

Results of Directional Survey

| | | | |
|-------------|--------------|-----------|-------------------|
| API number: | 30-025-41114 | | |
| OGRID: | | Operator: | EOG RESOURCES INC |
| | | Property: | OPHELIA 27 # 1H |

| | | | | | |
|---------|--------|---|----|----------|---------|
| surface | ULSTR: | H | 27 | T 26S | R 33E |
| | | | | 2422 FNL | 422 FEL |

| | | | | | |
|--------|--------|---|--------|--------------|---------|
| BH Loc | ULSTR: | I | 22 | T 26S | R 33E |
| 14170 | MD | | 9517.2 | TVD 2409 FSL | 452 FEL |

| | | | | | |
|-------------|--------|---|--------|--------------|---------|
| Top Perf/OH | ULSTR: | H | 27 | T 26S | R 33E |
| 9729 | MD | | 9544.3 | TVD 2025 FNL | 402 FEL |

| | | | | | |
|-------------|--------|---|--------|--------------|---------|
| Bot Perf/OH | ULSTR: | I | 22 | T 26S | R 33E |
| 14050 | MD | | 9517.8 | TVD 2289 FSL | 452 FEL |

| | MD | N/S | E/W | VD |
|--------------|-------|---------|--------|---------|
| | 9718 | 387.04 | 19.39 | 9540.56 |
| TOP PERFS/OH | 9729 | 397.37 | 20.03 | 9544.29 |
| | 9750 | 417.08 | 21.25 | 9551.40 |
| | 13981 | 4642.30 | -30.58 | 9518.68 |
| BOT PERFS/OH | 14050 | 4711.29 | -30.37 | 9517.81 |
| | 14076 | 4737.29 | -30.29 | 9517.48 |

| | | | | |
|--------------|-------|---------|--------|---------|
| NEXT TO LAST | 14112 | 4773.29 | -30.23 | 9517.25 |
| LAST READING | 14170 | 4831.29 | -29.99 | 9517.18 |
| TD | 14170 | 4831.29 | -29.99 | 9517.18 |

| | | |
|------------------|---------|--------|
| Surface Location | 2422 FN | 422 FE |
| Projected BHL | 2409 FS | 452 FE |
| Location of | | |
| Top Perfs/OH | 2025 FN | 402 FE |
| Bottom Perfs/OH | 2289 FS | 452 FE |

SUMMARY of Subsurface Locations

| Surface Location | H-27-26S-33E | 2422 FN | 422 FE | Vert. Depth |
|------------------|--------------|---------|--------|-------------|
| Top Perfs/OH | H-27-26S-33E | 2025 FN | 402 FE | 9544.29 |
| Bottom Perfs/OH | I-22-26S-33E | 2289 FS | 452 FE | 9517.81 |
| Projected TD | I-22-26S-33E | 2409 FS | 452 FE | 9517.18 |

APR 14 2014

EOG RESOURCES, INC.

LEA COUNTY, NEW MEXICO
OPHELIA 27 - API# 300254111400
1H; SEC27 /TWN26S / RGE33E

1H; SEC27 /TWN26S / RGE33E

Design: 1H - 900751689 Survey

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HOBBS OCD

Sperry Drilling Services Combo Report

16 October, 2013

Well Coordinates: 370,026.00 N, 742,008.00 E (32° 00' 53.68" N, 103° 33' 09.12" W)
Ground Level: 3,307.00 usft

Local Coordinate Origin: Centered on Well 1H; SEC27 /TWN26S / RGE33E
Viewing Datum: WELL @ 3334.00usft (PATTERSON #452 RKB-GL=27')
TVDs to System: N
North Reference: Grid
Unit System: API - US SurveyFT

