

DRILTECH MWD SURVEY REPORT

AUG 26 2016

RECEIVED



Company: EOG Resources, Inc.
 Well: Ophelia 27 #708H
 Location: Lea Co., NM
 Rig: H&P 415

Job Number: DM-2016-033-EODT-NM
 Vertical Section Plane: 359.50
 Well API Number: 30-025-43128
 Tie Into: VES

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	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	Gyro	81.00	0.36	252.51	81	81.00	-0.07	0.08 S	0.24 W	0.25	252.51	0.44	0.44	311.74
2	Gyro	175.00	0.28	302.42	94	175.00	-0.04	0.04 S	0.72 W	0.72	266.65	0.30	-0.09	53.10
3	Gyro	269.00	0.28	303.39	94	269.00	0.22	0.21 N	1.10 W	1.12	280.64	0.01	0.00	1.03
4	Gyro	363.00	0.33	312.99	94	363.00	0.53	0.52 N	1.49 W	1.58	289.14	0.08	0.05	10.21
5	Gyro	457.00	0.24	305.27	94	456.99	0.83	0.82 N	1.85 W	2.02	293.79	0.10	-0.10	-8.21
6	Gyro	551.00	0.46	300.00	94	550.99	1.14	1.12 N	2.34 W	2.59	295.56	0.24	0.23	-5.61
7	Gyro	645.00	0.62	308.19	94	644.99	1.65	1.62 N	3.07 W	3.47	297.88	0.19	0.17	8.71
8	Gyro	739.00	0.76	310.59	94	738.98	2.38	2.34 N	3.94 W	4.58	300.73	0.15	0.15	2.55
9	Gyro	833.00	0.98	302.39	94	832.97	3.22	3.18 N	5.09 W	6.00	301.97	0.27	0.23	-8.72
10	Gyro	927.00	0.88	296.67	94	926.96	3.99	3.93 N	6.42 W	7.53	301.51	0.15	-0.11	-6.09
11	MWD	978.00	0.53	279.10	51	977.95	4.21	4.15 N	7.00 W	8.13	300.64	0.80	-0.69	-34.45
12	MWD	1165.00	0.53	296.50	187	1164.95	4.74	4.67 N	8.63 W	9.81	298.42	0.09	0.00	9.30
13	MWD	1259.00	0.53	230.94	94	1258.94	4.67	4.59 N	9.35 W	10.42	296.13	0.61	0.00	-69.74
14	MWD	1349.00	0.53	225.66	90	1348.94	4.12	4.04 N	9.97 W	10.76	292.03	0.05	0.00	-5.87
15	MWD	1438.00	1.76	216.00	89	1437.92	2.74	2.64 N	11.07 W	11.38	283.42	1.39	1.38	-10.85
16	MWD	1528.00	2.11	206.85	90	1527.87	0.16	0.05 N	12.63 W	12.63	270.21	0.52	0.39	-10.17
17	MWD	1618.00	2.46	209.32	90	1617.80	-2.99	3.12 S	14.33 W	14.66	257.73	0.40	0.39	2.74
18	MWD	1707.00	2.29	213.18	89	1706.72	-6.13	6.27 S	16.24 W	17.40	248.88	0.26	-0.19	4.34
19	MWD	1797.00	2.82	188.40	90	1796.63	-9.81	9.97 S	17.54 W	20.18	240.40	1.35	0.59	-27.53
20	MWD	1887.00	2.99	191.56	90	1886.52	-14.29	14.46 S	18.34 W	23.35	231.75	0.26	0.19	3.51
21	MWD	1976.00	3.34	193.85	89	1975.38	-19.08	19.25 S	19.42 W	27.34	225.26	0.42	0.39	2.57
22	MWD	2066.00	3.52	203.87	90	2065.22	-24.13	24.32 S	21.17 W	32.24	221.04	0.69	0.20	11.13
23	MWD	2155.00	3.70	203.87	89	2154.04	-29.24	29.44 S	23.44 W	37.63	218.52	0.20	0.20	0.00
24	MWD	2245.00	3.52	194.73	90	2243.87	-34.55	34.77 S	25.31 W	43.01	216.05	0.67	-0.20	-10.16
25	MWD	2335.00	3.17	171.00	90	2333.72	-39.68	39.90 S	25.63 W	47.42	212.71	1.57	-0.39	-26.37
26	MWD	2424.00	3.52	177.85	89	2422.57	-44.84	45.06 S	25.14 W	51.60	209.16	0.60	0.39	7.70
27	MWD	2514.00	2.99	170.29	90	2512.42	-49.92	50.14 S	24.64 W	55.86	206.17	0.76	-0.59	-8.40
28	MWD	2604.00	3.17	160.98	90	2602.29	-54.60	54.80 S	23.43 W	59.60	203.15	0.59	0.20	-10.34
29	MWD	2693.00	3.17	160.80	89	2691.16	-59.26	59.45 S	21.82 W	63.33	200.15	0.01	0.00	-0.20
30	MWD	2783.00	3.34	151.84	90	2781.01	-63.94	64.11 S	19.77 W	67.09	197.13	0.60	0.19	-9.96
31	MWD	2873.00	3.17	150.25	90	2870.87	-68.43	68.59 S	17.29 W	70.73	194.15	0.21	-0.19	-1.77
