



Job Number: SVGJ-150068
 Company: PDC
 Lease/Well: Danni 6-9
 Location: Weld County, CO
 Rig Name: MS Energy Wireline
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 9.05°
 Grid: East To True North
 File name: S:\2015SU~1\PDC\GJ\DANNI\69.SVY
 Date/Time: 12-Mar-15 / 11:22
 Curve Name: Surface - 6600' M.D. (Rate Gyro)

MS SURVEY

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	.26	323.15	100.00	.18	-.14	.18	.23	323.15	.26
200.00	.05	327.18	200.00	.40	-.30	.40	.50	323.50	.21
300.00	.23	183.60	300.00	.24	-.33	.24	.41	305.42	.27
400.00	.16	202.57	400.00	-.09	-.40	-.09	.41	256.84	.09
500.00	.24	165.11	500.00	-.42	-.40	-.42	.58	223.16	.15
600.00	.22	197.92	600.00	-.81	-.40	-.81	.90	206.48	.13
700.00	.19	174.32	700.00	-1.16	-.45	-1.16	1.24	201.07	.09
800.00	.28	176.75	800.00	-1.57	-.42	-1.57	1.62	194.86	.09
900.00	.19	173.06	899.99	-1.97	-.38	-1.97	2.01	190.94	.09

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	175.84	999.99	-2.44	-.34	-2.44	2.46	187.95	.15
1100.00	.23	154.93	1099.99	-2.91	-.23	-2.91	2.92	184.59	.15
1200.00	.32	162.53	1199.99	-3.36	-.06	-3.36	3.36	181.10	.10
1300.00	.11	130.00	1299.99	-3.69	.09	-3.69	3.69	178.56	.23
1400.00	.17	119.85	1399.99	-3.82	.29	-3.82	3.84	175.59	.06
1500.00	.08	186.15	1499.99	-3.97	.42	-3.97	3.99	174.01	.16
1600.00	.05	142.45	1599.99	-4.07	.44	-4.07	4.10	173.90	.06
1700.00	.18	259.33	1699.99	-4.14	.31	-4.14	4.15	175.75	.21
1800.00	.36	302.45	1799.99	-4.00	-.11	-4.00	4.00	181.61	.26
1900.00	.68	297.23	1899.98	-3.56	-.90	-3.56	3.67	194.28	.32
2000.00	.88	300.46	1999.98	-2.90	-2.09	-2.90	3.57	215.88	.20
2100.00	.79	298.63	2099.96	-2.18	-3.36	-2.18	4.00	237.09	.09
2200.00	.87	308.34	2199.95	-1.37	-4.56	-1.37	4.76	253.23	.16
2300.00	.77	316.23	2299.94	-.42	-5.62	-.42	5.64	265.75	.15
2400.00	.95	333.86	2399.93	.81	-6.45	.81	6.50	277.17	.32
2500.00	1.02	348.17	2499.92	2.43	-7.00	2.43	7.41	289.12	.26
2600.00	1.22	348.93	2599.90	4.34	-7.39	4.34	8.57	300.45	.20
2700.00	1.17	342.43	2699.88	6.36	-7.90	6.36	10.14	308.84	.14
2800.00	1.26	345.15	2799.85	8.40	-8.49	8.40	11.94	314.68	.11
2900.00	.98	341.86	2899.84	10.27	-9.04	10.27	13.68	318.66	.29
3000.00	.91	341.88	2999.82	11.84	-9.55	11.84	15.21	321.11	.07
3100.00	.56	326.86	3099.81	13.00	-10.06	13.00	16.44	322.26	.40
3200.00	.45	320.58	3199.81	13.72	-10.58	13.72	17.32	322.35	.12
3300.00	.44	295.17	3299.81	14.18	-11.18	14.18	18.06	321.76	.20
3400.00	.35	296.63	3399.80	14.48	-11.80	14.48	18.68	320.83	.09
3500.00	.38	282.37	3499.80	14.69	-12.40	14.69	19.22	319.84	.10
3600.00	.24	316.56	3599.80	14.91	-12.86	14.91	19.70	319.22	.23
3700.00	.19	284.80	3699.80	15.11	-13.17	15.11	20.04	318.93	.13
3800.00	.05	203.95	3799.80	15.11	-13.35	15.11	20.16	318.55	.19

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	.11	132.37	3899.80	15.01	-13.29	15.01	20.05	318.46	.11
4000.00	.10	158.76	3999.80	14.86	-13.19	14.86	19.87	318.41	.05
4100.00	.32	139.61	4099.80	14.57	-12.98	14.57	19.51	318.30	.23
4200.00	.69	118.77	4199.80	14.06	-12.27	14.06	18.66	318.90	.41
4300.00	1.00	130.21	4299.78	13.21	-11.07	13.21	17.24	320.03	.35
4400.00	1.00	132.37	4399.77	12.06	-9.76	12.06	15.52	321.00	.04
4500.00	1.08	129.64	4499.75	10.87	-8.39	10.87	13.73	322.33	.09
4600.00	1.19	130.36	4599.73	9.60	-6.88	9.60	11.81	324.38	.11
4700.00	.90	126.91	4699.72	8.45	-5.46	8.45	10.06	327.15	.30
4800.00	.75	109.81	4799.71	7.76	-4.21	7.76	8.83	331.50	.29
4900.00	.81	107.16	4899.70	7.33	-2.92	7.33	7.89	338.26	.07
5000.00	.72	99.32	4999.69	7.02	-1.63	7.02	7.20	346.95	.14
5100.00	.60	131.83	5099.68	6.57	-.62	6.57	6.60	354.64	.39
5200.00	.71	121.99	5199.68	5.89	.30	5.89	5.90	2.91	.16
5300.00	.84	93.50	5299.67	5.52	1.56	5.52	5.73	15.75	.40
5400.00	1.16	91.90	5399.65	5.44	3.30	5.44	6.36	31.25	.32
5500.00	.97	77.58	5499.63	5.59	5.14	5.59	7.59	42.60	.33
5600.00	1.16	56.33	5599.62	6.33	6.81	6.33	9.30	47.08	.43
5700.00	1.20	57.49	5699.60	7.45	8.53	7.45	11.33	48.86	.05
5800.00	.77	58.77	5799.58	8.36	9.99	8.36	13.03	50.06	.43
5900.00	.79	69.33	5899.57	8.96	11.21	8.96	14.35	51.37	.14
6000.00	.81	71.62	5999.56	9.42	12.53	9.42	15.67	53.05	.04
6100.00	.82	60.96	6099.55	9.99	13.82	9.99	17.06	54.13	.15
6200.00	.69	57.90	6199.54	10.66	14.96	10.66	18.37	54.52	.14
6300.00	.78	48.74	6299.53	11.43	15.98	11.43	19.65	54.42	.15
6400.00	.50	354.09	6399.53	12.31	16.45	12.31	20.54	53.18	.64
6500.00	.94	299.05	6499.52	13.14	15.68	13.14	20.46	50.03	.77
Last Survey Depth Recorded									
6600.00	.84	280.96	6599.51	13.68	14.25	13.68	19.75	46.16	.30