



Job Number: SVGJ-130323

Company: PDC

Lease/Well: Anderson 21-34

Location: Weld County, CO

Rig Name: MS Wireline

RKB: 0'

G.L. or M.S.L.: GL

State/Country: Colorado/USA

Declination: 8.65°

Grid: East To True North

File name: F:\SURVEY\2013SU~1\PDC\GJ\ANDERSON\21-34.SVY

Date/Time: 05-Apr-13 / 08:55

Curve Name: 4400' - 7450' 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>	
4300.00	1.34	279.98	4299.65	14.30	-15.99	14.30	21.45	311.81	.00
Tied Rate Gyro Surveys Into Previous Rate Gyro Surveys									
4400.00	1.13	289.39	4399.63	14.83	-18.07	14.83	23.38	309.37	.29
4500.00	1.34	305.85	4499.60	15.84	-19.95	15.84	25.47	308.45	.41
4600.00	1.57	315.29	4599.57	17.50	-21.86	17.50	28.00	308.68	.33
4700.00	1.79	312.54	4699.53	19.53	-23.98	19.53	30.92	309.17	.23
4800.00	2.10	315.06	4799.47	21.88	-26.42	21.88	34.31	309.63	.32
4900.00	1.99	319.75	4899.41	24.50	-28.84	24.50	37.84	310.36	.20
5000.00	2.18	324.60	4999.34	27.38	-31.06	27.38	41.41	311.40	.26
5100.00	2.43	325.87	5099.26	30.69	-33.35	30.69	45.32	312.62	.26

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	
5200.00	2.65	323.82	5199.16	34.31	-35.91	34.31	49.66	313.70	.24
5300.00	2.57	315.05	5299.06	37.76	-38.85	37.76	54.18	314.18	.41
5400.00	1.85	314.95	5398.98	40.49	-41.58	40.49	58.04	314.24	.72
5500.00	1.43	316.58	5498.94	42.53	-43.58	42.53	60.90	314.30	.42
5600.00	1.43	323.26	5598.91	44.44	-45.18	44.44	63.38	314.52	.17
5700.00	1.61	322.30	5698.88	46.55	-46.79	46.55	66.00	314.85	.18
5800.00	2.10	319.70	5798.82	49.06	-48.83	49.06	69.22	315.13	.50
5900.00	1.85	325.74	5898.76	51.79	-50.93	51.79	72.64	315.48	.32
6000.00	1.85	341.71	5998.71	54.66	-52.34	54.66	75.68	316.24	.51
6100.00	1.94	342.19	6098.66	57.80	-53.37	57.80	78.67	317.28	.09
6200.00	1.75	339.35	6198.61	60.84	-54.42	60.84	81.63	318.19	.21
6300.00	1.46	339.19	6298.57	63.46	-55.41	63.46	84.25	318.87	.29
6400.00	1.29	352.14	6398.54	65.77	-56.02	65.77	86.39	319.58	.35
6500.00	1.47	359.32	6498.51	68.17	-56.19	68.17	88.34	320.50	.25
6600.00	1.61	357.93	6598.47	70.85	-56.26	70.85	90.47	321.55	.14
6700.00	1.63	359.25	6698.43	73.68	-56.33	73.68	92.74	322.60	.04
6800.00	1.50	358.67	6798.40	76.41	-56.37	76.41	94.95	323.58	.13
6900.00	1.48	359.86	6898.36	79.01	-56.41	79.01	97.08	324.47	.04
7000.00	1.57	359.06	6998.33	81.67	-56.43	81.67	99.27	325.36	.09
7100.00	1.53	1.26	7098.29	84.37	-56.43	84.37	101.50	326.23	.07
7200.00	1.59	9.32	7198.25	87.08	-56.17	87.08	103.62	327.17	.23
7300.00	1.61	21.22	7298.21	89.76	-55.44	89.76	105.50	328.30	.33
7400.00	2.02	30.35	7398.16	92.59	-54.04	92.59	107.20	329.73	.50
<b>Last Survey Depth Recorded</b>									
7450.00	2.13	33.41	7448.13	94.12	-53.08	94.12	108.06	330.58	.31