



Job Number: SVGJ-150247
Company: PDC
Lease/Well: Bauer 12-4
Location: Weld County, CO
Rig Name: MS Wireline
RKB: 0'
G.L. or M.S.L.: GL

State/Country: Colorado/USA
Declination: 8.41°
Grid: East To True North
File name: W:\WINSER~1\2015SU~1\PDC\GJ\BAUER\124.SVY
Date/Time: 04-Nov-15 / 14:08
Curve Name: Surface - 6528' 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>CLOSURE</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	.04	273.56	100.00	.00	-.03	.00	.03	273.58	.04
200.00	.08	211.43	200.00	-.06	-.11	-.06	.12	242.50	.07
300.00	.09	201.54	300.00	-.19	-.17	-.19	.25	222.36	.02
400.00	.05	173.25	400.00	-.30	-.20	-.30	.36	212.66	.05
500.00	.15	97.50	500.00	-.36	-.06	-.36	.37	189.36	.15
600.00	.20	66.03	600.00	-.31	.23	-.31	.39	143.60	.11
700.00	.21	56.05	700.00	-.14	.54	-.14	.56	104.28	.04
800.00	.16	2.95	800.00	.10	.70	.10	.71	81.53	.17
900.00	.02	309.23	900.00	.25	.69	.25	.74	69.84	.15
1000.00	.08	150.83	1000.00	.20	.71	.20	.74	74.00	.10
1100.00	.19	138.12	1100.00	.02	.86	.02	.86	88.64	.11
1200.00	.31	117.03	1200.00	-.23	1.21	-.23	1.23	100.58	.15

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	.34	104.89	1300.00	-.43	1.74	-.43	1.79	103.75	.07
1400.00	.34	101.18	1399.99	-.56	2.32	-.56	2.38	103.57	.02
1500.00	.27	80.08	1499.99	-.58	2.84	-.58	2.90	101.47	.13
1600.00	.16	24.37	1599.99	-.41	3.13	-.41	3.16	97.43	.22
1700.00	.21	350.42	1699.99	-.10	3.16	-.10	3.16	91.82	.12
1800.00	.17	351.20	1799.99	.23	3.10	.23	3.11	85.81	.04
1900.00	.17	305.33	1899.99	.46	2.96	.46	2.99	81.17	.13
2000.00	.15	306.01	1999.99	.62	2.73	.62	2.80	77.17	.02
2100.00	.11	328.76	2099.99	.78	2.58	.78	2.69	73.13	.06
2200.00	.28	330.03	2199.99	1.07	2.40	1.07	2.63	65.91	.17
2300.00	.37	331.05	2299.99	1.57	2.13	1.57	2.64	53.57	.09
2400.00	.37	308.74	2399.98	2.05	1.72	2.05	2.68	39.91	.14
2500.00	.41	331.83	2499.98	2.57	1.30	2.57	2.88	26.77	.16
2600.00	.44	330.80	2599.98	3.22	.94	3.22	3.36	16.28	.03
2700.00	.61	335.36	2699.98	4.04	.53	4.04	4.08	7.50	.17
2800.00	.74	332.06	2799.97	5.10	.01	5.10	5.10	.08	.14
2900.00	.81	323.74	2899.96	6.24	-.71	6.24	6.28	353.47	.13
3000.00	.74	320.57	2999.95	7.30	-1.54	7.30	7.47	348.08	.08
3100.00	.51	340.33	3099.94	8.22	-2.10	8.22	8.49	345.66	.31
3200.00	.43	8.77	3199.94	9.01	-2.19	9.01	9.28	346.32	.24
3300.00	.42	53.27	3299.94	9.60	-1.84	9.60	9.78	349.13	.32
3400.00	.35	100.67	3399.94	9.76	-1.25	9.76	9.84	352.71	.32
3500.00	.91	199.05	3499.93	8.96	-1.21	8.96	9.04	352.32	1.02
3600.00	1.00	192.70	3599.92	7.36	-1.66	7.36	7.54	347.29	.14
3700.00	1.09	198.93	3699.90	5.60	-2.16	5.60	6.01	338.93	.14
3800.00	1.22	218.55	3799.88	3.87	-3.13	3.87	4.98	321.04	.41
3900.00	1.47	224.35	3899.85	2.12	-4.69	2.12	5.15	294.34	.28
4000.00	1.55	226.08	3999.82	.27	-6.56	.27	6.57	272.33	.09
4100.00	1.68	246.93	4099.78	-1.25	-8.89	-1.25	8.97	262.02	.60
4200.00	2.02	260.72	4199.73	-2.10	-11.97	-2.10	12.16	260.03	.56
4300.00	1.81	266.08	4299.67	-2.50	-15.29	-2.50	15.49	260.73	.28
4400.00	1.58	258.11	4399.63	-2.89	-18.21	-2.89	18.44	260.99	.33
4500.00	1.28	235.31	4499.60	-3.81	-20.48	-3.81	20.83	259.47	.64
4600.00	2.17	183.32	4599.56	-6.33	-21.51	-6.33	22.42	253.59	1.71

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	2.01	191.46	4699.49	-9.94	-21.97	-9.94	24.11	245.65	.34
4800.00	1.79	236.43	4799.44	-12.52	-23.62	-12.52	26.73	242.06	1.47
4900.00	1.83	245.60	4899.39	-14.05	-26.37	-14.05	29.88	241.96	.29
5000.00	1.53	254.23	4999.35	-15.07	-29.11	-15.07	32.78	242.63	.39
5100.00	.94	262.92	5099.33	-15.53	-31.21	-15.53	34.86	243.54	.62
5200.00	.88	267.75	5199.31	-15.67	-32.79	-15.67	36.34	244.46	.10
5300.00	.78	285.66	5299.30	-15.51	-34.21	-15.51	37.57	245.61	.28
5400.00	.67	302.51	5399.29	-15.01	-35.36	-15.01	38.42	246.99	.24
5500.00	.70	334.40	5499.29	-14.15	-36.12	-14.15	38.79	248.61	.38
5600.00	.63	339.94	5599.28	-13.08	-36.57	-13.08	38.84	250.32	.09
5700.00	.51	36.17	5699.28	-12.21	-36.50	-12.21	38.48	251.51	.55
5800.00	.59	40.91	5799.27	-11.46	-35.90	-11.46	37.68	252.30	.09
5900.00	.66	52.93	5899.27	-10.72	-35.10	-10.72	36.70	253.01	.15
6000.00	.58	57.72	5999.26	-10.10	-34.21	-10.10	35.67	253.55	.10
6100.00	.62	39.88	6099.26	-9.42	-33.44	-9.42	34.74	254.27	.19
6200.00	.55	42.69	6199.25	-8.65	-32.77	-8.65	33.89	255.21	.08
6300.00	.46	49.80	6299.25	-8.04	-32.13	-8.04	33.12	255.96	.11
6400.00	.33	35.01	6399.24	-7.54	-31.66	-7.54	32.55	256.60	.16
6500.00	.09	61.02	6499.24	-7.27	-31.43	-7.27	32.26	256.98	.25
Last Survey Depth Recorded									
6528.00	.14	359.13	6527.24	-7.22	-31.41	-7.22	32.23	257.05	.45