



Minimum Curvature Calculation

Client: EOG Resources **Job #:** PB-161118
Well: ORRTANNA FED COM #701 H **M.W.D. Operators:** Keith Clark / Josh Posey
County: LEA **Directional Drillers:** Cory Baker / Jesse Ramirez
Rig: Precision 612 **Tool Azimuth to Grid North:** 6.58
Lat / Long: 32Deg 1' 20.073 N / -103Deg 35' 57.401 W **Geomagnetic Model:** HDGM
API#: 30-025-42936 **Single or Multi-well Pad (# /total):** Multi #1 Of 2
RKB / GL: 3243' / 3218' **DSI Corrected Runs:**
Vertical Section Angle: 352.25

Survey #	Meas. Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	DLS
Tie In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GYRO	128.16	0.61	338.01	128.16	0.66	0.63	-0.26	0.48
GYRO	221.39	0.69	326.87	221.38	1.65	1.56	-0.75	0.16
GYRO	314.62	1.37	339.45	314.60	3.24	3.08	-1.45	0.76
GYRO	407.85	1.37	334.64	407.80	5.39	5.13	-2.31	0.12
GYRO	501.08	1.46	330.33	501.00	7.56	7.17	-3.38	0.15
GYRO	594.31	1.49	327.54	594.20	9.76	9.22	-4.62	0.08
GYRO	687.54	1.56	327.05	687.40	12.01	11.31	-5.96	0.08
GYRO	780.77	1.58	323.92	780.59	14.29	13.41	-7.41	0.09
GYRO	874.00	1.61	321.02	873.79	16.54	15.47	-8.99	0.09
1	1066.00	1.23	317.80	1065.73	20.55	19.09	-12.07	0.20
2	1252.00	3.69	267.62	1251.56	22.75	20.32	-19.39	1.64
3	1439.00	5.89	267.18	1437.89	24.14	19.60	-34.99	1.18
4	1625.00	6.86	257.51	1622.74	24.04	16.73	-55.37	0.78
5	1812.00	6.86	259.79	1808.41	22.64	12.33	-77.26	0.15
6	1997.00	6.33	260.14	1992.18	21.79	8.63	-98.18	0.29
7	2183.00	6.24	255.75	2177.06	20.27	4.39	-118.08	0.26
8	2369.00	6.60	250.83	2361.90	17.01	-1.61	-137.98	0.35
9	2556.00	7.83	243.71	2547.42	10.83	-10.78	-159.55	0.81
10	2742.00	7.03	245.12	2731.86	3.45	-21.18	-181.24	0.44
11	2928.00	6.77	243.88	2916.51	-3.36	-30.80	-201.40	0.16
12	3114.00	6.07	244.24	3101.34	-9.85	-39.90	-220.11	0.38
13	3300.00	6.86	245.73	3286.16	-16.05	-48.74	-239.09	0.43
14	3487.00	4.66	242.57	3472.20	-21.79	-56.83	-256.01	1.19
15	3673.00	5.80	256.10	3657.43	-25.34	-62.57	-271.84	0.90
16	3860.00	6.07	258.83	3843.43	-26.94	-66.76	-290.72	0.21
17	4047.00	6.60	261.81	4029.29	-27.61	-70.20	-311.05	0.33
18	4233.00	6.07	251.71	4214.16	-29.50	-74.81	-330.97	0.66
19	4419.00	6.24	249.51	4399.08	-33.52	-81.44	-349.78	0.16
20	4607.00	6.16	247.93	4585.99	-38.27	-88.80	-368.70	0.10
21	4794.00	6.42	254.70	4771.86	-42.13	-95.33	-388.08	0.42
22	4980.00	5.98	253.20	4956.77	-45.02	-100.87	-407.38	0.25
23	5166.00	6.77	251.71	5141.62	-48.55	-107.12	-427.07	0.43
24	5353.00	6.51	250.65	5327.37	-52.69	-114.09	-447.54	0.15
25	5539.00	6.51	252.23	5512.17	-56.65	-120.80	-467.53	0.10
26	5725.00	6.60	261.99	5696.96	-58.53	-125.51	-488.15	0.60
27	5911.00	6.24	260.06	5881.79	-58.97	-128.74	-508.69	0.23
28	6097.00	5.72	258.39	6066.78	-59.98	-132.35	-527.73	0.29
29	6283.00	5.28	256.01	6251.92	-61.53	-136.29	-545.11	0.27
30	6470.00	5.80	257.24	6438.05	-63.29	-140.45	-562.68	0.29
31	6656.00	5.54	255.05	6623.14	-65.24	-144.84	-580.52	0.18
32	6842.00	5.19	253.55	6808.32	-67.64	-149.54	-597.26	0.20
33	7028.00	4.31	257.33	6993.68	-69.51	-153.46	-612.15	0.50
34	7214.00	1.41	246.87	7179.43	-70.71	-155.89	-621.08	1.58
35	7401.00	1.32	239.58	7366.38	-72.15	-157.89	-625.05	0.10
36	7588.00	0.79	235.45	7553.35	-73.57	-159.71	-627.97	0.29
37	7774.00	0.44	229.38	7739.34	-74.53	-160.90	-629.57	0.19
38	7960.00	0.53	231.84	7925.33	-75.36	-161.90	-630.78	0.05
39	8145.00	0.53	209.26	8110.32	-76.47	-163.17	-631.88	0.11
40	8331.00	1.32	192.21	8296.30	-79.17	-166.02	-632.75	0.45
41	8513.00	1.85	198.71	8478.23	-83.77	-170.85	-634.13	0.31
42	8700.00	0.53	81.90	8665.20	-86.47	-173.58	-634.25	1.15

