



Job Number: SVGJ-141232
 Company: PDC
 Lease/Well: Loustalet 25-1
 Location: Weld County, CO
 Rig Name: MS Energy Wireline
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 8.27°
 Grid: East To True North
 File name: Y:\WINSER~1\2014SU~1\PDC\GJ\LOUSTA~1\251.SVY
 Date/Time: 08-Oct-14 / 15:43
 Curve Name: Surface - 6400' 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	.80	128.58	100.00	-.44	.55	-.44	.70	128.58	.80
200.00	.37	173.59	199.99	-1.19	1.13	-1.19	1.64	136.58	.60
300.00	.48	135.82	299.99	-1.81	1.46	-1.81	2.32	141.24	.29
400.00	.49	161.02	399.99	-2.52	1.89	-2.52	3.15	143.15	.21
500.00	.34	187.07	499.98	-3.22	1.99	-3.22	3.78	148.27	.24
600.00	.04	53.65	599.98	-3.49	1.98	-3.49	4.01	150.43	.37
700.00	.44	261.71	699.98	-3.52	1.63	-3.52	3.88	155.20	.48
800.00	.37	294.83	799.98	-3.44	.96	-3.44	3.57	164.49	.24
900.00	.10	278.78	899.98	-3.30	.58	-3.30	3.35	170.08	.28

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	.27	227.20	999.98	-3.44	.32	-3.44	3.46	174.73	.22
1100.00	.47	274.52	1099.98	-3.57	-.26	-3.57	3.58	184.23	.35
1200.00	.25	332.31	1199.97	-3.34	-.77	-3.34	3.43	193.04	.40
1300.00	.42	266.64	1299.97	-3.17	-1.24	-3.17	3.41	201.37	.39
1400.00	.13	332.52	1399.97	-3.09	-1.66	-3.09	3.51	208.22	.39
1500.00	.30	255.50	1499.97	-3.06	-1.97	-3.06	3.64	212.73	.30
1600.00	.24	336.74	1599.97	-2.93	-2.30	-2.93	3.73	218.14	.35
1700.00	.40	275.51	1699.97	-2.71	-2.73	-2.71	3.85	225.28	.35
1800.00	.41	313.84	1799.97	-2.42	-3.34	-2.42	4.13	234.00	.27
1900.00	.06	271.18	1899.97	-2.18	-3.65	-2.18	4.25	239.19	.37
2000.00	.76	202.08	1999.96	-2.79	-3.95	-2.79	4.84	234.77	.74
2100.00	.93	211.89	2099.95	-4.09	-4.63	-4.09	6.18	228.51	.22
2200.00	.33	147.52	2199.95	-5.02	-4.90	-5.02	7.02	224.29	.84
2300.00	.19	142.97	2299.95	-5.40	-4.65	-5.40	7.12	220.72	.14
2400.00	.05	272.88	2399.94	-5.53	-4.59	-5.53	7.19	219.70	.23
2500.00	.12	108.69	2499.94	-5.56	-4.54	-5.56	7.18	219.20	.17
2600.00	.25	262.23	2599.94	-5.62	-4.65	-5.62	7.30	219.60	.36
2700.00	.11	248.03	2699.94	-5.69	-4.96	-5.69	7.55	221.07	.15
2800.00	.56	297.98	2799.94	-5.50	-5.48	-5.50	7.76	224.90	.50
2900.00	.30	283.21	2899.94	-5.21	-6.16	-5.21	8.07	229.81	.28
3000.00	.58	277.88	2999.94	-5.08	-6.92	-5.08	8.58	233.73	.28
3100.00	.76	306.29	3099.93	-4.62	-7.96	-4.62	9.20	239.88	.37
3200.00	.99	307.57	3199.92	-3.70	-9.18	-3.70	9.89	248.05	.23
3300.00	1.57	318.56	3299.89	-2.14	-10.77	-2.14	10.98	258.74	.63
3400.00	1.70	331.49	3399.85	.19	-12.38	.19	12.38	270.86	.39
3500.00	1.88	320.65	3499.80	2.76	-14.13	2.76	14.40	281.05	.38
3600.00	1.79	322.07	3599.75	5.26	-16.13	5.26	16.97	288.06	.10
3700.00	1.46	335.77	3699.71	7.65	-17.61	7.65	19.20	293.48	.51
3800.00	1.31	328.86	3799.68	9.79	-18.73	9.79	21.13	297.61	.22

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	.95	348.99	3899.66	11.58	-19.48	11.58	22.66	300.74	.53
4000.00	1.11	344.66	3999.65	13.33	-19.89	13.33	23.95	303.83	.18
4100.00	.82	352.53	4099.63	14.98	-20.24	14.98	25.18	306.50	.32
4200.00	.70	357.60	4199.62	16.30	-20.36	16.30	26.08	308.68	.14
4300.00	.82	25.47	4299.62	17.55	-20.08	17.55	26.67	311.16	.38
4400.00	.52	41.29	4399.61	18.54	-19.47	18.54	26.88	313.60	.35
4500.00	.39	29.79	4499.61	19.18	-19.00	19.18	27.00	315.26	.16
4600.00	.41	18.02	4599.60	19.81	-18.72	19.81	27.26	316.62	.08
4700.00	.55	56.73	4699.60	20.41	-18.21	20.41	27.36	318.27	.34
4800.00	.47	69.68	4799.60	20.82	-17.42	20.82	27.15	320.08	.14
4900.00	.19	75.86	4899.60	21.00	-16.88	21.00	26.94	321.22	.28
5000.00	.16	42.61	4999.59	21.15	-16.62	21.15	26.90	321.83	.10
5100.00	.47	39.94	5099.59	21.56	-16.27	21.56	27.01	322.97	.31
5200.00	.02	162.94	5199.59	21.86	-16.00	21.86	27.09	323.81	.48
5300.00	.11	352.42	5299.59	21.94	-16.00	21.94	27.16	323.89	.13
5400.00	.19	309.16	5399.59	22.14	-16.15	22.14	27.40	323.90	.13
5500.00	.26	83.23	5499.59	22.27	-16.05	22.27	27.45	324.22	.42
5600.00	.35	273.66	5599.59	22.32	-16.13	22.32	27.54	324.15	.61
5700.00	.36	1.53	5699.59	22.65	-16.42	22.65	27.98	324.05	.49
5800.00	.32	234.01	5799.59	22.80	-16.64	22.80	28.23	323.88	.61
5900.00	.14	303.58	5899.59	22.70	-16.97	22.70	28.35	323.23	.30
6000.00	.28	213.74	5999.59	22.57	-17.21	22.57	28.38	322.68	.31
6100.00	.43	204.50	6099.59	22.02	-17.50	22.02	28.13	321.53	.16
6200.00	.63	243.97	6199.58	21.44	-18.15	21.44	28.09	319.76	.40
6300.00	.65	203.80	6299.58	20.68	-18.87	20.68	28.00	317.62	.44
Last Survey Depth Recorded									
6400.00	.42	218.49	6399.57	19.88	-19.33	19.88	27.72	315.80	.27