

DRILTECH MWD SURVEY REPORT



Company: EOG Resources, Inc.
Well: Dragon 36 State #501H
Location: Lea County, New Mexico
Rig: Precision 612

Job Number: 2015-065-EODT-NM
Vertical Section Plane: 170.26
WELL API #: 30-025-42500
Tie Into: VES Gyro

MOVED
AUG 14
RECEIVED
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')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
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
1	GYRO	125.00	0.71	280.36	125	125.00	-0.27	0.14 N	0.76 W	0.77	280.36	0.57	0.57
2	GYRO	225.00	1.14	304.97	100	224.98	-1.18	0.82 N	2.19 W	2.34	290.58	0.58	0.43
3	GYRO	325.00	1.05	317.26	100	324.97	-2.65	2.06 N	3.62 W	4.17	299.67	0.25	-0.09
4	GYRO	425.00	0.47	310.12	100	424.96	-3.73	3.00 N	4.56 W	5.46	303.36	0.59	-0.58
5	GYRO	525.00	0.43	313.59	100	524.95	-4.34	3.52 N	5.14 W	6.24	304.41	0.05	-0.04
6	GYRO	625.00	0.45	341.84	100	624.95	-5.03	4.16 N	5.54 W	6.92	306.88	0.22	0.02
7	GYRO	725.00	0.64	2.89	100	724.95	-5.97	5.09 N	5.63 W	7.59	312.09	0.27	0.19
8	GYRO	825.00	0.61	13.21	100	824.94	-7.00	6.16 N	5.48 W	8.25	318.34	0.12	-0.03
9	GYRO	925.00	0.42	320.65	100	924.94	-7.81	6.96 N	5.59 W	8.93	321.23	0.49	-0.19
10	GYRO	1025.00	0.37	326.34	100	1024.93	-8.42	7.52 N	6.01 W	9.62	321.38	0.06	-0.05
11	GYRO	1125.00	0.46	306.18	100	1124.93	-9.01	8.02 N	6.51 W	10.33	320.95	0.17	0.09
12	GYRO	1200.00	1.02	326.12	75	1199.93	-9.83	8.75 N	7.12 W	11.29	320.87	0.81	0.75
13	MWD	1360.00	1.20	283.90	160	1359.90	-11.80	10.34 N	9.54 W	14.07	317.29	0.51	0.11
14	MWD	1453.00	1.90	358.80	93	1452.87	-13.72	12.11 N	10.52 W	16.05	319.03	2.11	0.75
15	MWD	1545.00	3.90	32.40	92	1544.75	-17.55	16.28 N	8.88 W	18.54	331.40	2.77	2.17
16	MWD	1638.00	5.80	46.30	93	1637.42	-22.52	22.20 N	3.78 W	22.52	350.33	2.39	2.04
17	MWD	1730.00	6.50	50.30	92	1728.89	-27.72	28.74 N	3.58 E	28.96	7.11	0.89	0.76
18	MWD	1823.00	6.30	47.90	93	1821.31	-33.08	35.52 N	11.42 E	37.31	17.82	0.36	-0.22
19	MWD	2007.00	5.60	62.60	184	2004.33	-41.20	46.42 N	26.88 E	53.64	30.07	0.91	-0.38
20	MWD	2192.00	5.50	58.40	185	2188.46	-47.24	55.22 N	42.45 E	69.65	37.55	0.23	-0.05
21	MWD	2284.00	5.30	55.10	92	2280.05	-50.69	59.96 N	49.69 E	77.87	39.65	0.40	-0.22
22	MWD	2376.00	6.30	54.70	92	2371.58	-54.68	65.31 N	57.29 E	86.88	41.26	1.09	1.09
23	MWD	2469.00	6.90	55.80	93	2463.97	-59.19	71.40 N	66.08 E	97.28	42.78	0.66	0.65
24	MWD	2561.00	6.70	53.10	92	2555.32	-63.93	77.73 N	74.94 E	107.97	43.95	0.41	-0.22
25	MWD	2654.00	6.30	50.00	93	2647.72	-68.98	84.27 N	83.19 E	118.41	44.63	0.57	-0.43
26	MWD	2838.00	7.60	61.40	184	2830.37	-78.00	96.58 N	101.60 E	140.18	46.45	1.03	0.71
27	MWD	3023.00	7.60	58.60	185	3013.75	-86.47	108.81 N	122.79 E	164.06	48.45	0.20	0.00
28	MWD	3208.00	7.20	58.60	185	3197.21	-95.26	121.22 N	143.13 E	187.56	49.74	0.22	-0.22
29	MWD	3300.00	7.40	57.70	92	3288.46	-99.66	127.39 N	153.05 E	199.14	50.23	0.25	0.22
30	MWD	3392.00	7.20	58.20	92	3379.72	-104.10	133.60 N	162.96 E	210.73	50.65	0.23	-0.22
31	MWD	3485.00	7.40	59.80	93	3471.96	-108.38	139.68 N	173.09 E	222.42	51.10	0.31	0.22
32	MWD	3577.00	7.60	60.00	92	3563.18	-112.56	145.70 N	183.48 E	234.30	51.55	0.22	0.22
33	MWD	3669.00	7.40	60.90	92	3654.39	-116.63	151.63 N	193.93 E	246.17	51.98	0.25	-0.22
34	MWD	3762.00	6.90	60.30	93	3746.66	-120.53	157.31 N	204.01 E	257.62	52.37	0.54	-0.54

