26 | 0.1   | 0.1   | -2.1  |
| 1000 | 2.6 | 171.8 | 999  | -31 | -0  | 31 | 0.2   | 0.2   | -3.1  |
| 1100 | 2.8 | 177.4 | 1099 | -36 | 0   | 35 | 0.3   | 0.2   | 5.6   |
| 1200 | 2.8 | 179.7 | 1199 | -40 | 0   | 40 | 0.1   | -0.0  | 2.3   |
| 1300 | 2.4 | 181.8 | 1299 | -45 | 0   | 45 | 0.4   | -0.3  | 2.1   |
| 1400 | 2.5 | 190.2 | 1399 | -49 | -0  | 49 | 0.4   | 0.1   | 8.4   |
| 1500 | 3.1 | 198.8 | 1499 | -54 | -1  | 54 | 0.7   | 0.5   | 8.6   |
| 1600 | 3.4 | 209.2 | 1599 | -59 | -4  | 59 | 0.7   | 0.3   | 10.4  |
| 1700 | 3.5 | 215.4 | 1699 | -64 | -7  | 65 | 0.4   | 0.1   | 6.3   |
| 1800 | 3.0 | 213.7 | 1798 | -69 | -10 | 70 | 0.5   | -0.5  | -1.8  |
| 1900 | 2.6 | 213.6 | 1898 | -73 | -13 | 74 | 0.4   | -0.4  | -0.0  |
| 2000 | 1.9 | 211.2 | 1998 | -76 | -15 | 78 | 0.7   | -0.7  | -2.5  |
| 2100 | 1.1 | 224.3 | 2098 | -78 | -17 | 80 | 0.9   | -0.8  | 13.1  |
| 2200 | 0.8 | 232.9 | 2198 | -79 | -18 | 81 | 0.4   | -0.4  | 8.6   |
| 2300 | 0.6 | 234.6 | 2298 | -80 | -19 | 82 | 0.2   | -0.2  | 1.7   |
| 2400 | 0.5 | 230.3 | 2398 | -81 | -20 | 83 | 0.1   | -0.1  | -4.3  |
| 2500 | 0.4 | 194.0 | 2498 | -81 | -20 | 83 | 0.3   | -0.1  | -36.3 |
| 2600 | 0.5 | 175.3 | 2598 | -82 | -20 | 84 | 0.2   | 0.1   | -18.7 |
| 2700 | 0.5 | 168.6 | 2698 | -83 | -20 | 85 | 0.1   | 0.0   | -6.7  |
| 2800 | 0.5 | 174.3 | 2798 | -84 | -20 | 86 | 0.1   | 0.0   | 5.8   |
| 2900 | 0.5 | 168.2 | 2898 | -85 | -20 | 87 | 0.1   | 0.0   | -6.1  |
| 3000 | 0.6 | 173.3 | 2998 | -86 | -20 | 88 | 0.1   | 0.0   | 5.2   |
| 3100 | 0.6 | 174.0 | 3098 | -87 | -19 | 89 | 0.0   | 0.0   | 0.7   |
| 3200 | 0.7 | 179.3 | 3198 | -88 | -19 | 90 | 0.1   | 0.1   | 5.3   |
| 3300 | 0.7 | 179.7 | 3298 | -89 | -19 | 91 | 0.0   | -0.0  | 0.4   |
| 3400 | 0.7 | 182.7 | 3398 | -90 | -19 | 92 | 0.1   | 0.0   | 3.0   |

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:  
: SECTION 13 T119N R4W  
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Page 2 of 4  
Date 4-23-95  
Filename : EMF2

No Interpolation

Height of Platform Datum above Customer Datum 0.00 ft  
Height of Well Datum above Platform Datum 0.00 ft  
All TVDs are relative to the Well Datum Level

