



Job Number: SVGJ-141382
 Company: PDC
 Lease/Well: Pfeiffer 15-26
 Location: Weld County, CO
 Rig Name: MS Energy Wireline
 RKB: 0'
 G.L. or M.S.L.: GL

State/Country: Colorado/USA
 Declination: 8.26°
 Grid: East To True North
 File name: S:\2014SU-1\PDC\GJ\PFIEFFER\1526.SVY
 Date/Time: 10-Dec-14 / 12:17
 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	.62	157.30	100.00	-.50	.21	-.50	.54	157.30	.62
200.00	.47	174.66	199.99	-1.41	.46	-1.41	1.48	162.05	.22
300.00	.51	179.23	299.99	-2.26	.50	-2.26	2.31	167.53	.06
400.00	.34	226.96	399.99	-2.91	.29	-2.91	2.92	174.32	.38
500.00	.44	210.95	499.99	-3.44	-.13	-3.44	3.44	182.09	.15
600.00	.33	213.19	599.98	-4.01	-.48	-4.01	4.04	186.83	.11
700.00	.41	216.76	699.98	-4.54	-.85	-4.54	4.62	190.64	.08
800.00	.53	217.77	799.98	-5.19	-1.35	-5.19	5.36	194.58	.12
900.00	.52	222.87	899.97	-5.89	-1.94	-5.89	6.20	198.25	.05

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	.92	233.37	999.97	-6.70	-2.89	-6.70	7.30	203.37	.42
1100.00	1.53	237.89	1099.94	-7.89	-4.67	-7.89	9.17	210.63	.62
1200.00	1.70	242.16	1199.90	-9.29	-7.11	-9.29	11.70	217.44	.21
1300.00	1.74	245.13	1299.86	-10.62	-9.80	-10.62	14.45	222.70	.10
1400.00	1.85	244.04	1399.81	-11.97	-12.63	-11.97	17.40	226.54	.12
1500.00	1.68	243.87	1499.76	-13.32	-15.40	-13.32	20.36	229.14	.17
1600.00	1.44	249.05	1599.72	-14.41	-17.89	-14.41	22.97	231.14	.28
1700.00	1.38	245.03	1699.69	-15.37	-20.15	-15.37	25.34	232.66	.12
1800.00	1.10	235.31	1799.67	-16.43	-22.03	-16.43	27.48	233.29	.35
1900.00	1.00	237.19	1899.65	-17.44	-23.56	-17.44	29.31	233.48	.11
2000.00	.98	222.06	1999.64	-18.55	-24.86	-18.55	31.02	233.27	.26
2100.00	.91	220.71	2099.62	-19.79	-25.95	-19.79	32.64	232.67	.07
2200.00	.83	212.98	2199.61	-21.00	-26.86	-21.00	34.10	231.99	.14
2300.00	.76	214.72	2299.60	-22.15	-27.64	-22.15	35.42	231.29	.07
2400.00	.66	201.06	2399.60	-23.23	-28.22	-23.23	36.56	230.54	.20
2500.00	.46	203.05	2499.59	-24.14	-28.59	-24.14	37.42	229.82	.20
2600.00	.47	192.76	2599.59	-24.91	-28.83	-24.91	38.10	229.17	.08
2700.00	.30	188.07	2699.59	-25.57	-28.96	-25.57	38.63	228.56	.17
2800.00	.37	166.44	2799.58	-26.14	-28.92	-26.14	38.99	227.89	.14
2900.00	.23	125.24	2899.58	-26.57	-28.68	-26.57	39.10	227.19	.25
3000.00	.32	125.60	2999.58	-26.85	-28.29	-26.85	39.00	226.50	.09
3100.00	.26	121.94	3099.58	-27.13	-27.87	-27.13	38.90	225.77	.06
3200.00	.43	145.35	3199.58	-27.56	-27.47	-27.56	38.91	224.90	.22
3300.00	.32	197.45	3299.58	-28.14	-27.34	-28.14	39.23	224.17	.34
3400.00	.36	214.69	3399.57	-28.66	-27.60	-28.66	39.79	223.92	.11
3500.00	.38	228.95	3499.57	-29.14	-28.03	-29.14	40.43	223.89	.09
3600.00	.05	236.38	3599.57	-29.38	-28.31	-29.38	40.80	223.94	.33
3700.00	.10	285.37	3699.57	-29.38	-28.43	-29.38	40.89	224.06	.08
3800.00	.04	208.23	3799.57	-29.39	-28.53	-29.39	40.96	224.16	.10

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	.14	289.76	3899.57	-29.38	-28.67	-29.38	41.05	224.30	.14
4000.00	.28	252.47	3999.57	-29.41	-29.01	-29.41	41.31	224.61	.19
4100.00	.55	271.90	4099.57	-29.47	-29.73	-29.47	41.86	225.25	.30
4200.00	.75	270.16	4199.56	-29.45	-30.86	-29.45	42.66	226.34	.20
4300.00	1.03	266.78	4299.55	-29.50	-32.41	-29.50	43.83	227.69	.28
4400.00	1.16	267.13	4399.53	-29.60	-34.32	-29.60	45.32	229.22	.13
4500.00	1.70	270.21	4499.50	-29.65	-36.82	-29.65	47.27	231.16	.55
4600.00	2.03	269.52	4599.45	-29.65	-40.07	-29.65	49.85	233.50	.33
4700.00	2.19	259.74	4699.38	-30.01	-43.72	-30.01	53.03	235.53	.39
4800.00	1.96	252.27	4799.31	-30.87	-47.23	-30.87	56.42	236.83	.35
4900.00	1.99	247.95	4899.25	-32.04	-50.47	-32.04	59.78	237.59	.15
5000.00	1.90	242.37	4999.20	-33.46	-53.55	-33.46	63.14	238.00	.21
5100.00	1.92	241.87	5099.14	-35.02	-56.49	-35.02	66.47	238.20	.03
5200.00	1.72	245.17	5199.09	-36.44	-59.33	-36.44	69.63	238.44	.23
5300.00	1.65	233.13	5299.05	-37.94	-61.85	-37.94	72.55	238.47	.36
5400.00	1.03	222.35	5399.02	-39.47	-63.60	-39.47	74.85	238.18	.67
5500.00	1.03	218.70	5499.00	-40.83	-64.77	-40.83	76.57	237.77	.07
5600.00	.84	214.17	5598.99	-42.14	-65.74	-42.14	78.09	237.34	.20
5700.00	.77	214.68	5698.98	-43.30	-66.54	-43.30	79.38	236.95	.07
5800.00	1.01	220.81	5798.97	-44.52	-67.50	-44.52	80.85	236.59	.26
5900.00	.91	202.93	5898.95	-45.92	-68.38	-45.92	82.37	236.12	.31
6000.00	1.01	195.73	5998.94	-47.50	-68.93	-47.50	83.71	235.43	.16
6100.00	1.39	207.93	6098.92	-49.42	-69.74	-49.42	85.47	234.68	.46
6200.00	1.54	221.53	6198.89	-51.49	-71.20	-51.49	87.87	234.12	.38
6300.00	1.77	250.35	6298.85	-53.02	-73.54	-53.02	90.66	234.21	.85
6400.00	2.06	269.24	6398.79	-53.56	-76.79	-53.56	93.63	235.11	.69
6500.00	2.60	276.80	6498.71	-53.32	-80.84	-53.32	96.84	236.59	.62
Last Survey Depth Recorded									
6600.00	2.96	290.34	6598.59	-52.15	-85.52	-52.15	100.16	238.62	.75