32	MWD	2962.00	3.34	149.90	89	2959.72	-72.83	72.97 S	14.77 W	74.45	191.45	0.19	0.19	-0.39
33	MWD	3052.00	3.52	142.52	90	3049.56	-77.32	77.43 S	11.78 W	78.32	188.65	0.53	0.20	-8.20
34	MWD	3142.00	3.34	138.48	90	3139.40	-81.51	81.58 S	8.36 W	82.01	185.85	0.33	-0.20	-4.49
35	MWD	3232.00	2.82	140.59	90	3229.27	-85.21	85.26 S	5.21 W	85.41	183.50	0.59	-0.58	2.34
36	MWD	3321.00	2.99	143.75	89	3318.15	-88.79	88.82 S	2.45 W	88.85	181.58	0.26	0.19	3.55
37	MWD	3411.00	2.99	138.65	90	3408.03	-92.47	92.47 S	0.49 E	92.48	179.70	0.30	0.00	-5.67
38	MWD	3500.00	2.82	138.48	89	3496.92	-95.88	95.86 S	3.47 E	95.92	177.93	0.19	-0.19	-0.19
39	MWD	3590.00	3.70	127.75	90	3586.77	-99.35	99.29 S	7.24 E	99.55	175.83	1.19	0.98	-11.92
40	MWD	3679.00	2.82	126.87	89	3675.63	-102.46	102.36 S	11.26 E	102.98	173.72	0.99	-0.99	-0.99
41	MWD	3769.00	3.52	119.84	90	3765.49	-105.20	105.07 S	15.43 E	106.19	171.65	0.89	0.78	-7.81
42	MWD	3859.00	2.46	132.68	90	3855.37	-107.91	107.75 S	19.24 E	109.46	169.87	1.39	-1.18	14.27
43	MWD	3948.00	2.64	133.73	89	3944.28	-110.65	110.46 S	22.13 E	112.66	168.67	0.21	0.20	1.18
44	MWD	4038.00	2.46	143.57	90	4034.19	-113.66	113.45 S	24.77 E	116.12	167.68	0.53	-0.20	10.93
45	MWD	4128.00	2.64	147.79	90	4124.10	-116.99	116.76 S	27.02 E	119.84	166.97	0.29	0.20	4.69
46	MWD	4217.00	2.46	148.85	89	4213.01	-120.37	120.13 S	29.11 E	123.60	166.38	0.21	-0.20	1.19
47	MWD	4307.00	2.82	136.54	90	4302.92	-123.66	123.39 S	31.63 E	127.37	165.62	0.74	0.40	-13.68
48	MWD	4396.00	3.34	139.88	89	4391.79	-127.26	126.96 S	34.80 E	131.64	164.67	0.62	0.58	3.75
49	MWD	4486.00	2.82	136.54	90	4481.66	-130.90	130.57 S	38.02 E	135.99	163.77	0.61	-0.58	-3.71
50	MWD	4576.00	3.70	133.38	90	4571.51	-134.53	134.17 S	41.65 E	140.49	162.75	1.00	0.98	-3.51
51	MWD	4666.00	4.40	135.14	90	4661.29	-139.01	138.61 S	46.20 E	146.11	161.57	0.79	0.78	1.96
52	MWD	4756.00	4.57	144.80	90	4751.01	-144.43	143.99 S	50.70 E	152.65	160.60	0.86	0.19	10.73
53	MWD	4845.00	3.87	160.62	89	4839.77	-150.18	149.72 S	53.74 E	159.07	160.26	1.52	-0.79	17.78
54	MWD	4935.00	3.52	167.66	90	4929.59	-155.76	155.28 S	55.34 E	164.85	160.39	0.64	-0.39	7.82
55	MWD	5025.00	3.52	163.96	90	5019.42	-161.13	160.64 S	56.69 E	170.35	160.56	0.25	0.00	-4.11
56	MWD	5115.00	2.99	182.07	90	5109.27	-166.13	165.64 S	57.37 E	175.29	160.90	1.28	-0.59	20.12
57	MWD	5204.00	2.46	207.03	89	5198.18	-170.15	169.66 S	56.42 E	178.80	161.61	1.44	-0.60	28.04
58	MWD	5294.00	2.11	214.24	90	5288.10	-173.22	172.75 S	54.61 E	181.18	162.46	0.50	-0.39	8.01
59	MWD	5384.00	1.94	219.34	90	5378.05	-175.75	175.30 S	52.71 E	183.05	163.26	0.28	-0.19	5.67
60	MWD	5473.00	1.94	206.50	89	5467.00	-178.25	177.81 S	51.08 E	185.00	163.97	0.49	0.00	-14.43
61	MWD	5563.00	1.23	220.39	90	5556.96	-180.34	179.91 S	49.78 E	186.67	164.53	0.89	-0.79	15.43
62	MWD	5653.00	1.23	254.14	90	5646.94	-181.33	180.91 S	48.22 E	187.23	165.08	0.79	0.00	37.50
63	MWD	5742.00	1.06	249.22	89	5735.93	-181.86	181.46 S	46.53 E	187.34	165.62	0.22	-0.19	-5.53
64	MWD	5831.00	1.06	257.30	89	5824.91	-182.32	181.94 S	44.96 E	187.41	166.12	0.17	0.00	9.08

