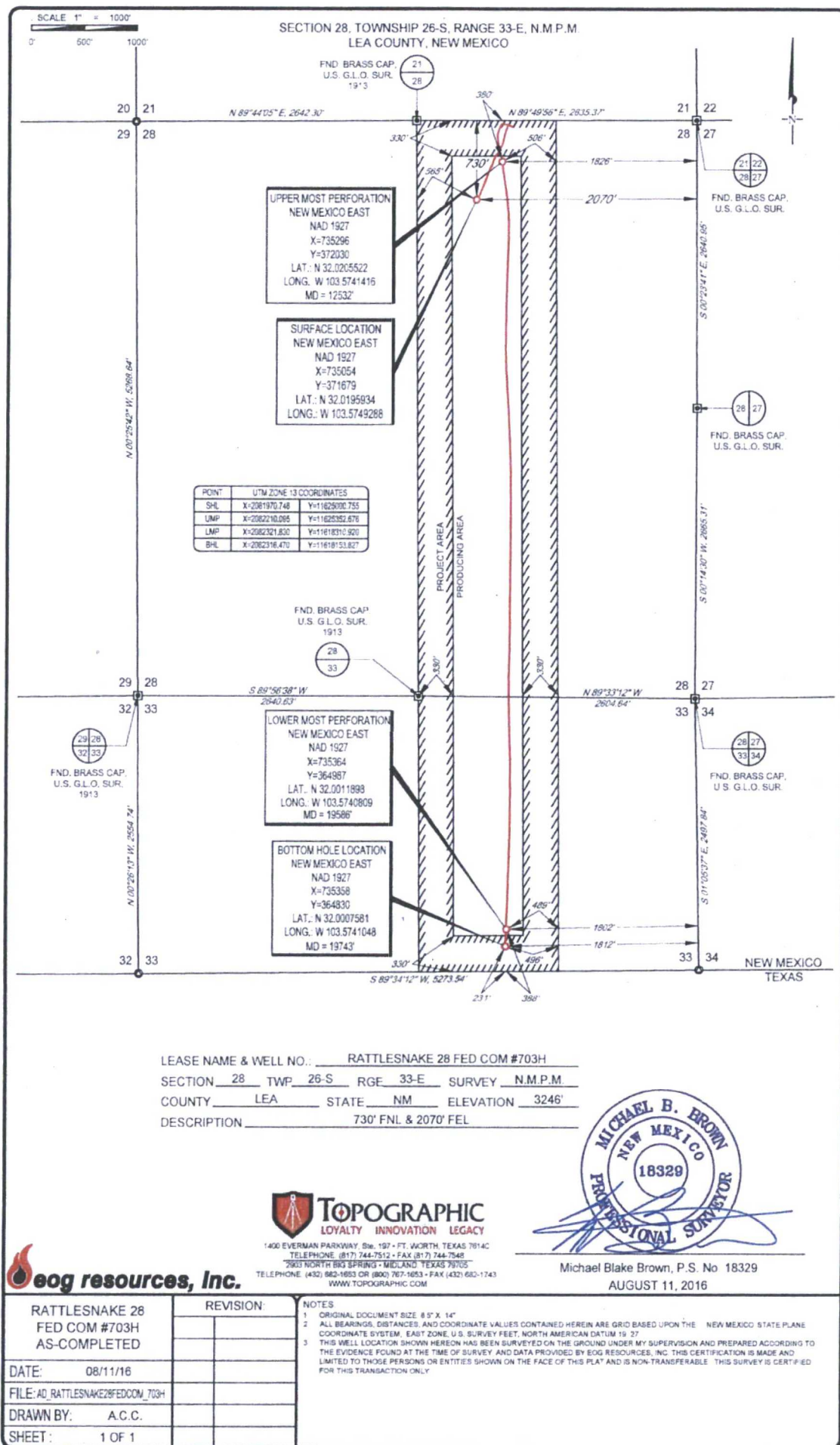




DRILTECH MWD SURVEY REPORT



Company: EOG Resources, Inc.
 Well: Rattlesnake 28 Fed Com #703H
 Location: Lea County, NM
 Rig: H&P 653

