

30-015-42574

NEW MEXICO  
NRA DISTRICT  
SEP 08 2016  
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# A Gyrodata Directional Survey

FINAL DEFINITIVE COPY

for

**BOPCO LP.**

Lease: POKER LAKE FIELD Well: 456-H, 4 1/2 IF  
Location: MCVAY DRILLING RIG #5, EDDY COUNTY, NEW MEXICO

Job Number: MD1114GDM1107

Run Date: 14 Nov 2014

Report Generated: 26 Nov 2014 12:42

Surveyor: Ed Preston

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Well Plan/Plot

Survey Latitude: 32.113669 deg. N Longitude: 103.865314 deg. W

Azimuth Correction:

Gyro: -0.25000 deg to Grid North

Depth Reference: Rotary Table

Air Gap (RKB to Ground / RKB to MSL): 17.50

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

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Location: MCVAY DRILLING RIG #5, EDDY COUNTY, NEW MEXICO

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| MEASURED<br>DEPTH | INCL<br>deg. | AZIMUTH<br>deg. | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST.<br>feet | AZIMUTH<br>deg. | HORIZONTAL<br>COORDINATES<br>feet |
|-------------------|--------------|-----------------|----------------------------------------|---------------------------|--------------------------|-----------------|-----------------------------------|
| 0.00              | 0.00         | 0.00            | 0.00                                   | 0.00                      | 0.0                      | 0.0             | 0.00 N 0.00 E                     |
| 100.00            | 0.38         | 73.10           | 0.38                                   | 100.00                    | 0.3                      | 73.1            | 0.10 N 0.32 E                     |
| 200.00            | 0.21         | 84.14           | 0.18                                   | 200.00                    | 0.8                      | 75.5            | 0.21 N 0.82 E                     |
| 300.00            | 0.23         | 96.58           | 0.05                                   | 300.00                    | 1.2                      | 80.2            | 0.21 N 1.20 E                     |
| 400.00            | 0.17         | 103.47          | 0.06                                   | 400.00                    | 1.5                      | 84.5            | 0.15 N 1.54 E                     |
| 500.00            | 0.15         | 172.82          | 0.18                                   | 500.00                    | 1.7                      | 90.5            | 0.01 S 1.70 E                     |
| 600.00            | 0.28         | 196.20          | 0.15                                   | 600.00                    | 1.7                      | 102.9           | 0.38 S 1.65 E                     |
| 700.00            | 0.42         | 198.32          | 0.14                                   | 699.99                    | 1.8                      | 123.2           | 0.96 S 1.47 E                     |
| 800.00            | 0.61         | 200.85          | 0.19                                   | 799.99                    | 2.1                      | 147.2           | 1.81 S 1.16 E                     |
| 900.00            | 0.71         | 206.98          | 0.12                                   | 899.98                    | 2.9                      | 166.4           | 2.86 S 0.69 E                     |
| 1000.00           | 0.88         | 216.64          | 0.22                                   | 999.97                    | 4.0                      | 180.7           | 4.03 S 0.05 W                     |
| 1100.00           | 1.09         | 220.82          | 0.22                                   | 1099.96                   | 5.5                      | 191.9           | 5.36 S 1.13 W                     |
| 1200.00           | 1.45         | 229.61          | 0.41                                   | 1199.93                   | 7.4                      | 201.5           | 6.90 S 2.71 W                     |
| 1300.00           | 1.86         | 247.81          | 0.66                                   | 1299.89                   | 9.8                      | 211.9           | 8.33 S 5.18 W                     |
| 1343.00           | 2.07         | 248.12          | 0.49                                   | 1342.87                   | 11.0                     | 216.4           | 8.89 S 6.55 W                     |

Final Station Closure: Distance: 11.04 ft Az: 216.37 deg.

0 TO 1343 FT. RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4 1/2 INCH DRILLPIPE  
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO MCVAY DRILLING RIG #5 R.K.B. HEIGHT OF 17.5 FT.