Version: 5000.1 Build: 56

HALLIBURTON

HALLIBURTON

Design Report for 1H; SEC27 /TWN26S / RGE33E - 1H - 900751689 Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | TVD below System (usft) | Vertical Depth (usft) | Local Coordinates | | Map Coordinates | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Comments |
|-----------------------------|--------------------|----------------|-------------------------------|-----------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|-------------------------------|----------|
| | | | | | Northing (usft) | Easting (usft) | Northing (usft) | Easting (usft) | | | |
| 0.00 | 0.00 | 0.00 | -3,334.00 | 0.00 | 0.00 N | 0.00 E | 370,026.00 | 742,008.00 | 0.00 | 0.00 | |
| 118.00 | 0.30 | 82.40 | -3,216.00 | 118.00 | 0.04 N | 0.31 E | 370,026.04 | 742,008.31 | 0.25 | 0.04 | |
| 300.00 | 0.10 | 165.40 | -3,034.00 | 300.00 | 0.05 S | 0.82 E | 370,025.95 | 742,008.82 | 0.17 | -0.05 | |
| 486.00 | 0.40 | 195.40 | -2,848.00 | 486.00 | 0.83 S | 0.69 E | 370,025.17 | 742,008.69 | 0.17 | -0.83 | |
| 670.00 | 0.60 | 195.40 | -2,664.01 | 669.99 | 2.38 S | 0.26 E | 370,023.62 | 742,008.26 | 0.11 | -2.38 | |
| 842.00 | 0.80 | 209.40 | -2,492.02 | 841.98 | 4.30 S | 0.57 W | 370,021.70 | 742,007.43 | 0.15 | -4.30 | |
| 963.00 | 0.50 | 241.65 | -2,371.03 | 962.97 | 5.28 S | 1.44 W | 370,020.72 | 742,006.56 | 0.38 | -5.28 | |
| 1,147.00 | 0.72 | 232.09 | -2,187.04 | 1,146.96 | 6.37 S | 3.06 W | 370,019.63 | 742,004.94 | 0.14 | -6.38 | |
| 1,332.00 | 0.40 | 218.63 | -2,002.05 | 1,331.95 | 7.60 S | 4.39 W | 370,018.40 | 742,003.61 | 0.19 | -7.60 | |
| 1,520.00 | 0.57 | 226.03 | -1,814.06 | 1,519.94 | 8.76 S | 5.47 W | 370,017.24 | 742,002.53 | 0.09 | -8.77 | |
| 1,711.00 | 0.85 | 220.49 | -1,623.07 | 1,710.93 | 10.50 S | 7.07 W | 370,015.50 | 742,000.93 | 0.15 | -10.50 | |
| 1,901.00 | 1.05 | 213.11 | -1,433.10 | 1,900.90 | 13.03 S | 8.94 W | 370,012.97 | 741,999.06 | 0.13 | -13.04 | |
| 2,092.00 | 0.70 | 133.22 | -1,242.12 | 2,091.88 | 15.31 S | 9.05 W | 370,010.69 | 741,998.95 | 0.61 | -15.32 | |
| 2,283.00 | 0.40 | 131.75 | -1,051.12 | 2,282.88 | 16.55 S | 7.70 W | 370,009.45 | 742,000.30 | 0.16 | -16.56 | |
| 2,474.00 | 0.43 | 142.26 | -860.13 | 2,473.87 | 17.57 S | 6.76 W | 370,008.43 | 742,001.24 | 0.04 | -17.58 | |
| 2,665.00 | 0.70 | 122.02 | -669.14 | 2,664.86 | 18.75 S | 5.33 W | 370,007.25 | 742,002.67 | 0.17 | -18.76 | |
| 2,856.00 | 0.52 | 114.94 | -478.15 | 2,855.85 | 19.74 S | 3.55 W | 370,006.26 | 742,004.45 | 0.10 | -19.74 | |
| 3,047.00 | 0.67 | 135.20 | -287.16 | 3,046.84 | 20.90 S | 1.98 W | 370,005.10 | 742,006.02 | 0.13 | -20.90 | |
| 3,238.00 | 0.76 | 12.82 | -96.17 | 3,237.83 | 20.45 S | 0.92 W | 370,005.55 | 742,007.08 | 0.65 | -20.46 | |
| 3,429.00 | 0.22 | 96.20 | 94.83 | 3,428.83 | 19.27 S | 0.27 W | 370,006.73 | 742,007.73 | 0.40 | -19.27 | |
| 3,619.00 | 0.74 | 54.00 | 284.82 | 3,618.82 | 18.59 S | 1.10 E | 370,007.41 | 742,009.10 | 0.31 | -18.58 | |
| 3,810.00 | 1.42 | 81.46 | 475.79 | 3,809.79 | 17.51 S | 4.43 E | 370,008.49 | 742,012.43 | 0.44 | -17.50 | |
| 4,001.00 | 0.34 | 315.01 | 666.77 | 4,000.77 | 16.75 S | 6.37 E | 370,009.25 | 742,014.37 | 0.86 | -16.74 | |
| 4,192.00 | 0.48 | 223.57 | 857.76 | 4,191.76 | 16.93 S | 5.41 E | 370,009.07 | 742,013.41 | 0.31 | -16.92 | |
| 4,383.00 | 1.34 | 143.71 | 1,048.74 | 4,382.74 | 19.31 S | 6.17 E | 370,006.69 | 742,014.17 | 0.70 | -19.30 | |
| 4,574.00 | 0.84 | 312.34 | 1,239.73 | 4,573.73 | 20.16 S | 6.46 E | 370,005.84 | 742,014.46 | 1.13 | -20.15 | |
| 4,764.00 | 1.11 | 137.94 | 1,429.72 | 4,763.72 | 20.59 S | 6.66 E | 370,005.41 | 742,014.66 | 1.02 | -20.58 | |
| 4,950.00 | 1.39 | 342.14 | 1,615.70 | 4,949.70 | 19.76 S | 7.17 E | 370,006.24 | 742,015.17 | 1.32 | -19.76 | |
| 5,040.00 | 1.05 | 346.41 | 1,705.68 | 5,039.68 | 17.92 S | 6.64 E | 370,008.08 | 742,014.64 | 0.40 | -17.91 | |
| 5,230.00 | 0.65 | 338.69 | 1,895.66 | 5,229.66 | 15.23 S | 5.84 E | 370,010.77 | 742,013.84 | 0.22 | -15.22 | |
| 5,421.00 | 0.89 | 353.30 | 2,086.65 | 5,420.65 | 12.74 S | 5.27 E | 370,013.26 | 742,013.27 | 0.16 | -12.73 | |
| 5,613.00 | 1.08 | 335.97 | 2,278.62 | 5,612.62 | 9.60 S | 4.36 E | 370,016.40 | 742,012.36 | 0.18 | -9.60 | |
| 5,804.00 | 1.25 | 342.75 | 2,469.58 | 5,803.58 | 5.98 S | 3.01 E | 370,020.02 | 742,011.01 | 0.11 | -5.97 | |
| 5,995.00 | 1.37 | 340.43 | 2,660.53 | 5,994.53 | 1.84 S | 1.63 E | 370,024.16 | 742,009.63 | 0.07 | -1.84 | |
| 6,186.00 | 0.95 | 350.25 | 2,851.49 | 6,185.49 | 1.87 N | 0.60 E | 370,027.87 | 742,008.60 | 0.24 | 1.87 | |
| 6,377.00 | 1.05 | 106.20 | 3,042.47 | 6,376.47 | 2.94 N | 2.01 E | 370,028.94 | 742,010.01 | 0.89 | 2.94 | |
| 6,568.00 | 1.19 | 102.80 | 3,233.44 | 6,567.44 | 2.01 N | 5.62 E | 370,028.01 | 742,013.62 | 0.08 | 2.02 | |
| 6,759.00 | 1.31 | 103.75 | 3,424.39 | 6,758.39 | 1.05 N | 9.68 E | 370,027.05 | 742,017.68 | 0.06 | 1.07 | |
| 6,950.00 | 0.44 | 136.22 | 3,615.37 | 6,949.37 | 0.01 N | 12.30 E | 370,026.01 | 742,020.30 | 0.51 | 0.02 | |
| 7,141.00 | 0.47 | 115.06 | 3,806.36 | 7,140.36 | 0.85 S | 13.52 E | 370,025.15 | 742,021.52 | 0.09 | -0.84 | |

