



# Directional Survey Report

## Calpine

Well ID: CA State 92-6

Well Name: California State 92-6

Field: Geysers

Sect: 6 Town: 11 N Rng: 8 W County: Lake State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
<b>Well Bore: Original Well Bore</b>				<b>Plane of Vertical Section: 45.8</b>					
** Tieln	0.0	0.00	210	0.0	0.0	0.0		0.0	
MSS	160.0	0.75	210	160.0	-0.9	-0.5	1.0	-1.0	0.469
MSS	285.0	1.00	168	285.0	-2.7	-0.7	2.8	-2.4	0.535
MSS	510.0	2.25	219	509.9	-8.0	-3.1	8.6	-7.8	0.799
MSS	696.0	2.50	207	695.7	-14.5	-7.2	16.2	-15.3	0.298
MSS	1,008.0	3.75	222	1,007.3	-28.1	-17.1	32.9	-31.9	0.475
MSS	1,162.0	4.25	222	1,160.9	-36.1	-24.3	43.5	-42.6	0.325
MSS	1,219.0	3.75	150	1,217.8	-39.3	-24.8	46.5	-45.2	8.276
MSS	1,250.0	2.25	145	1,248.7	-40.7	-23.9	47.2	-45.5	4.907
MSS	1,280.0	1.25	130	1,278.7	-41.4	-23.4	47.5	-45.6	3.639
MSS	1,348.0	3.75	78	1,346.7	-41.4	-20.6	46.2	-43.6	4.616
MSS	1,410.0	2.75	75	1,408.6	-40.6	-17.2	44.1	-40.6	1.636
MSS	1,502.0	2.75	75	1,500.5	-39.4	-12.9	41.5	-36.8	0.000
MSS	1,675.0	3.00	76	1,673.2	-37.3	-4.5	37.5	-29.2	0.147
MSS	1,820.0	2.75	75	1,818.1	-35.4	2.5	35.5	-22.9	0.176
MSS	1,970.0	3.00	72	1,967.9	-33.3	9.7	34.7	-16.3	0.194
MSS	2,125.0	3.75	77	2,122.6	-30.9	18.5	36.0	-8.3	0.519
MSS	2,207.0	4.00	86	2,204.4	-30.1	24.0	38.5	-3.8	0.801
MSS	2,301.0	3.75	97	2,298.2	-30.3	30.3	42.8	0.6	0.833
MSS	2,393.0	3.75	88	2,390.0	-30.5	36.3	47.4	4.7	0.639
MSS	2,519.0	3.75	95	2,515.7	-30.7	44.5	54.1	10.5	0.363
MSS	2,642.0	3.25	91	2,638.5	-31.1	52.0	60.6	15.6	0.452
MSS	2,766.0	4.25	89	2,762.2	-31.1	60.1	67.7	21.4	0.813
MSS	2,797.0	4.00	93	2,793.2	-31.2	62.3	69.7	23.0	1.229
MSS	2,827.0	2.75	90	2,823.1	-31.2	64.1	71.3	24.2	4.207
MSS	2,888.0	2.00	120	2,884.1	-31.7	66.5	73.7	25.5	2.339
MSS	2,981.0	2.75	115	2,977.0	-33.5	69.9	77.5	26.8	0.836
MSS	3,044.0	2.25	120	3,039.9	-34.8	72.4	80.3	27.6	0.865
MSS	3,101.0	1.50	155	3,096.9	-36.0	73.7	82.0	27.7	2.343
MSS	3,132.0	1.25	204	3,127.9	-36.7	73.7	82.3	27.3	3.751
MSS	3,163.0	2.00	250	3,158.9	-37.2	73.0	82.0	26.5	4.662
MSS	3,195.0	3.00	258	3,190.8	-37.5	71.7	80.9	25.2	3.302
MSS	3,249.0	3.75	266	3,244.7	-37.9	68.6	78.4	22.7	1.637
MSS	3,372.0	6.25	266	3,367.3	-38.7	57.9	69.6	14.5	2.033
MSS	3,495.0	6.75	257	3,489.5	-40.8	44.1	60.1	3.2	0.921
MSS	3,618.0	9.00	252	3,611.3	-45.4	27.9	53.3	-11.6	1.910
MSS	3,660.0	10.00	258	3,652.7	-47.2	21.2	51.7	-17.6	3.348
MSS	3,691.0	10.50	263	3,683.2	-48.1	15.8	50.6	-22.2	3.291
MSS	3,722.0	10.25	270	3,713.7	-48.4	10.3	49.5	-26.4	4.143
MSS	3,785.0	11.25	279	3,775.6	-47.4	-1.4	47.5	-34.1	3.097
MSS	3,910.0	11.25	287	3,898.2	-42.0	-25.1	48.9	-47.3	1.248
MSS	4,043.0	11.25	276	4,028.7	-36.8	-50.4	62.5	-61.8	1.611
MSS	4,160.0	10.75	278	4,143.6	-34.1	-72.6	80.2	-75.8	0.538
MSS	4,284.0	10.25	276	4,265.5	-31.4	-95.0	100.1	-90.0	0.499



