



Job Number: SVMO-141468  
 Company: BOPCO, LP  
 Lease/Well: James Ranch Unit DI 1 162H  
 Location: Eddy County, NM  
 Rig Name: ICD #207  
 RKB: 26'  
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA  
 Declination: 7.15°  
 Grid: East To Grid North  
 File name: S:\2014SU-11BOPCO\MOJAMESR-11DI1-11162H.SVY  
 Date/Time: 04-Nov-14 / 12:52  
 Curve Name: Surface - 522' M.D. (Rate Gyro)

# NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 21 2016

RECEIVED

## MS SURVEY

### WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method  
 Vertical Section Plane 85.01  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from  
 Surface MD to 522' MD is, to the best of  
 our knowledge a true and accurate account of  
 the well bore.  
 Daniel West 11/4/14  
 MS Energy Services Date

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | True<br>Vertical<br>Depth | N-S<br>FT | E-W<br>FT | Vertical<br>Section<br>FT | Distance<br>FT | CLOSURE<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|-----------------------------|-------------------------------|
|-------------------------|----------------------|---------------------------|---------------------------|-----------|-----------|---------------------------|----------------|-----------------------------|-------------------------------|

|        |     |        |        |     |       |       |      |        |     |
|--------|-----|--------|--------|-----|-------|-------|------|--------|-----|
| 00     | .00 | .00    | .00    | .00 | .00   | .00   | .00  | .00    | .00 |
| 87.00  | .51 | 289.66 | 87.00  | .13 | -.36  | -.35  | .39  | 289.66 | .59 |
| 180.00 | .55 | 292.79 | 179.99 | .44 | -1.17 | -1.12 | 1.25 | 290.78 | .05 |
| 272.00 | .23 | 309.36 | 271.99 | .73 | -1.72 | -1.65 | 1.86 | 293.06 | .37 |
| 365.00 | .06 | 328.07 | 364.99 | .89 | -1.89 | -1.80 | 2.09 | 295.27 | .19 |

|                            |     |        |        |     |       |       |      |        |     |
|----------------------------|-----|--------|--------|-----|-------|-------|------|--------|-----|
| 458.00                     | .05 | 297.33 | 457.99 | .95 | -1.95 | -1.86 | 2.17 | 296.01 | .03 |
| Last Survey Depth Recorded |     |        |        |     |       |       |      |        |     |
| 522.00                     | .04 | 227.24 | 521.99 | .95 | -1.99 | -1.90 | 2.20 | 295.48 | .08 |

30-015-42615