Job Number: DM-2016-034-EODT-NM
 Vertical Section Plane: 177.08
 Well API Number: 30-025-42875
 Tie Into: VES Surveys (Gyro)

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		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			

Tie In	GYRO	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	GYRO	81.30	0.12	297.00	81	81.30	-0.04	0.04	N 0.08	W 0.09	297.00	0.15	0.15	365.31
2	GYRO	175.60	0.34	19.51	94	175.60	-0.35	0.35	N 0.07	W 0.35	348.54	0.37	0.23	-294.26
3	GYRO	269.90	0.22	0.26	94	269.90	-0.79	0.79	N 0.02	E 0.79	1.73	0.16	-0.13	-20.41
4	GYRO	364.20	0.19	354.84	94	364.20	-1.13	1.13	N 0.01	E 1.13	0.54	0.04	-0.03	376.01
5	GYRO	458.50	0.18	333.75	94	458.50	-1.42	1.42	N 0.07	W 1.42	357.21	0.07	-0.01	-22.36
6	GYRO	552.80	0.15	317.85	94	552.80	-1.65	1.64	N 0.22	W 1.66	352.46	0.06	-0.03	-16.86
7	GYRO	647.10	0.05	19.14	94	647.10	-1.78	1.77	N 0.29	W 1.80	350.81	0.14	-0.11	-316.77
8	GYRO	741.40	0.17	307.30	94	741.40	-1.91	1.90	N 0.38	W 1.93	348.54	0.17	0.13	305.58
9	GYRO	835.70	0.19	283.36	94	835.70	-2.05	2.02	N 0.65	W 2.12	342.19	0.08	0.02	-25.39
10	GYRO	930.00	0.16	166.89	94	930.00	-1.96	1.92	N 0.77	W 2.07	338.19	0.32	-0.03	-123.51
11	MWD	1069.00	0.50	70.60	139	1068.99	-1.94	1.94	N 0.15	W 1.94	355.45	0.39	0.24	-69.27
12	MWD	1258.00	3.20	42.20	189	1257.88	-5.90	6.12	N 4.17	E 7.40	34.26	1.47	1.43	-15.03
13	MWD	1448.00	5.60	40.80	190	1447.31	-16.34	17.07	N 13.79	E 21.94	38.94	1.26	1.26	-0.74
14	MWD	1637.00	7.20	26.30	189	1635.13	-33.35	34.67	N 25.06	E 42.78	35.87	1.20	0.85	-7.67
15	MWD	1826.00	7.60	21.90	189	1822.56	-55.03	56.88	N 34.97	E 66.77	31.58	0.37	0.21	-2.33
16	MWD	2016.00	7.70	22.80	190	2010.87	-77.90	80.27	N 44.59	E 91.83	29.05	0.08	0.05	0.47
17	MWD	2205.00	8.40	25.50	189	2198.01	-101.45	104.41	N 55.44	E 118.21	27.97	0.42	0.37	1.43
18	MWD	2394.00	7.90	23.50	189	2385.10	-125.22	128.78	N 66.56	E 144.96	27.33	0.30	-0.26	-1.06
19	MWD	2583.00	7.60	21.20	189	2572.37	-148.26	152.34	N 76.26	E 170.37	26.59	0.23	-0.16	-1.22
20	MWD	2773.00	8.30	20.70	190	2760.54	-172.29	176.89	N 85.65	E 196.53	25.84	0.37	0.37	-0.26
21	MWD	2962.00	8.10	24.40	189	2947.61	-196.62	201.77	N 95.98	E 223.44	25.44	0.30	-0.11	1.96
22	MWD	3152.00	7.70	19.30	190	3135.81	-220.30	225.98	N 105.71	E 249.48	25.07	0.42	-0.21	-2.68
23	MWD	3341.00	7.70	22.30	189	3323.11	-243.47	249.64	N 114.70	E 274.73	24.68	0.21	0.00	1.59
24	MWD	3531.00	8.10	22.50	190	3511.31	-267.08	273.78	N 124.66	E 300.83	24.48	0.21	0.21	0.11
25	MWD	3720.00	7.70	28.40	189	3698.51	-289.92	297.22	N 135.77	E 326.77	24.55	0.48	-0.21	3.12
26	MWD	3910.00	7.60	23.00	190	3886.83	-312.10	319.99	N 146.74	E 352.03	24.63	0.38	-0.05	-2.84
27	MWD	4100.00	6.90	20.70	190	4075.31	-333.85	342.23	N 155.68	E 375.98	24.46	0.40	-0.37	-1.21
28	MWD	4289.00	7.20	20.50	189	4262.88	-355.12	363.94	N 163.84	E 399.12	24.24	0.16	0.16	-0.11
29	MWD	4479.00	7.90	23.20	190	4451.23	-377.77	387.10	N 173.16	E 424.06	24.10	0.41	0.37	1.42
30	MWD	4668.00	7.60	33.20	189	4638.51	-399.53	409.50	N 185.12	E 449.39	24.33	0.73	-0.16	5.29
31	MWD	4857.00	7.70	31.40	189	4825.83	-420.09	430.76	N 198.56	E 474.32	24.75	0.14	0.05	-0.95



