



Job Number: SVGJ-140494
 Company: PDC
 Lease/Well: Floyd 5
 Location: Weld County, CO
 Rig Name: MS Energy Wireline
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 8.49°
 Grid: East To True North
 File name: Y:\WINSER~1\2014SU~1\PDC\GJ\FLOYD\5.SVY
 Date/Time: 24-Apr-14 / 15:08
 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	.49	111.42	100.00	-.16	.40	-.16	.43	111.42	.49
200.00	.22	209.41	200.00	-.48	.70	-.48	.85	124.34	.56
300.00	.37	72.22	300.00	-.55	.92	-.55	1.07	120.93	.55
400.00	.46	211.95	400.00	-.79	1.01	-.79	1.28	128.04	.78
500.00	.57	175.31	499.99	-1.63	.84	-1.63	1.83	152.73	.34
600.00	.17	175.04	599.99	-2.27	.89	-2.27	2.44	158.55	.40
700.00	.74	209.75	699.99	-2.98	.58	-2.98	3.04	168.90	.61
800.00	.71	182.10	799.98	-4.16	.24	-4.16	4.17	176.68	.35
900.00	.65	176.88	899.97	-5.34	.25	-5.34	5.35	177.33	.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	.72	196.21	999.96	-6.51	.10	-6.51	6.51	179.08	.24
1100.00	.56	181.69	1099.96	-7.61	-.09	-7.61	7.61	180.64	.23
1200.00	.26	177.31	1199.96	-8.32	-.09	-8.32	8.32	180.61	.30
1300.00	.33	267.52	1299.95	-8.56	-.37	-8.56	8.57	182.45	.42
1400.00	.62	232.40	1399.95	-8.90	-1.08	-8.90	8.97	186.93	.40
1500.00	.37	296.89	1499.95	-9.09	-1.80	-9.09	9.26	191.20	.57
1600.00	.57	233.67	1599.95	-9.23	-2.49	-9.23	9.56	195.08	.52
1700.00	.91	252.68	1699.94	-9.77	-3.65	-9.77	10.42	200.47	.41
1800.00	.92	281.84	1799.92	-9.84	-5.19	-9.84	11.12	207.82	.46
1900.00	1.15	296.65	1899.91	-9.22	-6.87	-9.22	11.50	216.69	.35
2000.00	1.42	294.94	1999.88	-8.25	-8.89	-8.25	12.13	227.15	.27
2100.00	1.65	299.46	2099.85	-7.02	-11.27	-7.02	13.28	238.08	.26
2200.00	2.38	291.49	2199.79	-5.55	-14.46	-5.55	15.49	248.99	.78
2300.00	1.93	277.37	2299.71	-4.57	-18.06	-4.57	18.63	255.79	.69
2400.00	2.17	273.54	2399.65	-4.24	-21.62	-4.24	22.03	258.90	.28
2500.00	2.15	261.42	2499.58	-4.40	-25.36	-4.40	25.74	260.15	.46
2600.00	1.66	260.77	2599.52	-4.92	-28.65	-4.92	29.07	260.26	.49
2700.00	2.24	255.10	2699.47	-5.65	-31.96	-5.65	32.46	259.97	.61
2800.00	2.07	250.59	2799.40	-6.75	-35.56	-6.75	36.19	259.24	.24
2900.00	1.55	246.49	2899.35	-7.89	-38.50	-7.89	39.30	258.41	.54
3000.00	1.64	226.04	2999.31	-9.43	-40.77	-9.43	41.85	256.98	.57
3100.00	1.64	232.12	3099.27	-11.30	-42.93	-11.30	44.39	255.25	.17
3200.00	.74	213.43	3199.24	-12.72	-44.42	-12.72	46.20	254.02	.97
3300.00	1.11	188.15	3299.23	-14.21	-44.91	-14.21	47.10	252.44	.54
3400.00	.70	173.37	3399.22	-15.78	-44.98	-15.78	47.66	250.67	.47
3500.00	1.21	248.87	3499.21	-16.77	-45.89	-16.77	48.86	249.93	1.24
3600.00	1.29	224.20	3599.18	-17.95	-47.66	-17.95	50.93	249.36	.54
3700.00	1.36	245.64	3699.16	-19.25	-49.53	-19.25	53.14	248.76	.50
3800.00	1.65	227.55	3799.12	-20.71	-51.67	-20.71	55.67	248.16	.55