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Design Report for 1H; SEC27 /TWN26S / RGE33E - 1H - 900751689 Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | TVD below System (usft) | Vertical Depth (usft) | Local Coordinates (usft) | | Map Coordinates (usft) | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Comments |
|-----------------------|-----------------|-------------|-------------------------|-----------------------|--------------------------|---------|------------------------|------------|-------------------------|-------------------------|----------|
| | | | | | Northing | Easting | Northing | Easting | | | |
| 7,331.00 | 0.53 | 133.48 | 3,996.36 | 7,330.36 | 1.79 S | 14.87 E | 370,024.21 | 742,022.87 | 0.09 | -1.77 | |
| 7,522.00 | 0.81 | 118.79 | 4,187.34 | 7,521.34 | 3.05 S | 16.70 E | 370,022.95 | 742,024.70 | 0.17 | -3.03 | |
| 7,713.00 | 0.62 | 148.85 | 4,378.33 | 7,712.33 | 4.58 S | 18.41 E | 370,021.42 | 742,026.41 | 0.22 | -4.56 | |
| 7,904.00 | 0.62 | 173.23 | 4,569.32 | 7,903.32 | 6.49 S | 19.07 E | 370,019.51 | 742,027.07 | 0.14 | -6.47 | |
| 8,094.00 | 0.39 | 215.82 | 4,759.31 | 8,093.31 | 8.03 S | 18.81 E | 370,017.97 | 742,026.81 | 0.22 | -8.01 | |
| 8,285.00 | 0.57 | 189.07 | 4,950.30 | 8,284.30 | 9.49 S | 18.29 E | 370,016.51 | 742,026.29 | 0.15 | -9.47 | |
| 8,477.00 | 1.42 | 197.40 | 5,142.27 | 8,476.27 | 12.70 S | 17.42 E | 370,013.30 | 742,025.42 | 0.45 | -12.67 | |
| 8,667.00 | 1.24 | 215.87 | 5,332.22 | 8,666.22 | 16.61 S | 15.52 E | 370,009.39 | 742,023.52 | 0.24 | -16.59 | |
| 8,857.00 | 0.49 | 194.68 | 5,522.20 | 8,856.20 | 19.06 S | 14.10 E | 370,006.94 | 742,022.10 | 0.42 | -19.04 | |
| 8,986.00 | 0.52 | 172.36 | 5,651.20 | 8,985.20 | 20.16 S | 14.04 E | 370,005.84 | 742,022.04 | 0.15 | -20.14 | |
| 9,018.00 | 0.13 | 224.95 | 5,683.20 | 9,017.20 | 20.33 S | 14.04 E | 370,005.67 | 742,022.04 | 1.41 | -20.31 | |
| 9,049.00 | 0.80 | 316.39 | 5,714.19 | 9,048.19 | 20.20 S | 13.86 E | 370,005.80 | 742,021.86 | 2.63 | -20.18 | |
| 9,081.00 | 4.83 | 350.21 | 5,746.15 | 9,080.15 | 18.71 S | 13.48 E | 370,007.29 | 742,021.48 | 13.08 | -18.69 | |
| 9,113.00 | 11.59 | 354.83 | 5,777.80 | 9,111.80 | 14.17 S | 12.96 E | 370,011.83 | 742,020.96 | 21.22 | -14.16 | |
| 9,145.00 | 17.70 | 356.27 | 5,808.75 | 9,142.75 | 6.11 S | 12.35 E | 370,019.89 | 742,020.35 | 19.14 | -6.09 | |
| 9,176.00 | 22.94 | 357.03 | 5,837.81 | 9,171.81 | 4.64 N | 11.73 E | 370,030.64 | 742,019.73 | 16.90 | 4.65 | |
| 9,208.00 | 27.00 | 358.36 | 5,866.81 | 9,200.81 | 18.13 N | 11.20 E | 370,044.13 | 742,019.20 | 12.82 | 18.14 | |
| 9,240.00 | 31.04 | 359.86 | 5,894.79 | 9,228.79 | 33.65 N | 10.97 E | 370,059.65 | 742,018.97 | 12.83 | 33.66 | |
| 9,272.00 | 34.40 | 1.14 | 5,921.71 | 9,255.71 | 50.94 N | 11.13 E | 370,076.94 | 742,019.13 | 10.72 | 50.96 | |
| 9,304.00 | 37.65 | 2.02 | 5,947.58 | 9,281.58 | 69.75 N | 11.66 E | 370,095.75 | 742,019.66 | 10.27 | 69.77 | |
| 9,335.00 | 40.57 | 2.59 | 5,971.64 | 9,305.64 | 89.29 N | 12.45 E | 370,115.29 | 742,020.45 | 9.51 | 89.31 | |
| 9,367.00 | 42.52 | 2.74 | 5,995.58 | 9,329.58 | 110.49 N | 13.44 E | 370,136.49 | 742,021.44 | 6.09 | 110.51 | |
| 9,399.00 | 43.24 | 2.59 | 6,019.03 | 9,353.03 | 132.24 N | 14.45 E | 370,158.24 | 742,022.45 | 2.28 | 132.26 | |
| 9,431.00 | 44.41 | 1.86 | 6,042.12 | 9,376.12 | 154.39 N | 15.31 E | 370,180.39 | 742,023.31 | 3.97 | 154.40 | |
| 9,463.00 | 45.81 | 1.06 | 6,064.70 | 9,398.70 | 177.05 N | 15.88 E | 370,203.05 | 742,023.88 | 4.72 | 177.07 | |
| 9,495.00 | 48.10 | 0.18 | 6,086.54 | 9,420.54 | 200.43 N | 16.13 E | 370,226.43 | 742,024.13 | 7.44 | 200.45 | |
| 9,527.00 | 50.46 | 359.79 | 6,107.42 | 9,441.42 | 224.68 N | 16.12 E | 370,250.68 | 742,024.12 | 7.44 | 224.70 | |
| 9,558.00 | 52.82 | 359.79 | 6,126.65 | 9,460.65 | 248.99 N | 16.03 E | 370,274.99 | 742,024.03 | 7.62 | 249.01 | |
| 9,591.00 | 55.59 | 0.18 | 6,145.95 | 9,479.95 | 275.75 N | 16.03 E | 370,301.75 | 742,024.03 | 8.44 | 275.77 | |
| 9,623.00 | 58.44 | 0.89 | 6,163.37 | 9,497.37 | 302.59 N | 16.28 E | 370,328.59 | 742,024.28 | 9.08 | 302.61 | |
| 9,654.00 | 61.67 | 1.74 | 6,178.84 | 9,512.84 | 329.44 N | 16.90 E | 370,355.44 | 742,024.90 | 10.70 | 329.46 | |
| 9,686.00 | 63.88 | 2.40 | 6,193.48 | 9,527.48 | 357.87 N | 17.93 E | 370,383.87 | 742,025.93 | 7.14 | 357.90 | |
| 9,718.00 | 67.86 | 3.30 | 6,206.56 | 9,540.56 | 387.04 N | 19.39 E | 370,413.04 | 742,027.39 | 12.71 | 387.06 | |
| 9,750.00 | 72.55 | 3.40 | 6,217.40 | 9,551.40 | 417.08 N | 21.15 E | 370,443.08 | 742,029.15 | 14.64 | 417.11 | |
| 9,782.00 | 77.51 | 3.38 | 6,225.66 | 9,559.66 | 447.94 N | 22.97 E | 370,473.94 | 742,030.97 | 15.52 | 447.96 | |
| 9,813.00 | 83.11 | 3.03 | 6,230.88 | 9,564.88 | 478.43 N | 24.68 E | 370,504.43 | 742,032.68 | 18.08 | 478.46 | |
| 9,845.00 | 88.27 | 2.18 | 6,233.28 | 9,567.28 | 510.30 N | 26.13 E | 370,536.30 | 742,034.13 | 16.36 | 510.33 | |
| 9,877.00 | 89.69 | 1.71 | 6,233.85 | 9,567.85 | 542.27 N | 27.21 E | 370,568.27 | 742,035.21 | 4.66 | 542.31 | |
| 9,909.00 | 90.12 | 1.59 | 6,233.90 | 9,567.90 | 574.26 N | 28.14 E | 370,600.26 | 742,036.14 | 1.41 | 574.29 | |