SEE PAGE 15



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.
 Well: Dragon 36 State #501H
 Location: Lea County, New Mexico
 Rig: Precision 612

Job Number: 2015-065-EODT-NM
 Vertical Section Plane: 170.26
 WELL API #: 30-025-42500
 Tie Into: VES 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')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
35	MWD	3854.00	6.30	60.70	92	3838.05	-124.10	162.52 N	213.21 E	268.09	52.68	0.65	-0.65
36	MWD	3946.00	6.30	61.60	92	3929.50	-127.41	167.39 N	222.06 E	278.08	52.99	0.11	0.00
37	MWD	4039.00	6.20	62.10	93	4021.95	-130.60	172.16 N	230.98 E	288.09	53.30	0.12	-0.11
38	MWD	4131.00	5.80	48.00	92	4113.45	-134.63	177.60 N	238.83 E	297.63	53.36	1.66	-0.43
39	MWD	4223.00	5.60	41.50	92	4204.99	-139.93	184.07 N	245.26 E	306.65	53.11	0.73	-0.22
40	MWD	4316.00	5.30	41.00	93	4297.57	-145.49	190.71 N	251.08 E	315.30	52.78	0.33	-0.32
41	MWD	4408.00	5.10	39.40	92	4389.19	-150.85	197.08 N	256.47 E	323.44	52.46	0.27	-0.22
42	MWD	4501.00	4.80	42.90	93	4481.85	-155.91	203.12 N	261.74 E	331.31	52.19	0.46	-0.32
43	MWD	4593.00	6.00	59.30	92	4573.44	-159.97	208.40 N	268.49 E	339.88	52.18	2.11	1.30
44	MWD	4686.00	6.30	60.90	93	4665.91	-163.40	213.36 N	277.13 E	349.75	52.41	0.37	0.32
45	MWD	4778.00	5.80	59.10	92	4757.39	-166.75	218.20 N	285.53 E	359.36	52.61	0.58	-0.54
46	MWD	4870.00	5.80	66.80	92	4848.93	-169.51	222.42 N	293.79 E	368.49	52.87	0.85	0.00
47	MWD	4963.00	6.00	70.70	93	4941.43	-171.41	225.88 N	302.70 E	377.69	53.27	0.48	0.22
48	MWD	5055.00	5.80	71.80	92	5032.95	-172.90	228.92 N	311.65 E	386.69	53.70	0.25	-0.22
49	MWD	5121.00	5.60	71.80	66	5098.62	-173.86	230.97 N	317.88 E	392.93	54.00	0.30	-0.30
50	MWD	5213.00	5.30	72.30	92	5190.20	-175.11	233.66 N	326.19 E	401.25	54.38	0.33	-0.33
51	MWD	5305.00	5.50	65.60	92	5281.80	-176.81	236.78 N	334.26 E	409.62	54.69	0.72	0.22
52	MWD	5398.00	5.80	64.40	93	5374.34	-179.23	240.65 N	342.55 E	418.63	54.91	0.35	0.32
