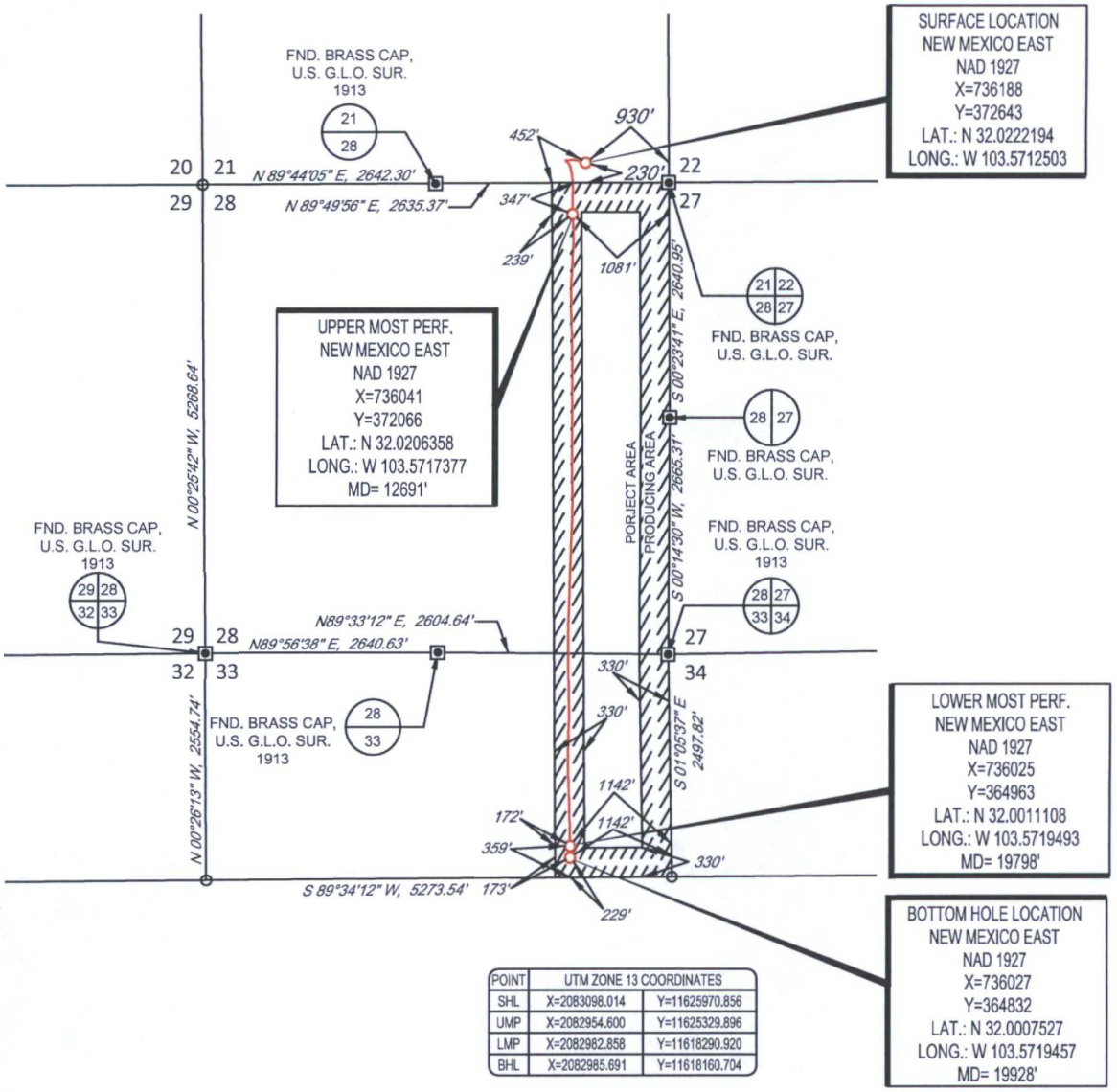
30-025-42828

SCALE: 1" = 2000'

0' 1000' 2000'

SECTION 21, TOWNSHIP 26-S, RANGE 33-E, N.M.P.M.
LEA COUNTY, NEW MEXICO




| POINT | UTM ZONE 13 COORDINATES | |
|---|---|---|
| SHL | X=2083098.014 | Y=11625970.856 |
| UMP | X=2082954.600 | Y=11625329.896 |
| LMP | X=2082982.858 | Y=11618290.920 |
| BHL | X=2082985.691 | Y=11618160.704 |

LEASE NAME & WELL NO.: RATTLESNAKE 21 FED COM #702H

SECTION 21 TWP 26-S RGE 33-E SURVEY N.M.P.M.

COUNTY LEA STATE NM ELEVATION 3253'

DESCRIPTION 230' FSL & 930' FEL

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
MARCH 25, 2016


TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 197 • FT. WORTH, TEXAS 76140
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2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
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WWW.TOPOGRAPHIC.COM


eog resources, inc.

| RATTLESNAKE 12 FED COM #702H AS-COMPLETED | REVISION: | |
|---|---|---|
| DATE: 03/25/2016 | | |
| FILE: AD_RATTLESNAKE21FEDCOM_702H | | |
| DRAWN BY: MML | | |
| 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 1927.
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.

S:\SURVEY\EOG_MIDLAND\RATTLESNAKE_21_FED_COM\FINAL_PRODUCTS\AD_RATTLESNAKE21FEDCOM_702H.DWG 3/29/2016 10:42:21 AM ccaston

# DRILTECH MWD SURVEY REPORT



| | | | |
|---|---|---|---|
| Company: | EOG Resources, Inc. | Job Number: | M-2015-125-EODT-NM |
| Well: | Rattlesnake 21 Fed Com #702H | Vertical Section Plane: | 181.15 |
| Location: | Lea Co., NM. | WELL API #: | 30-025-42828 |
| Rig: | H&P 415 | Tie Into: | Surface |

