



# Directional Survey Report

Well ID: PRATI 25

Field: Geysers

**Calpine Corp**

Well Name: Prati # 25

Sect: 35 Town: 12N Rng: 9W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
<b>Well Bore: Side Track #1</b>				<b>Plane of Vertical Section: 0</b>					
** TiIn	2,042.0	6.00	298	2,037.7	38.9	-105.2		38.9	
MWD	2,185.0	7.30	303	2,179.7	47.4	-119.4	128.5	47.4	0.994
MWD	2,215.0	8.00	306	2,209.5	49.6	-122.7	132.4	49.6	2.686
MWD	2,246.0	8.30	309	2,240.2	52.3	-126.2	136.6	52.3	1.679
MWD	2,276.0	9.20	312	2,269.8	55.3	-129.7	140.9	55.3	3.363
MWD	2,308.0	9.80	316	2,301.4	58.9	-133.4	145.9	58.9	2.787
MWD	2,338.0	10.90	314.7	2,330.9	62.8	-137.2	150.9	62.8	3.748
MWD	2,369.0	11.70	317.4	2,361.3	67.1	-141.4	156.6	67.1	3.093
MWD	2,399.0	11.60	318.4	2,390.7	71.6	-145.5	162.2	71.6	0.751
MWD	2,430.0	11.50	317.5	2,421.0	76.2	-149.7	168.0	76.2	0.665
MWD	2,461.0	11.20	316.5	2,451.4	80.7	-153.8	173.7	80.7	1.157
MWD	2,492.0	11.20	315.1	2,481.8	85.0	-158.0	179.4	85.0	0.877
MWD	2,522.0	11.10	311.2	2,511.3	89.0	-162.3	185.1	89.0	2.535
MWD	2,553.0	11.60	311.4	2,541.7	93.0	-166.8	191.0	93.0	1.618
MWD	2,583.0	11.90	310.4	2,571.0	97.0	-171.5	197.0	97.0	1.209
MWD	2,614.0	12.20	310.7	2,601.4	101.2	-176.4	203.4	101.2	0.989
MWD	2,645.0	12.40	312.5	2,631.6	105.6	-181.3	209.8	105.6	1.395
MWD	2,676.0	12.30	313.1	2,661.9	110.1	-186.2	216.3	110.1	0.525
MWD	2,706.0	11.70	313.2	2,691.3	114.4	-190.7	222.4	114.4	2.001
MWD	2,737.0	11.00	314.9	2,721.7	118.6	-195.1	228.3	118.6	2.502
MWD	2,768.0	11.20	314	2,752.1	122.8	-199.4	234.2	122.8	0.854
MWD	2,798.0	11.50	315.2	2,781.5	126.9	-203.6	239.9	126.9	1.273
MWD	2,828.0	11.70	314.7	2,810.9	131.2	-207.8	245.8	131.2	0.746
MWD	2,859.0	11.90	314.7	2,841.2	135.7	-212.4	252.0	135.7	0.645
MWD	2,889.0	11.90	313.5	2,870.6	140.0	-216.8	258.1	140.0	0.825
MWD	2,920.0	12.00	313.7	2,900.9	144.4	-221.4	264.4	144.4	0.349
MWD	2,951.0	12.00	313.3	2,931.2	148.8	-226.1	270.7	148.8	0.268
MWD	2,982.0	12.00	313.3	2,961.6	153.3	-230.8	277.1	153.3	0.000
MWD	3,012.0	12.50	313.5	2,990.9	157.6	-235.4	283.3	157.6	1.673
MWD	3,044.0	12.70	315.2	3,022.1	162.5	-240.4	290.2	162.5	1.317
MWD	3,075.0	12.60	315.4	3,052.3	167.3	-245.2	296.9	167.3	0.352
MWD	3,105.0	12.70	315.6	3,081.6	172.0	-249.8	303.3	172.0	0.364
MWD	3,136.0	12.50	314.2	3,111.9	176.8	-254.6	310.0	176.8	1.178
MWD	3,166.0	12.40	313.6	3,141.2	181.3	-259.3	316.3	181.3	0.545
MWD	3,197.0	12.40	312.9	3,171.4	185.8	-264.1	322.9	185.8	0.485
MWD	3,228.0	12.80	314.2	3,201.7	190.5	-269.0	329.6	190.5	1.582
MWD	3,259.0	12.80	314.8	3,231.9	195.3	-273.9	336.4	195.3	0.429
MWD	3,319.0	12.90	315.6	3,290.4	204.8	-283.3	349.6	204.8	0.340
MWD	3,350.0	13.00	316.1	3,320.6	209.8	-288.1	356.4	209.8	0.484
MWD	3,382.0	13.10	315.9	3,351.8	215.0	-293.2	363.5	215.0	0.343
MWD	3,413.0	12.80	313.6	3,382.0	219.9	-298.1	370.4	219.9	1.924
MWD	3,444.0	12.70	315.1	3,412.3	224.6	-303.0	377.2	224.6	1.116
MWD	3,474.0	12.20	314.7	3,441.6	229.2	-307.6	383.6	229.2	1.691
MWD	3,504.0	12.30	316.1	3,470.9	233.7	-312.0	389.9	233.7	1.045



