



Directional Survey Report

Well ID: Wildhorse St #34

Field: Geysers

Calpine Corp

Well Name: Wildhorse St # 34

Sect: 35 Town: 11 N Rng: 9 W 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: 283.98					
** Tieln	0.0	0.00	0	0.0	0.0	0.0		0.0	
MWD	60.0	0.00	0	60.0	0.0	0.0	0.0	0.0	0.000
MWD	85.0	0.34	106.56	85.0	0.0	0.1	0.1	-0.1	1.360
MWD	127.0	0.34	76.66	127.0	0.0	0.3	0.3	-0.3	0.418
MWD	155.0	0.57	78.15	155.0	0.0	0.5	0.5	-0.5	0.822
MWD	185.0	0.82	73.43	185.0	0.1	0.9	0.9	-0.8	0.854
MWD	219.0	1.03	75.98	219.0	0.3	1.4	1.4	-1.3	0.629
MWD	249.0	1.26	77.4	249.0	0.4	2.0	2.0	-1.8	0.772
MWD	309.0	1.25	72.2	309.0	0.7	3.3	3.3	-3.0	0.190
MWD	371.0	1.61	73.1	371.0	1.2	4.7	4.9	-4.3	0.582
MWD	433.0	1.92	69.29	432.9	1.8	6.5	6.8	-5.9	0.534
MWD	495.0	2.11	72.94	494.9	2.5	8.6	9.0	-7.7	0.370
MWD	555.0	2.59	64.67	554.8	3.4	10.9	11.4	-9.7	0.978
MWD	650.0	2.75	66.36	649.7	5.3	14.9	15.8	-13.2	0.188
MWD	714.0	2.56	61.65	713.7	6.5	17.6	18.8	-15.5	0.452
MWD	777.0	1.90	54.04	776.6	7.8	19.7	21.2	-17.2	1.146
MWD	840.0	1.20	43.12	839.6	8.9	21.0	22.8	-18.2	1.201
MWD	904.0	0.68	20.66	903.6	9.8	21.6	23.7	-18.6	0.981
MWD	967.0	0.34	350.79	966.6	10.3	21.7	24.0	-18.5	0.668
MWD	1,029.0	0.72	246.94	1,028.6	10.3	21.3	23.6	-18.1	1.398
MWD	1,093.0	1.18	227.52	1,092.6	9.7	20.4	22.6	-17.5	0.868
MWD	1,156.0	1.40	221.71	1,155.6	8.7	19.4	21.3	-16.7	0.406
MWD	1,219.0	1.25	215	1,218.5	7.6	18.5	20.0	-16.1	0.342
MWD	1,283.0	0.90	203	1,282.5	6.5	17.9	19.1	-15.8	0.647
MWD	1,346.0	1.02	226	1,345.5	5.7	17.3	18.2	-15.4	0.636
MWD	1,409.0	1.14	259	1,408.5	5.2	16.3	17.1	-14.6	0.991
MWD	1,473.0	1.46	259	1,472.5	4.9	14.9	15.7	-13.2	0.500
MWD	1,536.0	1.47	260	1,535.5	4.6	13.3	14.1	-11.8	0.044
MWD	1,600.0	1.37	253	1,599.4	4.3	11.8	12.5	-10.4	0.313
MWD	1,663.0	1.55	238	1,662.4	3.6	10.3	10.9	-9.1	0.668
MWD	1,726.0	1.66	230	1,725.4	2.5	8.9	9.2	-8.0	0.396
MWD	1,790.0	1.95	232	1,789.4	1.3	7.3	7.4	-6.8	0.464
MWD	1,853.0	1.57	219	1,852.3	-0.1	5.9	5.9	-5.8	0.871
MWD	1,917.0	1.44	205	1,916.3	-1.5	5.0	5.2	-5.2	0.608
MWD	1,980.0	1.45	203	1,979.3	-2.9	4.4	5.3	-5.0	0.082
MWD	2,043.0	1.33	236.96	2,042.3	-4.0	3.5	5.3	-4.3	1.301
MWD	2,107.0	1.45	269	2,106.3	-4.5	2.0	4.9	-3.1	1.212
MWD	2,170.0	1.03	286	2,169.2	-4.3	0.7	4.4	-1.7	0.879
MWD	2,233.0	0.38	257	2,232.2	-4.2	-0.1	4.2	-1.0	1.145
MWD	2,297.0	1.15	177	2,296.2	-4.9	-0.2	4.9	-1.0	1.792
MWD	2,360.0	2.09	169	2,359.2	-6.7	0.0	6.7	-1.6	1.531
MWD	2,423.0	2.80	175	2,422.2	-9.3	0.4	9.3	-2.6	1.196
MWD	2,487.0	2.30	193	2,486.1	-12.1	0.2	12.1	-3.2	1.466
MWD	2,550.0	1.81	251	2,549.1	-13.7	-1.0	13.7	-2.3	3.235