| MD   | INC  | DIR   | TVD  | LAT  | DEP | VS  | D'LEG | BUILD | TURN  |
|------|------|-------|------|------|-----|-----|-------|-------|-------|
| ft   | deg  | deg   | ft   | ft   | ft  | ft  | x/100 | x/100 | x/100 |
| 3500 | 0.8  | 179.6 | 3498 | -92  | -19 | 93  | 0.1   | 0.0   | -3.1  |
| 3600 | 0.8  | 179.7 | 3598 | -93  | -19 | 95  | 0.0   | -0.0  | 0.1   |
| 3700 | 0.8  | 183.5 | 3698 | -94  | -19 | 96  | 0.0   | 0.0   | 3.7   |
| 3800 | 0.7  | 185.0 | 3798 | -96  | -20 | 97  | 0.1   | -0.1  | 1.5   |
| 3900 | 0.6  | 199.5 | 3898 | -97  | -20 | 98  | 0.2   | -0.1  | 14.5  |
| 4000 | 0.7  | 199.4 | 3998 | -98  | -20 | 100 | 0.0   | 0.1   | -0.2  |
| 4100 | 0.5  | 153.5 | 4098 | -99  | -20 | 101 | 0.5   | -0.2  | -45.9 |
| 4200 | 0.5  | 142.5 | 4198 | -99  | -20 | 101 | 0.1   | -0.0  | -11.0 |
| 4300 | 0.7  | 165.5 | 4298 | -100 | -19 | 102 | 0.3   | 0.2   | 23.1  |
| 4400 | 0.8  | 167.0 | 4398 | -102 | -19 | 103 | 0.1   | 0.1   | 1.4   |
| 4500 | 0.7  | 162.9 | 4498 | -103 | -19 | 105 | 0.1   | -0.1  | -4.0  |
| 4600 | 0.6  | 159.9 | 4598 | -104 | -18 | 106 | 0.1   | -0.1  | -3.0  |
| 4700 | 0.5  | 175.9 | 4698 | -105 | -18 | 106 | 0.2   | -0.0  | 16.0  |
| 4800 | 1.0  | 148.9 | 4798 | -106 | -18 | 108 | 0.6   | 0.5   | -27.0 |
| 5000 | 1.0  | 152.9 | 4998 | -109 | -16 | 110 | 0.0   | -0.0  | 2.0   |
| 5078 | 0.6  | 142.7 | 5076 | -110 | -15 | 111 | 0.5   | -0.5  | -13.0 |
| 5116 | 2.1  | 180.8 | 5114 | -111 | -15 | 112 | 4.3   | 3.8   | 99.0  |
| 5126 | 3.2  | 185.4 | 5124 | -112 | -15 | 113 | 11.4  | 11.2  | 46.4  |
| 5137 | 4.6  | 187.0 | 5135 | -112 | -15 | 113 | 12.8  | 12.7  | 14.5  |
| 5143 | 5.5  | 188.0 | 5141 | -113 | -15 | 114 | 15.1  | 15.0  | 16.7  |
| 5153 | 6.9  | 185.6 | 5151 | -114 | -15 | 115 | 13.9  | 13.7  | -23.7 |
| 5163 | 8.5  | 183.1 | 5161 | -115 | -16 | 116 | 16.5  | 16.2  | -24.9 |
| 5169 | 9.5  | 182.7 | 5167 | -116 | -16 | 117 | 16.9  | 16.8  | -7.3  |
| 5179 | 10.9 | 183.6 | 5176 | -118 | -16 | 119 | 13.8  | 13.7  | 8.9   |
| 5189 | 12.8 | 183.9 | 5186 | -120 | -16 | 121 | 18.9  | 18.9  | 3.1   |
| 5201 | 14.6 | 183.9 | 5198 | -123 | -16 | 124 | 15.7  | 15.7  | -0.4  |
| 5211 | 16.0 | 183.0 | 5208 | -125 | -16 | 126 | 13.9  | 13.7  | -8.3  |
| 5221 | 17.1 | 182.7 | 5217 | -128 | -16 | 129 | 11.0  | 11.0  | -3.0  |
| 5229 | 18.2 | 183.4 | 5225 | -131 | -16 | 132 | 13.9  | 13.6  | 8.9   |
| 5235 | 19.1 | 182.6 | 5230 | -133 | -17 | 134 | 16.4  | 15.8  | -13.2 |
| 5245 | 20.5 | 183.4 | 5240 | -136 | -17 | 137 | 13.7  | 13.5  | 7.4   |
| 5255 | 21.7 | 183.5 | 5249 | -140 | -17 | 141 | 12.3  | 12.3  | 1.4   |
| 5266 | 23.8 | 184.5 | 5259 | -144 | -17 | 145 | 18.9  | 18.5  | 9.0   |
| 5276 | 25.2 | 184.9 | 5268 | -148 | -18 | 149 | 14.4  | 14.3  | 4.3   |
| 5286 | 27.1 | 186.1 | 5277 | -152 | -18 | 153 | 19.6  | 19.0  | 11.1  |