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Rig: H&P 415

Job Number: DM-2016-033-EODT-NM
Vertical Section Plane: 359.50
Well API Number: 30-025-43128
Tie Into: VES

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)			
65	MWD	5921.00	1.06	255.02	90	5914.89	-182.71	182.34 S	43.34 E	187.42	166.63	0.05	0.00	-2.53
66	MWD	6011.00	1.23	253.61	90	6004.88	-183.18	182.82 S	41.61 E	187.50	167.18	0.19	0.19	-1.57
67	MWD	6100.00	1.23	275.94	89	6093.86	-183.33	182.99 S	39.75 E	187.26	167.75	0.54	0.00	25.09
68	MWD	6190.00	1.58	279.45	90	6183.83	-183.01	182.69 S	37.56 E	186.51	168.38	0.40	0.39	3.90
69	MWD	6279.00	1.58	287.36	89	6272.80	-182.42	182.12 S	35.18 E	185.49	169.07	0.24	0.00	8.89
70	MWD	6369.00	1.76	278.93	90	6362.76	-181.82	181.54 S	32.63 E	184.45	169.81	0.34	0.20	-9.37
71	MWD	6458.00	1.76	284.55	89	6451.72	-181.24	180.98 S	29.96 E	183.45	170.60	0.19	0.00	6.31
72	MWD	6548.00	1.58	288.07	90	6541.68	-180.48	180.25 S	27.45 E	182.33	171.34	0.23	-0.20	3.91
73	MWD	6637.00	1.58	287.54	89	6630.64	-179.71	179.50 S	25.11 E	181.25	172.04	0.02	0.00	-0.60
74	MWD	6727.00	1.58	278.40	90	6720.61	-179.14	178.95 S	22.70 E	180.38	172.77	0.28	0.00	-10.16
75	MWD	6817.00	1.41	285.25	90	6810.58	-178.65	178.47 S	20.40 E	179.64	173.48	0.27	-0.19	7.61
76	MWD	6907.00	1.41	285.96	90	6900.55	-178.03	177.88 S	18.27 E	178.81	174.14	0.02	0.00	0.79
77	MWD	6996.00	1.58	274.00	89	6989.52	-177.62	177.49 S	15.99 E	178.21	174.85	0.40	0.19	-13.44
78	MWD	7086.00	1.23	273.83	90	7079.49	-177.45	177.34 S	13.79 E	177.88	175.55	0.39	-0.39	-0.19
79	MWD	7176.00	1.41	263.81	90	7169.47	-177.49	177.40 S	11.73 E	177.78	176.22	0.32	0.20	-11.13
80	MWD	7265.00	1.76	256.43	89	7258.44	-177.91	177.83 S	9.31 E	178.08	177.00	0.45	0.39	-8.29
81	MWD	7355.00	1.94	249.57	90	7348.39	-178.74	178.69 S	6.54 E	178.81	177.90	0.32	0.20	-7.62
82	MWD	7444.00	1.76	271.89	89	7437.34	-179.20	179.17 S	3.76 E	179.21	178.80	0.83	-0.20	25.08
83	MWD	7534.00	1.76	268.03	90	7527.30	-179.17	179.17 S	1.00 E	179.18	179.68	0.13	0.00	-4.29
84	MWD	7623.00	1.76	258.89	89	7616.26	-179.46	179.48 S	1.71 W	179.49	180.55	0.32	0.00	-10.27
85	MWD	7713.00	2.29	253.61	90	7706.20	-180.21	180.26 S	4.79 W	180.32	181.52	0.62	0.59	-5.87