53	MWD	5490.00	6.20	60.50	92	5465.84	-182.18	245.10 N	351.07 E	428.16	55.08	0.62	0.43
54	MWD	5582.00	6.90	48.00	92	5557.24	-186.81	251.25 N	359.50 E	438.59	55.05	1.72	0.76
55	MWD	5675.00	7.40	45.80	93	5649.52	-193.18	259.16 N	367.94 E	450.05	54.84	0.61	0.54
56	MWD	5767.00	7.00	44.90	92	5740.79	-199.77	267.26 N	376.15 E	461.43	54.61	0.45	-0.43
57	MWD	5860.00	7.00	44.70	93	5833.10	-206.35	275.30 N	384.14 E	472.60	54.37	0.03	0.00
58	MWD	5952.00	7.00	44.90	92	5924.42	-212.85	283.26 N	392.04 E	483.66	54.15	0.03	0.00
59	MWD	6044.00	7.00	43.60	92	6015.73	-219.44	291.29 N	399.86 E	494.71	53.93	0.17	0.00
60	MWD	6137.00	7.00	42.40	93	6108.04	-226.31	299.58 N	407.59 E	505.84	53.68	0.16	0.00
61	MWD	6229.00	7.60	43.30	92	6199.29	-233.40	308.15 N	415.54 E	517.33	53.44	0.66	0.65
62	MWD	6322.00	7.90	47.20	93	6291.44	-240.59	316.96 N	424.45 E	529.74	53.25	0.65	0.32
63	MWD	6414.00	7.70	47.30	92	6382.59	-247.39	325.44 N	433.62 E	542.16	53.11	0.22	-0.22
64	MWD	6507.00	7.70	46.50	93	6474.75	-254.24	333.95 N	442.71 E	554.55	52.97	0.12	0.00
65	MWD	6599.00	7.60	45.40	92	6565.93	-261.14	342.47 N	451.52 E	566.70	52.82	0.19	-0.11
66	MWD	6691.00	7.60	44.70	92	6657.12	-268.16	351.06 N	460.13 E	578.76	52.66	0.10	0.00
67	MWD	6876.00	8.40	57.20	185	6840.34	-280.57	367.08 N	480.09 E	604.35	52.60	1.03	0.43
68	MWD	6968.00	8.30	56.50	92	6931.36	-285.88	374.39 N	491.28 E	617.67	52.69	0.15	-0.11
69	MWD	7061.00	7.90	57.50	93	7023.43	-291.05	381.53 N	502.27 E	630.74	52.78	0.46	-0.43
70	MWD	7153.00	7.60	56.80	92	7114.59	-295.92	388.25 N	512.69 E	643.11	52.86	0.34	-0.33
71	MWD	7245.00	7.00	56.30	92	7205.85	-300.62	394.70 N	522.45 E	654.78	52.93	0.66	-0.65
72	MWD	7338.00	7.60	53.30	93	7298.09	-305.71	401.51 N	532.09 E	666.58	52.96	0.76	0.65



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.
Well: Dragon 36 State #501H
Location: Lea County, New Mexico
Rig: Precision 612