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Sect: 6 Town: 11 N Rng: 8 W County: Lake State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
MSS	4,409.0	10.00	276	4,388.5	-29.1	-116.9	120.4	-104.0	0.200
MSS	4,532.0	9.50	284	4,509.8	-25.5	-137.3	139.7	-116.2	1.173
MSS	4,553.0	9.75	283	4,530.5	-24.7	-140.8	142.9	-118.1	1.432
MSS	4,585.0	10.00	276	4,562.0	-23.8	-146.2	148.1	-121.4	3.830
MSS	4,641.0	10.75	267	4,617.1	-23.5	-156.2	158.0	-128.4	3.185
MSS	4,766.0	10.75	265	4,739.9	-25.2	-179.5	181.2	-146.2	0.298
MSS	4,929.0	10.00	268	4,900.2	-27.0	-208.8	210.5	-168.5	0.567
MSS	5,021.0	9.00	260	4,991.0	-28.5	-223.8	225.6	-180.3	1.798
MSS	5,140.0	9.00	260	5,108.5	-31.7	-242.2	244.2	-195.7	0.000
MSS	5,266.0	8.25	257	5,233.1	-35.5	-260.7	263.1	-211.6	0.694
MSS	5,351.0	8.50	257	5,317.2	-38.3	-272.7	275.4	-222.2	0.294
MSS	5,475.0	10.25	252	5,439.5	-43.7	-292.2	295.4	-239.9	1.555
MSS	5,599.0	12.25	251	5,561.1	-51.4	-315.1	319.3	-261.8	1.620
MSS	5,692.0	14.00	252	5,651.7	-58.1	-335.1	340.1	-280.8	1.897
MSS	5,830.0	15.00	251	5,785.3	-69.1	-367.9	374.3	-311.9	0.747
MSS	5,986.0	15.50	252	5,935.8	-82.1	-406.8	415.0	-348.9	0.362
MSS	6,141.0	15.25	253	6,085.2	-94.5	-446.0	455.9	-385.6	0.235
MSS	6,295.0	15.00	255	6,233.9	-105.5	-484.6	496.0	-421.0	0.376
MSS	6,479.0	14.75	257	6,411.7	-117.0	-530.4	543.2	-461.8	0.310
MSS	6,633.0	14.75	258	6,560.7	-125.5	-568.7	582.4	-495.2	0.165
MSS	6,788.0	14.00	257	6,710.8	-133.8	-606.3	620.9	-527.9	0.510

**Well Bore: Original Well Bore ST1 Plane of Vertical Section: 244**

** Tieln	4,585.0	10.00	276	4,562.0	-23.8	-146.2	158.0	141.8	
MSS	4,648.0	10.75	266	4,624.0	-23.6	-157.5	159.3	151.9	3.092
MSS	4,680.0	12.75	272	4,655.3	-23.7	-164.0	165.7	157.8	7.316
MSS	4,707.0	14.00	271	4,681.6	-23.6	-170.3	171.9	163.4	4.708
MSS	4,789.0	15.75	274	4,760.8	-22.6	-191.3	192.6	181.8	2.331
MSS	4,880.0	15.75	273	4,848.4	-21.1	-215.9	217.0	203.3	0.298
MSS	5,039.0	14.75	271	5,001.8	-19.6	-257.7	258.5	240.2	0.711
MSS	5,118.0	14.75	271	5,078.2	-19.3	-277.8	278.5	258.2	0.000
MSS	5,211.0	15.50	273	5,168.0	-18.4	-302.1	302.6	279.6	0.982
MSS	5,305.0	15.75	274	5,258.5	-16.9	-327.3	327.8	301.6	0.391
MSS	5,399.0	17.00	272	5,348.7	-15.5	-353.8	354.1	324.8	1.459
MSS	5,492.0	17.25	273	5,437.6	-14.3	-381.2	381.4	348.9	0.415
MSS	5,624.0	17.00	273	5,563.7	-12.3	-420.0	420.2	382.9	0.189
MSS	5,717.0	17.00	272	5,652.7	-11.1	-447.1	447.3	406.7	0.314
MSS	5,811.0	17.00	272	5,742.5	-10.1	-474.6	474.7	431.0	0.000
MSS	5,904.0	16.25	271	5,831.7	-9.4	-501.2	501.3	454.6	0.863
MSS	5,997.0	16.25	271	5,920.9	-9.0	-527.2	527.3	477.8	0.000
MSS	6,085.0	16.25	272	6,005.4	-8.3	-551.8	551.9	499.6	0.318
MSS	6,210.0	17.25	274	6,125.1	-6.4	-587.8	587.8	531.1	0.923
MSS	6,302.0	17.25	276	6,213.0	-4.0	-615.0	615.0	554.5	0.645
MSS	6,365.0	17.25	274	6,273.2	-2.4	-633.6	633.6	570.5	0.941
MSS	6,427.0	16.75	272	6,332.4	-1.5	-651.7	651.7	586.4	1.241
MSS	6,519.0	16.50	268	6,420.6	-1.5	-678.0	678.0	610.0	1.273