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43	8887.00	0.35	157.14	8852.19	-87.02	-173.99	-633.17	0.30
44	9072.00	0.70	75.57	9037.19	-87.43	-174.23	-631.85	0.40
45	9259.00	0.44	285.02	9224.18	-87.02	-173.76	-631.44	0.59
46	9447.00	1.58	277.28	9412.15	-86.07	-173.24	-634.71	0.61
47	9632.00	0.70	243.09	9597.11	-85.78	-173.43	-638.25	0.58
48	9818.00	1.85	302.07	9783.07	-84.23	-172.35	-641.81	0.86
49	10004.00	0.62	218.22	9969.03	-83.00	-171.55	-644.97	1.01
50	10190.00	0.79	232.63	10155.02	-84.34	-173.12	-646.61	0.13
51	10378.00	0.70	239.84	10343.00	-85.42	-174.48	-648.64	0.07
52	10564.00	0.97	218.31	10528.98	-86.94	-176.28	-650.60	0.22
53	10751.00	1.06	219.71	10715.95	-89.21	-178.86	-652.68	0.05
54	10939.00	1.14	210.75	10903.92	-91.85	-181.80	-654.75	0.10
55	11002.00	1.49	223.41	10966.90	-92.85	-182.94	-655.63	0.72
56	11137.00	2.55	238.61	11101.82	-95.16	-185.78	-659.40	0.87
57	11324.00	1.67	349.27	11288.74	-94.10	-185.26	-663.46	1.88
58	11510.00	1.85	320.09	11474.66	-88.86	-180.30	-665.89	0.49
59	11699.00	2.29	344.26	11663.54	-82.53	-174.32	-668.87	0.51
60	11792.00	1.85	325.18	11756.48	-79.36	-171.30	-670.24	0.87
61	11885.00	2.81	337.05	11849.40	-75.82	-167.97	-671.98	1.15
62	11916.00	4.48	336.79	11880.34	-73.92	-166.16	-672.76	5.39
63	11947.00	6.15	337.75	11911.20	-71.15	-163.51	-673.86	5.39
64	11978.00	9.23	344.61	11941.92	-67.07	-159.57	-675.15	10.35
65	12024.00	18.11	342.85	11986.57	-56.34	-149.17	-678.24	19.32
66	12071.00	28.04	342.32	12029.76	-38.21	-131.62	-683.77	21.13
67	12117.00	38.73	346.01	12068.12	-13.18	-107.28	-690.55	23.65
68	12164.00	48.75	351.29	12102.04	19.20	-75.46	-696.80	22.67
69	12210.00	52.75	355.15	12131.15	54.79	-40.10	-700.97	10.85
70	12259.00	56.62	358.58	12159.47	94.63	-0.19	-703.12	9.75
71	12305.00	60.79	2.36	12183.37	133.51	39.10	-702.77	11.46
72	12352.00	65.45	5.88	12204.62	174.51	80.89	-699.74	11.95
73	12398.00	68.79	6.84	12222.50	215.60	123.00	-695.04	7.51
74	12445.00	71.91	7.90	12238.30	258.33	166.89	-689.36	6.97
75	12491.00	75.69	9.30	12251.14	300.70	210.56	-682.75	8.72
76	12539.00	77.89	9.83	12262.10	345.31	256.63	-674.98	4.71
77	12570.00	80.22	9.74	12267.99	374.33	286.63	-669.81	7.52
78	12601.00	84.13	9.13	12272.21	403.67	316.92	-664.78	12.76
79	12633.00	85.85	8.60	12275.00	434.21	348.41	-659.86	5.62
80	12664.00	87.56	8.16	12276.79	463.94	379.03	-655.35	5.70
81	12695.00	88.22	7.02	12277.93	493.82	409.73	-651.26	4.25
82	12727.00	88.97	6.58	12278.71	524.78	441.50	-647.47	2.72
83	12820.00	89.67	5.79	12279.82	615.04	533.95	-637.46	1.13
84	12912.00	88.97	2.80	12280.91	704.99	625.67	-630.57	3.34
85	13005.00	90.73	3.94	12281.15	796.24	718.51	-625.10	2.25
86	13098.00	86.59	0.43	12283.33	887.79	811.38	-621.55	5.84
87	13193.00	89.49	359.81	12286.58	981.83	906.31	-621.36	3.12
88	13286.00	89.71	358.32	12287.22	1074.16	999.30	-622.87	1.62
89	13381.00	90.77	357.70	12286.83	1168.68	1094.24	-626.17	1.29
90	13475.00	89.67	356.74	12286.47	1262.33	1188.12	-630.73	1.55
91	13569.00	89.85	356.74	12286.86	1356.04	1281.97	-636.08	0.19
92	13663.00	90.20	357.44	12286.82	1449.70	1375.85	-640.85	0.83
93	13757.00	88.48	357.26	12287.90	1543.32	1469.74	-645.19	1.84
94	13850.00	91.69	359.64	12287.76	1635.76	1562.69	-647.71	4.30
95	13944.00	87.38	357.88	12288.53	1729.12	1656.63	-649.74	4.95
96	14038.00	86.95	359.99	12293.18	1822.36	1750.50	-651.49	2.29
97	14132.00	89.10	0.52	12296.42	1915.38	1844.43	-651.07	2.36
98	14226.00	91.21	1.92	12296.16	2008.23	1938.41	-649.07	2.69
99	14319.00	91.52	1.75	12293.95	2099.90	2031.33	-646.09	0.38
100	14412.00	89.63	1.39	12293.01	2191.67	2124.29	-643.54	2.07
101	14505.00	90.15	1.31	12293.19	2283.50	2217.26	-641.35	0.57
102	14599.00	90.20	0.08	12292.90	2376.47	2311.25	-640.21	1.31
103	14692.00	89.85	358.41	12292.86	2468.78	2404.24	-641.44	1.83
104	14786.00	90.42	357.53	12292.64	2562.31	2498.18	-644.77	1.12
105	14879.00	90.51	357.97	12291.89	2654.88	2591.10	-648.42	0.48
106	14973.00	90.37	358.41	12291.17	2748.37	2685.05	-651.39	0.49
107	15066.00	90.77	357.88	12290.24	2840.87	2778.00	-654.40	0.71