86	MWD	7803.00	2.11	243.42	90	7796.14	-181.43	181.51 S	8.00 W	181.68	182.52	0.48	-0.20	-11.32
87	MWD	7892.00	1.94	242.71	89	7885.08	-182.83	182.93 S	10.80 W	183.25	183.38	0.19	-0.19	-0.80
88	MWD	7982.00	1.06	268.55	90	7975.05	-183.53	183.65 S	12.99 W	184.11	184.04	1.21	-0.98	28.71
89	MWD	8064.00	1.23	227.42	82	8057.04	-184.13	184.26 S	14.39 W	184.83	184.47	1.00	0.21	-50.16
90	MWD	8153.00	2.29	214.94	89	8145.99	-186.22	186.37 S	16.11 W	187.06	184.94	1.26	1.19	-14.02
91	MWD	8243.00	0.70	249.75	90	8235.96	-187.87	188.03 S	17.66 W	188.86	185.37	1.96	-1.77	38.68
92	MWD	8333.00	1.23	297.56	90	8325.95	-187.60	187.78 S	19.03 W	188.74	185.79	1.02	0.59	53.12
93	MWD	8423.00	1.94	293.34	90	8415.91	-186.53	186.73 S	21.29 W	187.93	186.50	0.80	0.79	-4.69
94	MWD	8513.00	1.23	347.30	90	8505.88	-184.97	185.18 S	22.90 W	186.59	187.05	1.75	-0.79	59.96
95	MWD	8602.00	2.29	14.55	89	8594.84	-182.32	182.53 S	22.66 W	183.93	187.08	1.49	1.19	-373.88
96	MWD	8692.00	1.41	23.34	90	8684.79	-179.57	179.77 S	21.77 W	181.08	186.91	1.02	-0.98	9.77
97	MWD	8782.00	1.23	28.96	90	8774.77	-177.72	177.91 S	20.87 W	179.13	186.69	0.25	-0.20	6.24
98	MWD	8872.00	1.06	3.12	90	8864.75	-176.05	176.23 S	20.35 W	177.40	186.59	0.60	-0.19	-28.71
99	MWD	8961.00	0.88	28.26	89	8953.74	-174.63	174.81 S	19.98 W	175.95	186.52	0.51	-0.20	28.25
100	MWD	9051.00	0.53	357.68	90	9043.73	-173.60	173.78 S	19.67 W	174.89	186.46	0.56	-0.39	366.02
101	MWD	9141.00	0.88	10.86	90	9133.73	-172.51	172.69 S	19.56 W	173.79	186.46	0.43	0.39	-385.36
102	MWD	9230.00	0.35	3.30	89	9222.72	-171.57	171.74 S	19.42 W	172.84	186.45	0.60	-0.60	-8.49
103	MWD	9320.00	0.70	359.78	90	9312.72	-170.74	170.92 S	19.40 W	172.02	186.48	0.39	0.39	396.09
104	MWD	9409.00	0.53	10.68	89	9401.71	-169.80	169.97 S	19.33 W	171.07	186.49	0.23	-0.19	-392.25
105	MWD	9499.00	0.88	19.12	90	9491.71	-168.74	168.91 S	19.02 W	169.98	186.43	0.40	0.39	9.38
106	MWD	9588.00	1.23	16.48	89	9580.69	-167.18	167.35 S	18.53 W	168.37	186.32	0.40	0.39	-2.97
107	MWD	9678.00	1.06	21.05	90	9670.67	-165.48	165.65 S	17.96 W	166.62	186.19	0.21	-0.19	5.08
108	MWD	9767.00	1.76	9.10	89	9759.64	-163.37	163.53 S	17.44 W	164.46	186.09	0.85	0.79	-13.43
109	MWD	9857.00	1.58	349.06	90	9849.61	-160.79	160.94 S	17.46 W	161.89	186.19	0.67	-0.20	377.73
