



Directional Survey Report

Calpine Corp

Well ID: Wildhorse St 56

Well Name: Wildhorse State #56

Field: Geysers

Sect: 2 Town: T11N Rng: R9W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
Well Bore: Original Well Bore				Plane of Vertical Section: 0					
** Tieln	0.0	0.00	0	0.0	0.0	0.0		0.0	
VERTT	79.0	0.09	0	79.0	0.1	0.0	0.1	0.1	0.114
VERTT	175.0	0.07	0	175.0	0.2	0.0	0.2	0.2	0.021
VERTT	270.0	0.27	0	270.0	0.5	0.0	0.5	0.5	0.211
VERTT	365.0	0.80	0	365.0	1.4	0.0	1.4	1.4	0.558
VERTT	456.0	0.04	0	456.0	2.0	0.0	2.0	2.0	0.835
VERTT	551.0	0.07	0	551.0	2.1	0.0	2.1	2.1	0.032
VERTT	646.0	0.01	0	646.0	2.2	0.0	2.2	2.2	0.063
VERTT	746.0	0.04	0	746.0	2.2	0.0	2.2	2.2	0.030
TRUET	855.0	0.14	0	855.0	2.4	0.0	2.4	2.4	0.092
TRUET	950.0	0.53	0	950.0	3.0	0.0	3.0	3.0	0.411
TRUET	1,045.0	0.18	0	1,045.0	3.5	0.0	3.5	3.5	0.368
TRUET	1,140.0	0.26	0	1,140.0	3.9	0.0	3.9	3.9	0.084
TRUET	1,235.0	0.14	0	1,235.0	4.2	0.0	4.2	4.2	0.126
TRUET	1,330.0	0.09	0	1,330.0	4.4	0.0	4.4	4.4	0.053
TRUET	1,424.0	0.26	0	1,424.0	4.7	0.0	4.7	4.7	0.181
TRUET	1,519.0	0.26	0	1,519.0	5.2	0.0	5.2	5.2	0.000
TRUET	1,614.0	0.27	0	1,614.0	5.6	0.0	5.6	5.6	0.011
TRUET	1,709.0	0.26	0	1,709.0	6.0	0.0	6.0	6.0	0.011
TRUET	1,746.0	0.26	345	1,746.0	6.2	0.0	6.2	6.2	0.183
TRUET	1,841.0	0.32	173.79	1,841.0	6.1	0.0	6.1	6.1	0.609
TRUET	1,934.0	0.26	147.9	1,934.0	5.7	0.1	5.7	5.7	0.153
TRUET	2,029.0	0.44	175.03	2,029.0	5.2	0.2	5.2	5.2	0.253
TRUET	2,124.0	0.18	195.36	2,124.0	4.7	0.2	4.7	4.7	0.293
TRUET	2,218.0	0.09	158.8	2,218.0	4.4	0.2	4.4	4.4	0.128
TRUET	2,313.0	0.31	309.18	2,313.0	4.5	0.0	4.5	4.5	0.411
TRUET	2,408.0	0.44	330.01	2,408.0	5.0	-0.3	5.0	5.0	0.196
TRUET	2,439.0	0.47	344.708	2,439.0	5.2	-0.4	5.3	5.2	0.385
TRUET	2,503.0	0.22	346.51	2,503.0	5.6	-0.5	5.6	5.6	0.388
TRUET	2,596.0	0.35	154.58	2,596.0	5.5	-0.4	5.5	5.5	0.610
TRUET	2,692.0	0.88	15.02	2,692.0	6.0	-0.1	6.0	6.0	1.217
TRUET	2,787.0	0.21	218.63	2,787.0	6.5	0.0	6.5	6.5	1.132
TRUET	2,881.0	0.17	149.78	2,881.0	6.3	-0.1	6.3	6.3	0.231
TRUET	2,976.0	0.26	116.34	2,976.0	6.1	0.2	6.1	6.1	0.159
TRUET	3,040.0	0.60	337.88	3,040.0	6.3	0.2	6.3	6.3	1.270
TRUET	3,129.0	1.88	319.87	3,128.9	7.9	-0.9	7.9	7.9	1.486
TRUET	3,319.0	5.69	302.8	3,318.5	15.4	-10.9	18.8	15.4	2.069
TRUET	3,416.0	7.23	289.9	3,414.9	20.0	-20.6	28.8	20.0	2.172
TRUET	3,543.0	6.81	305.05	3,540.9	27.1	-34.3	43.7	27.1	1.490
MWD	3,575.0	7.11	306.23	3,572.7	29.3	-37.5	47.6	29.3	1.038
MWD	3,607.0	7.29	304.54	3,604.5	31.7	-40.7	51.6	31.7	0.869
MWD	3,638.0	7.82	304.19	3,635.2	34.0	-44.1	55.7	34.0	1.716
MWD	3,669.0	8.24	304.3	3,665.9	36.4	-47.7	60.0	36.4	1.356
MWD	3,701.0	8.85	303.59	3,697.5	39.1	-51.6	64.7	39.1	1.935