HALLIBURTON**Design Report for 1H; SEC27 /TWN26S / RGE33E - 1H - 900751689 Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | TVD below System (usft) | Vertical Depth (usft) | Local Coordinates Northing (usft) Easting (usft) | | Map Coordinates Northing (usft) Easting (usft) | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Comments |
|-----------------------------|--------------------|----------------|-------------------------------|-----------------------------|--|---------|--|------------|-------------------------------|-------------------------------|----------|
| 9,972.00 | 91.14 | 1.73 | 6,233.21 | 9,567.21 | 637.23 N | 29.96 E | 370,663.23 | 742,037.96 | 1.63 | 637.27 | |
| 10,068.00 | 89.78 | 1.53 | 6,232.43 | 9,566.43 | 733.19 N | 32.69 E | 370,759.19 | 742,040.69 | 1.43 | 733.23 | |
| 10,163.00 | 91.20 | 358.98 | 6,231.61 | 9,565.61 | 828.17 N | 33.11 E | 370,854.17 | 742,041.11 | 3.07 | 828.21 | |
| 10,258.00 | 90.99 | 356.72 | 6,229.80 | 9,563.80 | 923.08 N | 29.54 E | 370,949.08 | 742,037.54 | 2.39 | 923.12 | |
| 10,354.00 | 93.64 | 0.13 | 6,225.93 | 9,559.93 | 1,018.94 N | 26.90 E | 371,044.94 | 742,034.90 | 4.50 | 1,018.98 | |
| 10,449.00 | 93.67 | 0.70 | 6,219.87 | 9,553.87 | 1,113.75 N | 27.59 E | 371,139.75 | 742,035.59 | 0.60 | 1,113.78 | |
| 10,545.00 | 92.38 | 0.53 | 6,214.80 | 9,548.80 | 1,209.61 N | 28.61 E | 371,235.61 | 742,036.61 | 1.36 | 1,209.64 | |
| 10,640.00 | 92.03 | 359.02 | 6,211.15 | 9,545.15 | 1,304.53 N | 28.24 E | 371,330.53 | 742,036.24 | 1.63 | 1,304.57 | |
| 10,735.00 | 89.91 | 358.96 | 6,209.54 | 9,543.54 | 1,399.50 N | 26.57 E | 371,425.50 | 742,034.57 | 2.24 | 1,399.53 | |
| 10,831.00 | 89.45 | 358.08 | 6,210.08 | 9,544.08 | 1,495.46 N | 24.09 E | 371,521.46 | 742,032.09 | 1.04 | 1,495.49 | |
| 10,926.00 | 91.48 | 359.42 | 6,209.31 | 9,543.31 | 1,590.43 N | 22.02 E | 371,616.43 | 742,030.02 | 2.57 | 1,590.46 | |
| 11,021.00 | 89.78 | 359.82 | 6,208.27 | 9,542.27 | 1,685.42 N | 21.40 E | 371,711.42 | 742,029.40 | 1.84 | 1,685.44 | |
| 11,117.00 | 91.33 | 359.75 | 6,207.34 | 9,541.34 | 1,781.41 N | 21.04 E | 371,807.41 | 742,029.04 | 1.61 | 1,781.44 | |
| 11,212.00 | 92.16 | 0.75 | 6,204.45 | 9,538.45 | 1,876.36 N | 21.46 E | 371,902.36 | 742,029.46 | 1.37 | 1,876.39 | |
| 11,308.00 | 90.71 | 359.58 | 6,202.05 | 9,536.05 | 1,972.33 N | 21.74 E | 371,998.33 | 742,029.74 | 1.94 | 1,972.35 | |
| 11,403.00 | 91.08 | 359.27 | 6,200.57 | 9,534.57 | 2,067.31 N | 20.79 E | 372,093.31 | 742,028.79 | 0.51 | 2,067.34 | |
| 11,499.00 | 90.71 | 358.03 | 6,199.07 | 9,533.07 | 2,163.27 N | 18.52 E | 372,189.27 | 742,026.52 | 1.35 | 2,163.29 | |