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108	15159.00	90.33	357.88	12289.35	2933.42	2870.93	-657.84	0.47
109	15253.00	87.25	358.67	12291.33	3026.87	2964.86	-660.67	3.38
110	15347.00	89.89	0.60	12293.68	3120.05	3058.81	-661.26	3.48
111	15441.00	91.47	1.48	12292.56	3212.93	3152.79	-659.56	1.92
112	15535.00	88.26	0.43	12292.78	3305.83	3246.76	-657.99	3.59
113	15629.00	87.96	0.08	12295.88	3398.87	3340.71	-657.57	0.49
114	15723.00	89.85	1.48	12297.68	3491.80	3434.68	-656.29	2.50
115	15816.00	90.55	1.13	12297.36	3583.64	3527.65	-654.18	0.84
116	15909.00	90.77	0.60	12296.28	3675.59	3620.63	-652.77	0.62
117	16002.00	92.00	0.95	12294.04	3767.53	3713.60	-651.52	1.38
118	16095.00	91.65	359.72	12291.07	3859.56	3806.54	-650.97	1.37
119	16188.00	89.27	357.26	12290.33	3951.99	3899.50	-653.42	3.68
120	16282.00	92.84	0.34	12288.60	4045.34	3993.43	-655.39	5.02
121	16374.00	92.66	0.16	12284.18	4136.34	4085.33	-654.99	0.28
122	16467.00	93.05	0.25	12279.55	4228.33	4178.21	-654.66	0.43
123	16560.00	87.12	358.93	12279.41	4320.52	4271.16	-655.32	6.53
124	16653.00	88.84	359.46	12282.69	4412.78	4364.09	-656.63	1.94
125	16747.00	90.55	359.64	12283.19	4506.01	4458.08	-657.37	1.83
126	16840.00	90.46	359.90	12282.37	4598.21	4551.08	-657.74	0.30
127	16933.00	90.86	359.99	12281.30	4690.36	4644.07	-657.83	0.44
128	17026.00	90.81	0.25	12279.95	4782.48	4737.06	-657.63	0.28
129	17080.00	91.08	1.22	12279.05	4835.88	4791.05	-656.94	1.86
PTBTD	17136.00	91.08	1.22	12278.00	4891.18	4847.03	-655.75	0.00

