



Job Number: SVGJ-120356  
 Company: Great Western Oil & Gas  
 Lease/Well: Boulder 2-2-27  
 Location: Weld County, CO  
 Rig Name: Production  
 RKB: 16'  
 G.L. or M.S.L.: GL

State/Country: Colorado/USA  
 Declination: 8.70°  
 Grid: East To True North  
 File name: F:\SURVEY\2012SU~1\GREATW~1\LORENZ\BOULTER\2-2-27.SVY  
 Date/Time: 29-Mar-12 / 09:25  
 Curve Name: Surface - 7100' M.D. (Rate Gyro)

WINSERVE SURVEY CALCULATIONS  
 Minimum Curvature Method  
 Vertical Section Plane .00  
 Vertical Section Referenced to Wellhead  
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical		Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
				N-S FT	E-W FT		Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
200.00	.27	235.07	200.00	-.27	-.39	-.27	.47	235.07	.13
400.00	.24	227.59	400.00	-.82	-1.08	-.82	1.36	232.77	.02
600.00	.33	142.60	600.00	-1.56	-1.04	-1.56	1.88	213.69	.20
800.00	.11	143.18	799.99	-2.17	-.58	-2.17	2.25	194.86	.11
1000.00	.22	335.39	999.99	-1.98	-.62	-1.98	2.07	197.44	.16
1200.00	.36	69.72	1199.99	-1.41	-.19	-1.41	1.42	187.74	.22
1400.00	.14	40.23	1399.99	-1.01	.56	-1.01	1.15	151.12	.12
1600.00	.50	311.53	1599.99	-.24	.06	-.24	.25	166.10	.26
1800.00	.45	226.01	1799.98	-.21	-1.16	-.21	1.18	259.79	.32

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	
2000.00	.35	211.81	1999.98	-1.27	-2.05	-1.27	2.41	238.10	.07
2200.00	.87	170.65	2199.97	-3.29	-2.12	-3.29	3.91	212.80	.32
2400.00	.87	148.23	2399.94	-6.08	-1.07	-6.08	6.17	190.03	.17
2600.00	.59	163.22	2599.93	-8.36	.02	-8.36	8.36	179.85	.17
2800.00	.58	210.73	2799.92	-10.21	-.20	-10.21	10.21	181.11	.24
3000.00	1.54	153.47	2999.89	-13.49	.49	-13.49	13.50	177.94	.66
3200.00	1.64	164.63	3199.81	-18.65	2.44	-18.65	18.81	172.53	.16
3400.00	1.50	173.65	3399.73	-24.01	3.49	-24.01	24.27	171.73	.14
3600.00	1.83	141.09	3599.65	-29.10	5.79	-29.10	29.67	168.75	.49
3800.00	1.98	126.23	3799.54	-33.63	10.58	-33.63	35.25	162.53	.26
4000.00	1.37	152.31	3999.46	-37.79	14.48	-37.79	40.46	159.03	.48
4200.00	1.00	160.98	4199.42	-41.55	16.16	-41.55	44.58	158.75	.21
4400.00	1.15	203.60	4399.39	-45.04	15.92	-45.04	47.77	160.53	.40
4600.00	1.51	192.62	4599.33	-49.45	14.54	-49.45	51.55	163.61	.22
4800.00	.78	273.88	4799.30	-51.93	12.61	-51.93	53.44	166.35	.80
5000.00	.78	284.24	4999.28	-51.50	9.93	-51.50	52.45	169.08	.07
5200.00	1.08	299.63	5199.26	-50.24	6.97	-50.24	50.72	172.10	.19
5400.00	1.99	334.58	5399.19	-46.17	3.85	-46.17	46.33	175.24	.63
5600.00	2.39	338.11	5599.04	-39.16	.80	-39.16	39.17	178.83	.21
5800.00	.54	266.71	5798.97	-35.35	-1.70	-35.35	35.39	182.75	1.14
6000.00	.84	203.30	5998.96	-36.75	-3.22	-36.75	36.89	185.00	.38
6200.00	.47	134.41	6198.95	-38.67	-3.21	-38.67	38.80	184.75	.40
6400.00	.27	231.19	6398.95	-39.54	-2.99	-39.54	39.65	184.33	.28
6600.00	.57	152.24	6598.94	-40.71	-2.90	-40.71	40.82	184.07	.29
6800.00	.45	80.02	6798.94	-41.46	-1.66	-41.46	41.49	182.29	.30
7000.00	.47	45.56	6998.93	-40.75	-.30	-40.75	40.75	180.42	.14
<b>Last Survey Depth Recorded</b>									
7100.00	.31	89.83	7098.93	-40.46	.26	-40.46	40.46	179.63	.33