| 11,594.00 | 87.91 | 356.50 | 6,200.22 | 9,534.22 | 2,258.14 N | 13.99 E | 372,284.14 | 742,021.99 | 3.36 | 2,258.16 | |
| 11,690.00 | 87.62 | 356.72 | 6,203.97 | 9,537.97 | 2,353.90 N | 8.32 E | 372,379.90 | 742,016.32 | 0.37 | 2,353.91 | |
| 11,785.00 | 89.02 | 357.59 | 6,206.75 | 9,540.75 | 2,448.74 N | 3.61 E | 372,474.74 | 742,011.61 | 1.73 | 2,448.74 | |
| 11,881.00 | 89.17 | 358.44 | 6,208.27 | 9,542.27 | 2,544.67 N | 0.28 E | 372,570.67 | 742,008.28 | 0.90 | 2,544.67 | |
| 11,976.00 | 89.60 | 358.79 | 6,209.29 | 9,543.29 | 2,639.64 N | 2.01 W | 372,665.64 | 742,005.99 | 0.58 | 2,639.63 | |
| 12,072.00 | 91.32 | 0.20 | 6,208.52 | 9,542.52 | 2,735.63 N | 2.86 W | 372,761.63 | 742,005.14 | 2.32 | 2,735.62 | |
| 12,167.00 | 93.52 | 359.36 | 6,204.50 | 9,538.50 | 2,830.53 N | 3.22 W | 372,856.53 | 742,004.78 | 2.48 | 2,830.53 | |
| 12,263.00 | 93.42 | 0.53 | 6,198.70 | 9,532.70 | 2,926.36 N | 3.32 W | 372,952.36 | 742,004.68 | 1.22 | 2,926.35 | |
| 12,359.00 | 94.48 | 0.94 | 6,192.09 | 9,526.09 | 3,022.12 N | 2.09 W | 373,048.12 | 742,005.91 | 1.18 | 3,022.11 | |
| 12,454.00 | 92.28 | 0.18 | 6,186.49 | 9,520.49 | 3,116.94 N | 1.17 W | 373,142.94 | 742,006.83 | 2.45 | 3,116.94 | |
| 12,549.00 | 90.92 | 359.67 | 6,183.84 | 9,517.84 | 3,211.90 N | 1.29 W | 373,237.90 | 742,006.71 | 1.52 | 3,211.90 | |
| 12,645.00 | 91.17 | 358.74 | 6,182.08 | 9,516.08 | 3,307.88 N | 2.62 W | 373,333.88 | 742,005.38 | 1.00 | 3,307.87 | |
| 12,740.00 | 89.11 | 355.48 | 6,181.85 | 9,515.85 | 3,402.74 N | 7.41 W | 373,428.74 | 742,000.59 | 4.06 | 3,402.73 | |
| 12,836.00 | 88.09 | 355.67 | 6,184.20 | 9,518.20 | 3,498.42 N | 14.82 W | 373,524.42 | 741,993.18 | 1.08 | 3,498.40 | |
| 12,931.00 | 88.12 | 355.99 | 6,187.35 | 9,521.35 | 3,593.12 N | 21.72 W | 373,619.12 | 741,986.28 | 0.34 | 3,593.09 | |
| 13,027.00 | 88.15 | 356.57 | 6,190.47 | 9,524.47 | 3,688.86 N | 27.95 W | 373,714.86 | 741,980.05 | 0.60 | 3,688.83 | |
| 13,122.00 | 88.31 | 356.66 | 6,193.40 | 9,527.40 | 3,783.65 N | 33.56 W | 373,809.65 | 741,974.44 | 0.19 | 3,783.61 | |
| 13,217.00 | 89.48 | 358.32 | 6,195.24 | 9,529.24 | 3,878.54 N | 37.71 W | 373,904.54 | 741,970.29 | 2.14 | 3,878.49 | |
| 13,313.00 | 91.14 | 0.83 | 6,194.73 | 9,528.73 | 3,974.52 N | 38.42 W | 374,000.52 | 741,969.58 | 3.13 | 3,974.47 | |
| 13,408.00 | 92.22 | 0.90 | 6,191.94 | 9,525.94 | 4,069.47 N | 36.99 W | 374,095.47 | 741,971.01 | 1.14 | 4,069.42 | |
| 13,504.00 | 91.88 | 1.01 | 6,188.50 | 9,522.50 | 4,165.40 N | 35.39 W | 374,191.40 | 741,972.61 | 0.37 | 4,165.35 | |
| 13,599.00 | 91.58 | 1.25 | 6,185.64 | 9,519.64 | 4,260.33 N | 33.52 W | 374,286.33 | 741,974.48 | 0.41 | 4,260.29 | |