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tie In | Surf | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | MWD | 199.00 | 1.60 | 99.50 | 199 | 198.97 | 0.40 | 0.46 S | 2.74 E | 2.78 | 99.50 | 0.80 | 0.80 | 50.00 |
| 2 | MWD | 309.00 | 1.60 | 98.70 | 110 | 308.93 | 0.83 | 0.94 S | 5.77 E | 5.85 | 99.29 | 0.02 | 0.00 | -0.73 |
| 3 | MWD | 434.00 | 1.40 | 59.10 | 125 | 433.89 | 0.25 | 0.42 S | 8.81 E | 8.82 | 92.76 | 0.83 | -0.16 | -31.68 |
| 4 | MWD | 616.00 | 1.90 | 233.70 | 182 | 615.86 | 0.90 | 1.07 S | 8.28 E | 8.35 | 97.35 | 1.81 | 0.27 | 95.93 |
| 5 | MWD | 707.00 | 2.80 | 236.30 | 91 | 706.79 | 3.09 | 3.20 S | 5.22 E | 6.12 | 121.47 | 1.00 | 0.99 | 2.86 |
| 6 | MWD | 802.00 | 2.60 | 237.00 | 95 | 801.68 | 5.63 | 5.66 S | 1.48 E | 5.85 | 165.32 | 0.21 | -0.21 | 0.74 |
| 7 | MWD | 852.00 | 2.50 | 237.70 | 50 | 851.63 | 6.86 | 6.86 S | 0.39 W | 6.87 | 183.26 | 0.21 | -0.20 | 1.40 |
| 8 | MWD | 992.00 | 2.10 | 237.00 | 140 | 991.52 | 9.99 | 9.89 S | 5.12 W | 11.13 | 207.40 | 0.29 | -0.29 | -0.50 |
| 9 | MWD | 1086.00 | 2.10 | 235.90 | 94 | 1085.46 | 11.95 | 11.79 S | 7.99 W | 14.24 | 214.14 | 0.04 | 0.00 | -1.17 |
| 10 | MWD | 1181.00 | 2.10 | 229.60 | 95 | 1180.39 | 14.11 | 13.89 S | 10.76 W | 17.57 | 217.76 | 0.24 | 0.00 | -6.63 |
| 11 | MWD | 1275.00 | 1.40 | 282.50 | 94 | 1274.35 | 15.02 | 14.76 S | 13.19 W | 19.80 | 221.79 | 1.79 | -0.74 | 56.28 |
| 12 | MWD | 1369.00 | 1.60 | 300.40 | 94 | 1368.32 | 14.15 | 13.85 S | 15.45 W | 20.74 | 228.12 | 0.54 | 0.21 | 19.04 |
| 13 | MWD | 1463.00 | 1.60 | 299.50 | 94 | 1462.28 | 12.89 | 12.54 S | 17.72 W | 21.71 | 234.72 | 0.03 | 0.00 | -0.96 |
| 14 | MWD | 1558.00 | 1.40 | 295.90 | 95 | 1557.25 | 11.77 | 11.38 S | 19.92 W | 22.94 | 240.27 | 0.23 | -0.21 | -3.79 |
| 15 | MWD | 1746.00 | 1.60 | 293.40 | 188 | 1745.19 | 9.82 | 9.33 S | 24.39 W | 26.12 | 249.07 | 0.11 | 0.11 | -1.33 |
| 16 | MWD | 1840.00 | 1.60 | 287.80 | 94 | 1839.15 | 8.95 | 8.41 S | 26.85 W | 28.13 | 252.61 | 0.17 | 0.00 | -5.96 |
| 17 | MWD | 1935.00 | 1.90 | 285.50 | 95 | 1934.11 | 8.18 | 7.58 S | 29.63 W | 30.58 | 255.64 | 0.32 | 0.32 | -2.42 |
| 18 | MWD | 2029.00 | 1.90 | 285.80 | 94 | 2028.05 | 7.40 | 6.74 S | 32.63 W | 33.32 | 258.32 | 0.01 | 0.00 | 0.32 |
| 19 | MWD | 2123.00 | 2.10 | 277.40 | 94 | 2122.00 | 6.81 | 6.10 S | 35.84 W | 36.35 | 260.35 | 0.38 | 0.21 | -8.94 |
| 20 | MWD | 2217.00 | 1.90 | 277.00 | 94 | 2215.94 | 6.47 | 5.68 S | 39.09 W | 39.50 | 261.73 | 0.21 | -0.21 | -0.43 |
| 21 | MWD | 2312.00 | 1.80 | 279.20 | 95 | 2310.89 | 6.10 | 5.25 S | 42.13 W | 42.45 | 262.89 | 0.13 | -0.11 | 2.32 |
| 22 | MWD | 2406.00 | 1.60 | 282.50 | 94 | 2404.85 | 5.63 | 4.73 S | 44.87 W | 45.11 | 263.98 | 0.24 | -0.21 | 3.51 |
| 23 | MWD | 2501.00 | 1.40 | 281.30 | 95 | 2499.82 | 5.17 | 4.22 S | 47.30 W | 47.49 | 264.90 | 0.21 | -0.21 | -1.26 |
| 24 | MWD | 2595.00 | 1.40 | 278.30 | 94 | 2593.79 | 4.82 | 3.83 S | 49.56 W | 49.71 | 265.58 | 0.08 | 0.00 | -3.19 |
| 25 | MWD | 2690.00 | 1.20 | 282.50 | 95 | 2688.76 | 4.48 | 3.45 S | 51.68 W | 51.79 | 266.19 | 0.23 | -0.21 | 4.42 |
| 26 | MWD | 2784.00 | 0.90 | 273.20 | 94 | 2782.75 | 4.26 | 3.19 S | 53.38 W | 53.47 | 266.58 | 0.37 | -0.32 | -9.89 |
| 27 | MWD | 2879.00 | 0.50 | 262.50 | 95 | 2877.74 | 4.30 | 3.20 S | 54.53 W | 54.63 | 266.64 | 0.44 | -0.42 | -11.26 |
| 28 | MWD | 2974.00 | 0.70 | 264.40 | 95 | 2972.74 | 4.43 | 3.31 S | 55.52 W | 55.62 | 266.58 | 0.21 | 0.21 | 2.00 |
| 29 | MWD | 3068.00 | 0.70 | 235.00 | 94 | 3066.73 | 4.83 | 3.70 S | 56.56 W | 56.69 | 266.26 | 0.38 | 0.00 | -31.28 |
| 30 | MWD | 3163.00 | 0.40 | 226.40 | 95 | 3161.72 | 5.41 | 4.26 S | 57.28 W | 57.44 | 265.74 | 0.33 | -0.32 | -9.05 |
| 31 | MWD | 3258.00 | 0.50 | 202.70 | 95 | 3256.72 | 6.03 | 4.87 S | 57.68 W | 57.89 | 265.17 | 0.22 | 0.11 | -24.95 |
| 32 | MWD | 3352.00 | 0.50 | 196.20 | 94 | 3350.72 | 6.81 | 5.65 S | 57.95 W | 58.23 | 264.44 | 0.06 | 0.00 | -6.91 |
| 33 | MWD | 3447.00 | 0.50 | 189.50 | 95 | 3445.71 | 7.62 | 6.45 S | 58.14 W | 58.49 | 263.67 | 0.06 | 0.00 | -7.05 |
| 34 | MWD | 3542.00 | 0.70 | 330.00 | 95 | 3540.71 | 7.53 | 6.36 S | 58.50 W | 58.84 | 263.80 | 1.19 | 0.21 | 147.89 |
| 35 | MWD | 3731.00 | 2.60 | 64.30 | 189 | 3729.64 | 4.61 | 3.50 S | 55.21 W | 55.32 | 266.37 | 1.45 | 1.01 | -140.58 |
| 36 | MWD | 3825.00 | 1.20 | 37.10 | 94 | 3823.59 | 2.85 | 1.79 S | 52.69 W | 52.72 | 268.06 | 1.73 | -1.49 | -28.94 |
| 37 | MWD | 3920.00 | 0.90 | 325.90 | 95 | 3918.58 | 1.43 | 0.38 S | 52.51 W | 52.51 | 269.59 | 1.31 | -0.32 | 304.00 |

