



Job Number: SVGJ-120103  
 Company: PDC  
 Lease/Well: Zahourek 32-31  
 Location: Weld County, CO  
 Rig Name: Lightning Wireline  
 RKB: 0'  
 G.L. or M.S.L.: GL

State/Country: Colorado/USA  
 Declination: 8.63°  
 Grid: East To True  
 File name: C:\WINSERVE\32-31.SVY  
 Date/Time: 05-Feb-12 / 16:18  
 Curve Name: Surface - 6900' 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	.69	17.52	100.00	.57	.18	.57	.60	17.52	.69
200.00	.29	354.73	199.99	1.40	.34	1.40	1.44	13.62	.44
300.00	.25	345.99	299.99	1.86	.26	1.86	1.88	8.04	.06
400.00	.12	19.76	399.99	2.17	.25	2.17	2.19	6.45	.16
500.00	.20	88.62	499.99	2.28	.46	2.28	2.32	11.32	.19
600.00	.10	202.89	599.99	2.20	.60	2.20	2.28	15.16	.26
700.00	.22	237.72	699.99	2.02	.40	2.02	2.06	11.21	.15
800.00	.20	232.36	799.99	1.81	.10	1.81	1.81	3.15	.03
900.00	.27	267.72	899.99	1.69	-.27	1.69	1.71	350.80	.16

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	.20	242.49	999.99	1.60	-.66	1.60	1.74	337.49	.12
1100.00	.24	289.65	1099.99	1.59	-1.02	1.59	1.89	327.45	.18
1200.00	.11	306.01	1199.99	1.72	-1.29	1.72	2.15	323.09	.14
1300.00	.23	274.65	1299.99	1.79	-1.57	1.79	2.38	318.80	.15
1400.00	.22	316.25	1399.99	1.95	-1.90	1.95	2.72	315.68	.16
1500.00	.23	314.30	1499.99	2.23	-2.18	2.23	3.11	315.62	.01
1600.00	.23	326.40	1599.99	2.53	-2.43	2.53	3.51	316.16	.05
1700.00	.20	320.43	1699.98	2.84	-2.66	2.84	3.88	316.88	.04
1800.00	.15	282.22	1799.98	3.00	-2.89	3.00	4.17	316.00	.12
1900.00	.20	266.37	1899.98	3.01	-3.20	3.01	4.39	313.32	.07
2000.00	.48	263.52	1999.98	2.96	-3.79	2.96	4.80	307.97	.28
2100.00	.61	280.63	2099.98	3.01	-4.73	3.01	5.60	302.46	.21
2200.00	.61	262.79	2199.97	3.04	-5.78	3.04	6.53	297.74	.19
2300.00	.68	260.10	2299.97	2.87	-6.89	2.87	7.46	292.61	.08
2400.00	.68	265.38	2399.96	2.72	-8.07	2.72	8.51	288.63	.06
2500.00	.71	264.93	2499.95	2.62	-9.27	2.62	9.64	285.76	.03
2600.00	.58	253.35	2599.94	2.42	-10.38	2.42	10.65	283.11	.18
2700.00	.45	265.53	2699.94	2.24	-11.25	2.24	11.47	281.26	.17
2800.00	.29	276.15	2799.94	2.24	-11.90	2.24	12.11	280.65	.17
2900.00	.28	276.63	2899.94	2.29	-12.39	2.29	12.60	280.49	.01
3000.00	.20	225.06	2999.94	2.20	-12.76	2.20	12.95	279.78	.22
3100.00	.24	240.74	3099.94	1.97	-13.06	1.97	13.21	278.59	.07
3200.00	.26	237.92	3199.93	1.75	-13.44	1.75	13.55	277.42	.02
3300.00	.12	260.05	3299.93	1.61	-13.73	1.61	13.83	276.69	.16
3400.00	.26	238.79	3399.93	1.48	-14.03	1.48	14.11	276.00	.15
3500.00	.31	258.27	3499.93	1.30	-14.49	1.30	14.55	275.14	.11
3600.00	.67	272.81	3599.93	1.28	-15.34	1.28	15.39	274.76	.38
3700.00	.96	278.80	3699.92	1.43	-16.75	1.43	16.81	274.89	.30
3800.00	1.07	275.19	3799.90	1.65	-18.51	1.65	18.58	275.08	.13

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	1.03	277.45	3899.89	1.85	-20.33	1.85	20.41	275.19	.06
4000.00	.94	287.50	3999.87	2.21	-22.00	2.21	22.11	275.74	.19
4100.00	1.04	285.59	4099.86	2.70	-23.66	2.70	23.81	276.51	.11
4200.00	.97	290.89	4199.84	3.25	-25.32	3.25	25.53	277.31	.12
4300.00	.75	274.77	4299.83	3.60	-26.77	3.60	27.01	277.67	.32
4400.00	.75	281.53	4399.82	3.79	-28.06	3.79	28.32	277.69	.09
4500.00	.80	273.85	4499.81	3.97	-29.40	3.97	29.66	277.68	.12
4600.00	.89	283.31	4599.80	4.19	-30.85	4.19	31.13	277.74	.17
4700.00	1.58	290.25	4699.78	4.85	-32.90	4.85	33.26	278.38	.70
4800.00	2.49	282.99	4799.71	5.81	-36.31	5.81	36.77	279.10	.94
4900.00	2.96	278.82	4899.60	6.70	-40.98	6.70	41.52	279.28	.51
5000.00	3.01	277.82	4999.46	7.45	-46.13	7.45	46.73	279.17	.07
5100.00	3.06	277.08	5099.32	8.14	-51.38	8.14	52.02	279.00	.06
5200.00	2.28	268.18	5199.22	8.40	-56.02	8.40	56.64	278.53	.88
5300.00	1.67	251.86	5299.16	7.89	-59.39	7.89	59.91	277.56	.82
5400.00	1.29	245.00	5399.12	6.96	-61.80	6.96	62.19	276.42	.42
5500.00	.53	233.54	5499.11	6.21	-63.19	6.21	63.49	275.61	.78
5600.00	.42	221.40	5599.11	5.66	-63.80	5.66	64.05	275.07	.15
5700.00	.48	228.63	5699.10	5.10	-64.36	5.10	64.56	274.53	.08
5800.00	.57	223.92	5799.10	4.47	-65.02	4.47	65.17	273.93	.10
5900.00	.55	231.74	5899.09	3.81	-65.74	3.81	65.85	273.32	.08
6000.00	.65	244.63	5999.09	3.27	-66.63	3.27	66.71	272.81	.17
6100.00	.68	249.58	6099.08	2.82	-67.70	2.82	67.76	272.39	.06
6200.00	.69	259.81	6199.07	2.51	-68.85	2.51	68.89	272.09	.12
6300.00	.72	257.29	6299.07	2.26	-70.05	2.26	70.09	271.85	.04
6400.00	.61	262.83	6399.06	2.06	-71.19	2.06	71.22	271.66	.13
6500.00	.65	284.90	6499.05	2.14	-72.27	2.14	72.30	271.70	.24
6600.00	.84	305.92	6599.05	2.72	-73.41	2.72	73.46	272.12	.33
6700.00	1.00	278.55	6699.03	3.27	-74.87	3.27	74.94	272.50	.46

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	1.15	241.48	6799.02	2.93	-76.61	2.93	76.67	272.19	.70
Last Survey Depth Recorded									
6900.00	1.08	242.94	6899.00	2.02	-78.33	2.02	78.36	271.48	.08