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc. Job Number: DM-2016-034-EODT-NM
 Well: Rattlesnake 28 Fed Com #703H Vertical Section Plane: 177.08
 Location: Lea County, NM Well API Number: 30-025-42875
 Rig: H&P 653 Tie Into: VES Surveys (Gyro)

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		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
32	MWD	5046.00	7.70	31.60	189	5013.12	-440.98	452.35 N	211.79 E	499.48	25.09	0.01	0.00	0.11
33	MWD	5231.00	8.80	32.30	185	5196.21	-462.75	474.87 N	225.84 E	525.84	25.44	0.60	0.59	0.38
34	MWD	5420.00	8.30	19.00	189	5383.13	-487.22	499.99 N	238.01 E	553.75	25.46	1.08	-0.26	-7.04
35	MWD	5610.00	8.30	19.10	190	5571.14	-512.65	525.92 N	246.96 E	581.02	25.15	0.01	0.00	0.05
36	MWD	5799.00	7.20	12.80	189	5758.41	-536.70	550.36 N	254.05 E	606.17	24.78	0.73	-0.58	-3.33
37	MWD	5989.00	6.70	11.00	190	5947.01	-558.92	572.85 N	258.81 E	628.60	24.31	0.29	-0.26	-0.95
38	MWD	6178.00	5.80	15.80	189	6134.89	-578.67	592.86 N	263.51 E	648.79	23.96	0.55	-0.48	2.54
39	MWD	6368.00	6.20	21.60	190	6323.85	-597.10	611.64 N	269.90 E	668.54	23.81	0.38	0.21	3.05
40	MWD	6557.00	6.00	20.00	189	6511.78	-615.48	630.41 N	277.04 E	688.60	23.72	0.14	-0.11	-0.85
41	MWD	6746.00	5.60	19.80	189	6699.81	-633.08	648.37 N	283.54 E	707.66	23.62	0.21	-0.21	-0.11
42	MWD	6936.00	4.60	17.90	190	6889.06	-648.76	664.34 N	289.02 E	724.49	23.51	0.53	-0.53	-1.00
43	MWD	7124.00	3.20	24.60	188	7076.62	-660.46	676.29 N	293.52 E	737.24	23.46	0.78	-0.74	3.56
44	MWD	7314.00	2.30	51.70	190	7266.40	-667.37	683.47 N	298.72 E	745.90	23.61	0.82	-0.47	14.26
45	MWD	7503.00	1.60	61.80	189	7455.29	-670.69	687.07 N	304.02 E	751.33	23.87	0.41	-0.37	5.34
46	MWD	7693.00	1.10	81.40	190	7645.24	-672.00	688.60 N	308.16 E	754.41	24.11	0.35	-0.26	10.32
47	MWD	7882.00	1.40	129.30	189	7834.20	-670.63	687.41 N	311.75 E	754.79	24.39	0.56	0.16	25.34
48	MWD	8072.00	1.40	122.70	190	8024.15	-667.72	684.68 N	315.49 E	753.87	24.74	0.08	0.00	-3.47