# DRILTECH MWD SURVEY REPORT

| | | | |
|---|---|---|---|
| Company: | EOG Resources, Inc. | Job Number: | M-2015-125-EODT-NM |
| Well: | Rattlesnake 21 Fed Com #702H | Vertical Section Plane: | 181.15 |
| Location: | Lea Co., NM. | WELL API #: | 30-025-42828 |
| Rig: | H&P 415 | Tie Into: | Surface |

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | MWD | 4014.00 | 0.90 | 303.60 | 94 | 4012.57 | 0.43 | 0.64 N | 53.54 W | 53.54 | 270.69 | 0.37 | 0.00 | -23.72 |
| 39 | MWD | 4109.00 | 0.20 | 288.30 | 95 | 4107.56 | -0.02 | 1.11 N | 54.32 W | 54.33 | 271.17 | 0.75 | -0.74 | -16.11 |
| 40 | MWD | 4203.00 | 0.20 | 78.90 | 94 | 4201.56 | -0.10 | 1.19 N | 54.31 W | 54.33 | 271.26 | 0.41 | 0.00 | -222.77 |
| 41 | MWD | 4392.00 | 1.80 | 103.40 | 189 | 4390.53 | 0.46 | 0.57 N | 51.10 W | 51.11 | 270.63 | 0.86 | 0.85 | 12.96 |
| 42 | MWD | 4486.00 | 0.40 | 355.60 | 94 | 4484.51 | 0.45 | 0.55 N | 49.69 W | 49.70 | 270.63 | 2.08 | -1.49 | 268.30 |
| 43 | MWD | 4581.00 | 1.10 | 109.00 | 95 | 4579.51 | 0.40 | 0.58 N | 48.86 W | 48.86 | 270.69 | 1.38 | 0.74 | -259.58 |
| 44 | MWD | 4675.00 | 0.40 | 173.30 | 94 | 4673.50 | 1.00 | 0.04 S | 47.96 W | 47.96 | 269.96 | 1.06 | -0.74 | 68.40 |
| 45 | MWD | 4770.00 | 0.20 | 285.10 | 95 | 4768.50 | 1.29 | 0.32 S | 48.09 W | 48.09 | 269.62 | 0.54 | -0.21 | 117.68 |
| 46 | MWD | 4958.00 | 0.20 | 325.60 | 188 | 4956.50 | 0.94 | 0.03 N | 48.59 W | 48.59 | 270.04 | 0.07 | 0.00 | 21.54 |
| 47 | MWD | 5053.00 | 0.20 | 349.50 | 95 | 5051.50 | 0.64 | 0.33 N | 48.71 W | 48.71 | 270.39 | 0.09 | 0.00 | 25.16 |
| 48 | MWD | 5147.00 | 1.40 | 306.90 | 94 | 5145.49 | -0.19 | 1.19 N | 49.66 W | 49.67 | 271.37 | 1.34 | 1.28 | -45.32 |
| 49 | MWD | 5242.00 | 2.60 | 298.50 | 95 | 5240.43 | -1.86 | 2.91 N | 52.48 W | 52.56 | 273.17 | 1.30 | 1.26 | -8.84 |
| 50 | MWD | 5337.00 | 2.80 | 290.80 | 95 | 5335.32 | -3.63 | 4.76 N | 56.54 W | 56.74 | 274.81 | 0.44 | 0.21 | -8.11 |
| 51 | MWD | 5431.00 | 4.00 | 310.60 | 94 | 5429.16 | -6.48 | 7.71 N | 61.18 W | 61.66 | 277.18 | 1.77 | 1.28 | 21.06 |
| 52 | MWD | 5525.00 | 4.00 | 314.10 | 94 | 5522.93 | -10.80 | 12.13 N | 66.02 W | 67.13 | 280.41 | 0.26 | 0.00 | 3.72 |
| 53 | MWD | 5620.00 | 4.00 | 315.20 | 95 | 5617.70 | -15.36 | 16.78 N | 70.74 W | 72.70 | 283.35 | 0.08 | 0.00 | 1.16 |
| 54 | MWD | 5714.00 | 4.00 | 284.80 | 94 | 5711.48 | -18.41 | 19.95 N | 76.22 W | 78.79 | 284.67 | 2.23 | 0.00 | -32.34 |
| 55 | MWD | 5808.00 | 4.00 | 276.70 | 94 | 5805.25 | -19.51 | 21.17 N | 82.64 W | 85.31 | 284.37 | 0.60 | 0.00 | -8.62 |
| 56 | MWD | 5996.00 | 3.50 | 278.60 | 188 | 5992.85 | -20.88 | 22.79 N | 94.83 W | 97.53 | 283.51 | 0.27 | -0.27 | 1.01 |
| 57 | MWD | 6091.00 | 3.30 | 276.30 | 95 | 6087.68 | -21.50 | 23.52 N | 100.42 W | 103.13 | 283.19 | 0.25 | -0.21 | -2.42 |
| 58 | MWD | 6185.00 | 3.00 | 271.40 | 94 | 6181.54 | -21.76 | 23.88 N | 105.56 W | 108.23 | 282.75 | 0.43 | -0.32 | -5.21 |
| 59 | MWD | 6279.00 | 2.60 | 273.90 | 94 | 6275.43 | -21.87 | 24.09 N | 110.15 W | 112.75 | 282.33 | 0.44 | -0.43 | 2.66 |
| 60 | MWD | 6373.00 | 4.40 | 281.60 | 94 | 6369.25 | -22.63 | 24.96 N | 115.81 W | 118.47 | 282.16 | 1.97 | 1.91 | 8.19 |
| 61 | MWD | 6468.00 | 4.80 | 285.80 | 95 | 6463.94 | -24.29 | 26.77 N | 123.20 W | 126.08 | 282.26 | 0.55 | 0.42 | 4.42 |
| 62 | MWD | 6562.00 | 4.60 | 272.10 | 94 | 6557.63 | -25.35 | 27.98 N | 130.76 W | 133.72 | 282.08 | 1.21 | -0.21 | -14.57 |
| 63 | MWD | 6657.00 | 4.80 | 269.10 | 95 | 6652.31 | -25.27 | 28.06 N | 138.54 W | 141.35 | 281.45 | 0.33 | 0.21 | -3.16 |
| 64 | MWD | 6751.00 | 4.60 | 270.20 | 94 | 6745.99 | -25.07 | 28.01 N | 146.24 W | 148.90 | 280.84 | 0.23 | -0.21 | 1.17 |
| 65 | MWD | 6845.00 | 3.90 | 269.70 | 94 | 6839.73 | -24.93 | 28.01 N | 153.20 W | 155.74 | 280.36 | 0.75 | -0.74 | -0.53 |
| 66 | MWD | 6939.00 | 3.50 | 268.80 | 94 | 6933.54 | -24.73 | 27.93 N | 159.27 W | 161.70 | 279.95 | 0.43 | -0.43 | -0.96 |
| 67 | MWD | 7033.00 | 3.30 | 266.80 | 94 | 7027.37 | -24.40 | 27.72 N | 164.84 W | 167.15 | 279.55 | 0.25 | -0.21 | -2.13 |
| 68 | MWD | 7222.00 | 2.60 | 265.30 | 189 | 7216.12 | -23.55 | 27.06 N | 174.54 W | 176.63 | 278.81 | 0.37 | -0.37 | -0.79 |
| 69 | MWD | 7316.00 | 2.60 | 270.70 | 94 | 7310.02 | -23.32 | 26.91 N | 178.80 W | 180.82 | 278.56 | 0.26 | 0.00 | 5.74 |
| 70 | MWD | 7410.00 | 0.70 | 262.80 | 94 | 7403.98 | -23.22 | 26.87 N | 181.50 W | 183.48 | 278.42 | 2.03 | -2.02 | -8.40 |
| 71 | MWD | 7505.00 | 0.70 | 260.20 | 95 | 7498.97 | -23.03 | 26.70 N | 182.65 W | 184.59 | 278.32 | 0.03 | 0.00 | -2.74 |
| 72 | MWD | 7599.00 | 0.90 | 264.70 | 94 | 7592.96 | -22.83 | 26.53 N | 183.95 W | 185.85 | 278.21 | 0.22 | 0.21 | 4.79 |
| 73 | MWD | 7694.00 | 0.70 | 251.70 | 95 | 7687.95 | -22.56 | 26.28 N | 185.24 W | 187.10 | 278.07 | 0.28 | -0.21 | -13.68 |
| 74 | MWD | 7788.00 | 1.20 | 254.40 | 94 | 7781.94 | -22.08 | 25.84 N | 186.74 W | 188.52 | 277.88 | 0.53 | 0.53 | 2.87 |
| 75 | MWD | 7882.00 | 1.20 | 238.40 | 94 | 7875.92 | -21.27 | 25.05 N | 188.52 W | 190.18 | 277.57 | 0.36 | 0.00 | -17.02 |
| 76 | MWD | 7977.00 | 1.20 | 257.00 | 95 | 7970.90 | -20.48 | 24.31 N | 190.34 W | 191.89 | 277.28 | 0.41 | 0.00 | 19.58 |
| 77 | MWD | 8071.00 | 0.70 | 256.30 | 94 | 8064.89 | -20.10 | 23.95 N | 191.86 W | 193.35 | 277.12 | 0.53 | -0.53 | -0.74 |