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No Interpolation

Height of Platform Datum above Customer Datum 0.00 ft  
 Height of Well Datum above Platform Datum 0.00 ft  
 All TVDs are relative to the Well Datum Level

| MD   | INC  | DIR   | TVD  | LAT  | DEP | VS  | D'LEG | BUILD | TURN  |
|------|------|-------|------|------|-----|-----|-------|-------|-------|
| ft   | deg  | deg   | ft   | ft   | ft  | ft  | x/100 | x/100 | x/100 |
| 5297 | 28.7 | 187.5 | 5287 | -157 | -19 | 159 | 15.7  | 14.5  | 13.0  |
| 5312 | 31.1 | 188.7 | 5300 | -165 | -20 | 166 | 16.5  | 16.0  | 8.4   |
| 5330 | 33.8 | 189.1 | 5315 | -174 | -21 | 176 | 15.3  | 15.3  | 1.9   |
| 5346 | 36.2 | 189.1 | 5328 | -183 | -23 | 185 | 14.8  | 14.7  | 0.4   |
| 5363 | 38.7 | 190.0 | 5342 | -194 | -24 | 195 | 14.8  | 14.5  | 4.8   |
| 5373 | 40.7 | 190.3 | 5350 | -200 | -25 | 202 | 19.9  | 19.8  | 3.1   |
| 5380 | 42.0 | 190.5 | 5355 | -204 | -26 | 206 | 19.4  | 19.3  | 3.7   |
| 5390 | 44.7 | 191.9 | 5362 | -211 | -28 | 213 | 28.5  | 27.0  | 13.5  |
| 5398 | 45.9 | 192.1 | 5368 | -217 | -29 | 219 | 15.1  | 15.0  | 2.6   |
| 5408 | 47.7 | 192.8 | 5375 | -224 | -30 | 226 | 18.5  | 17.8  | 6.7   |
| 5418 | 49.5 | 193.5 | 5381 | -231 | -32 | 233 | 19.4  | 18.5  | 7.7   |
| 5434 | 52.8 | 194.8 | 5391 | -243 | -35 | 246 | 21.3  | 20.4  | 7.8   |
| 5439 | 53.7 | 195.1 | 5394 | -247 | -36 | 250 | 19.3  | 18.6  | 6.4   |
| 5444 | 54.8 | 195.2 | 5397 | -251 | -37 | 254 | 20.7  | 20.6  | 1.8   |
| 5452 | 56.1 | 195.2 | 5402 | -257 | -39 | 260 | 16.8  | 16.8  | 0.5   |
| 5462 | 58.3 | 195.3 | 5407 | -266 | -41 | 269 | 21.9  | 21.9  | 0.3   |
| 5472 | 60.4 | 195.0 | 5412 | -274 | -43 | 277 | 20.9  | 20.8  | -2.2  |
| 5485 | 62.3 | 195.0 | 5418 | -285 | -46 | 289 | 14.7  | 14.7  | 0.0   |
| 5495 | 63.9 | 195.0 | 5423 | -293 | -49 | 297 | 16.1  | 16.1  | 0.0   |
| 5508 | 66.3 | 195.0 | 5428 | -305 | -52 | 309 | 18.5  | 18.5  | 0.0   |
| 5513 | 67.3 | 195.0 | 5430 | -309 | -53 | 314 | 20.2  | 20.2  | 0.0   |
| 5520 | 69.1 | 195.0 | 5433 | -316 | -55 | 320 | 25.3  | 25.3  | 0.0   |
| 5525 | 70.4 | 192.8 | 5435 | -320 | -56 | 325 | 49.3  | 26.0  | -44.6 |
| 5530 | 71.7 | 192.8 | 5436 | -325 | -57 | 329 | 26.8  | 26.8  | -0.4  |
| 5535 | 72.9 | 192.7 | 5438 | -329 | -58 | 334 | 24.4  | 24.4  | -1.4  |
| 5540 | 74.2 | 192.8 | 5439 | -334 | -59 | 339 | 24.4  | 24.4  | 1.6   |
| 5545 | 75.4 | 192.7 | 5441 | -339 | -60 | 344 | 24.7  | 24.6  | -1.8  |
| 5555 | 77.8 | 192.7 | 5443 | -348 | -62 | 353 | 23.8  | 23.8  | -0.2  |
| 5565 | 80.2 | 192.7 | 5445 | -358 | -64 | 363 | 24.7  | 24.7  | 0.4   |
| 5570 | 81.5 | 192.7 | 5446 | -363 | -65 | 368 | 25.4  | 25.4  | -0.4  |
| 5580 | 84.2 | 192.6 | 5447 | -372 | -68 | 378 | 26.9  | 26.9  | -1.4  |
| 5589 | 86.4 | 192.3 | 5448 | -381 | -69 | 387 | 25.3  | 25.1  | -2.8  |
| 5603 | 89.8 | 193.0 | 5448 | -395 | -73 | 401 | 24.6  | 24.1  | 4.6   |
| 5613 | 91.5 | 193.4 | 5448 | -404 | -75 | 411 | 17.7  | 17.1  | 4.5   |
| 5621 | 92.5 | 193.5 | 5448 | -412 | -77 | 419 | 12.6  | 12.5  | 1.4   |