Job Number: 2015-065-EODT-NM
Vertical Section Plane: 170.26
WELL API #: 30-025-42500
Tie Into: VES 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')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
73	MWD	7430.00	7.90	53.00	92	7389.25	-311.36	408.96 N	542.02 E	678.99	52.97	0.33	0.33
74	MWD	7522.00	7.60	52.40	92	7480.41	-317.10	416.47 N	551.89 E	691.40	52.96	0.34	-0.33
75	MWD	7615.00	7.20	54.00	93	7572.64	-322.56	423.65 N	561.47 E	703.37	52.96	0.48	-0.43
76	MWD	7707.00	6.90	54.40	92	7663.94	-327.52	430.26 N	570.63 E	714.66	52.98	0.33	-0.33
77	MWD	7800.00	6.30	55.90	93	7756.33	-332.06	436.37 N	579.40 E	725.34	53.02	0.67	-0.65
78	MWD	7892.00	7.20	58.60	92	7847.69	-336.27	442.20 N	588.50 E	736.12	53.08	1.04	0.98
79	MWD	7984.00	7.40	59.10	92	7938.94	-340.53	448.25 N	598.51 E	747.75	53.17	0.23	0.22
80	MWD	8077.00	6.90	59.80	93	8031.22	-344.65	454.14 N	608.47 E	759.26	53.26	0.55	-0.54
81	MWD	8169.00	6.70	60.30	92	8122.57	-348.41	459.57 N	617.91 E	770.08	53.36	0.23	-0.22
82	MWD	8261.00	6.20	60.90	92	8213.99	-351.89	464.65 N	626.91 E	780.33	53.46	0.55	-0.54
83	MWD	8354.00	5.60	60.20	93	8306.49	-355.11	469.35 N	635.24 E	789.82	53.54	0.65	-0.65
84	MWD	8446.00	5.30	59.50	92	8398.08	-358.16	473.73 N	642.80 E	798.51	53.61	0.33	-0.33
85	MWD	8538.00	5.10	60.30	92	8489.70	-361.06	477.92 N	650.01 E	806.79	53.67	0.23	-0.22
86	MWD	8631.00	4.80	61.20	93	8582.35	-363.74	481.84 N	657.01 E	814.76	53.74	0.33	-0.32
87	MWD	8723.00	4.40	60.00	92	8674.06	-366.22	485.46 N	663.44 E	822.08	53.81	0.45	-0.43
88	MWD	8816.00	3.90	60.90	93	8766.81	-368.51	488.78 N	669.29 E	828.77	53.86	0.54	-0.54
89	MWD	8908.00	3.90	62.30	92	8858.60	-370.51	491.76 N	674.80 E	834.97	53.92	0.10	0.00
90	MWD	9000.00	3.70	62.60	92	8950.40	-372.37	494.58 N	680.20 E	841.00	53.98	0.22	-0.22
91	MWD	9093.00	1.90	51.20	93	9043.28	-374.03	496.92 N	684.07 E	845.51	54.00	2.02	-1.94
92	MWD	9185.00	1.60	42.40	92	9135.24	-375.56	498.83 N	686.12 E	848.29	53.98	0.44	-0.33
93	MWD	9277.00	1.80	43.80	92	9227.20	-377.21	500.82 N	687.99 E	850.97	53.95	0.22	0.22
94	MWD	9370.00	1.60	47.70	93	9320.16	-378.77	502.75 N	689.96 E	853.70	53.92	0.25	-0.22
95	MWD	9462.00	2.10	35.90	92	9412.11	-380.64	504.98 N	691.90 E	856.58	53.88	0.68	0.54
96	MWD	9555.00	1.10	40.10	93	9505.07	-382.41	507.04 N	693.47 E	859.07	53.83	1.08	-1.08
97	MWD	9647.00	1.10	49.10	92	9597.06	-383.44	508.29 N	694.71 E	860.80	53.81	0.19	0.00
98	MWD	9739.00	1.20	50.00	92	9689.04	-384.38	509.49 N	696.11 E	862.64	53.80	0.11	0.11
99	MWD	9831.00	1.20	54.70	92	9781.02	-385.28	510.67 N	697.64 E	864.57	53.80	0.11	0.00
100	MWD	9924.00	1.40	45.40	93	9873.99	-386.35	512.03 N	699.24 E	866.67	53.79	0.31	0.22
101	MWD	10016.00	1.60	41.00	92	9965.96	-387.81	513.79 N	700.88 E	869.03	53.76	0.25	0.22
102	MWD	10108.00	1.10	26.10	92	10057.94	-389.33	515.55 N	702.12 E	871.07	53.71	0.66	-0.54
103	MWD	10201.00	0.90	17.10	93	10150.92	-390.71	517.05 N	702.72 E	872.44	53.66	0.27	-0.22
104	MWD	10293.00	0.50	11.70	92	10242.91	-391.73	518.13 N	703.02 E	873.32	53.61	0.44	-0.43
105	MWD	10386.00	0.70	28.20	93	10335.91	-392.55	519.03 N	703.37 E	874.14	53.58	0.28	0.22
106	MWD	10519.00	0.40	37.70	133	10468.90	-393.51	520.11 N	704.04 E	875.32	53.54	0.23	-0.23
107	MWD	10616.00	3.20	198.00	97	10565.86	-391.34	517.81 N	703.41 E	873.44	53.64	3.69	2.89
108	MWD	10661.00	7.70	182.30	45	10610.65	-387.28	513.60 N	702.90 E	870.54	53.84	10.44	10.00
109	MWD	10707.00	12.50	179.70	46	10655.92	-379.35	505.53 N	702.80 E	865.73	54.27	10.48	10.43
110	MWD	10754.00	17.20	179.00	47	10701.34	-367.46	493.49 N	702.95 E	858.88	54.93	10.01	10.00



