



Job Number: SVGJ-140312

Company: PDC

Lease/Well: Meining 1

Location: Weld County, CO

Rig Name: MS Slickline

RKB: 0'

G.L. or M.S.L.: GL

State/Country: Colorado/USA

Declination: 8.51°

Grid: East To True North

File name: S:\2014SU-1\PDC\GJ\MEINING\1.SVY

Date/Time: 21-Mar-14 / 08:26

Curve Name: Surface - 7200' 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	.36	290.86	100.00	.11	-.29	.11	.31	290.86	.36
200.00	.41	288.43	200.00	.34	-.93	.34	.99	289.98	.05
300.00	.33	254.55	300.00	.37	-1.54	.37	1.59	283.59	.23
400.00	.53	338.87	399.99	.73	-1.99	.73	2.12	290.11	.60
500.00	.36	259.59	499.99	1.10	-2.46	1.10	2.70	294.11	.58
600.00	.72	321.06	599.99	1.53	-3.17	1.53	3.52	295.85	.63
700.00	.18	320.90	699.98	2.15	-3.66	2.15	4.24	300.36	.54
800.00	.15	249.52	799.98	2.22	-3.88	2.22	4.47	299.77	.19
900.00	.13	318.60	899.98	2.26	-4.08	2.26	4.67	298.98	.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	.48	327.48	999.98	2.70	-4.38	2.70	5.15	301.63	.35
1100.00	.80	294.33	1099.98	3.34	-5.24	3.34	6.22	302.50	.48
1200.00	.83	290.87	1199.97	3.89	-6.56	3.89	7.62	300.66	.06
1300.00	.41	334.79	1299.96	4.47	-7.38	4.47	8.63	301.17	.61
1400.00	.43	335.77	1399.96	5.13	-7.69	5.13	9.25	303.72	.02
1500.00	.74	315.99	1499.95	5.94	-8.29	5.94	10.20	305.61	.37
1600.00	.74	311.31	1599.94	6.83	-9.23	6.83	11.48	306.51	.06
1700.00	.84	251.47	1699.94	7.02	-10.41	7.02	12.56	304.01	.79
1800.00	.57	264.92	1799.93	6.75	-11.60	6.75	13.42	300.19	.31
1900.00	.76	254.58	1899.92	6.53	-12.73	6.53	14.31	297.14	.22
2000.00	.78	200.90	1999.91	5.71	-13.61	5.71	14.77	292.77	.70
2100.00	.44	247.98	2099.91	4.93	-14.21	4.93	15.05	289.14	.58
2200.00	.93	250.56	2199.90	4.52	-15.33	4.52	15.99	286.42	.49
2300.00	.99	213.33	2299.89	3.53	-16.57	3.53	16.95	282.02	.62
2400.00	.51	223.02	2399.88	2.48	-17.35	2.48	17.53	278.14	.49
2500.00	1.08	238.19	2499.87	1.66	-18.46	1.66	18.53	275.14	.60
2600.00	.56	210.99	2599.86	.74	-19.51	.74	19.52	272.18	.64
2700.00	.66	272.55	2699.85	.35	-20.34	.35	20.34	270.99	.63
2800.00	.65	211.51	2799.85	-.11	-21.21	-.11	21.21	269.71	.67
2900.00	.69	212.43	2899.84	-1.10	-21.83	-1.10	21.86	267.12	.04
3000.00	.42	163.75	2999.84	-1.96	-22.05	-1.96	22.14	264.92	.52
3100.00	.95	167.06	3099.83	-3.12	-21.76	-3.12	21.98	261.84	.53
3200.00	1.21	166.39	3199.81	-4.95	-21.33	-4.95	21.89	256.92	.26
3300.00	.63	150.57	3299.80	-6.46	-20.81	-6.46	21.79	252.75	.63
3400.00	1.08	169.21	3399.79	-7.86	-20.36	-7.86	21.83	248.88	.52
3500.00	1.10	192.71	3499.77	-9.73	-20.40	-9.73	22.60	244.51	.44
3600.00	.63	225.75	3599.76	-11.05	-21.00	-11.05	23.73	242.26	.67
3700.00	.45	187.14	3699.75	-11.82	-21.44	-11.82	24.48	241.14	.40
3800.00	.31	171.84	3799.75	-12.48	-21.45	-12.48	24.82	239.82	.17

