



Job Number: SVGJ-131107  
 Company: PDC  
 Lease/Well: Wiedeman 2  
 Location: Weld County, CO  
 Rig Name: MS Energy Wireline  
 RKB: 0'  
 G.L. or M.S.L.: GL

State/Country: Colorado/USA  
 Declination: 8.55°  
 Grid: East To True North  
 File name: S:\2013SU~1\PDC\GJ\WIEDEMAN\2.SVY  
 Date/Time: 28-Oct-13 / 10:33  
 Curve Name: Surface - 7260' 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	.36	80.35	100.00	.05	.31	.05	.31	80.35	.36
200.00	.17	136.29	200.00	.00	.72	.00	.72	90.15	.30
300.00	.15	138.10	300.00	-.21	.91	-.21	.93	102.76	.02
400.00	.16	20.85	400.00	-.17	1.05	-.17	1.06	99.39	.26
500.00	.16	173.55	500.00	-.18	1.11	-.18	1.13	99.26	.31
600.00	.33	220.48	600.00	-.54	.94	-.54	1.09	119.77	.25
700.00	.36	214.82	699.99	-1.02	.58	-1.02	1.17	150.43	.05
800.00	.13	273.01	799.99	-1.27	.28	-1.27	1.30	167.38	.31
900.00	.50	209.61	899.99	-1.64	-.04	-1.64	1.64	181.56	.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	
1000.00	.34	266.93	999.99	-2.04	-.56	-2.04	2.11	195.28	.43
1100.00	.21	242.95	1099.99	-2.14	-1.02	-2.14	2.37	205.44	.17
1200.00	.64	240.27	1199.99	-2.50	-1.66	-2.50	3.00	213.69	.43
1300.00	.71	267.59	1299.98	-2.80	-2.77	-2.80	3.94	224.68	.33
1400.00	.41	304.33	1399.97	-2.62	-3.68	-2.62	4.52	234.53	.45
1500.00	.78	297.92	1499.97	-2.10	-4.58	-2.10	5.04	245.33	.38
1600.00	.51	320.18	1599.96	-1.44	-5.47	-1.44	5.65	255.21	.36
1700.00	.83	306.72	1699.96	-.67	-6.33	-.67	6.37	263.98	.35
1800.00	.74	341.54	1799.95	.38	-7.12	.38	7.13	273.04	.48
1900.00	.92	333.42	1899.94	1.71	-7.68	1.71	7.87	282.54	.21
2000.00	1.12	322.70	1999.92	3.20	-8.63	3.20	9.21	290.36	.28
2100.00	.95	340.57	2099.90	4.76	-9.50	4.76	10.63	296.63	.36
2200.00	1.29	330.59	2199.89	6.53	-10.33	6.53	12.22	302.28	.39
2300.00	1.10	306.39	2299.86	8.08	-11.65	8.08	14.18	304.72	.53
2400.00	.91	311.18	2399.85	9.17	-13.02	9.17	15.93	305.14	.21
2500.00	1.04	307.28	2499.83	10.24	-14.34	10.24	17.62	305.52	.15
2600.00	.96	285.00	2599.82	11.01	-15.88	11.01	19.32	304.73	.39
2700.00	1.42	286.88	2699.80	11.58	-17.87	11.58	21.30	302.95	.46
2800.00	1.27	301.19	2799.77	12.52	-20.00	12.52	23.60	302.03	.37
2900.00	1.54	289.48	2899.74	13.54	-22.22	13.54	26.02	301.36	.39
3000.00	1.47	297.68	2999.71	14.58	-24.62	14.58	28.62	300.64	.23
3100.00	1.54	294.08	3099.67	15.73	-26.98	15.73	31.23	300.23	.12
3200.00	1.25	311.18	3199.64	16.99	-29.03	16.99	33.64	300.34	.50
3300.00	1.17	332.83	3299.62	18.62	-30.32	18.62	35.58	301.56	.46
3400.00	1.22	345.48	3399.60	20.56	-31.05	20.56	37.24	303.51	.27
3500.00	1.31	358.26	3499.58	22.73	-31.35	22.73	38.73	305.94	.30
3600.00	1.72	3.68	3599.54	25.37	-31.29	25.37	40.29	309.04	.43
3700.00	1.47	351.76	3699.50	28.14	-31.38	28.14	42.15	311.88	.41
3800.00	1.64	5.41	3799.46	30.83	-31.43	30.83	44.03	314.45	.41