DRILTECH MWD SURVEY REPORT

Company: EOG Resources, Inc.
Well: Dragon 36 State #501H
Location: Lea County, New Mexico
Rig: Precision 612

Job Number: 2015-065-EODT-NM
Vertical Section Plane: 170.26
WELL API #: 30-025-42500
Tie Into: VES 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')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
111	MWD	10800.00	21.60	178.60	46	10744.71	-352.35	478.22 N	703.27 E	850.46	55.78	9.57	9.57
112	MWD	10846.00	25.20	177.60	46	10786.92	-334.25	459.97 N	703.89 E	840.85	56.84	7.87	7.83
113	MWD	10892.00	29.60	177.90	46	10827.75	-313.27	438.82 N	704.72 E	830.17	58.09	9.57	9.57
114	MWD	10938.00	34.10	178.80	46	10866.82	-289.25	414.56 N	705.40 E	818.20	59.56	9.84	9.78
115	MWD	10984.00	40.30	178.80	46	10903.44	-261.76	386.77 N	705.99 E	804.99	61.28	13.48	13.48
116	MWD	11031.00	45.70	180.60	47	10937.80	-230.16	354.73 N	706.13 E	790.22	63.33	11.78	11.49
117	MWD	11077.00	52.60	180.20	46	10967.87	-195.92	319.96 N	705.89 E	775.02	65.62	15.01	15.00
118	MWD	11123.00	57.40	180.20	46	10994.25	-158.82	282.29 N	705.76 E	760.12	68.20	10.43	10.43
119	MWD	11169.00	60.90	178.30	46	11017.84	-119.82	242.81 N	706.29 E	746.86	71.03	8.39	7.61
120	MWD	11216.00	63.20	178.10	47	11039.86	-78.70	201.31 N	707.59 E	735.67	74.12	4.91	4.89
121	MWD	11262.00	66.20	179.30	46	11059.52	-37.57	159.74 N	708.53 E	726.32	77.29	6.93	6.52
122	MWD	11308.00	69.00	181.10	46	11077.05	4.31	117.22 N	708.38 E	718.01	80.60	7.08	6.09
123	MWD	11354.00	72.10	181.50	46	11092.36	46.88	73.86 N	707.39 E	711.24	84.04	6.79	6.74
124	MWD	11400.00	74.80	181.50	46	11105.47	90.12	29.79 N	706.24 E	706.86	87.58	5.87	5.87
125	MWD	11446.00	75.80	180.80	46	11117.14	133.81	14.70 S	705.34 E	705.50	91.19	2.63	2.17
126	MWD	11493.00	79.90	181.30	47	11127.03	178.94	60.63 S	704.50 E	707.10	94.92	8.79	8.72
127	MWD	11539.00	81.80	180.80	46	11134.34	223.55	106.03 S	703.67 E	711.61	98.57	4.27	4.13