# DRILTECH MWD SURVEY REPORT

| | | | |
|---|---|---|---|
| Company: | EOG Resources, Inc. | Job Number: | M-2015-125-EODT-NM |
| Well: | Rattlesnake 21 Fed Com #702H | Vertical Section Plane: | 181.15 |
| Location: | Lea Co., NM. | WELL API #: | 30-025-42828 |
| Rig: | H&P 415 | Tie Into: | Surface |

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | MWD | 8165.00 | 0.90 | 263.00 | 94 | 8158.88 | -19.85 | 23.73 N | 193.15 W | 194.60 | 277.00 | 0.23 | 0.21 | 7.13 |
| 79 | MWD | 8260.00 | 0.90 | 253.80 | 95 | 8253.87 | -19.52 | 23.43 N | 194.61 W | 196.01 | 276.86 | 0.15 | 0.00 | -9.68 |
| 80 | MWD | 8355.00 | 0.50 | 240.00 | 95 | 8348.86 | -19.08 | 23.01 N | 195.68 W | 197.03 | 276.71 | 0.45 | -0.42 | -14.53 |
| 81 | MWD | 8449.00 | 0.50 | 247.00 | 94 | 8442.86 | -18.70 | 22.65 N | 196.41 W | 197.72 | 276.58 | 0.06 | 0.00 | 7.45 |
| 82 | MWD | 8544.00 | 0.70 | 199.90 | 95 | 8537.85 | -17.98 | 21.94 N | 196.99 W | 198.21 | 276.35 | 0.54 | 0.21 | -49.58 |
| 83 | MWD | 8638.00 | 0.40 | 219.20 | 94 | 8631.85 | -17.18 | 21.14 N | 197.40 W | 198.53 | 276.11 | 0.37 | -0.32 | 20.53 |
| 84 | MWD | 8733.00 | 0.50 | 190.70 | 95 | 8726.84 | -16.51 | 20.48 N | 197.68 W | 198.74 | 275.91 | 0.25 | 0.11 | -30.00 |
| 85 | MWD | 8827.00 | 0.70 | 220.80 | 94 | 8820.84 | -15.66 | 19.64 N | 198.13 W | 199.10 | 275.66 | 0.39 | 0.21 | 32.02 |
| 86 | MWD | 8922.00 | 0.50 | 238.20 | 95 | 8915.83 | -14.99 | 18.98 N | 198.87 W | 199.77 | 275.45 | 0.28 | -0.21 | 18.32 |
| 87 | MWD | 9016.00 | 0.90 | 210.10 | 94 | 9009.83 | -14.12 | 18.13 N | 199.58 W | 200.41 | 275.19 | 0.55 | 0.43 | -29.89 |
| 88 | MWD | 9111.00 | 0.50 | 249.60 | 95 | 9104.82 | -13.32 | 17.34 N | 200.35 W | 201.10 | 274.95 | 0.64 | -0.42 | 41.58 |
| 89 | MWD | 9205.00 | 0.70 | 214.10 | 94 | 9198.81 | -12.68 | 16.72 N | 201.05 W | 201.75 | 274.75 | 0.44 | 0.21 | -37.77 |
| 90 | MWD | 9299.00 | 0.50 | 244.50 | 94 | 9292.81 | -12.02 | 16.07 N | 201.75 W | 202.38 | 274.55 | 0.39 | -0.21 | 32.34 |
| 91 | MWD | 9394.00 | 1.10 | 233.30 | 95 | 9387.80 | -11.27 | 15.35 N | 202.85 W | 203.43 | 274.33 | 0.65 | 0.63 | -11.79 |
| 92 | MWD | 9488.00 | 0.90 | 247.30 | 94 | 9481.79 | -10.42 | 14.52 N | 204.25 W | 204.77 | 274.07 | 0.33 | -0.21 | 14.89 |
| 93 | MWD | 9583.00 | 1.10 | 219.40 | 95 | 9576.77 | -9.40 | 13.53 N | 205.52 W | 205.97 | 273.77 | 0.55 | 0.21 | -29.37 |
| 94 | MWD | 9677.00 | 1.20 | 227.80 | 94 | 9670.75 | -8.02 | 12.17 N | 206.82 W | 207.18 | 273.37 | 0.21 | 0.11 | 8.94 |
| 95 | MWD | 9771.00 | 1.60 | 235.00 | 94 | 9764.72 | -6.57 | 10.76 N | 208.63 W | 208.91 | 272.95 | 0.46 | 0.43 | 7.66 |
| 96 | MWD | 9866.00 | 1.60 | 231.20 | 95 | 9859.69 | -4.93 | 9.17 N | 210.75 W | 210.95 | 272.49 | 0.11 | 0.00 | -4.00 |
| 97 | MWD | 9960.00 | 1.80 | 218.30 | 94 | 9953.65 | -2.91 | 7.18 N | 212.69 W | 212.81 | 271.93 | 0.46 | 0.21 | -13.72 |
| 98 | MWD | 10054.00 | 0.50 | 354.60 | 94 | 10047.63 | -2.15 | 6.43 N | 213.64 W | 213.74 | 271.73 | 2.33 | -1.38 | 145.00 |
| 99 | MWD | 10149.00 | 0.70 | 339.40 | 95 | 10142.63 | -3.10 | 7.39 N | 213.88 W | 214.01 | 271.98 | 0.27 | 0.21 | -16.00 |
| 100 | MWD | 10243.00 | 0.70 | 337.00 | 94 | 10236.62 | -4.15 | 8.46 N | 214.31 W | 214.48 | 272.26 | 0.03 | 0.00 | -2.55 |
| 101 | MWD | 10337.00 | 0.50 | 335.60 | 94 | 10330.62 | -5.05 | 9.36 N | 214.70 W | 214.91 | 272.50 | 0.21 | -0.21 | -1.49 |
| 102 | MWD | 10432.00 | 0.70 | 343.50 | 95 | 10425.61 | -5.97 | 10.29 N | 215.04 W | 215.29 | 272.74 | 0.23 | 0.21 | 8.32 |
| 103 | MWD | 10526.00 | 0.70 | 347.50 | 94 | 10519.60 | -7.08 | 11.40 N | 215.33 W | 215.63 | 273.03 | 0.05 | 0.00 | 4.26 |
| 104 | MWD | 10620.00 | 0.70 | 348.60 | 94 | 10613.60 | -8.20 | 12.53 N | 215.56 W | 215.93 | 273.33 | 0.01 | 0.00 | 1.17 |
| 105 | MWD | 10715.00 | 0.90 | 340.90 | 95 | 10708.59 | -9.46 | 13.80 N | 215.92 W | 216.36 | 273.66 | 0.24 | 0.21 | -8.11 |
| 106 | MWD | 10810.00 | 0.70 | 4.20 | 95 | 10803.58 | -10.74 | 15.08 N | 216.12 W | 216.65 | 273.99 | 0.40 | -0.21 | -354.42 |
| 107 | MWD | 10835.00 | 0.50 | 357.20 | 25 | 10828.58 | -11.01 | 15.35 N | 216.12 W | 216.66 | 274.06 | 0.85 | -0.80 | 1412.00 |
| 108 | MWD | 10980.00 | 1.10 | 17.40 | 145 | 10973.56 | -12.97 | 17.31 N | 215.73 W | 216.43 | 274.59 | 0.45 | 0.41 | -234.34 |
| 109 | MWD | 11074.00 | 1.60 | 49.10 | 94 | 11067.54 | -14.72 | 19.03 N | 214.47 W | 215.31 | 275.07 | 0.94 | 0.53 | 33.72 |
| 110 | MWD | 11168.00 | 1.10 | 329.20 | 94 | 11161.52 | -16.36 | 20.66 N | 213.94 W | 214.94 | 275.52 | 1.89 | -0.53 | 297.98 |
| 111 | MWD | 11261.00 | 2.60 | 312.40 | 93 | 11254.47 | -18.51 | 22.85 N | 215.96 W | 217.16 | 276.04 | 1.70 | 1.61 | -18.06 |
| 112 | MWD | 11354.00 | 1.80 | 264.20 | 93 | 11347.40 | -19.73 | 24.12 N | 218.97 W | 220.29 | 276.29 | 2.09 | -0.86 | -51.83 |
| 113 | MWD | 11448.00 | 2.10 | 266.30 | 94 | 11441.35 | -19.40 | 23.86 N | 222.16 W | 223.43 | 276.13 | 0.33 | 0.32 | 2.23 |
| 114 | MWD | 11541.00 | 1.40 | 281.60 | 93 | 11534.31 | -19.46 | 23.98 N | 224.97 W | 226.24 | 276.09 | 0.90 | -0.75 | 16.45 |
| 115 | MWD | 11635.00 | 1.20 | 351.40 | 94 | 11628.29 | -20.64 | 25.19 N | 226.24 W | 227.64 | 276.35 | 1.59 | -0.21 | 74.26 |
| 116 | MWD | 11729.00 | 0.70 | 38.00 | 94 | 11722.28 | -22.07 | 26.61 N | 226.03 W | 227.60 | 276.71 | 0.94 | -0.53 | -333.40 |
| 117 | MWD | 11823.00 | 5.60 | 139.60 | 94 | 11816.13 | -19.10 | 23.57 N | 222.71 W | 223.95 | 276.04 | 6.15 | 5.21 | 108.09 |