110	MWD	9947.00	1.41	325.33	90	9939.58	-158.65	158.82 S	18.33 W	159.87	186.58	0.71	-0.19	-26.37
111	MWD	10036.00	1.41	359.43	89	10028.55	-156.65	156.82 S	18.96 W	157.96	186.89	0.93	0.00	38.31
112	MWD	10126.00	1.06	338.52	90	10118.53	-154.76	154.94 S	19.28 W	156.13	187.09	0.63	-0.39	-23.23
113	MWD	10215.00	1.06	350.82	89	10207.52	-153.18	153.36 S	19.71 W	154.62	187.32	0.26	0.00	13.82
114	MWD	10305.00	0.18	22.28	90	10297.51	-152.23	152.41 S	19.79 W	153.69	187.40	1.01	-0.98	-365.04
115	MWD	10394.00	0.35	126.35	89	10386.51	-152.26	152.44 S	19.52 W	153.68	187.30	0.48	0.19	116.93
116	MWD	10483.00	0.00	187.34	89	10475.51	-152.43	152.60 S	19.30 W	153.81	187.21	0.39	-0.39	68.53
117	MWD	10573.00	0.53	185.23	90	10565.51	-152.84	153.01 S	19.34 W	154.23	187.20	0.59	0.59	-2.34
118	MWD	10662.00	0.70	151.66	89	10654.50	-153.73	153.90 S	19.11 W	155.09	187.08	0.44	0.19	-37.72
119	MWD	10752.00	1.23	162.38	90	10744.49	-155.14	155.31 S	18.56 W	156.41	186.82	0.62	0.59	11.91
120	MWD	10841.00	1.41	173.63	89	10833.47	-157.14	157.31 S	18.15 W	158.35	186.58	0.35	0.20	12.64
121	MWD	10930.00	2.11	194.20	89	10922.42	-159.82	159.98 S	18.43 W	161.04	186.57	1.05	0.79	23.11
122	MWD	11020.00	2.11	211.95	90	11012.36	-162.82	162.99 S	19.71 W	164.18	186.90	0.72	0.00	19.72
123	MWD	11109.00	2.99	221.27	89	11101.28	-165.93	166.13 S	22.11 W	167.59	187.58	1.09	0.99	10.47
124	MWD	11144.00	3.34	225.49	35	11136.22	-167.32	167.53 S	23.44 W	169.16	187.97	1.20	1.00	12.06
125	MWD	11241.00	3.70	231.64	97	11233.04	-171.20	171.45 S	27.91 W	173.71	189.25	0.54	0.37	6.34
126	MWD	11330.00	2.64	233.93	89	11321.90	-174.16	174.44 S	31.82 W	177.32	190.34	1.20	-1.19	2.57
127	MWD	11420.00	1.41	147.79	90	11411.86	-176.31	176.60 S	32.90 W	179.64	190.55	3.23	-1.37	-95.71
128	MWD	11509.00	1.94	85.74	89	11500.83	-177.14	177.41 S	30.82 W	180.07	189.85	2.01	0.60	-69.72
129	MWD	11599.00	2.11	72.73	90	11590.77	-176.56	176.81 S	27.72 W	178.97	188.91	0.54	0.19	-14.46
130	MWD	11688.00	1.41	100.68	89	11679.73	-176.30	176.53 S	25.08 W	178.30	188.09	1.22	-0.79	31.40
131	MWD	11778.00	1.76	114.75	90	11769.70	-177.11	177.31 S	22.73 W	178.76	187.31	0.58	0.39	15.63
132	MWD	11867.00	2.11	121.07	89	11858.65	-178.55	178.73 S	20.09 W	179.85	186.41	0.46	0.39	7.10