HALLIBURTON

Design Report for 1H; SEC27 /TWN26S / RGE33E - 1H - 900751689 Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | TVD below System (usft) | Vertical Depth (usft) | Local Coordinates (usft) | | Map Coordinates (usft) | | Dogleg Rate (°/100usft) | Vertical Section (usft) | Comments |
|-----------------------|-----------------|-------------|-------------------------|-----------------------|--------------------------|---------|------------------------|------------|-------------------------|-------------------------|----------|
| | | | | | Northing | Easting | Northing | Easting | | | |
| 13,695.00 | 90.09 | 0.39 | 6,184.24 | 9,518.24 | 4,356.31 N | 32.14 W | 374,382.31 | 741,975.86 | 1.78 | 4,356.27 | |
| 13,790.00 | 89.66 | 0.17 | 6,184.45 | 9,518.45 | 4,451.31 N | 31.67 W | 374,477.31 | 741,976.33 | 0.51 | 4,451.27 | |
| 13,886.00 | 89.63 | 0.38 | 6,185.04 | 9,519.04 | 4,547.31 N | 31.21 W | 374,573.31 | 741,976.79 | 0.22 | 4,547.26 | |
| 13,981.00 | 90.80 | 0.39 | 6,184.68 | 9,518.68 | 4,642.30 N | 30.58 W | 374,668.30 | 741,977.42 | 1.23 | 4,642.26 | |
| 14,076.00 | 90.65 | 359.96 | 6,183.48 | 9,517.48 | 4,737.29 N | 30.29 W | 374,763.29 | 741,977.71 | 0.48 | 4,737.25 | |
| 14,112.00 | 90.09 | 0.24 | 6,183.25 | 9,517.25 | 4,773.29 N | 30.23 W | 374,799.29 | 741,977.77 | 1.73 | 4,773.25 | |
| 14,170.00 | 90.09 | 0.24 | 6,183.16 | 9,517.16 | 4,831.29 N | 29.99 W | 374,857.29 | 741,978.01 | 0.01 | 4,831.25 | |