128	MWD	11585.00	87.10	178.60	46	11138.79	268.70	151.80 S	703.91 E	720.09	102.17	12.47	11.52
129	MWD	11631.00	90.40	177.20	46	11139.79	314.27	197.75 S	705.60 E	732.78	105.66	7.79	7.17
130	MWD	11677.00	92.40	177.10	46	11138.67	359.92	243.67 S	707.88 E	748.65	108.99	4.35	4.35
131	MWD	11770.00	91.00	178.10	93	11135.91	452.11	336.55 S	711.78 E	787.33	115.31	1.85	-1.51
132	MWD	11862.00	88.90	178.30	92	11135.99	543.23	428.50 S	714.67 E	833.28	120.95	2.29	-2.28
133	MWD	11954.00	89.90	177.90	92	11136.96	634.36	520.44 S	717.72 E	886.55	125.95	1.17	1.09
134	MWD	12047.00	88.90	178.80	93	11137.93	726.43	613.40 S	720.39 E	946.16	130.41	1.45	-1.08
135	MWD	12139.00	90.40	179.00	92	11138.49	817.38	705.37 S	722.16 E	1009.49	134.33	1.64	1.63
136	MWD	12232.00	90.40	178.50	93	11137.84	909.36	798.35 S	724.19 E	1077.87	137.79	0.54	0.00
137	MWD	12324.00	89.40	177.80	92	11138.00	1000.49	890.30 S	727.16 E	1149.52	140.76	1.33	-1.09
138	MWD	12417.00	91.10	178.50	93	11137.60	1092.60	983.25 S	730.16 E	1224.71	143.40	1.98	1.83
139	MWD	12509.00	90.10	176.70	92	11136.63	1183.84	1075.16 S	734.01 E	1301.82	145.68	2.24	-1.09
140	MWD	12601.00	89.20	176.90	92	11137.20	1275.24	1167.01 S	739.15 E	1381.39	147.65	1.00	-0.98
141	MWD	12694.00	88.20	178.80	93	11139.31	1367.39	1259.91 S	742.64 E	1462.50	149.48	2.31	-1.08
142	MWD	12786.00	89.00	179.20	92	11141.55	1458.29	1351.87 S	744.24 E	1543.20	151.17	0.97	0.87
143	MWD	12878.00	90.30	179.70	92	11142.12	1549.11	1443.86 S	745.12 E	1624.79	152.70	1.51	1.41
144	MWD	12971.00	88.00	180.10	93	11143.49	1640.78	1536.85 S	745.29 E	1708.03	154.13	2.51	-2.47
145	MWD	13063.00	88.70	179.30	92	11146.14	1731.50	1628.81 S	745.77 E	1791.42	155.40	1.16	0.76
146	MWD	13156.00	89.90	178.60	93	11147.28	1823.42	1721.78 S	747.47 E	1877.03	156.53	1.49	1.29
147	MWD	13248.00	88.00	177.60	92	11148.97	1914.54	1813.71 S	750.52 E	1962.86	157.52	2.33	-2.07
148	MWD	13340.00	89.00	176.90	92	11151.37	2005.82	1905.57 S	754.93 E	2049.67	158.39	1.33	1.09