DRILTECH MWD SURVEY REPORT



Company: EOG Resources, Inc.
Well: Ophelia 27 #708H
Location: Lea Co., NM
Rig: H&P 415

Job Number: DM-2016-033-EODT-NM
Vertical Section Plane: 359.50
Well API Number: 30-025-43128
Tie Into: VES

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)			
133	MWD	11956.00	2.11	107.19	89	11947.59	-179.90	180.06 S	17.12 W	180.87	185.43	0.57	0.00	-15.60
134	MWD	12001.00	4.57	43.55	45	11992.52	-178.86	179.00 S	15.09 W	179.64	184.82	9.10	5.47	-141.42
135	MWD	12046.00	8.80	34.94	45	12037.20	-174.77	174.88 S	11.88 W	175.28	183.89	9.63	9.40	-19.13
136	MWD	12090.00	13.90	24.22	44	12080.33	-167.22	167.30 S	7.79 W	167.48	182.66	12.50	11.59	-24.36
137	MWD	12135.00	20.23	18.77	45	12123.33	-154.95	154.99 S	3.06 W	155.02	181.13	14.49	14.07	-12.11
138	MWD	12180.00	27.98	17.71	45	12164.38	-137.55	137.54 S	2.66 E	137.56	178.89	17.25	17.22	-2.36
139	MWD	12225.00	35.72	14.20	45	12202.58	-114.78	114.71 S	9.11 E	115.07	175.46	17.68	17.20	-7.80
140	MWD	12269.00	42.40	11.74	44	12236.73	-87.83	87.70 S	15.28 E	89.02	170.11	15.58	15.18	-5.59
141	MWD	12314.00	46.28	8.75	45	12268.91	-56.94	56.76 S	20.85 E	60.47	159.83	9.79	8.62	-6.64
142	MWD	12359.00	53.67	2.95	45	12297.84	-22.73	22.52 S	24.26 E	33.10	132.87	19.15	16.42	-12.89
143	MWD	12404.00	61.58	2.42	45	12321.92	15.19	15.41 N	26.03 E	30.25	59.37	17.61	17.58	-1.18
144	MWD	12449.00	69.50	357.32	45	12340.55	56.10	56.32 N	25.88 E	61.99	24.68	20.39	17.60	788.67
145	MWD	12493.00	72.84	355.57	44	12354.75	97.67	97.88 N	23.29 E	100.61	13.39	8.47	7.59	-3.98
146	MWD	12538.00	77.24	356.27	45	12366.36	141.05	141.23 N	20.20 E	142.67	8.14	9.89	9.78	1.56
147	MWD	12583.00	81.11	357.50	45	12374.81	185.20	185.36 N	17.81 E	186.21	5.49	9.01	8.60	2.73
148	MWD	12628.00	85.87	358.38	45	12379.91	229.88	230.03 N	16.20 E	230.60	4.03	10.75	10.58	1.96
149	MWD	12673.00	87.45	358.55	45	12382.53	274.79	274.93 N	15.00 E	275.34	3.12	3.53	3.51	0.38
150	MWD	12762.00	89.21	358.55	89	12385.13	363.74	363.86 N	12.75 E	364.09	2.01	1.98	1.98	0.00
151	MWD	12852.00	90.79	358.55	90	12385.13	453.72	453.83 N	10.47 E	453.95	1.32	1.76	1.76	0.00
152	MWD	12941.00	91.14	357.32	89	12383.63	542.67	542.76 N	7.26 E	542.81	0.77	1.44	0.39	-1.38
153	MWD	13014.00	90.97	358.55	73	12382.28	615.63	615.70 N	4.63 E	615.71	0.43	1.70	-0.23	1.68
154	MWD	13120.00	87.80	357.32	106	12383.42	721.57	721.61 N	0.81 E	721.61	0.06	3.21	-2.99	-1.16