# Directional Survey Report

## Calpine

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Well Name: California State 92-6

Field: Geysers

Sect: 6 Town: 11 N Rng: 8 W County: Lake State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
MSS	6,613.0	17.00	271	6,510.6	-1.7	-705.1	705.1	634.5	1.062
MSS	6,726.0	18.00	271	6,618.4	-1.1	-739.1	739.1	664.7	0.885
MSS	6,885.0	19.00	272	6,769.2	0.2	-789.5	789.5	709.5	0.660
MSS	7,043.0	19.50	274	6,918.3	3.0	-841.5	841.5	755.0	0.524
MSS	7,199.0	21.00	275	7,064.7	7.2	-895.3	895.3	801.5	0.987
MSS	7,339.0	21.25	279	7,195.3	13.4	-945.4	945.5	843.8	1.045
MSS	7,495.0	21.00	283	7,340.8	24.1	-1,000.5	1,000.8	888.7	0.938
MSS	7,652.0	20.00	291	7,487.9	40.1	-1,053.0	1,053.8	928.9	1.893
MSS	7,746.0	19.25	295	7,576.4	52.4	-1,082.1	1,083.3	949.6	1.636
MSS	7,910.0	19.00	303	7,731.4	78.3	-1,129.0	1,131.7	980.4	1.604
MSS	8,068.0	20.00	308	7,880.4	109.0	-1,171.8	1,176.9	1,005.5	1.231
MSS	8,225.0	22.00	308	8,026.9	143.6	-1,216.2	1,224.6	1,030.1	1.274
MSS	8,351.0	22.00	311	8,143.8	173.6	-1,252.6	1,264.6	1,049.7	0.892
MSS	8,491.0	24.00	309	8,272.6	208.8	-1,294.5	1,311.2	1,072.0	1.534
MSS	8,646.0	23.50	308	8,414.5	247.6	-1,343.4	1,366.0	1,098.8	0.414
MSS	8,774.0	24.00	309	8,531.6	279.7	-1,383.7	1,411.7	1,121.0	0.502
MSS	8,928.0	23.00	309	8,672.9	318.4	-1,431.4	1,466.4	1,147.0	0.649
<b>Well Bore: Original Well Bore ST1-F Plane of Vertical Section: 244</b>									
** Tieln	5,904.0	16.25	271	5,831.7	-9.4	-501.2	505.8	454.6	
MWD	6,167.0	14.74	267.7	6,085.1	-10.1	-571.4	571.5	518.0	0.665
MWD	6,261.0	15.02	250.5	6,176.0	-14.6	-594.9	595.1	541.1	4.692
MWD	6,325.0	16.57	246	6,237.6	-21.1	-611.0	611.4	558.4	3.085
MWD	6,385.0	17.74	246.6	6,294.9	-28.2	-627.2	627.9	576.1	1.972
MWD	6,446.0	17.68	241.5	6,353.1	-36.4	-643.9	644.9	594.7	2.544
MWD	6,474.0	18.02	240.3	6,379.7	-40.5	-651.4	652.7	603.2	1.789
MSS	6,953.0	18.50	244	6,834.6	-110.6	-784.1	791.8	753.2	0.262
<b>Well Bore: Original Well Bore ST1-F Plane of Vertical Section: 244</b>									
** Tieln	6,474.0	18.02	240.3	6,379.7	-40.5	-651.4	666.1	603.2	
MWD	6,568.0	15.90	232	6,469.6	-55.6	-674.2	676.5	630.3	3.418
MWD	6,598.0	14.70	231	6,498.6	-60.6	-680.4	683.1	638.1	4.095
MWD	6,629.0	13.40	230	6,528.6	-65.3	-686.2	689.3	645.4	4.266
MWD	6,659.0	12.90	234.5	6,557.8	-69.5	-691.6	695.1	652.1	3.796
MWD	6,689.0	12.50	232	6,587.1	-73.5	-696.9	700.7	658.5	2.266
MWD	6,721.0	12.60	235	6,618.3	-77.6	-702.4	706.7	665.4	2.061
MWD	6,751.0	13.50	233.7	6,647.6	-81.6	-708.0	712.6	672.1	3.155
MSS	6,860.0	15.00	223	6,753.2	-99.4	-727.8	734.6	697.7	2.775
MSS	7,002.0	15.75	228	6,890.2	-125.7	-754.7	765.1	733.4	1.072
MSS	7,124.0	16.25	228	7,007.4	-148.2	-779.7	793.6	765.8	0.410
MSS	7,261.0	17.00	229	7,138.7	-174.2	-809.0	827.6	803.5	0.586
MSS	7,338.0	17.00	229	7,212.3	-189.0	-826.0	847.4	825.3	0.000
MSS	7,467.0	17.00	230	7,335.7	-213.5	-854.7	881.0	861.8	0.227
MSS	7,588.0	17.50	229	7,451.3	-236.8	-882.0	913.2	896.5	0.480
MSS	7,711.0	19.00	228	7,568.1	-262.3	-910.8	947.8	933.6	1.246
MSS	7,840.0	19.50	230	7,689.9	-290.2	-942.9	986.6	974.7	0.641
MSS	7,956.0	20.50	230	7,798.9	-315.7	-973.3	1,023.2	1,013.2	0.862