49	MWD	8261.00	1.60	130.40	189	8213.08	-664.57	681.72 N	319.45 E	752.86	25.11	0.15	0.11	4.07
50	MWD	8450.00	1.60	113.20	189	8402.01	-661.59	678.97 N	323.88 E	752.27	25.50	0.25	0.00	-9.10
51	MWD	8545.00	1.60	124.40	95	8496.97	-660.21	677.70 N	326.19 E	752.12	25.70	0.33	0.00	11.79
52	MWD	8640.00	1.80	124.80	95	8591.93	-658.49	676.10 N	328.51 E	751.69	25.91	0.21	0.21	0.42
53	MWD	8735.00	1.20	98.60	95	8686.90	-657.38	675.10 N	330.72 E	751.76	26.10	0.94	-0.63	-27.58
54	MWD	8924.00	1.20	94.40	189	8875.86	-656.73	674.65 N	334.65 E	753.09	26.38	0.05	0.00	-2.22
55	MWD	9114.00	0.70	84.30	190	9065.83	-656.53	674.62 N	337.79 E	754.46	26.60	0.28	-0.26	-5.32
56	MWD	9304.00	0.40	72.00	190	9255.82	-656.76	674.94 N	339.58 E	755.55	26.71	0.17	-0.16	-6.47
57	MWD	9493.00	1.10	292.80	189	9444.81	-657.72	675.84 N	338.53 E	755.89	26.61	0.75	0.37	116.83
58	MWD	9683.00	1.60	287.50	190	9634.76	-659.44	677.35 N	334.32 E	755.36	26.27	0.27	0.26	-2.79
59	MWD	9872.00	2.30	284.90	189	9823.65	-661.52	679.12 N	328.14 E	754.24	25.79	0.37	0.37	-1.38
60	MWD	10062.00	2.60	286.00	190	10013.47	-664.08	681.28 N	320.31 E	752.83	25.18	0.16	0.16	0.58
61	MWD	10251.00	2.50	286.50	189	10202.29	-666.84	683.64 N	312.24 E	751.57	24.55	0.05	-0.05	0.26
62	MWD	10441.00	2.50	287.90	190	10392.10	-669.69	686.09 N	304.32 E	750.55	23.92	0.03	0.00	0.74
63	MWD	10631.00	2.10	294.80	190	10581.95	-672.79	688.82 N	297.22 E	750.21	23.34	0.26	-0.21	3.63
64	MWD	10815.00	2.10	296.50	184	10765.83	-676.01	691.74 N	291.14 E	750.51	22.83	0.03	0.00	0.92
65	MWD	11011.00	2.10	291.90	196	10961.70	-679.28	694.68 N	284.60 E	750.72	22.28	0.09	0.00	-2.35
66	MWD	11200.00	2.60	280.70	189	11150.54	-681.74	696.77 N	277.17 E	749.87	21.69	0.36	0.26	-5.93



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.

Job Number: DM-2016-034-EODT-NM

Well: Rattlesnake 28 Fed Com #703H

Vertical Section Plane: 177.08

Location: Lea County, NM

Well API Number: 30-025-42875

Rig: H&P 653

Tie Into: VES Surveys (Gyro)