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Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates N-S	E-W	Closure	Vertical Section	Dog Leg Severity
MWD	3,733.0	9.28	299.83	3,729.1	41.7	-55.9	69.8	41.7	2.287
MWD	3,764.0	9.72	300.11	3,759.7	44.3	-60.4	74.8	44.3	1.427
MWD	3,796.0	10.08	296.49	3,791.2	46.9	-65.2	80.3	46.9	2.246
MWD	3,827.0	10.46	294.57	3,821.7	49.2	-70.2	85.7	49.2	1.650
MWD	3,859.0	10.94	291.66	3,853.2	51.6	-75.7	91.6	51.6	2.258
MWD	3,890.0	11.43	287.96	3,883.6	53.6	-81.3	97.4	53.6	2.803
MWD	3,922.0	11.66	286.26	3,914.9	55.5	-87.4	103.5	55.5	1.283
MWD	3,954.0	12.20	284.3	3,946.2	57.2	-93.8	109.9	57.2	2.109
MWD	4,013.0	12.95	279.45	4,003.8	59.8	-106.4	122.1	59.8	2.194
MWD	4,048.0	13.04	274.92	4,037.9	60.8	-114.2	129.4	60.8	2.921
MWD	4,081.0	13.05	274.06	4,070.1	61.4	-121.6	136.2	61.4	0.589
MWD	4,113.0	12.78	273.45	4,101.3	61.9	-128.7	142.8	61.9	0.945
MWD	4,145.0	12.97	272.62	4,132.5	62.3	-135.9	149.4	62.3	0.829
MWD	4,176.0	13.19	271.98	4,162.7	62.5	-142.9	156.0	62.5	0.850
MWD	4,208.0	13.76	269.91	4,193.8	62.7	-150.3	162.9	62.7	2.333
MWD	4,239.0	14.03	270.96	4,223.9	62.7	-157.8	169.8	62.7	1.192
MWD	4,303.0	14.54	268.1	4,285.9	62.6	-173.6	184.5	62.6	1.360
MWD	4,397.0	15.55	269.91	4,376.7	62.2	-197.9	207.5	62.2	1.185
MWD	4,491.0	18.40	274.86	4,466.6	63.4	-225.3	234.1	63.4	3.397
MWD	4,586.0	21.24	279.91	4,555.9	67.6	-257.2	266.0	67.6	3.488
MWD	4,681.0	22.64	280	4,644.2	73.4	-291.9	301.0	73.4	2.375
MWD	4,737.0	21.89	279.69	4,696.0	77.1	-312.8	322.1	77.1	1.356
MWD	4,800.0	21.89	279.69	4,754.5	81.0	-335.9	345.6	81.0	0.000
DIGITA	5,097.0	21.60	274.6	5,030.4	94.7	-445.0	455.0	94.7	0.642
DIGITA	5,295.0	21.10	277	5,214.8	102.0	-516.7	526.7	102.0	0.508
DIGITA	5,536.0	20.70	270.9	5,440.0	107.9	-602.4	611.9	107.9	0.918
DIGITA	5,726.0	20.30	269.6	5,617.9	108.2	-668.9	677.6	108.2	0.319
DIGITA	5,978.0	20.30	274.2	5,854.3	111.1	-756.2	764.3	111.1	0.633
DIGITA	6,231.0	19.60	271.6	6,092.1	115.5	-842.4	850.3	115.5	0.447
DIGITA	6,484.0	18.50	266	6,331.3	113.9	-924.9	931.9	113.9	0.843
DIGITA	6,738.0	18.00	268	6,572.5	109.7	-1,004.3	1,010.3	109.7	0.315
DIGITA	6,890.0	18.60	268.9	6,716.8	108.5	-1,052.0	1,057.6	108.5	0.436
DIGITA	7,119.0	19.50	268.2	6,933.3	106.6	-1,126.7	1,131.7	106.6	0.405
DIGITA	7,270.0	20.40	261.6	7,075.2	101.9	-1,177.9	1,182.3	101.9	1.605
DIGITA	7,533.0	21.30	263.8	7,321.0	90.1	-1,270.8	1,274.0	90.1	0.454
DIGITA	7,786.0	21.40	262.2	7,556.7	78.8	-1,362.2	1,364.5	78.8	0.234
DIGITA	8,164.0	21.40	261.8	7,908.6	59.6	-1,498.8	1,500.0	59.6	0.039
DIGITA	8,482.0	21.20	256.5	8,204.9	37.9	-1,612.1	1,612.6	37.9	0.608
DIGITA	8,734.0	20.50	249.6	8,440.4	11.9	-1,697.8	1,697.8	11.9	1.013
DIGITA	8,980.0	19.40	247	8,671.7	-19.1	-1,775.8	1,775.9	-19.1	0.574
DIGITA	9,240.0	18.40	245	8,917.7	-53.3	-1,852.7	1,853.5	-53.3	0.458
DIGITA	11,687.0	18.40	245	11,239.6	-379.7	-2,552.7	2,580.8	-379.7	0.000

Calculations using Minimum Curvature Method