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	1.19	228.70	3899.09	-22.37	-53.51	-22.37	58.00	247.31	.46
4000.00	1.67	223.31	3999.06	-24.11	-55.29	-24.11	60.32	246.44	.50
4100.00	1.20	205.00	4099.03	-26.12	-56.73	-26.12	62.46	245.27	.65
4200.00	.57	208.35	4199.02	-27.51	-57.41	-27.51	63.66	244.40	.63
4300.00	1.06	230.02	4299.01	-28.54	-58.36	-28.54	64.96	243.94	.57
4400.00	.50	234.04	4399.00	-29.39	-59.42	-29.39	66.29	243.68	.56
4500.00	1.04	236.16	4498.99	-30.16	-60.53	-30.16	67.62	243.52	.54
4600.00	.76	255.19	4598.98	-30.83	-61.92	-30.83	69.17	243.53	.41
4700.00	1.88	277.61	4698.95	-30.78	-64.19	-30.78	71.19	244.38	1.21
4800.00	1.58	270.94	4798.90	-30.54	-67.19	-30.54	73.81	245.56	.36
4900.00	1.88	280.12	4898.86	-30.23	-70.18	-30.23	76.42	246.70	.41
5000.00	.90	276.00	4998.83	-29.86	-72.58	-29.86	78.48	247.64	.98
5100.00	.41	283.55	5098.82	-29.70	-73.71	-29.70	79.47	248.06	.50
5200.00	.23	287.44	5198.82	-29.55	-74.25	-29.55	79.91	248.30	.18
5300.00	.18	.19	5298.82	-29.33	-74.44	-29.33	80.01	248.49	.25
5400.00	.34	44.64	5398.82	-28.97	-74.23	-28.97	79.68	248.68	.25
5500.00	.82	63.44	5498.81	-28.44	-73.38	-28.44	78.70	248.82	.51
5600.00	1.42	87.08	5598.79	-28.05	-71.50	-28.05	76.81	248.58	.75
5700.00	2.04	91.11	5698.75	-28.02	-68.49	-28.02	74.00	247.75	.63
5800.00	2.82	92.07	5798.66	-28.15	-64.25	-28.15	70.14	246.34	.78
5900.00	1.23	89.40	5898.59	-28.22	-60.72	-28.22	66.96	245.07	1.59
6000.00	.26	339.20	5998.58	-28.00	-59.73	-28.00	65.96	244.88	1.34
6100.00	.33	227.08	6098.58	-27.98	-60.02	-27.98	66.22	245.00	.49
6200.00	.32	32.22	6198.58	-27.94	-60.08	-27.94	66.26	245.06	.64
6300.00	.07	61.48	6298.58	-27.68	-59.88	-27.68	65.96	245.19	.26
6400.00	.79	47.76	6398.58	-27.19	-59.31	-27.19	65.25	245.37	.72
6500.00	.70	89.13	6498.57	-26.71	-58.19	-26.71	64.03	245.34	.53
6600.00	.97	77.81	6598.56	-26.53	-56.75	-26.53	62.65	244.95	.32
6700.00	1.12	118.07	6698.54	-26.81	-55.06	-26.81	61.24	244.04	.73

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	.91	106.11	6798.53	-27.49	-53.44	-27.49	60.09	242.78	.30
6900.00	1.24	118.32	6898.51	-28.22	-51.72	-28.22	58.92	241.38	.40
7000.00	1.15	85.59	6998.49	-28.66	-49.77	-28.66	57.43	240.07	.68
7100.00	.96	91.81	7098.47	-28.61	-47.93	-28.61	55.82	239.17	.22
Last Survey Depth Recorded									
7200.00	.97	79.29	7198.46	-28.48	-46.26	-28.48	54.32	238.39	.21