

Job Number: 125467

State/Country: CO/USA

Company: Anadarko

Declination: 8.77

Lease/Well: S29-T2N-R67W/ Saddleback 21-29

Grid: True

Location: DJ Basin

File name: C:\WINSERVE\125467.SVY

Rig Name: Xtreme 11

Date/Time: 30-Jul-12 / 08:26

RKB: 5030'

Curve Name: Saddleback 21-29

G.L. or M.S.L.: 5025'

Cathedral Energy Services

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 79.77
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
105.00	.60	203.90	105.00	-.50	-.22	-.31	.55	203.90	.57
194.00	1.30	170.40	193.99	-1.92	-.24	-.58	1.94	187.20	.97
282.00	2.30	133.50	281.94	-4.12	1.20	.45	4.30	163.72	1.68
369.00	3.00	98.80	368.86	-5.67	4.72	3.64	7.38	140.24	1.97
462.00	2.90	80.30	461.73	-5.65	9.44	8.29	11.01	120.89	1.02
553.00	2.90	36.60	552.63	-3.41	13.09	12.27	13.52	104.62	2.37
644.00	4.30	13.50	643.45	1.75	15.26	15.32	15.36	83.45	2.19
734.00	5.70	17.80	733.11	9.29	17.41	18.78	19.73	61.92	1.61
825.00	5.80	33.70	823.66	17.42	21.34	24.10	27.55	50.78	1.75
865.00	5.70	41.30	863.45	20.59	23.78	27.05	31.45	49.10	1.92
972.00	6.50	47.50	969.85	28.67	31.75	36.34	42.78	47.91	.97
1063.00	7.00	71.00	1060.24	33.96	40.79	46.17	53.08	50.22	3.06
1153.00	8.10	77.30	1149.46	37.14	52.16	57.93	64.03	54.55	1.53
1244.00	9.50	84.50	1239.38	39.27	65.89	71.82	76.71	59.21	1.95
1335.00	11.20	86.40	1328.90	40.54	82.19	88.08	91.64	63.74	1.91
1426.00	12.90	87.30	1417.89	41.58	101.16	106.93	109.37	67.66	1.88
1516.00	14.40	80.60	1505.35	43.88	122.23	128.08	129.87	70.25	2.42
1607.00	15.70	76.70	1593.23	48.56	145.38	151.70	153.28	71.53	1.81
1698.00	15.00	79.60	1680.99	53.52	168.95	175.77	177.22	72.42	1.14
1789.00	15.60	83.70	1768.76	56.99	192.69	199.75	200.94	73.52	1.36
1880.00	16.80	85.50	1856.15	59.36	217.97	225.04	225.91	74.77	1.43
1971.00	17.30	79.80	1943.16	62.79	244.40	251.66	252.33	75.59	1.92
2061.00	16.50	78.40	2029.27	67.73	270.09	277.82	278.45	75.92	1.00
2152.00	16.70	80.20	2116.48	72.55	295.63	303.82	304.40	76.21	.61

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth				C L O S U R E		Dogleg Severity Deg/100
				N-S FT	E-W FT	Vertical Section FT	Distance FT	Direction Deg	
2243.00	17.00	81.90	2203.57	76.65	321.68	330.18	330.69	76.60	.63
2333.00	16.10	81.10	2289.84	80.44	347.04	355.81	356.24	76.95	1.03
2424.00	17.60	81.50	2376.93	84.42	373.11	382.18	382.55	77.25	1.65
2515.00	16.20	81.90	2464.00	88.25	399.29	408.61	408.92	77.54	1.54
2606.00	17.10	80.90	2551.18	92.15	425.07	434.68	434.94	77.77	1.04
2696.00	15.60	79.30	2637.54	96.49	450.02	460.01	460.25	77.90	1.74
2787.00	15.80	80.90	2725.15	100.72	474.28	484.63	484.86	78.01	.52
2878.00	16.40	82.70	2812.58	104.31	499.26	509.85	510.04	78.20	.86
2969.00	16.60	80.60	2899.83	108.07	524.82	535.67	535.83	78.36	.69
3059.00	17.70	77.90	2985.83	113.04	550.89	562.20	562.36	78.40	1.51
3150.00	16.50	76.10	3072.81	119.04	576.96	588.93	589.11	78.34	1.44
3241.00	14.90	74.80	3160.41	125.21	600.79	613.48	613.70	78.23	1.80
3332.00	15.20	79.70	3248.29	130.41	623.82	637.07	637.31	78.19	1.44
3423.00	14.90	82.90	3336.17	133.99	647.17	660.68	660.90	78.30	.97
3513.00	15.40	81.30	3423.04	137.23	670.46	684.18	684.36	78.43	.72
3604.00	15.20	83.10	3510.82	140.49	694.25	708.17	708.32	78.56	.57
3695.00	15.60	81.50	3598.55	143.73	718.20	732.31	732.44	78.68	.64
3786.00	16.30	85.90	3686.05	146.46	743.04	757.24	757.33	78.85	1.53
3877.00	16.30	87.10	3773.39	148.02	768.53	782.60	782.65	79.10	.37
3967.00	16.50	82.10	3859.74	150.41	793.80	807.90	807.93	79.27	1.58
4058.00	16.20	82.70	3947.06	153.80	819.19	833.49	833.51	79.37	.38
4149.00	16.80	78.00	4034.31	158.15	844.65	859.31	859.33	79.40	1.61
4240.00	14.80	76.30	4121.87	163.64	868.81	884.06	884.08	79.33	2.26
4330.00	14.50	76.80	4208.94	168.93	890.95	906.78	906.82	79.26	.36
4421.00	15.00	80.00	4296.95	173.58	913.64	929.94	929.98	79.24	1.05
4512.00	14.20	84.40	4385.01	176.71	936.34	952.84	952.87	79.31	1.50
4602.00	15.20	82.00	4472.06	179.43	959.01	975.63	975.65	79.40	1.30
4693.00	13.40	81.60	4560.24	182.63	981.26	998.10	998.11	79.46	1.98
4784.00	14.00	83.40	4648.65	185.44	1002.63	1019.62	1019.63	79.52	.81
4875.00	15.90	83.80	4736.57	188.05	1025.95	1043.04	1043.05	79.61	2.09
4965.00	17.40	78.60	4822.80	192.04	1051.40	1068.80	1068.80	79.65	2.35
5056.00	15.10	78.20	4910.15	197.15	1076.35	1094.25	1094.26	79.62	2.53
5147.00	13.70	77.10	4998.29	201.98	1098.46	1116.87	1116.87	79.58	1.57
5238.00	12.90	79.90	5086.85	206.17	1118.96	1137.79	1137.80	79.56	1.13
5329.00	11.00	84.00	5175.88	208.86	1137.60	1156.61	1156.61	79.60	2.29
5419.00	12.30	86.00	5264.02	210.43	1155.70	1174.70	1174.70	79.68	1.51
5510.00	13.30	77.20	5352.77	213.42	1175.58	1194.80	1194.80	79.71	2.40
5601.00	13.80	81.90	5441.24	217.27	1196.53	1216.10	1216.10	79.71	1.33
5692.00	15.20	82.50	5529.34	220.36	1219.11	1238.86	1238.86	79.75	1.55
5783.00	13.60	80.10	5617.48	223.75	1241.48	1261.48	1261.48	79.78	1.88
5873.00	11.80	78.00	5705.27	227.49	1260.90	1281.26	1281.26	79.77	2.06
5964.00	10.40	73.40	5794.57	231.77	1277.88	1298.72	1298.72	79.72	1.82
6055.00	9.20	72.20	5884.24	236.34	1292.67	1314.10	1314.10	79.64	1.34
6146.00	9.10	81.30	5974.09	239.65	1306.72	1328.50	1328.51	79.61	1.59
6236.00	7.70	80.40	6063.12	241.73	1319.70	1341.65	1341.65	79.62	1.56

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6327.00	4.70	83.70	6153.58	243.16	1329.41	1351.47	1351.47	79.63	3.32
6418.00	4.50	73.30	6244.28	244.59	1336.54	1358.73	1358.74	79.63	.94
6509.00	2.10	97.60	6335.13	245.40	1341.61	1363.87	1363.87	79.63	3.00
6599.00	1.20	232.50	6425.11	244.61	1342.50	1364.60	1364.60	79.67	3.41
6690.00	.80	241.00	6516.10	243.72	1341.19	1363.15	1363.15	79.70	.47
6781.00	.50	327.20	6607.09	243.75	1340.42	1362.40	1362.40	79.69	1.01
6872.00	1.10	344.20	6698.08	244.92	1339.96	1362.16	1362.16	79.64	.70
6962.00	1.20	306.20	6788.07	246.31	1338.97	1361.43	1361.44	79.58	.84
7053.00	3.50	290.80	6878.99	247.86	1335.60	1358.39	1358.41	79.49	2.60
7144.00	3.50	294.80	6969.82	250.01	1330.48	1353.74	1353.77	79.36	.27
7235.00	2.20	302.90	7060.70	252.12	1326.50	1350.19	1350.24	79.24	1.49
7326.00	2.40	265.90	7151.63	252.94	1323.13	1347.02	1347.09	79.18	1.62
7416.00	1.70	265.10	7241.58	252.69	1319.92	1343.81	1343.89	79.16	.78
7507.00	1.50	272.00	7332.54	252.61	1317.38	1341.31	1341.39	79.15	.30
7598.00	.60	288.80	7423.52	252.81	1315.74	1339.72	1339.81	79.12	1.03
7688.00	.30	303.60	7513.52	253.09	1315.10	1339.14	1339.23	79.11	.35
7779.00	.50	355.80	7604.52	253.62	1314.87	1339.01	1339.11	79.08	.43
7870.00	.20	343.40	7695.52	254.17	1314.80	1339.04	1339.14	79.06	.34
7961.00	.40	41.00	7786.52	254.56	1314.96	1339.27	1339.37	79.04	.37
8052.00	.30	278.80	7877.52	254.83	1314.93	1339.29	1339.40	79.03	.68
8143.00	.70	278.80	7968.51	254.96	1314.15	1338.54	1338.65	79.02	.44
8234.00	.40	296.10	8059.51	255.18	1313.32	1337.76	1337.88	79.00	.37
8332.00	.50	278.80	8157.50	255.40	1312.59	1337.08	1337.20	78.99	.17
--Projection to Bit--									
8387.00	.50	278.80	8212.50	255.47	1312.11	1336.62	1336.75	78.98	.00