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	.51	128.27	3899.75	-13.02	-21.07	-13.02	24.76	238.28	.36
4000.00	.46	104.61	3999.75	-13.40	-20.33	-13.40	24.35	236.61	.20
4100.00	.09	196.94	4099.75	-13.57	-19.96	-13.57	24.14	235.79	.47
4200.00	.37	178.29	4199.74	-13.97	-19.98	-13.97	24.38	235.03	.29
4300.00	.65	151.03	4299.74	-14.79	-19.69	-14.79	24.63	233.09	.36
4400.00	.72	119.46	4399.73	-15.60	-18.87	-15.60	24.48	230.43	.38
4500.00	.58	100.23	4499.73	-15.99	-17.82	-15.99	23.95	228.10	.26
4600.00	.50	91.05	4599.72	-16.09	-16.89	-16.09	23.33	226.39	.12
4700.00	.66	82.41	4699.72	-16.02	-15.88	-16.02	22.56	224.75	.18
4800.00	.65	85.63	4799.71	-15.90	-14.75	-15.90	21.69	222.84	.04
4900.00	.49	98.62	4899.71	-15.93	-13.76	-15.93	21.05	220.82	.20
5000.00	.31	172.13	4999.70	-16.26	-13.30	-16.26	21.00	219.28	.50
5100.00	.28	213.93	5099.70	-16.73	-13.40	-16.73	21.43	218.69	.21
5200.00	.36	261.08	5199.70	-16.98	-13.84	-16.98	21.91	219.19	.27
5300.00	.56	69.17	5299.70	-16.85	-13.70	-16.85	21.72	219.10	.92
5400.00	.03	188.03	5399.70	-16.71	-13.24	-16.71	21.32	218.41	.58
5500.00	.13	223.51	5499.70	-16.82	-13.33	-16.82	21.46	218.40	.11
5600.00	.45	10.07	5599.70	-16.51	-13.34	-16.51	21.22	218.93	.56
5700.00	.30	212.84	5699.70	-16.34	-13.41	-16.34	21.14	219.37	.74
5800.00	.29	56.25	5799.70	-16.42	-13.34	-16.42	21.16	219.09	.58
5900.00	.40	145.27	5899.70	-16.57	-12.93	-16.57	21.02	217.97	.49
6000.00	.48	94.46	5999.69	-16.89	-12.32	-16.89	20.90	216.10	.38
6100.00	.41	4.43	6099.69	-16.56	-11.87	-16.56	20.38	215.62	.63
6200.00	.26	91.38	6199.69	-16.21	-11.62	-16.21	19.95	215.62	.47
6300.00	.59	170.95	6299.69	-16.73	-11.31	-16.73	20.19	214.06	.60
6400.00	.50	234.55	6399.68	-17.49	-11.58	-17.49	20.98	213.51	.58
6500.00	.08	321.34	6499.68	-17.69	-11.98	-17.69	21.36	214.11	.50
6600.00	.15	332.70	6599.68	-17.52	-12.08	-17.52	21.28	214.60	.07
6700.00	.12	279.58	6699.68	-17.38	-12.25	-17.38	21.26	215.17	.12

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	.77	220.54	6799.68	-17.88	-12.79	-17.88	21.98	215.58	.72
6900.00	.19	156.50	6899.68	-18.54	-13.16	-18.54	22.73	215.37	.71
7000.00	.27	278.17	6999.67	-18.66	-13.33	-18.66	22.93	215.54	.40
7100.00	.20	247.34	7099.67	-18.69	-13.72	-18.69	23.19	216.28	.14
Last Survey Depth Recorded									
7200.00	.34	252.09	7199.67	-18.85	-14.16	-18.85	23.58	216.92	.14