155	MWD	13209.00	87.98	357.32	89	12386.70	810.45	810.45 N	3.34 W	810.46	359.76	0.20	0.20	0.00
156	MWD	13299.00	90.09	357.68	90	12388.21	900.37	900.35 N	7.27 W	900.38	359.54	2.38	2.34	0.40
157	MWD	13388.00	91.32	357.85	89	12387.12	989.33	989.27 N	10.74 W	989.33	359.38	1.40	1.38	0.19
158	MWD	13400.00	90.79	358.38	12	12386.90	1001.32	1001.26 N	11.13 W	1001.32	359.36	6.25	-4.42	4.42
159	MWD	13478.00	91.14	0.49	78	12385.58	1079.30	1079.24 N	11.90 W	1079.31	359.37	2.74	0.45	-458.83
160	MWD	13568.00	90.79	0.66	90	12384.07	1169.28	1169.22 N	11.00 W	1169.28	359.46	0.43	-0.39	0.19
161	MWD	13657.00	89.74	0.31	89	12383.66	1258.26	1258.22 N	10.25 W	1258.26	359.53	1.24	-1.18	-0.39
162	MWD	13747.00	88.15	359.43	90	12385.31	1348.24	1348.20 N	10.45 W	1348.24	359.56	2.02	-1.77	399.02
163	MWD	13837.00	85.87	359.43	90	12390.01	1438.11	1438.07 N	11.35 W	1438.11	359.55	2.53	-2.53	0.00
164	MWD	13847.00	86.57	359.26	10	12390.67	1448.09	1448.04 N	11.46 W	1448.09	359.55	7.20	7.00	-1.70
165	MWD	13881.00	89.56	359.43	34	12391.82	1482.07	1482.02 N	11.85 W	1482.07	359.54	8.81	8.79	0.50
166	MWD	13926.00	92.73	359.61	45	12390.92	1527.05	1527.00 N	12.22 W	1527.05	359.54	7.06	7.04	0.40
167	MWD	14016.00	91.50	1.19	90	12387.59	1616.97	1616.93 N	11.60 W	1616.98	359.59	2.22	-1.37	-398.24
168	MWD	14106.00	88.50	359.08	90	12387.59	1706.95	1706.92 N	11.38 W	1706.96	359.62	4.08	-3.33	397.66
169	MWD	14195.00	92.55	359.78	89	12386.78	1795.93	1795.89 N	12.27 W	1795.93	359.61	4.62	4.55	0.79
170	MWD	14285.00	93.08	358.73	90	12382.36	1885.82	1885.77 N	13.44 W	1885.82	359.59	1.31	0.59	-1.17
171	MWD	14374.00	91.14	359.26	89	12379.08	1974.75	1974.69 N	15.00 W	1974.75	359.56	2.26	-2.18	0.60
172	MWD	14464.00	90.62	359.96	90	12377.70	2064.74	2064.68 N	15.61 W	2064.74	359.57	0.97	-0.58	0.78
173	MWD	14553.00	90.26	0.14	89	12377.02	2153.73	2153.68 N	15.53 W	2153.73	359.59	0.45	-0.40	-404.29
174	MWD	14643.00	90.97	1.54	90	12376.05	2243.70	2243.66 N	14.21 W	2243.71	359.64	1.74	0.79	1.56
175	MWD	14733.00	87.45	359.96	90	12377.29	2333.65	2333.63 N	13.04 W	2333.66	359.68	4.29	-3.91	398.24
176	MWD	14751.00	88.50	0.49	18	12377.93	2351.64	2351.62 N	12.96 W	2351.65	359.68	6.53	5.83	-1997.06
177	MWD	14822.00	90.09	0.84	71	12378.80	2422.62	2422.60 N	12.14 W	2422.63	359.71	2.29	2.24	0.49