# DRILTECH MWD SURVEY REPORT

| | | | |
|---|---|---|---|
| Company: | EOG Resources, Inc. | Job Number: | M-2015-125-EODT-NM |
| Well: | Rattlesnake 21 Fed Com #702H | Vertical Section Plane: | 181.15 |
| Location: | Lea Co., NM. | WELL API #: | 30-025-42828 |
| Rig: | H&P 415 | Tie Into: | Surface |

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 118 | MWD | 11870.00 | 13.50 | 135.00 | 47 | 11862.44 | -13.57 | 17.94 N | 217.33 W | 218.07 | 274.72 | 16.87 | 16.81 | -9.79 |
| 119 | MWD | 11917.00 | 18.70 | 129.70 | 47 | 11907.58 | -5.07 | 9.24 N | 207.65 W | 207.85 | 272.55 | 11.49 | 11.06 | -11.28 |
| 120 | MWD | 11964.00 | 26.90 | 141.00 | 47 | 11950.89 | 7.78 | 3.87 S | 195.13 W | 195.17 | 268.86 | 19.71 | 17.45 | 24.04 |
| 121 | MWD | 12010.00 | 32.40 | 153.30 | 46 | 11990.89 | 26.67 | 23.00 S | 183.03 W | 184.47 | 262.84 | 17.78 | 11.96 | 26.74 |
| 122 | MWD | 12057.00 | 40.60 | 163.80 | 47 | 12028.68 | 52.47 | 49.00 S | 173.07 W | 179.88 | 254.19 | 21.88 | 17.45 | 22.34 |
| 123 | MWD | 12104.00 | 46.10 | 168.80 | 47 | 12062.85 | 83.64 | 80.33 S | 165.51 W | 183.98 | 244.11 | 13.79 | 11.70 | 10.64 |
| 124 | MWD | 12151.00 | 48.20 | 170.90 | 47 | 12094.82 | 117.42 | 114.25 S | 159.45 W | 196.15 | 234.38 | 5.54 | 4.47 | 4.47 |
| 125 | MWD | 12197.00 | 49.60 | 173.30 | 46 | 12125.06 | 151.65 | 148.58 S | 154.69 W | 214.49 | 226.16 | 4.97 | 3.04 | 5.22 |
| 126 | MWD | 12244.00 | 52.40 | 176.00 | 47 | 12154.64 | 187.93 | 184.94 S | 151.31 W | 238.94 | 219.29 | 7.44 | 5.96 | 5.74 |
| 127 | MWD | 12291.00 | 54.90 | 177.90 | 47 | 12182.49 | 225.68 | 222.73 S | 149.30 W | 268.14 | 213.84 | 6.24 | 5.32 | 4.04 |
| 128 | MWD | 12338.00 | 55.80 | 178.10 | 47 | 12209.22 | 264.29 | 261.37 S | 147.95 W | 300.34 | 209.51 | 1.95 | 1.91 | 0.43 |
| 129 | MWD | 12385.00 | 56.80 | 180.40 | 47 | 12235.30 | 303.36 | 300.46 S | 147.45 W | 334.69 | 206.14 | 4.59 | 2.13 | 4.89 |
| 130 | MWD | 12432.00 | 59.10 | 181.10 | 47 | 12260.24 | 343.20 | 340.29 S | 147.97 W | 371.07 | 203.50 | 5.05 | 4.89 | 1.49 |
| 131 | MWD | 12478.00 | 60.40 | 180.70 | 46 | 12283.41 | 382.93 | 380.02 S | 148.59 W | 408.04 | 201.36 | 2.92 | 2.83 | -0.87 |
| 132 | MWD | 12525.00 | 62.50 | 180.50 | 47 | 12305.87 | 424.21 | 421.31 S | 149.03 W | 446.89 | 199.48 | 4.48 | 4.47 | -0.43 |
| 133 | MWD | 12572.00 | 65.80 | 181.10 | 47 | 12326.36 | 466.50 | 463.59 S | 149.62 W | 487.14 | 197.89 | 7.11 | 7.02 | 1.28 |
| 134 | MWD | 12619.00 | 70.70 | 179.30 | 47 | 12343.77 | 510.13 | 507.23 S | 149.76 W | 528.88 | 196.45 | 11.02 | 10.43 | -3.83 |
| 135 | MWD | 12666.00 | 76.20 | 177.20 | 47 | 12357.16 | 555.11 | 552.24 S | 148.37 W | 571.83 | 195.04 | 12.46 | 11.70 | -4.47 |
| 136 | MWD | 12713.00 | 80.20 | 176.50 | 47 | 12366.77 | 600.98 | 598.17 S | 145.84 W | 615.69 | 193.70 | 8.63 | 8.51 | -1.49 |
| 137 | MWD | 12759.00 | 84.10 | 177.20 | 46 | 12373.05 | 646.41 | 643.66 S | 143.34 W | 659.43 | 192.55 | 8.61 | 8.48 | 1.52 |