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 No Interpolation

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Height of Platform Datum above Customer Datum 0.00 ft  
 Height of Well Datum above Platform Datum 0.00 ft  
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| MD   | INC  | DIR   | TVD  | LAT   | DEP  | VS   | D'LEG | BUILD | TURN  |
|------|------|-------|------|-------|------|------|-------|-------|-------|
| ft   | deg  | deg   | ft   | ft    | ft   | ft   | x/100 | x/100 | x/100 |
| 5631 | 93.7 | 194.7 | 5447 | -422  | -79  | 429  | 16.3  | 11.7  | 11.3  |
| 5653 | 92.1 | 195.3 | 5446 | -443  | -85  | 451  | 7.9   | -7.3  | 3.0   |
| 5686 | 89.6 | 195.9 | 5446 | -475  | -94  | 483  | 7.8   | -7.6  | 1.7   |
| 5717 | 90.2 | 196.3 | 5446 | -505  | -102 | 514  | 2.4   | 1.9   | 1.5   |
| 5750 | 90.1 | 196.6 | 5446 | -536  | -112 | 547  | 0.9   | -0.4  | 0.8   |
| 5782 | 89.8 | 197.5 | 5446 | -567  | -121 | 578  | 3.0   | -0.8  | 2.9   |
| 5847 | 90.1 | 198.7 | 5446 | -629  | -141 | 642  | 1.9   | 0.5   | 1.8   |
| 5879 | 89.7 | 198.8 | 5446 | -659  | -152 | 673  | 1.4   | -1.3  | 0.3   |
| 5911 | 90.1 | 199.8 | 5446 | -689  | -162 | 705  | 3.4   | 1.2   | 3.2   |
| 5944 | 90.5 | 201.0 | 5446 | -720  | -174 | 737  | 3.6   | 1.2   | 3.5   |
| 5975 | 89.8 | 202.3 | 5445 | -749  | -185 | 767  | 4.7   | -2.0  | 4.2   |
| 6008 | 89.7 | 203.4 | 5446 | -779  | -198 | 799  | 3.3   | -0.5  | 3.2   |
| 6041 | 89.6 | 204.7 | 5446 | -810  | -211 | 831  | 4.0   | -0.1  | 4.0   |
| 6074 | 89.5 | 204.6 | 5446 | -840  | -225 | 862  | 0.6   | -0.5  | -0.4  |
| 6106 | 89.6 | 205.4 | 5446 | -869  | -239 | 893  | 2.7   | 0.4   | 2.7   |
| 6139 | 89.5 | 205.3 | 5447 | -898  | -253 | 924  | 0.6   | -0.3  | -0.5  |
| 6171 | 89.9 | 205.6 | 5447 | -927  | -266 | 955  | 1.6   | 1.3   | 1.0   |
| 6203 | 90.4 | 206.3 | 5447 | -956  | -280 | 985  | 2.7   | 1.4   | 2.2   |
| 6236 | 90.9 | 206.3 | 5446 | -986  | -295 | 1016 | 1.7   | 1.7   | -0.1  |
| 6267 | 91.1 | 206.1 | 5446 | -1013 | -309 | 1046 | 0.7   | 0.4   | -0.6  |
| 6300 | 91.3 | 207.2 | 5445 | -1043 | -323 | 1077 | 3.5   | 0.9   | 3.4   |
| 6334 | 91.9 | 207.6 | 5444 | -1073 | -339 | 1109 | 2.1   | 1.7   | 1.1   |
| 6365 | 92.3 | 207.6 | 5443 | -1101 | -353 | 1138 | 1.3   | 1.3   | 0.2   |
| 6426 | 93.0 | 207.8 | 5440 | -1154 | -382 | 1195 | 1.2   | 1.1   | 0.2   |
| 6506 | 94.0 | 208.0 | 5435 | -1225 | -419 | 1270 | 1.2   | 1.1   | 0.3   |

Origin of Bottom Hole Closure PLATFORM CENTRE  
 Bottom Hole Closure 1295 ft 198.9x

\*\*LAST SURVEY AT 6506 IS PROJECTED AT BIT\*\*