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Sect: 35 Town: 12N Rng: 9W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates N-S	E-W	Closure	Vertical Section	Dog Leg Severity
MWD	3,535.0	12.20	317.2	3,501.2	238.5	-316.5	396.3	238.5	0.819
MWD	3,565.0	11.80	318.3	3,530.5	243.1	-320.7	402.5	243.1	1.536
MWD	3,596.0	11.90	319.9	3,560.8	247.9	-324.9	408.7	247.9	1.108
MWD	3,627.0	11.90	320	3,591.2	252.8	-329.0	414.9	252.8	0.067
MWD	3,658.0	11.80	318.7	3,621.5	257.7	-333.2	421.2	257.7	0.920
MWD	3,688.0	11.90	317.4	3,650.9	262.2	-337.3	427.2	262.2	0.950
MWD	3,719.0	12.00	316.5	3,681.2	266.9	-341.7	433.6	266.9	0.682
MWD	3,749.0	12.00	316.3	3,710.6	271.5	-346.0	439.8	271.5	0.139
MWD	3,780.0	11.90	314.9	3,740.9	276.0	-350.5	446.1	276.0	0.989
MWD	3,810.0	12.30	315.2	3,770.2	280.5	-354.9	452.4	280.5	1.350
MWD	3,841.0	11.80	314.4	3,800.5	285.1	-359.5	458.8	285.1	1.700
MWD	3,872.0	12.20	314	3,830.9	289.5	-364.1	465.2	289.5	1.318
MWD	3,902.0	12.60	313.1	3,860.2	294.0	-368.8	471.6	294.0	1.481
MWD	3,934.0	12.60	312.7	3,891.4	298.7	-373.9	478.6	298.7	0.273
MWD	3,964.0	12.90	313.8	3,920.6	303.3	-378.7	485.2	303.3	1.286
MWD	3,995.0	12.60	316.4	3,950.9	308.1	-383.6	492.0	308.1	2.088
MWD	4,026.0	13.00	317.6	3,981.1	313.1	-388.2	498.8	313.1	1.549
MWD	4,056.0	13.50	318.6	4,010.3	318.3	-392.8	505.6	318.3	1.833
MWD	4,086.0	13.20	319.5	4,039.5	323.5	-397.4	512.4	323.5	1.216
MWD	4,117.0	13.20	318.8	4,069.7	328.8	-402.0	519.4	328.8	0.516
MWD	4,147.0	14.00	318.1	4,098.8	334.1	-406.7	526.3	334.1	2.722
MWD	4,178.0	13.30	317.2	4,129.0	339.5	-411.6	533.6	339.5	2.360
MWD	4,208.0	13.40	316.1	4,158.2	344.6	-416.4	540.4	344.6	0.910
MWD	4,239.0	14.10	317.2	4,188.3	349.9	-421.4	547.8	349.9	2.410
MWD	4,269.0	14.20	318.1	4,217.4	355.3	-426.4	555.0	355.3	0.806
MWD	4,300.0	14.30	317.9	4,247.4	361.0	-431.5	562.6	361.0	0.360
MWD	4,330.0	14.30	319.3	4,276.5	366.6	-436.4	569.9	366.6	1.153
MWD	4,361.0	14.40	320.1	4,306.5	372.4	-441.3	577.5	372.4	0.716
MWD	4,391.0	13.90	321.1	4,335.6	378.1	-446.0	584.7	378.1	1.855
MWD	4,423.0	13.40	321.6	4,366.7	384.0	-450.7	592.1	384.0	1.605
MWD	4,453.0	13.50	322.6	4,395.9	389.5	-455.0	598.9	389.5	0.844
MWD	4,485.0	13.40	321.5	4,427.0	395.4	-459.6	606.2	395.4	0.858
MWD	4,515.0	13.70	321.4	4,456.2	400.9	-463.9	613.1	400.9	1.003
MWD	4,546.0	13.60	320.1	4,486.3	406.5	-468.6	620.3	406.5	1.041
MWD	4,576.0	13.50	318.5	4,515.4	411.9	-473.2	627.3	411.9	1.293
MWD	4,607.0	13.70	318.9	4,545.6	417.3	-478.0	634.5	417.3	0.713
MWD	4,636.0	14.00	317.9	4,573.7	422.5	-482.6	641.4	422.5	1.323
MWD	4,666.0	13.10	318.5	4,602.9	427.8	-487.3	648.4	427.8	3.036
MWD	4,696.0	13.10	321.4	4,632.1	433.0	-491.6	655.1	433.0	2.191
MWD	4,727.0	12.70	318.4	4,662.3	438.3	-496.1	662.0	438.3	2.516
MWD	4,757.0	12.60	314.8	4,691.6	443.0	-500.6	668.5	443.0	2.649
MWD	4,788.0	11.90	310.9	4,721.9	447.5	-505.4	675.1	447.5	3.495
MWD	4,818.0	12.20	309.5	4,751.2	451.6	-510.2	681.3	451.6	1.396
MWD	4,850.0	12.90	308.1	4,782.5	455.9	-515.6	688.3	455.9	2.385
MWD	4,880.0	12.30	308.9	4,811.8	460.0	-520.7	694.8	460.0	2.083
MWD	4,911.0	11.90	312	4,842.1	464.2	-525.7	701.3	464.2	2.461