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		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
67	MWD	11390.00	3.50	274.70	190	11340.27	-683.53	698.04 N	267.16 E	747.42	20.94	0.50	0.47	-3.16
68	MWD	11579.00	3.90	271.20	189	11528.87	-684.76	698.65 N	254.98 E	743.73	20.05	0.24	0.21	-1.85
69	MWD	11722.00	3.90	273.80	143	11671.54	-685.67	699.08 N	245.27 E	740.85	19.33	0.12	0.00	1.82
70	MWD	11796.00	2.30	265.40	74	11745.43	-685.93	699.12 N	241.28 E	739.59	19.04	2.24	-2.16	-11.35
71	MWD	11843.00	6.50	220.40	47	11792.29	-683.96	697.02 N	238.61 E	736.73	18.90	10.93	8.94	-95.74
72	MWD	11890.00	10.20	210.60	47	11838.79	-678.55	691.41 N	234.77 E	730.18	18.75	8.41	7.87	-20.85
73	MWD	11937.00	13.70	209.90	47	11884.76	-670.40	683.00 N	229.87 E	720.65	18.60	7.45	7.45	-1.49
74	MWD	11985.00	15.70	210.70	48	11931.19	-660.22	672.49 N	223.72 E	708.73	18.40	4.19	4.17	1.67
75	MWD	12032.00	19.40	205.10	47	11976.00	-648.03	659.95 N	217.16 E	694.76	18.21	8.64	7.87	-11.91
76	MWD	12080.00	21.50	201.20	48	12020.97	-632.96	644.52 N	210.60 E	678.06	18.09	5.21	4.38	-8.13
77	MWD	12152.00	24.60	193.30	72	12087.23	-606.51	617.63 N	202.37 E	649.94	18.14	6.07	4.31	-10.97
78	MWD	12199.00	33.30	187.20	47	12128.33	-584.37	595.26 N	198.50 E	627.48	18.44	19.53	18.51	-12.98
79	MWD	12247.00	38.70	176.30	48	12167.19	-556.35	567.16 N	197.81 E	600.67	19.23	17.42	11.25	-22.71
80	MWD	12294.00	41.20	170.70	47	12203.23	-526.26	537.21 N	201.27 E	573.67	20.54	9.31	5.32	-11.91
81	MWD	12342.00	44.20	169.20	48	12238.50	-493.96	505.16 N	206.96 E	545.91	22.28	6.60	6.25	-3.13
82	MWD	12389.00	50.00	167.00	47	12270.48	-459.98	471.50 N	214.08 E	517.82	24.42	12.81	12.34	-4.68
83	MWD	12436.00	58.60	165.20	47	12297.88	-422.56	434.49 N	223.27 E	488.50	27.20	18.56	18.30	-3.83
84	MWD	12483.00	62.10	166.40	47	12321.13	-382.50	394.90 N	233.28 E	458.66	30.57	7.77	7.45	2.55
85	MWD	12531.00	69.90	172.10	48	12340.65	-339.11	351.86 N	241.39 E	426.70	34.45	19.53	16.25	11.88
86	MWD	12578.00	79.00	174.90	47	12353.24	-293.97	306.93 N	246.48 E	393.65	38.77	20.19	19.36	5.96
87	MWD	12649.00	85.30	169.20	71	12362.94	-223.97	237.34 N	256.23 E	349.26	47.19	11.91	8.87	-8.03
88	MWD	12743.00	87.80	171.50	94	12368.60	-130.80	144.85 N	271.95 E	308.12	61.96	3.61	2.66	2.45
89	MWD	12838.00	89.90	171.40	95	12370.51	-36.29	50.93 N	286.07 E	290.57	79.91	2.21	2.21	-0.11
90	MWD	12933.00	91.70	173.60	95	12369.18	58.39	43.24 S	298.47 E	301.59	98.24	2.99	1.89	2.32
91	MWD	13027.00	94.00	176.60	94	12364.50	152.20	136.77 S	306.49 E	335.62	114.05	4.02	2.45	3.19
92	MWD	13122.00	93.60	179.60	95	12358.21	246.97	231.49 S	309.63 E	386.60	126.78	3.18	-0.42	3.16
93	MWD	13217.00	90.60	181.20	95	12354.73	341.73	326.41 S	308.97 E	449.45	136.57	3.58	-3.16	1.68
94	MWD	13312.00	89.90	181.90	95	12354.31	436.44	421.38 S	306.40 E	521.00	143.98	1.04	-0.74	0.74
95	MWD	13407.00	90.30	182.30	95	12354.15	531.07	516.31 S	302.92 E	598.61	149.60	0.60	0.42	0.42
96	MWD	13501.00	89.40	181.90	94	12354.39	624.71	610.25 S	299.47 E	679.77	153.86	1.05	-0.96	-0.43
97	MWD	13596.00	87.80	182.60	95	12356.71	719.29	705.14 S	295.75 E	764.65	157.25	1.84	-1.68	0.74
98	MWD	13690.00	87.80	181.20	94	12360.32	812.89	799.02 S	292.63 E	850.92	159.89	1.49	0.00	-1.49
99	MWD	13785.00	87.10	180.80	95	12364.55	907.57	893.91 S	290.97 E	940.07	161.97	0.85	-0.74	-0.42
100	MWD	13880.00	88.30	180.70	95	12368.36	1002.30	988.82 S	289.73 E	1030.40	163.67	1.27	1.26	-0.11
101	MWD	13974.00	90.30	180.50	94	12369.51	1096.11	1082.81 S	288.75 E	1120.64	165.07	2.14	2.13	-0.21