# Directional Survey Report

**Calpine**

Well ID: CA State 92-6

Well Name: California State 92-6

Field: Geysers

Sect: 6 Town: 11 N Rng: 8 W County: Lake State: CA

Survey Type	Meas. Depth	Inc.	Azimuth	TVD	Coordinates		Closure	Vertical Section	Dog Leg Severity
					N-S	E-W			
MSS	8,085.0	21.00	230	7,919.5	-345.1	-1,008.3	1,065.7	1,057.6	0.388
MSS	8,210.0	19.00	228	8,036.9	-373.1	-1,040.6	1,105.5	1,098.8	1.691
MSS	8,331.0	16.50	228	8,152.2	-397.8	-1,068.0	1,139.7	1,134.3	2.066
MSS	8,422.0	14.00	227	8,240.0	-413.9	-1,085.7	1,161.9	1,157.3	2.762
MSS	8,516.0	8.00	229	8,332.2	-426.0	-1,098.9	1,178.6	1,174.5	6.395
MSS	8,652.0	6.00	234	8,467.2	-436.4	-1,111.8	1,194.4	1,190.6	1.536
MSS	8,778.0	6.00	230	8,592.5	-444.5	-1,122.2	1,207.0	1,203.5	0.332
MSS	8,839.0	5.75	225	8,653.2	-448.7	-1,126.8	1,212.9	1,209.5	0.933
MSS	9,001.0	5.00	217	8,814.5	-460.1	-1,136.8	1,226.4	1,223.4	0.653
MSS	9,155.0	5.50	210	8,967.8	-471.8	-1,144.5	1,238.0	1,235.5	0.527
MSS	9,370.0	4.75	186	9,182.0	-489.6	-1,150.6	1,250.4	1,248.8	1.047
MSS	9,538.0	4.50	176	9,349.4	-503.1	-1,150.9	1,256.0	1,254.9	0.502
MSS	9,691.0	4.50	186	9,502.0	-515.0	-1,151.1	1,261.1	1,260.4	0.512
MSS	9,845.0	4.00	187	9,655.5	-526.4	-1,152.4	1,266.9	1,266.5	0.328
MSS	10,031.0	3.00	181	9,841.2	-537.7	-1,153.2	1,272.4	1,272.2	0.572
MSS	10,269.0	1.00	120	10,079.1	-545.0	-1,151.6	1,274.0	1,273.9	1.119
MSS	10,885.0	2.00	120	10,694.8	-553.0	-1,137.6	1,264.9	1,264.9	0.162
MSS	10,923.0	2.00	120	10,732.8	-553.7	-1,136.4	1,264.2	1,264.2	0.000

Calculations using Minimum Curvature Method