| 138 | MWD | 12787.00 | 85.00 | 177.40 | 28 | 12375.71 | 674.22 | 671.50 S | 142.03 W | 686.36 | 191.94 | 3.29 | 3.21 | 0.71 |
| 139 | MWD | 12852.00 | 89.70 | 179.10 | 65 | 12378.71 | 739.04 | 736.38 S | 140.05 W | 749.58 | 190.77 | 7.69 | 7.23 | 2.62 |
| 140 | MWD | 12880.00 | 89.70 | 179.00 | 28 | 12378.86 | 767.03 | 764.38 S | 139.58 W | 777.02 | 190.35 | 0.36 | 0.00 | -0.36 |
| 141 | MWD | 12974.00 | 88.90 | 180.20 | 94 | 12380.01 | 860.98 | 858.37 S | 138.93 W | 869.54 | 189.19 | 1.53 | -0.85 | 1.28 |
| 142 | MWD | 13068.00 | 89.00 | 182.50 | 94 | 12381.73 | 954.96 | 952.32 S | 141.14 W | 962.72 | 188.43 | 2.45 | 0.11 | 2.45 |
| 143 | MWD | 13162.00 | 89.60 | 182.30 | 94 | 12382.88 | 1048.93 | 1046.23 S | 145.08 W | 1056.24 | 187.89 | 0.67 | 0.64 | -0.21 |
| 144 | MWD | 13256.00 | 89.60 | 183.00 | 94 | 12383.53 | 1142.89 | 1140.12 S | 149.42 W | 1149.87 | 187.47 | 0.74 | 0.00 | 0.74 |
| 145 | MWD | 13351.00 | 89.70 | 182.80 | 95 | 12384.11 | 1237.85 | 1235.00 S | 154.23 W | 1244.59 | 187.12 | 0.24 | 0.11 | -0.21 |
| 146 | MWD | 13444.00 | 89.00 | 184.20 | 93 | 12385.17 | 1330.76 | 1327.82 S | 159.91 W | 1337.41 | 186.87 | 1.68 | -0.75 | 1.51 |
| 147 | MWD | 13537.00 | 87.60 | 180.90 | 93 | 12387.93 | 1423.68 | 1420.67 S | 164.04 W | 1430.11 | 186.59 | 3.85 | -1.51 | -3.55 |
| 148 | MWD | 13631.00 | 89.60 | 179.50 | 94 | 12390.23 | 1517.63 | 1514.63 S | 164.37 W | 1523.53 | 186.19 | 2.60 | 2.13 | -1.49 |
| 149 | MWD | 13724.00 | 89.20 | 178.60 | 93 | 12391.20 | 1610.56 | 1607.62 S | 162.83 W | 1615.84 | 185.78 | 1.06 | -0.43 | -0.97 |
| 150 | MWD | 13817.00 | 91.30 | 177.70 | 93 | 12390.79 | 1703.43 | 1700.56 S | 159.83 W | 1708.05 | 185.37 | 2.46 | 2.26 | -0.97 |
| 151 | MWD | 13911.00 | 91.10 | 178.30 | 94 | 12388.82 | 1797.26 | 1794.48 S | 156.55 W | 1801.30 | 184.99 | 0.67 | -0.21 | 0.64 |
| 152 | MWD | 14005.00 | 90.10 | 178.60 | 94 | 12387.84 | 1891.15 | 1888.44 S | 154.00 W | 1894.71 | 184.66 | 1.11 | -1.06 | 0.32 |
| 153 | MWD | 14098.00 | 90.30 | 179.70 | 93 | 12387.52 | 1984.09 | 1981.43 S | 152.62 W | 1987.30 | 184.40 | 1.20 | 0.22 | 1.18 |
| 154 | MWD | 14191.00 | 90.60 | 179.50 | 93 | 12386.79 | 2077.06 | 2074.42 S | 151.98 W | 2079.98 | 184.19 | 0.39 | 0.32 | -0.22 |
| 155 | MWD | 14285.00 | 89.40 | 179.50 | 94 | 12386.79 | 2171.01 | 2168.42 S | 151.16 W | 2173.68 | 183.99 | 1.28 | -1.28 | 0.00 |
| 156 | MWD | 14377.00 | 88.50 | 179.30 | 92 | 12388.47 | 2262.96 | 2260.40 S | 150.19 W | 2265.38 | 183.80 | 1.00 | -0.98 | -0.22 |
| 157 | MWD | 14472.00 | 90.10 | 179.80 | 95 | 12389.63 | 2357.91 | 2355.38 S | 149.45 W | 2360.12 | 183.63 | 1.76 | 1.68 | 0.53 |

# DRILTECH MWD SURVEY REPORT

| | | | |
|---|---|---|---|
| Company: | EOG Resources, Inc. | Job Number: | M-2015-125-EODT-NM |
| Well: | Rattlesnake 21 Fed Com #702H | Vertical Section Plane: | 181.15 |
| Location: | Lea Co., NM. | WELL API #: | 30-025-42828 |
| Rig: | H&P 415 | Tie Into: | Surface |