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc. Job Number: DM-2016-034-EODT-NM
 Well: Rattlesnake 28 Fed Com #703H Vertical Section Plane: 177.08
 Location: Lea County, NM Well API Number: 30-025-42875
 Rig: H&P 653 Tie Into: VES Surveys (Gyro)

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		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
102	MWD	14069.00	89.90	181.00	95	12369.34	1190.91	1177.80 S	287.50 E	1212.38	166.28	0.67	-0.42	0.53
103	MWD	14164.00	89.20	180.80	95	12370.09	1285.70	1272.78 S	286.01 E	1304.52	167.34	0.77	-0.74	-0.21
104	MWD	14258.00	88.90	179.40	94	12371.65	1379.55	1366.77 S	285.85 E	1396.34	168.19	1.52	-0.32	-1.49
105	MWD	14353.00	89.00	178.40	95	12373.39	1474.49	1461.73 S	287.67 E	1489.77	168.87	1.06	0.11	-1.05
106	MWD	14448.00	91.70	176.50	95	12372.81	1569.47	1556.62 S	291.90 E	1583.75	169.38	3.48	2.84	-2.00
107	MWD	14543.00	91.00	176.50	95	12370.57	1664.44	1651.42 S	297.70 E	1678.04	169.78	0.74	-0.74	0.00
108	MWD	14637.00	90.10	176.10	94	12369.67	1758.43	1745.22 S	303.76 E	1771.46	170.13	1.05	-0.96	-0.43
109	MWD	14732.00	90.60	176.80	95	12369.09	1853.42	1840.03 S	309.64 E	1865.90	170.45	0.91	0.53	0.74
110	MWD	14827.00	91.00	176.50	95	12367.76	1948.40	1934.86 S	315.19 E	1960.37	170.75	0.53	0.42	-0.32
111	MWD	14922.00	89.70	176.80	95	12367.18	2043.40	2029.69 S	320.75 E	2054.88	171.02	1.40	-1.37	0.32
112	MWD	15016.00	91.50	178.00	94	12366.20	2137.39	2123.59 S	325.01 E	2148.31	171.30	2.30	1.91	1.28
113	MWD	15111.00	91.50	177.50	95	12363.71	2232.35	2218.48 S	328.74 E	2242.70	171.57	0.53	0.00	-0.53
114	MWD	15206.00	91.30	177.50	95	12361.39	2327.32	2313.36 S	332.88 E	2337.19	171.81	0.21	-0.21	0.00
115	MWD	15301.00	91.80	179.30	95	12358.82	2422.25	2408.29 S	335.53 E	2431.55	172.07	1.97	0.53	1.89
116	MWD	15395.00	89.00	180.00	94	12358.16	2516.14	2502.27 S	336.11 E	2524.74	172.35	3.07	-2.98	0.74
117	MWD	15490.00	89.70	180.10	95	12359.24	2611.01	2597.27 S	336.02 E	2618.91	172.63	0.74	0.74	0.11