178	MWD	14911.00	89.38	359.61	89	12379.21	2511.61	2511.60 N	11.79 W	2511.63	359.73	1.60	-0.80	403.11
179	MWD	15001.00	90.26	359.61	90	12379.50	2601.61	2601.60 N	12.40 W	2601.63	359.73	0.98	0.98	0.00
180	MWD	15090.00	92.02	0.14	89	12377.72	2690.58	2690.57 N	12.60 W	2690.60	359.73	2.07	1.98	-403.90
181	MWD	15179.00	87.27	358.20	89	12378.28	2779.55	2779.53 N	13.89 W	2779.57	359.71	5.76	-5.34	402.31
182	MWD	15269.00	89.38	358.91	90	12380.91	2869.49	2869.46 N	16.15 W	2869.51	359.68	2.47	2.34	0.79
183	MWD	15358.00	90.26	359.26	89	12381.19	2958.49	2958.45 N	17.58 W	2958.50	359.66	1.06	0.99	0.39
184	MWD	15448.00	91.67	359.78	90	12379.67	3048.47	3048.43 N	18.33 W	3048.48	359.66	1.67	1.57	0.58
185	MWD	15537.00	90.62	359.26	89	12377.89	3137.45	3137.41 N	19.08 W	3137.46	359.65	1.32	-1.18	-0.58
186	MWD	15627.00	90.62	359.08	90	12376.92	3227.45	3227.39 N	20.38 W	3227.46	359.64	0.20	0.00	-0.20
187	MWD	15717.00	90.44	358.03	90	12376.09	3317.43	3317.36 N	22.65 W	3317.44	359.61	1.18	-0.20	-1.17
188	MWD	15806.00	89.91	358.38	89	12375.81	3406.41	3406.31 N	25.44 W	3406.41	359.57	0.71	-0.60	0.39
189	MWD	15896.00	91.14	359.08	90	12374.99	3496.39	3496.29 N	27.43 W	3496.39	359.55	1.57	1.37	0.78
190	MWD	15985.00	88.86	359.43	89	12374.99	3585.39	3585.27 N	28.59 W	3585.39	359.54	2.59	-2.56	0.39
191	MWD	16075.00	90.79	0.49	90	12375.26	3675.38	3675.27 N	28.65 W	3675.38	359.55	2.45	2.14	-398.82
192	MWD	16165.00	89.91	0.49	90	12374.71	3765.36	3765.26 N	27.88 W	3765.36	359.58	0.98	-0.98	0.00
193	MWD	16254.00	90.09	0.49	89	12374.71	3854.35	3854.26 N	27.12 W	3854.35	359.60	0.20	0.20	0.00
194	MWD	16344.00	90.97	1.19	90	12373.88	3944.32	3944.24 N	25.80 W	3944.33	359.63	1.25	0.98	0.78
195	MWD	16433.00	88.86	1.02	89	12374.01	4033.28	4033.22 N	24.08 W	4033.29	359.66	2.38	-2.37	-0.19
196	MWD	16523.00	90.44	1.72	90	12374.56	4123.22	4123.19 N	21.93 W	4123.25	359.70	1.92	1.76	0.78
197	MWD	16612.00	92.02	1.02	89	12372.65	4212.15	4212.14 N	19.81 W	4212.19	359.73	1.94	1.78	-0.79
198	MWD	16702.00	90.97	359.96	90	12370.30	4302.11	4302.10 N	19.04 W	4302.15	359.75	1.66	-1.17	398.82
199	MWD	16791.00	89.56	358.91	89	12369.89	4391.10	4391.09 N	19.91 W	4391.14	359.74	1.98	-1.58	-1.18
200	MWD	16881.00	90.97	359.78	90	12369.48	4481.10	4481.08 N	20.94 W	4481.13	359.73	1.84	1.57	0.97

Job Number:	DM-2016-033-EODT-NM
Vertical Section Plane:	359.50
Well API Number:	30-025-43128
Tie Into:	VES

[illegible]