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158 | MWD | 14565.00 | 89.60 | 179.70 | 93 | 12389.88 | 2450.88 | 2448.38 S | 149.04 W | 2452.91 | 183.48 | 0.55 | -0.54 | -0.11 |
| 159 | MWD | 14659.00 | 91.10 | 180.00 | 94 | 12389.30 | 2544.85 | 2542.38 S | 148.79 W | 2546.73 | 183.35 | 1.63 | 1.60 | 0.32 |
| 160 | MWD | 14752.00 | 91.00 | 180.70 | 93 | 12387.60 | 2637.83 | 2635.36 S | 149.36 W | 2639.59 | 183.24 | 0.76 | -0.11 | 0.75 |
| 161 | MWD | 14846.00 | 90.60 | 180.70 | 94 | 12386.28 | 2731.81 | 2729.34 S | 150.51 W | 2733.49 | 183.16 | 0.43 | -0.43 | 0.00 |
| 162 | MWD | 14939.00 | 90.40 | 179.30 | 93 | 12385.47 | 2824.79 | 2822.34 S | 150.51 W | 2826.35 | 183.05 | 1.52 | -0.22 | -1.51 |
| 163 | MWD | 15033.00 | 90.40 | 179.00 | 94 | 12384.82 | 2918.73 | 2916.32 S | 149.12 W | 2920.13 | 182.93 | 0.32 | 0.00 | -0.32 |
| 164 | MWD | 15127.00 | 90.30 | 179.80 | 94 | 12384.24 | 3012.68 | 3010.32 S | 148.13 W | 3013.96 | 182.82 | 0.86 | -0.11 | 0.85 |
| 165 | MWD | 15221.00 | 91.10 | 180.50 | 94 | 12383.09 | 3106.66 | 3104.31 S | 148.38 W | 3107.85 | 182.74 | 1.13 | 0.85 | 0.74 |
| 166 | MWD | 15314.00 | 90.80 | 180.20 | 93 | 12381.55 | 3199.64 | 3197.29 S | 148.95 W | 3200.76 | 182.67 | 0.46 | -0.32 | -0.32 |
| 167 | MWD | 15408.00 | 89.60 | 180.20 | 94 | 12381.22 | 3293.62 | 3291.29 S | 149.27 W | 3294.67 | 182.60 | 1.28 | -1.28 | 0.00 |
| 168 | MWD | 15502.00 | 91.50 | 180.50 | 94 | 12380.32 | 3387.60 | 3385.28 S | 149.85 W | 3388.59 | 182.53 | 2.05 | 2.02 | 0.32 |
| 169 | MWD | 15596.00 | 90.60 | 178.10 | 94 | 12378.60 | 3481.53 | 3479.25 S | 148.70 W | 3482.42 | 182.45 | 2.73 | -0.96 | -2.55 |
| 170 | MWD | 15689.00 | 89.90 | 179.00 | 93 | 12378.19 | 3574.43 | 3572.22 S | 146.35 W | 3575.21 | 182.35 | 1.23 | -0.75 | 0.97 |
| 171 | MWD | 15783.00 | 90.80 | 179.80 | 94 | 12377.62 | 3668.39 | 3666.21 S | 145.36 W | 3669.09 | 182.27 | 1.28 | 0.96 | 0.85 |
| 172 | MWD | 15876.00 | 90.60 | 179.10 | 93 | 12376.48 | 3761.34 | 3759.20 S | 144.47 W | 3761.97 | 182.20 | 0.78 | -0.22 | -0.75 |
| 173 | MWD | 15969.00 | 90.30 | 180.20 | 93 | 12375.75 | 3854.30 | 3852.19 S | 143.90 W | 3854.88 | 182.14 | 1.23 | -0.32 | 1.18 |
| 174 | MWD | 16062.00 | 90.60 | 181.40 | 93 | 12375.02 | 3947.30 | 3945.18 S | 145.20 W | 3947.85 | 182.11 | 1.33 | 0.32 | 1.29 |
| 175 | MWD | 16155.00 | 90.80 | 181.10 | 93 | 12373.89 | 4040.29 | 4038.15 S | 147.23 W | 4040.83 | 182.09 | 0.39 | 0.22 | -0.32 |
| 176 | MWD | 16250.00 | 90.60 | 182.30 | 95 | 12372.72 | 4135.27 | 4133.10 S | 150.05 W | 4135.82 | 182.08 | 1.28 | -0.21 | 1.26 |
| 177 | MWD | 16343.00 | 90.40 | 183.00 | 93 | 12371.91 | 4228.24 | 4225.99 S | 154.35 W | 4228.81 | 182.09 | 0.78 | -0.22 | 0.75 |
| 178 | MWD | 16437.00 | 90.40 | 181.80 | 94 | 12371.26 | 4322.21 | 4319.91 S | 158.28 W | 4322.80 | 182.10 | 1.28 | 0.00 | -1.28 |
| 179 | MWD | 16530.00 | 91.70 | 181.10 | 93 | 12369.55 | 4415.19 | 4412.86 S | 160.64 W | 4415.78 | 182.08 | 1.59 | 1.40 | -0.75 |
| 180 | MWD | 16623.00 | 91.80 | 182.50 | 93 | 12366.71 | 4508.14 | 4505.77 S | 163.55 W | 4508.73 | 182.08 | 1.51 | 0.11 | 1.51 |
| 181 | MWD | 16717.00 | 90.10 | 182.50 | 94 | 12365.15 | 4602.10 | 4599.66 S | 167.65 W | 4602.72 | 182.09 | 1.81 | -1.81 | 0.00 |
| 182 | MWD | 16810.00 | 89.90 | 181.60 | 93 | 12365.15 | 4695.09 | 4692.60 S | 170.98 W | 4695.71 | 182.09 | 0.99 | -0.22 | -0.97 |
| 183 | MWD | 16904.00 | 91.10 | 180.90 | 94 | 12364.33 | 4789.08 | 4786.57 S | 173.03 W | 4789.70 | 182.07 | 1.48 | 1.28 | -0.74 |
| 184 | MWD | 16997.00 | 89.70 | 180.90 | 93 | 12363.68 | 4882.07 | 4879.56 S | 174.49 W | 4882.67 | 182.05 | 1.51 | -1.51 | 0.00 |
| 185 | MWD | 17092.00 | 90.60 | 181.10 | 95 | 12363.44 | 4977.07 | 4974.54 S | 176.15 W | 4977.66 | 182.03 | 0.97 | 0.95 | 0.21 |
| 186 | MWD | 17186.00 | 88.90 | 182.10 | 94 | 12363.85 | 5071.06 | 5068.50 S | 178.77 W | 5071.65 | 182.02 | 2.10 | -1.81 | 1.06 |
| 187 | MWD | 17279.00 | 90.60 | 183.00 | 93 | 12364.25 | 5164.03 | 5161.40 S | 182.91 W | 5164.64 | 182.03 | 2.07 | 1.83 | 0.97 |
| 188 | MWD | 17373.00 | 90.80 | 181.10 | 94 | 12363.10 | 5258.01 | 5255.33 S | 186.27 W | 5258.63 | 182.03 | 2.03 | 0.21 | -2.02 |
| 189 | MWD | 17466.00 | 91.30 | 179.80 | 93 | 12361.40 | 5350.98 | 5348.31 S | 187.00 W | 5351.58 | 182.00 | 1.50 | 0.54 | -1.40 |
| 190 | MWD | 17560.00 | 89.60 | 179.00 | 94 | 12360.66 | 5444.93 | 5442.30 S | 186.02 W | 5445.47 | 181.96 | 2.00 | -1.81 | -0.85 |
| 191 | MWD | 17655.00 | 91.10 | 180.50 | 95 | 12360.08 | 5539.90 | 5537.29 S | 185.61 W | 5540.40 | 181.92 | 2.23 | 1.58 | 1.58 |
| 192 | MWD | 17749.00 | 89.90 | 179.00 | 94 | 12359.26 | 5633.86 | 5631.28 S | 185.20 W | 5634.32 | 181.88 | 2.04 | -1.28 | -1.60 |
| 193 | MWD | 17842.00 | 89.20 | 178.10 | 93 | 12359.99 | 5726.76 | 5724.24 S | 182.84 W | 5727.16 | 181.83 | 1.23 | -0.75 | -0.97 |
| 194 | MWD | 17936.00 | 90.30 | 179.30 | 94 | 12360.40 | 5820.67 | 5818.22 S | 180.71 W | 5821.02 | 181.78 | 1.73 | 1.17 | 1.28 |
| 195 | MWD | 18029.00 | 90.30 | 179.80 | 93 | 12359.91 | 5913.63 | 5911.21 S | 179.98 W | 5913.95 | 181.74 | 0.54 | 0.00 | 0.54 |
| 196 | MWD | 18123.00 | 88.30 | 179.50 | 94 | 12361.06 | 6007.59 | 6005.20 S | 179.41 W | 6007.88 | 181.71 | 2.15 | -2.13 | -0.32 |
| 197 | MWD | 18217.00 | 90.30 | 178.80 | 94 | 12362.21 | 6101.52 | 6099.18 S | 178.01 W | 6101.77 | 181.67 | 2.25 | 2.13 | -0.74 |

# DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.
Well: Rattlesnake 21 Fed Com #702H
Location: Lea Co., NM.
Rig: H&P 415

Job Number: M-2015-125-EODT-NM
Vertical Section Plane: 181.15
WELL API #: 30-025-42828
Tie Into: Surface

Calculation Method Minimum Curvature

| Survey # | Survey Tool Type | Survey Depth (ft) | Inclination (deg) | Azimuth (deg) | Course Length (ft) | True Vertical Depth (ft) | Vertical Section (ft) | Coordinates N/S (ft) | Coordinates E/W (ft) | Closure Distance (ft) | Closure Angle (deg) | Dogleg Severity (d/100') | Build Rate (d/100') | Walk Rate (d/100') |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 198 | MWD | 18311.00 | 89.90 | 179.80 | 94 | 12362.05 | 6195.47 | 6193.17 S | 176.86 W | 6195.69 | 181.64 | 1.15 | -0.43 | 1.06 |
| 199 | MWD | 18404.00 | 91.10 | 180.90 | 93 | 12361.23 | 6288.45 | 6286.16 S | 177.43 W | 6288.66 | 181.62 | 1.75 | 1.29 | 1.18 |
| 200 | MWD | 18498.00 | 91.00 | 181.40 | 94 | 12359.51 | 6382.44 | 6380.12 S | 179.32 W | 6382.64 | 181.61 | 0.54 | -0.11 | 0.53 |
| 201 | MWD | 18592.00 | 90.80 | 181.90 | 94 | 12358.04 | 6476.42 | 6474.07 S | 182.02 W | 6476.63 | 181.61 | 0.57 | -0.21 | 0.53 |
| 202 | MWD | 18685.00 | 89.70 | 181.20 | 93 | 12357.63 | 6569.42 | 6567.04 S | 184.54 W | 6569.63 | 181.61 | 1.40 | -1.18 | -0.75 |
| 203 | MWD | 18779.00 | 89.40 | 180.00 | 94 | 12358.37 | 6663.41 | 6661.03 S | 185.52 W | 6663.61 | 181.60 | 1.32 | -0.32 | -1.28 |
| 204 | MWD | 18872.00 | 90.30 | 180.70 | 93 | 12358.61 | 6756.40 | 6754.02 S | 186.09 W | 6756.59 | 181.58 | 1.23 | 0.97 | 0.75 |
| 205 | MWD | 18965.00 | 90.30 | 177.90 | 93 | 12358.12 | 6849.34 | 6847.00 S | 184.95 W | 6849.50 | 181.55 | 3.01 | 0.00 | -3.01 |
| 206 | MWD | 19058.00 | 91.30 | 177.70 | 93 | 12356.83 | 6942.17 | 6939.93 S | 181.39 W | 6942.30 | 181.50 | 1.10 | 1.08 | -0.22 |
| 207 | MWD | 19152.00 | 91.10 | 177.90 | 94 | 12354.86 | 7035.99 | 7033.84 S | 177.78 W | 7036.08 | 181.45 | 0.30 | -0.21 | 0.21 |
| 208 | MWD | 19245.00 | 91.00 | 178.40 | 93 | 12353.15 | 7128.84 | 7126.77 S | 174.78 W | 7128.91 | 181.40 | 0.55 | -0.11 | 0.54 |
| 209 | MWD | 19338.00 | 91.10 | 178.40 | 93 | 12351.45 | 7221.72 | 7219.72 S | 172.18 W | 7221.77 | 181.37 | 0.11 | 0.11 | 0.00 |
| 210 | MWD | 19431.00 | 91.50 | 178.80 | 93 | 12349.34 | 7314.60 | 7312.67 S | 169.91 W | 7314.64 | 181.33 | 0.61 | 0.43 | 0.43 |
| 211 | MWD | 19525.00 | 91.00 | 178.40 | 94 | 12347.29 | 7408.49 | 7406.62 S | 167.61 W | 7408.51 | 181.30 | 0.68 | -0.53 | -0.43 |
| 212 | MWD | 19619.00 | 91.00 | 178.80 | 94 | 12345.65 | 7502.38 | 7500.57 S | 165.32 W | 7502.40 | 181.26 | 0.43 | 0.00 | 0.43 |
| 213 | MWD | 19712.00 | 91.70 | 179.30 | 93 | 12343.46 | 7595.29 | 7593.53 S | 163.77 W | 7595.30 | 181.24 | 0.92 | 0.75 | 0.54 |
| 214 | MWD | 19804.00 | 88.70 | 179.10 | 92 | 12343.14 | 7687.23 | 7685.51 S | 162.49 W | 7687.23 | 181.21 | 3.27 | -3.26 | -0.22 |
| 215 | MWD | 19929.00 | 88.70 | 179.10 | 125 | 12345.97 | 7812.12 | 7810.47 S | 160.53 W | 7812.12 | 181.18 | 0.00 | 0.00 | 0.00 |