Design Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates (usft) | | Comment |
|-----------------------|-----------------------|--------------------------|--------|---|
| | | +N/-S | +E/-W | |
| 14,112.00 | 9,517.25 | 4,773.29 | -30.23 | LAST MWD SURVEY @ 14112.00 MD, 9517.25 TVD, 90.09 INC, 4773.25 VS |
| 14,170.00 | 9,517.16 | 4,831.29 | -29.99 | PROJECTED TD @ 14170.00 MD, 9517.16 TVD, 4831.25 VS |

Vertical Section Information

| Angle Type | Target | Azimuth (°) | Origin Type | Origin (usft) | | Start TVD (usft) |
|------------|----------------------|-------------|-------------|---------------|-------|------------------|
| | | | | +N/_S | +E/-W | |
| User | No Target (Freehand) | 0.07 | Slot | 0.00 | 0.00 | 0.00 |

Survey tool program

| From (usft) | To (usft) | Survey/Plan | Survey Tool |
|-------------|-----------|------------------|-------------|
| 118.00 | 14,170.00 | MWD (0) 118'-xxx | MWD+SC |

Casing Details

| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") |
|-----------------------|-----------------------|--------------------|---------------------|-------------------|
| 904.00 | 903.97 | 13 3/8" SET CASING | 13-3/8 | 17-1/2 |
| 5,014.00 | 5,013.69 | 9 5/8" SET CASING | 9-5/8 | 12-1/4 |

HALLIBURTON

Design Report for 1H; SEC27 /TWN26S / RGE33E - 1H - 900751689 Survey

Targets

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---------------------|--------------------|---------------|-----------------|-----------------|--------------------|-------------------|----------|-----------|
|---|---------------------|--------------------|---------------|-----------------|-----------------|--------------------|-------------------|----------|-----------|

| | | | | | | | | | |
|---------|------|------|----------|----------|------|------------|------------|-----------------|------------------|
| PBHL/TD | 0.00 | 0.00 | 9,526.92 | 4,832.00 | 6.00 | 374,858.00 | 742,014.00 | 32° 1' 41.500 N | 103° 33' 8.644 W |
|---------|------|------|----------|----------|------|------------|------------|-----------------|------------------|

- actual wellpath misses target center by 37.30usft at 14170.00usft MD (9517.16 TVD, 4831.29 N, -29.99 E)

- Point

HALLIBURTON

North Reference Sheet for OPHELIA 27 - API# 300254111400 - 1H; SEC27 /TWN26S / RGE33E - 1H; SEC27 /TWN26S / RGE33E

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to WELL @ 3334.00usft (PATTERSON #452 RKB-GL=27'). Northing and Easting are relative to 1H; SEC27 /TWN26S / RGE33E

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99997617

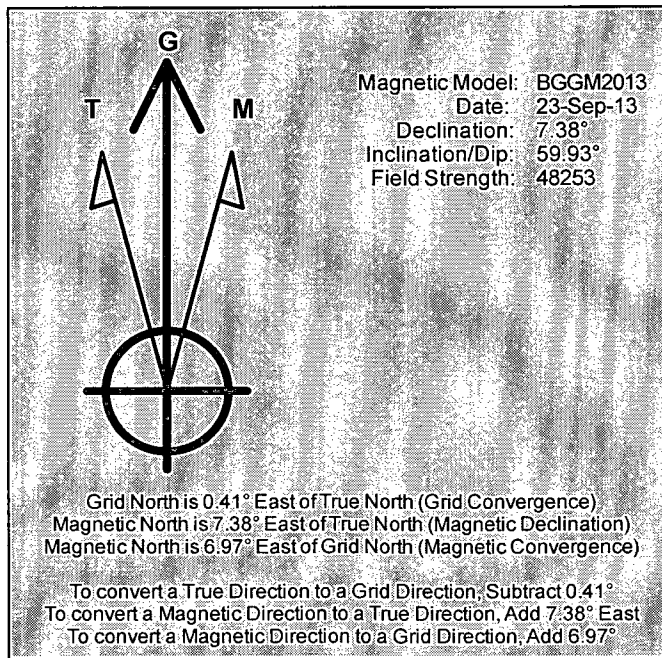
Grid Coordinates of Well: 370,026.00 usft N, 742,008.00 usft E