118	MWD	15585.00	89.90	179.60	95	12359.57	2705.90	2692.26 S	336.27 E	2713.18	172.88	0.57	0.21	-0.53
119	MWD	15680.00	90.40	180.00	95	12359.32	2800.79	2787.26 S	336.60 E	2807.51	173.11	0.67	0.53	0.42
120	MWD	15774.00	89.20	179.80	94	12359.65	2894.67	2881.26 S	336.77 E	2900.87	173.33	1.29	-1.28	-0.21
121	MWD	15869.00	89.60	179.80	95	12360.65	2989.56	2976.25 S	337.10 E	2995.28	173.54	0.42	0.42	0.00
122	MWD	15964.00	89.00	180.10	95	12361.81	3084.44	3071.25 S	337.18 E	3089.70	173.73	0.71	-0.63	0.32
123	MWD	16058.00	89.60	179.80	94	12362.96	3178.31	3165.24 S	337.26 E	3183.16	173.92	0.71	0.64	-0.32
124	MWD	16153.00	91.10	181.20	95	12362.38	3273.13	3260.23 S	336.44 E	3277.54	174.11	2.16	1.58	1.47
125	MWD	16248.00	90.80	180.30	95	12360.80	3367.92	3355.21 S	335.19 E	3371.91	174.29	1.00	-0.32	-0.95
126	MWD	16342.00	90.80	180.30	94	12359.49	3461.77	3449.20 S	334.70 E	3465.40	174.46	0.00	0.00	0.00
127	MWD	16437.00	90.60	180.10	95	12358.33	3556.62	3544.19 S	334.37 E	3559.93	174.61	0.30	-0.21	-0.21
128	MWD	16532.00	90.10	180.10	95	12357.75	3651.49	3639.19 S	334.20 E	3654.50	174.75	0.53	-0.53	0.00
129	MWD	16627.00	89.70	180.10	95	12357.91	3746.35	3734.18 S	334.04 E	3749.10	174.89	0.42	-0.42	0.00
130	MWD	16721.00	91.00	180.30	94	12357.34	3840.21	3828.18 S	333.71 E	3842.70	175.02	1.40	1.38	0.21
131	MWD	16816.00	91.00	180.50	95	12355.68	3935.04	3923.16 S	333.05 E	3937.27	175.15	0.21	0.00	0.21
132	MWD	16911.00	90.80	180.80	95	12354.19	4029.84	4018.15 S	331.97 E	4031.84	175.28	0.38	-0.21	0.32
133	MWD	17006.00	90.60	180.70	95	12353.03	4124.64	4113.13 S	330.72 E	4126.41	175.40	0.24	-0.21	-0.11
134	MWD	17100.00	90.40	181.20	94	12352.21	4218.42	4207.11 S	329.17 E	4219.97	175.53	0.57	-0.21	0.53
135	MWD	17195.00	90.10	181.20	95	12351.79	4313.17	4302.09 S	327.18 E	4314.51	175.65	0.32	-0.32	0.00
136	MWD	17290.00	89.60	180.70	95	12352.04	4407.96	4397.08 S	325.60 E	4409.12	175.77	0.74	-0.53	-0.53

DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.