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Sect: 35 Town: 11 N Rng: 9 W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates N-S	E-W	Closure	Vertical Section	Dog Leg Severity
MWD	2,614.0	2.71	297.99	2,613.0	-13.3	-3.3	13.7	0.0	3.096
MWD	2,677.0	3.00	304	2,675.9	-11.7	-6.0	13.1	3.0	0.661
MWD	2,741.0	3.11	297	2,739.8	-10.0	-8.9	13.4	6.2	0.607
MWD	2,804.0	3.52	293.22	2,802.7	-8.4	-12.2	14.8	9.8	0.737
MWD	2,867.0	4.96	295.98	2,865.6	-6.5	-16.4	17.7	14.4	2.308
MWD	2,931.0	5.86	293.16	2,929.3	-4.0	-21.9	22.3	20.3	1.466
MWD	2,994.0	5.53	292.68	2,992.0	-1.5	-27.7	27.7	26.5	0.529
MWD	3,056.0	5.65	290.85	3,053.7	0.7	-33.3	33.3	32.5	0.347
MWD	3,119.0	6.89	291.19	3,116.3	3.2	-39.7	39.8	39.3	1.969
MWD	3,183.0	7.84	289.99	3,179.8	6.1	-47.4	47.8	47.5	1.504
MWD	3,246.0	8.83	290.8	3,242.1	9.2	-56.0	56.7	56.5	1.582
MWD	3,310.0	10.28	291.28	3,305.2	13.1	-65.9	67.1	67.1	2.269
MWD	3,373.0	11.28	286.64	3,367.1	16.9	-77.0	78.8	78.8	2.101
MWD	3,437.0	12.65	282.52	3,429.7	20.2	-89.8	92.1	92.1	2.521
MWD	3,499.0	13.21	284.84	3,490.1	23.5	-103.3	106.0	105.9	1.231
MWD	3,563.0	13.61	280.09	3,552.4	26.7	-117.8	120.8	120.8	1.831
MWD	3,626.0	14.58	278.54	3,613.5	29.1	-132.9	136.1	136.0	1.652
MWD	3,689.0	15.09	279.7	3,674.4	31.7	-148.9	152.2	152.1	0.937
MWD	3,753.0	15.19	280.28	3,736.2	34.6	-165.3	168.9	168.8	0.284
MWD	3,816.0	14.80	280.04	3,797.0	37.5	-181.4	185.2	185.1	0.627
MWD	3,880.0	15.36	282.22	3,858.8	40.7	-197.7	201.9	201.7	1.245
MWD	3,943.0	15.99	283.96	3,919.5	44.5	-214.3	218.9	218.7	1.248
MWD	4,006.0	15.75	283.91	3,980.1	48.7	-231.0	236.1	235.9	0.382
MWD	4,070.0	15.51	286.9	4,041.7	53.3	-247.6	253.3	253.2	1.313
MWD	4,133.0	15.85	287.4	4,102.4	58.3	-263.9	270.3	270.2	0.581
MWD	4,196.0	16.46	286.49	4,162.9	63.4	-280.7	287.7	287.7	1.048
MWD	4,260.0	16.70	286.3	4,224.2	68.5	-298.2	306.0	305.9	0.384
MWD	4,339.0	16.05	287.2	4,300.0	75.0	-319.5	328.2	328.2	0.883
MWD	4,395.0	16.00	287						
DIGITA	4,562.0	15.00	283.5	4,514.9	90.8	-377.0	387.8	387.8	0.647
DIGITA	4,785.0	13.50	282.2	4,731.0	103.1	-430.5	442.7	442.7	0.688
DIGITA	5,467.0	14.10	278.7	5,393.3	132.4	-590.5	605.1	605.0	0.151
Well Bore: Sidetrack # 1 Plane of Vertical Section: 284									
** MWD	4,133.0	15.85	287.4	4,102.4	58.3	-263.9	270.3	270.2	
DIGITA	4,436.0	17.50	278.8	4,392.7	77.6	-348.4	357.0	356.9	0.978
DIGITA	4,499.0	17.30	281.3	4,452.8	80.9	-367.0	375.8	375.6	1.228
DIGITA	4,562.0	17.90	279.5	4,512.8	84.4	-385.7	394.8	394.7	1.286
DIGITA	4,720.0	17.20	275.9	4,663.5	90.8	-432.9	442.3	442.0	0.817
DIGITA	4,878.0	16.80	276.5	4,814.6	95.7	-478.8	488.3	487.8	0.276
DIGITA	5,035.0	17.30	276.1	4,964.7	100.8	-524.6	534.2	533.4	0.327
DIGITA	5,193.0	17.40	274	5,115.5	104.9	-571.5	581.0	579.9	0.401
DIGITA	5,352.0	17.00	273.2	5,267.4	107.9	-618.4	627.8	626.2	0.292
DIGITA	5,542.0	16.80	275	5,449.2	111.8	-673.5	682.7	680.6	0.295
DIGITA	5,735.0	17.10	270.5	5,633.8	114.5	-729.7	738.6	735.7	0.697
DIGITA	5,950.0	17.40	272.9	5,839.1	116.4	-793.4	801.9	798.0	0.359