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Calpine Corp

Well Name: Prati # 25

Sect: 35 Town: 12N Rng: 9W County: Sonoma State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates N-S	E-W	Closure	Vertical Section	Dog Leg Severity
MWD	4,941.0	11.60	310.4	4,871.4	468.2	-530.3	707.4	468.2	1.476
MWD	4,973.0	12.10	311.5	4,902.8	472.5	-535.2	714.0	472.5	1.714
MWD	5,004.0	12.30	311.4	4,933.1	476.9	-540.2	720.5	476.9	0.649
MWD	5,034.0	12.10	307.4	4,962.4	480.9	-545.0	726.9	480.9	2.895
MWD	5,066.0	12.90	309.4	4,993.6	485.2	-550.5	733.8	485.2	2.842
MWD	5,096.0	12.30	307.4	5,022.9	489.3	-555.6	740.3	489.3	2.473
MWD	5,126.0	12.20	307.9	5,052.2	493.1	-560.6	746.7	493.1	0.486
MWD	5,158.0	12.50	308	5,083.5	497.4	-566.0	753.5	497.4	0.940
MWD	5,190.0	12.40	308.4	5,114.7	501.6	-571.5	760.4	501.6	0.413
MWD	5,222.0	12.30	308.9	5,146.0	505.9	-576.8	767.2	505.9	0.458
MWD	5,252.0	12.50	312.3	5,175.3	510.1	-581.7	773.7	510.1	2.523
MWD	5,283.0	12.10	313.9	5,205.6	514.6	-586.5	780.3	514.6	1.695
MWD	5,313.0	11.50	314.8	5,234.9	518.9	-590.9	786.4	518.9	2.092
MWD	5,343.0	11.00	317	5,264.4	523.1	-595.0	792.2	523.1	2.196
MWD	5,375.0	11.00	318.9	5,295.8	527.6	-599.1	798.3	527.6	1.133
MWD	5,407.0	10.80	319.4	5,327.2	532.2	-603.0	804.3	532.2	0.691
MSS	5,550.0	11.20	318.9	5,467.6	552.8	-620.9	831.3	552.8	0.288
MSS	5,643.0	10.90	307.2	5,558.9	565.0	-633.8	849.1	565.0	2.429
DIGITA	5,773.0	10.70	313	5,686.6	580.6	-652.4	873.4	580.6	0.850
DIGITA	5,905.0	10.80	310.3	5,816.2	597.0	-670.8	898.0	597.0	0.389
DIGITA	6,027.0	10.70	309.5	5,936.1	611.6	-688.3	920.7	611.6	0.147
DIGITA	6,180.0	10.90	308	6,086.4	629.5	-710.6	949.4	629.5	0.225
DIGITA	6,365.0	11.00	307.3	6,268.0	651.0	-738.5	984.4	651.0	0.090
DIGITA	6,704.0	11.60	305.8	6,600.4	690.5	-791.8	1,050.6	690.5	0.197
DIGITA	6,949.0	12.30	301.8	6,840.1	718.7	-834.0	1,100.9	718.7	0.442
DIGITA	7,193.0	12.80	292	7,078.3	742.5	-881.1	1,152.3	742.5	0.895
DIGITA	7,437.0	13.60	296	7,315.9	765.2	-932.0	1,205.9	765.2	0.497
DIGITA	7,621.0	13.60	292.9	7,494.7	783.1	-971.4	1,247.7	783.1	0.396
DIGITA	7,875.0	14.00	291	7,741.4	805.7	-1,027.6	1,305.8	805.7	0.238
DIGITA	8,119.0	13.30	286.9	7,978.5	824.5	-1,082.0	1,360.3	824.5	0.489
DIGITA	8,396.0	12.70	283.8	8,248.4	841.0	-1,142.0	1,418.3	841.0	0.332
DIGITA	8,580.0	11.80	282.1	8,428.2	849.8	-1,180.1	1,454.2	849.8	0.527
MSS	8,917.0	11.00	280	8,758.6	862.6	-1,245.4	1,515.0	862.6	0.267
MSS	10,374.0	11.00	280	10,188.8	910.8	-1,519.2	1,771.3	910.8	0.000

Calculations using Minimum Curvature Method