Job Number: DM-2016-034-EODT-NM

Well: Rattlesnake 28 Fed Com #703H

Vertical Section Plane: 177.08

Location: Lea County, NM

Well API Number: 30-025-42875

Rig: H&P 653

Tie Into: VES Surveys (Gyro)

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		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
137	MWD	17385.00	90.80	180.10	95	12351.71	4502.79	4492.07 S	324.94 E	4503.81	175.86	1.41	1.26	-0.63
138	MWD	17479.00	90.80	179.60	94	12350.40	4596.67	4586.06 S	325.18 E	4597.58	175.94	0.53	0.00	-0.53
139	MWD	17574.00	90.10	179.30	95	12349.65	4691.59	4681.05 S	326.10 E	4692.40	176.02	0.80	-0.74	-0.32
140	MWD	17669.00	90.80	178.60	95	12348.91	4786.53	4776.03 S	327.84 E	4787.27	176.07	1.04	0.74	-0.74
141	MWD	17764.00	90.60	178.40	95	12347.74	4881.50	4870.99 S	330.32 E	4882.18	176.12	0.30	-0.21	-0.21
142	MWD	17859.00	91.00	178.40	95	12346.42	4976.46	4965.95 S	332.98 E	4977.10	176.16	0.42	0.42	0.00
143	MWD	17953.00	91.30	178.70	94	12344.53	5070.41	5059.90 S	335.35 E	5071.00	176.21	0.45	0.32	0.32
144	MWD	18048.00	92.20	179.30	95	12341.63	5165.31	5154.84 S	337.01 E	5165.84	176.26	1.14	0.95	0.63
145	MWD	18143.00	92.70	179.40	95	12337.57	5260.15	5249.75 S	338.09 E	5260.62	176.32	0.54	0.53	0.11
146	MWD	18238.00	91.00	179.60	95	12334.50	5355.01	5344.69 S	338.92 E	5355.42	176.37	1.80	-1.79	0.21
147	MWD	18332.00	90.80	180.00	94	12333.03	5448.90	5438.68 S	339.24 E	5449.25	176.43	0.48	-0.21	0.43
148	MWD	18427.00	91.00	180.80	95	12331.53	5543.72	5533.66 S	338.58 E	5544.01	176.50	0.87	0.21	0.84
149	MWD	18522.00	90.80	180.30	95	12330.04	5638.54	5628.65 S	337.67 E	5638.76	176.57	0.57	-0.21	-0.53
150	MWD	18617.00	91.50	180.80	95	12328.13	5733.34	5723.62 S	336.76 E	5733.52	176.63	0.91	0.74	0.53
151	MWD	18712.00	89.20	181.20	95	12327.55	5828.11	5818.60 S	335.10 E	5828.24	176.70	2.46	-2.42	0.42
152	MWD	18806.00	89.40	181.20	94	12328.70	5921.86	5912.57 S	333.13 E	5921.95	176.78	0.21	0.21	0.00
153	MWD	18901.00	89.60	181.60	95	12329.53	6016.59	6007.54 S	330.81 E	6016.64	176.85	0.47	0.21	0.42
154	MWD	18996.00	89.70	181.60	95	12330.11	6111.29	6102.50 S	328.16 E	6111.32	176.92	0.11	0.11	0.00
155	MWD	19091.00	90.30	181.70	95	12330.11	6205.99	6197.46 S	325.42 E	6206.00	176.99	0.64	0.63	0.11
156	MWD	19186.00	90.60	181.70	95	12329.37	6300.68	6292.41 S	322.60 E	6300.68	177.07	0.32	0.32	0.00
157	MWD	19281.00	90.80	181.90	95	12328.21	6395.35	6387.36 S	319.62 E	6395.35	177.14	0.30	0.21	0.21
158	MWD	19375.00	90.80	181.70	94	12326.89	6489.02	6481.30 S	316.67 E	6489.04	177.20	0.21	0.00	-0.21
159	MWD	19470.00	91.00	181.70	95	12325.40	6583.70	6576.25 S	313.85 E	6583.74	177.27	0.21	0.21	0.00
160	MWD	19565.00	91.30	182.10	95	12323.49	6678.35	6671.18 S	310.70 E	6678.41	177.33	0.53	0.32	0.42
161	MWD	19683.00	92.00	182.40	118	12320.10	6795.82	6789.04 S	306.07 E	6795.93	177.42	0.65	0.59	0.25
162	PTB	19744.00	92.00	182.40	61	12317.97	6856.52	6849.95 S	303.52 E	6856.67	177.46	0.00	0.00	0.00