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	1.46	357.23	3899.43	33.53	-31.36	33.53	45.91	316.92	.28
4000.00	.84	327.80	3999.41	35.42	-31.81	35.42	47.61	318.08	.84
4100.00	.85	313.96	4099.40	36.56	-32.73	36.56	49.07	318.16	.20
4200.00	.91	305.53	4199.39	37.53	-33.91	37.53	50.59	317.90	.14
4300.00	1.14	277.68	4299.37	38.13	-35.54	38.13	52.13	317.01	.54
4400.00	1.26	281.57	4399.35	38.48	-37.61	38.48	53.81	315.66	.14
4500.00	1.42	292.60	4499.32	39.18	-39.83	39.18	55.87	314.53	.30
4600.00	1.08	279.20	4599.30	39.81	-41.90	39.81	57.80	313.53	.45
4700.00	1.45	296.29	4699.27	40.52	-43.97	40.52	59.79	312.66	.52
4800.00	1.10	286.52	4799.25	41.35	-46.02	41.35	61.87	311.94	.41
4900.00	1.54	282.05	4899.22	41.90	-48.26	41.90	63.91	310.97	.45
5000.00	1.17	293.00	4999.19	42.58	-50.51	42.58	66.07	310.13	.45
5100.00	1.28	304.82	5099.17	43.62	-52.37	43.62	68.15	309.79	.27
5200.00	1.46	294.00	5199.14	44.78	-54.45	44.78	70.49	309.43	.31
5300.00	.74	291.33	5299.12	45.53	-56.21	45.53	72.34	309.01	.72
5400.00	1.23	284.43	5399.11	46.03	-57.85	46.03	73.93	308.51	.50
5500.00	.96	281.11	5499.09	46.46	-59.72	46.46	75.66	307.88	.28
5600.00	.66	314.14	5599.08	47.02	-60.95	47.02	76.98	307.65	.54
5700.00	.71	275.87	5699.07	47.49	-61.98	47.49	78.08	307.46	.45
5800.00	.66	294.06	5799.07	47.79	-63.12	47.79	79.17	307.13	.22
5900.00	.46	218.32	5899.06	47.71	-63.90	47.71	79.74	306.74	.71
6000.00	.74	230.02	5999.06	46.98	-64.64	46.98	79.91	306.01	.30
6100.00	.85	229.14	6099.05	46.08	-65.70	46.08	80.24	305.04	.11
6200.00	1.14	205.93	6199.03	44.70	-66.69	44.70	80.28	303.83	.49
6300.00	1.64	218.48	6299.00	42.68	-68.02	42.68	80.30	302.11	.58
6400.00	1.53	220.23	6398.97	40.54	-69.77	40.54	80.69	300.16	.12
6500.00	.73	217.16	6498.95	39.01	-71.02	39.01	81.03	298.78	.80
6600.00	.25	309.00	6598.94	38.64	-71.57	38.64	81.34	298.37	.78
6700.00	.55	333.07	6698.94	39.21	-71.96	39.21	81.95	298.58	.34

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	.19	14.28	6798.94	39.80	-72.14	39.80	82.39	298.89	.43
6900.00	.44	320.40	6898.94	40.25	-72.34	40.25	82.79	299.09	.36
7000.00	.26	356.45	6998.93	40.78	-72.60	40.78	83.27	299.32	.28
7100.00	.35	37.00	7098.93	41.25	-72.43	41.25	83.35	299.66	.23
7200.00	.20	337.85	7198.93	41.65	-72.31	41.65	83.45	299.94	.30

Last Survey Depth Recorded									
7260.00	.75	355.04	7258.93	42.14	-72.38	42.14	83.76	300.21	.94