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Field: Geysers

Sect: 35 Town: 11 N Rng: 9 W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates N-S	E-W	Closure	Vertical Section	Dog Leg Severity
DIGITA	6,270.0	17.10	273.2	6,144.7	121.5	-888.1	896.4	891.1	0.098
DIGITA	6,588.0	16.30	267.8	6,449.3	122.4	-979.4	987.0	979.9	0.549
DIGITA	6,740.0	16.30	267.8	6,595.2	120.7	-1,022.0	1,029.2	1,020.9	0.000
DIGITA	6,906.0	16.60	270.8	6,754.4	120.2	-1,069.0	1,075.8	1,066.4	0.543
DIGITA	7,215.0	16.50	267.7	7,050.6	119.0	-1,157.0	1,163.1	1,151.4	0.288
DIGITA	7,405.0	16.80	266.2	7,232.7	116.1	-1,211.4	1,216.9	1,203.5	0.276
DIGITA	7,563.0	16.70	266.1	7,384.0	113.1	-1,256.8	1,261.9	1,246.8	0.066
DIGITA	8,031.0	17.30	266.5	7,831.5	104.2	-1,393.4	1,397.2	1,377.2	0.131
DIGITA	8,452.0	19.90	261	8,230.5	89.2	-1,526.6	1,529.2	1,502.9	0.744
DIGITA	8,740.0	19.30	263	8,501.8	75.7	-1,622.3	1,624.1	1,592.4	0.312
DIGITA	9,107.0	19.20	259	8,848.3	56.8	-1,741.7	1,742.7	1,703.7	0.360
DIGITA	9,682.0	22.60	247.9	9,385.6	-2.8	-1,937.0	1,937.0	1,878.8	0.905
DIGITA	10,051.0	24.00	237.2	9,724.7	-70.2	-2,065.9	2,067.1	1,987.5	1.206
DIGITA	10,377.0	28.20	235	10,017.4	-150.3	-2,184.8	2,189.9	2,083.5	1.322
DIGITA	10,753.0	30.10	216	10,346.5	-277.8	-2,313.2	2,329.9	2,177.3	2.503
DIGITA	11,320.0	39.20	217.8	10,812.4	-535.0	-2,507.0	2,563.5	2,303.1	1.615
DIGITA	11,753.0	39.20	217.8	11,148.0	-751.2	-2,674.8	2,778.3	2,413.6	0.000

Calculations using Minimum Curvature Method