Geographical Coordinates of Well: 32° 00' 53.68" N, 103° 33' 09.12" W

Grid Convergence at Surface is: 0.41°

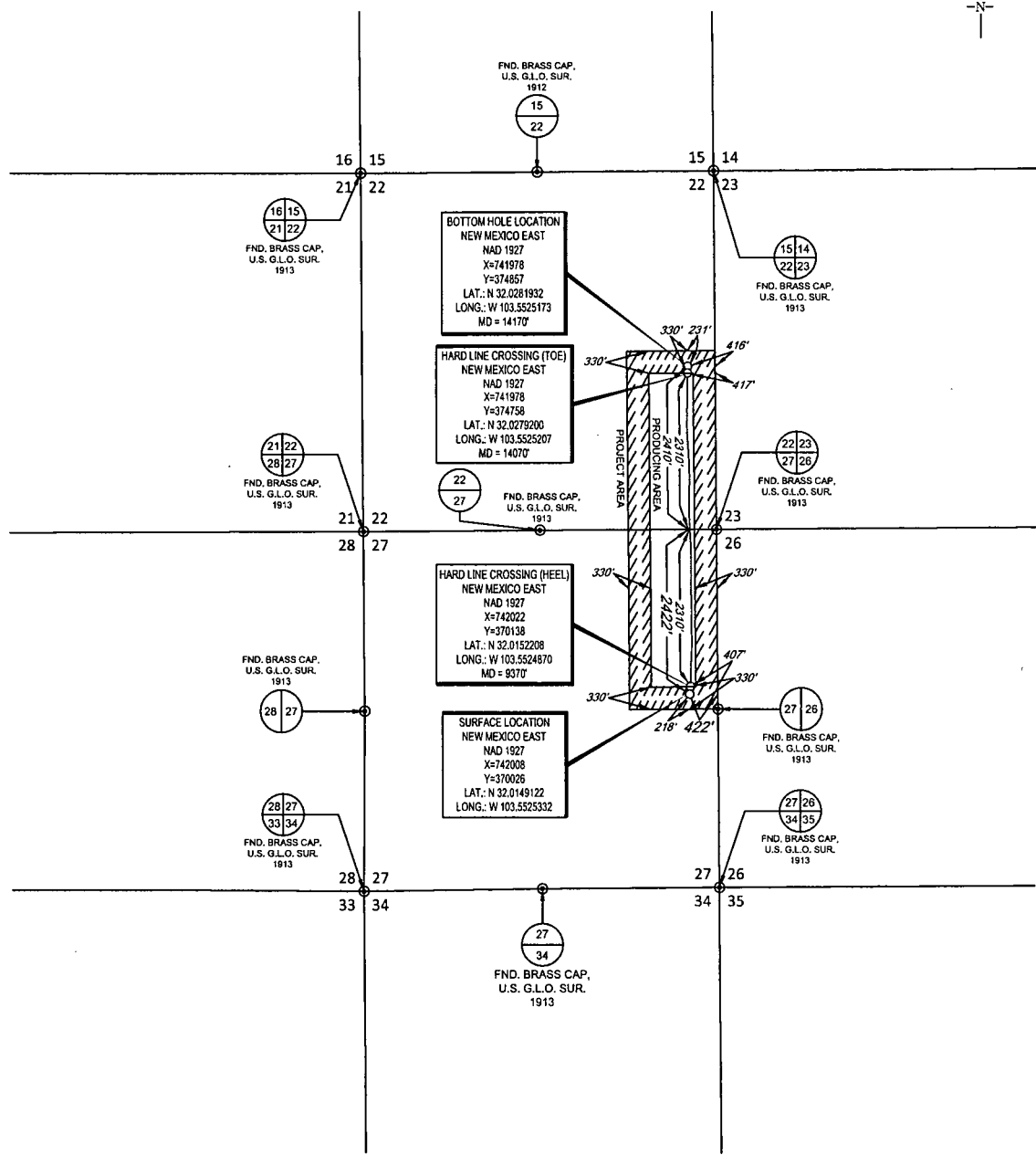
Based upon Minimum Curvature type calculations, at a Measured Depth of 14,170.00usft the Bottom Hole Displacement is 4,831.38usft in the Direction of 359.64° (Grid).

Magnetic Convergence at surface is: -6.97° (23 September 2013, , BGGM2013)



SCALE: 1" = 2000'
 0 1000 2000'

SECTION 27, TOWNSHIP 26 SOUTH, RANGE 33 EAST, N.M.P.M.
 LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: OPHELIA 27 #1H
 SECTION 27 TWP 26-S RGE 33-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM ELEVATION 3307'
 DESCRIPTION 2422' FNL & 422' FEL

**INTERNAL
 PRE-COMPLETION
 PLAT**



1400 EVERMAN PARKWAY, Ste. 197 - FT. WORTH, TEXAS 76140
 TELEPHONE: (817) 744-7512 - FAX (817) 744-7548
 2903 NORTH BIG SPRING - MIDLAND, TEXAS 79705
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 - FAX (432) 682-1743
 WWW.TOPOGRAPHIC.COM



Michael Blake Brown, P.S. No. 18329
 NOVEMBER 12, 2013

| | | |
|----------------------------------|-----------|------|
| OPHELIA 27 #1H PRE-COMPLETION | REVISION: | |
| | INT | DATE |
| DATE: 11/12/13 | | |
| FILE: C_OPHELIA27_1H | | |
| DRAWN BY: S.V. | | |
| SHEET: 1 OF 1 | | |

- NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO STATE PLANE COORDINATE SYSTEM, EAST ZONE, U.S. SURVEY FEET, NORTH AMERICAN DATUM 19 27.
 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
 4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING
 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT