



Job Number: SVGJ-140047  
 Company: PDC  
 Lease/Well: Don Anderson 1  
 Location: Weld County, CO  
 Rig Name: BWS  
 RKB: 12'  
 G.L. or M.S.L.: GL

State/Country: Colorado/USA  
 Declination: 8.52°  
 Grid: East To True North  
 File name: S:\2014SU~1\PDC\GJ\DONAND~1\1.SVY  
 Date/Time: 16-Jan-14 / 10:36  
 Curve Name: Surface - 7400' M.D. (Rate Gyro)

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

<i>Measured Depth FT</i>	<i>Incl Angle Deg</i>	<i>Drift Direction Deg</i>	<i>True Vertical Depth</i>	<i>N-S FT</i>	<i>E-W FT</i>	<i>Vertical Section FT</i>	<i>C L O S U R E</i>		<i>Dogleg Severity Deg/100</i>
							<i>Distance FT</i>	<i>Direction Deg</i>	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.06	97.81	100.00	-.01	.05	-.01	.05	97.80	.06
200.00	.53	5.50	200.00	.45	.15	.45	.47	18.36	.54
300.00	.81	312.14	299.99	1.38	-.33	1.38	1.42	346.49	.65
400.00	.76	261.09	399.98	1.75	-1.51	1.75	2.31	319.23	.68
500.00	.64	236.13	499.98	1.34	-2.63	1.34	2.95	296.97	.32
600.00	.13	152.13	599.97	.93	-3.04	.93	3.18	286.95	.64
700.00	.47	341.54	699.97	1.22	-3.12	1.22	3.35	291.30	.60
800.00	.79	291.24	799.97	1.85	-3.89	1.85	4.31	295.49	.61
900.00	.61	231.32	899.96	1.77	-4.95	1.77	5.26	289.70	.72

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	
1000.00	.12	140.74	999.96	1.36	-5.30	1.36	5.47	284.37	.62
1100.00	.42	341.03	1099.96	1.62	-5.35	1.62	5.59	286.88	.53
1200.00	.64	242.50	1199.96	1.71	-5.96	1.71	6.21	286.01	.82
1300.00	.35	158.02	1299.95	1.17	-6.35	1.17	6.45	280.45	.70
1400.00	.40	24.09	1399.95	1.21	-6.09	1.21	6.21	281.21	.69
1500.00	.53	275.34	1499.95	1.57	-6.41	1.57	6.60	283.75	.76
1600.00	.46	202.22	1599.95	1.24	-7.02	1.24	7.13	280.01	.59
1700.00	.38	112.31	1699.95	.74	-6.86	.74	6.90	276.17	.60
1800.00	.40	86.31	1799.94	.64	-6.21	.64	6.24	275.87	.18
1900.00	.42	67.13	1899.94	.80	-5.52	.80	5.58	278.28	.14
2000.00	.43	57.02	1999.94	1.15	-4.87	1.15	5.00	283.29	.08
2100.00	.46	292.76	2099.94	1.51	-4.93	1.51	5.15	287.04	.79
2200.00	.35	176.99	2199.94	1.36	-5.28	1.36	5.45	284.44	.69
2300.00	.47	51.47	2299.93	1.31	-4.94	1.31	5.11	284.85	.73
2400.00	.53	296.34	2399.93	1.77	-5.04	1.77	5.34	289.37	.84
2500.00	.53	20.62	2499.93	2.41	-5.29	2.41	5.81	294.49	.71
2600.00	.47	271.96	2599.93	2.86	-5.54	2.86	6.23	297.29	.81
2700.00	.42	9.65	2699.93	3.23	-5.88	3.23	6.71	298.77	.67
2800.00	.47	171.74	2799.92	3.19	-5.76	3.19	6.59	298.94	.88
2900.00	.37	356.49	2899.92	3.10	-5.72	3.10	6.51	298.46	.84
3000.00	.52	204.90	2999.92	3.01	-5.94	3.01	6.66	296.92	.86
3100.00	.17	240.44	3099.92	2.53	-6.26	2.53	6.75	292.01	.39
3200.00	.92	150.28	3199.92	1.76	-5.99	1.76	6.24	286.37	.94
3300.00	.41	108.20	3299.91	.95	-5.25	.95	5.33	280.26	.67
3400.00	.86	165.54	3399.90	.11	-4.72	.11	4.72	271.35	.73
3500.00	.29	214.57	3499.90	-.82	-4.68	-.82	4.75	260.01	.70
3600.00	.17	3.36	3599.90	-.88	-4.81	-.88	4.89	259.59	.44
3700.00	.52	104.90	3699.90	-.85	-4.37	-.85	4.45	258.95	.58
3800.00	.56	305.28	3799.90	-.69	-4.33	-.69	4.38	260.97	1.06

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	
3900.00	.50	252.38	3899.89	-.54	-5.14	-.54	5.17	264.04	.48
4000.00	.31	169.85	3999.89	-.94	-5.51	-.94	5.59	260.36	.55
4100.00	.52	354.17	4099.89	-.75	-5.51	-.75	5.56	262.24	.83
4200.00	.56	345.12	4199.88	.17	-5.68	.17	5.68	271.75	.09
4300.00	.57	352.82	4299.88	1.14	-5.87	1.14	5.98	280.99	.08
4400.00	.70	336.86	4399.87	2.19	-6.17	2.19	6.55	289.58	.22
4500.00	.81	302.39	4499.87	3.13	-7.01	3.13	7.67	294.11	.46
4600.00	.24	281.01	4599.86	3.55	-7.81	3.55	8.58	294.47	.59
4700.00	.33	21.33	4699.86	3.86	-7.91	3.86	8.80	296.03	.44
4800.00	.71	22.04	4799.86	4.70	-7.57	4.70	8.91	301.85	.38
4900.00	1.00	2.15	4899.84	6.15	-7.31	6.15	9.55	310.09	.41
5000.00	.65	299.07	4999.84	7.30	-7.77	7.30	10.66	313.21	.91
5100.00	.14	359.68	5099.83	7.70	-8.27	7.70	11.29	312.96	.59
5200.00	.43	273.81	5199.83	7.84	-8.64	7.84	11.67	312.23	.44
5300.00	.30	264.77	5299.83	7.84	-9.28	7.84	12.15	310.22	.14
5400.00	.16	42.16	5399.83	7.92	-9.44	7.92	12.33	310.00	.43
5500.00	.39	23.06	5499.83	8.34	-9.22	8.34	12.43	312.15	.24
5600.00	.82	331.30	5599.82	9.28	-9.43	9.28	13.23	314.56	.65
5700.00	1.08	282.61	5699.81	10.11	-10.69	10.11	14.72	313.42	.82
5800.00	.56	265.46	5799.80	10.28	-12.10	10.28	15.88	310.36	.57
5900.00	.87	265.48	5899.79	10.18	-13.34	10.18	16.78	307.36	.31
6000.00	1.21	291.29	5999.78	10.51	-15.08	10.51	18.38	304.86	.57
6100.00	.93	273.66	6099.76	10.94	-16.87	10.94	20.11	302.96	.43
6200.00	.48	327.23	6199.75	11.35	-17.91	11.35	21.20	302.35	.75
6300.00	.54	332.25	6299.75	12.12	-18.36	12.12	21.99	303.42	.07
6400.00	.41	310.68	6399.75	12.77	-18.85	12.77	22.76	304.11	.22
6500.00	.70	271.78	6499.74	13.02	-19.73	13.02	23.64	303.42	.46
6600.00	1.08	285.48	6599.73	13.29	-21.25	13.29	25.06	302.02	.43
6700.00	.78	333.55	6699.72	14.15	-22.46	14.15	26.55	302.21	.81

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	
6800.00	1.16	292.08	6799.70	15.14	-23.70	15.14	28.12	302.57	.77
6900.00	1.40	323.53	6899.68	16.50	-25.37	16.50	30.26	303.05	.73
7000.00	.40	350.63	6999.67	17.83	-26.15	17.83	31.65	304.29	1.06
7100.00	1.03	314.78	7099.66	18.81	-26.84	18.81	32.78	305.01	.74
7200.00	1.33	358.24	7199.64	20.60	-27.52	20.60	34.37	306.82	.92
7300.00	.99	21.11	7299.62	22.57	-27.24	22.57	35.37	309.64	.57
<b>Last Survey Depth Recorded</b>									
7400.00	1.84	351.34	7399.59	24.96	-27.17	24.96	36.90	312.57	1.10