



Job Number: SVGJ-120228
 Company: PDC
 Lease/Well: Gutterson 31-6
 Location: Weld County, CO
 Rig Name: Lightning Wireline
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 8.6°
 Grid: East To True
 File name: F:\2012SU~1\PDC\LORENZ\GUTTER~1\GUTTE316.SVY
 Date/Time: 22-Feb-12 / 13:04
 Curve Name: Surface - 6750' 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	.72	271.05	100.00	.01	-.63	.01	.63	271.05	.72
200.00	.67	272.04	199.99	.04	-1.84	.04	1.84	271.36	.05
300.00	.51	267.47	299.98	.05	-2.87	.05	2.87	270.90	.17
400.00	.43	271.09	399.98	.03	-3.69	.03	3.69	270.50	.09
500.00	.54	310.71	499.98	.35	-4.42	.35	4.44	274.49	.34
600.00	.50	323.12	599.97	1.00	-5.04	1.00	5.14	281.26	.12
700.00	.51	322.87	699.97	1.71	-5.57	1.71	5.83	287.04	.01
800.00	.57	321.67	799.97	2.45	-6.15	2.45	6.62	291.74	.06
900.00	.53	317.05	899.96	3.18	-6.77	3.18	7.48	295.16	.06
1000.00	.43	320.93	999.96	3.81	-7.32	3.81	8.26	297.49	.11
1100.00	.42	317.37	1099.95	4.37	-7.81	4.37	8.95	299.24	.03
1200.00	.68	281.15	1199.95	4.76	-8.64	4.76	9.86	298.84	.42

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	
1300.00	.78	274.75	1299.94	4.93	-9.90	4.93	11.06	296.46	.13
1400.00	.75	258.70	1399.93	4.86	-11.22	4.86	12.23	293.40	.22
1500.00	.88	261.27	1499.92	4.61	-12.62	4.61	13.44	290.07	.14
1600.00	.87	277.45	1599.91	4.59	-14.13	4.59	14.86	288.00	.25
1700.00	.94	270.98	1699.90	4.71	-15.71	4.71	16.39	286.68	.12
1800.00	.76	288.61	1799.89	4.93	-17.15	4.93	17.85	286.04	.32
1900.00	.99	280.69	1899.88	5.30	-18.63	5.30	19.37	285.89	.26
2000.00	.99	248.73	1999.86	5.15	-20.29	5.15	20.93	284.24	.55
2100.00	.55	223.08	2099.85	4.49	-21.42	4.49	21.88	281.83	.55
2200.00	.70	173.49	2199.85	3.53	-21.68	3.53	21.96	279.24	.54
2300.00	.89	158.60	2299.84	2.20	-21.32	2.20	21.44	275.89	.28
2400.00	1.37	156.76	2399.82	.38	-20.57	.38	20.57	271.05	.48
2500.00	1.84	162.99	2499.78	-2.26	-19.63	-2.26	19.76	263.44	.50
2600.00	2.14	174.16	2599.72	-5.65	-18.97	-5.65	19.79	253.41	.49
2700.00	2.39	185.73	2699.64	-9.58	-18.99	-9.58	21.27	243.22	.52
2800.00	2.46	187.85	2799.55	-13.78	-19.49	-13.78	23.87	234.73	.11
2900.00	2.50	187.22	2899.46	-18.07	-20.05	-18.07	27.00	227.98	.05
3000.00	2.30	183.56	2999.37	-22.24	-20.45	-22.24	30.21	222.61	.25
3100.00	1.67	172.73	3099.31	-25.69	-20.39	-25.69	32.80	218.45	.73
3200.00	1.46	158.79	3199.27	-28.32	-19.75	-28.32	34.53	214.89	.43
3300.00	1.28	137.71	3299.25	-30.33	-18.54	-30.33	35.55	211.43	.53
3400.00	1.26	112.27	3399.22	-31.58	-16.77	-31.58	35.75	207.97	.56
3500.00	1.25	112.93	3499.20	-32.42	-14.74	-32.42	35.61	204.46	.02
3600.00	.79	122.62	3599.18	-33.21	-13.16	-33.21	35.73	201.61	.49
3700.00	.53	127.17	3699.18	-33.87	-12.21	-33.87	36.00	199.83	.27
3800.00	.53	103.01	3799.17	-34.25	-11.39	-34.25	36.09	198.40	.22
3900.00	.21	68.24	3899.17	-34.29	-10.77	-34.29	35.94	197.44	.38
4000.00	.05	301.49	3999.17	-34.19	-10.64	-34.19	35.81	197.28	.24
4100.00	.36	286.59	4099.17	-34.08	-10.98	-34.08	35.81	197.85	.31
4200.00	.58	272.89	4199.16	-33.97	-11.78	-33.97	35.95	199.13	.25
4300.00	.54	298.32	4299.16	-33.72	-12.70	-33.72	36.03	200.64	.25
4400.00	.66	298.36	4399.15	-33.22	-13.62	-33.22	35.91	202.30	.12
4500.00	.83	302.83	4499.15	-32.55	-14.74	-32.55	35.74	204.36	.18
4600.00	.95	300.04	4599.13	-31.75	-16.07	-31.75	35.58	206.84	.13

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	
4700.00	.92	297.47	4699.12	-30.96	-17.50	-30.96	35.56	209.47	.05
4800.00	.72	295.15	4799.11	-30.32	-18.78	-30.32	35.67	211.77	.20
4900.00	1.23	223.22	4899.10	-30.84	-20.08	-30.84	36.80	213.07	1.22
5000.00	.67	288.04	4999.09	-31.44	-21.37	-31.44	38.02	214.21	1.12
5100.00	.77	271.69	5099.08	-31.24	-22.60	-31.24	38.56	215.88	.23
5200.00	.57	284.38	5199.07	-31.10	-23.75	-31.10	39.13	217.37	.25
5300.00	.68	283.53	5299.07	-30.83	-24.81	-30.83	39.58	218.82	.11
5400.00	.88	293.41	5399.06	-30.39	-26.09	-30.39	40.06	220.65	.24
5500.00	.97	262.81	5499.04	-30.19	-27.64	-30.19	40.93	222.47	.50
5600.00	.73	279.10	5599.03	-30.20	-29.11	-30.20	41.94	223.95	.34
5700.00	1.35	282.52	5699.02	-29.84	-30.89	-29.84	42.95	225.99	.62
5800.00	1.11	276.29	5798.99	-29.48	-33.00	-29.48	44.25	228.22	.27
5900.00	.77	320.13	5898.98	-28.86	-34.39	-28.86	44.89	230.00	.77
6000.00	.78	320.17	5998.97	-27.82	-35.26	-27.82	44.91	231.73	.01
6100.00	.50	340.70	6098.97	-26.88	-35.84	-26.88	44.80	233.12	.36
6200.00	.17	10.76	6198.96	-26.33	-35.95	-26.33	44.56	233.79	.36
6300.00	.31	19.06	6298.96	-25.92	-35.84	-25.92	44.23	234.12	.14
6400.00	.13	6.42	6398.96	-25.56	-35.74	-25.56	43.94	234.43	.19
6500.00	.45	123.40	6498.96	-25.66	-35.40	-25.66	43.72	234.06	.52
6600.00	1.18	147.18	6598.95	-26.74	-34.51	-26.74	43.66	232.23	.79
6700.00	.60	145.20	6698.94	-28.04	-33.65	-28.04	43.80	230.20	.58
Last Survey Depth Recorded									
6750.00	.75	273.29	6748.94	-28.23	-33.83	-28.23	44.06	230.15	2.43