



Job Number: 083217509981

Company: Petroleum Development Corporation

Lease/Well: Wiedeman 13-21

Location: Weld County, CO

Rig Name: Halliburton Wireline

RKB:

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

State/Country: Colorado/USA

Declination: 9.23°

Grid: East To True

File name: F:\SURVEY\2008SU~1\PDC\WIED1321.SVY

Date/Time: 08-Jan-09 / 13:47

Curve Name: Surface - 7570' M.D. (LAT: N40 23 .5) (LONG: W104 54 17)

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	1.08	19.82	99.99	.89	.32	.89	.94	19.82	1.08
200.00	.45	16.64	199.98	2.15	.75	2.15	2.28	19.27	.63
300.00	.44	41.63	299.98	2.81	1.12	2.81	3.03	21.70	.19
400.00	.40	23.21	399.98	3.42	1.51	3.42	3.74	23.84	.14
500.00	.55	327.09	499.98	4.14	1.39	4.14	4.37	18.52	.47
600.00	.65	273.38	599.97	4.58	.56	4.58	4.61	6.99	.55
700.00	.47	259.76	699.97	4.54	-.41	4.54	4.56	354.86	.22
800.00	.76	289.36	799.96	4.69	-1.44	4.69	4.90	342.95	.42
900.00	.67	262.23	899.95	4.83	-2.64	4.83	5.50	331.31	.35

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	.97	277.29	999.94	4.86	-4.06	4.86	6.33	320.10	.37
1100.00	.65	276.26	1099.93	5.03	-5.47	5.03	7.43	312.61	.32
1200.00	.72	266.34	1199.93	5.05	-6.66	5.05	8.35	307.18	.14
1300.00	1.04	272.92	1299.91	5.05	-8.19	5.05	9.62	301.68	.34
1400.00	1.09	275.66	1399.90	5.19	-10.04	5.19	11.31	297.35	.07
1500.00	1.08	274.80	1499.88	5.37	-11.93	5.37	13.08	294.23	.02
1600.00	1.00	263.63	1599.86	5.35	-13.73	5.35	14.74	291.28	.22
1700.00	.90	260.71	1699.85	5.13	-15.38	5.13	16.21	288.44	.11
1800.00	.81	250.88	1799.84	4.77	-16.82	4.77	17.48	285.82	.17
1900.00	.92	261.01	1899.83	4.41	-18.28	4.41	18.80	283.56	.19
2000.00	.73	261.99	1999.82	4.20	-19.70	4.20	20.15	282.02	.19
2100.00	.85	268.57	2099.81	4.09	-21.08	4.09	21.47	280.98	.15
2200.00	.82	276.10	2199.80	4.15	-22.53	4.15	22.91	280.43	.11
2300.00	.76	287.94	2299.79	4.43	-23.87	4.43	24.28	280.51	.17
2400.00	.92	290.08	2399.78	4.91	-25.26	4.91	25.73	280.99	.16
2500.00	.98	290.40	2499.76	5.48	-26.81	5.48	27.37	281.55	.06
2600.00	1.14	289.36	2599.74	6.11	-28.55	6.11	29.20	282.08	.16
2700.00	1.22	281.17	2699.72	6.64	-30.54	6.64	31.25	282.28	.19
2800.00	1.23	287.59	2799.70	7.17	-32.60	7.17	33.38	282.41	.14
2900.00	1.31	281.94	2899.68	7.74	-34.74	7.74	35.59	282.55	.15
3000.00	.96	253.09	2999.66	7.73	-36.66	7.73	37.47	281.90	.66
3100.00	1.23	262.27	3099.64	7.34	-38.53	7.34	39.22	280.79	.32
3200.00	1.22	268.90	3199.62	7.18	-40.66	7.18	41.29	280.01	.14
3300.00	1.33	249.78	3299.59	6.75	-42.81	6.75	43.34	278.97	.44
3400.00	1.94	252.15	3399.55	5.83	-45.51	5.83	45.88	277.30	.61
3500.00	2.19	250.17	3499.49	4.67	-48.92	4.67	49.14	275.45	.26
3600.00	2.22	247.23	3599.41	3.27	-52.50	3.27	52.60	273.56	.12
3700.00	2.40	248.62	3699.33	1.76	-56.24	1.76	56.27	271.79	.19
3800.00	2.37	250.02	3799.24	.29	-60.13	.29	60.13	270.27	.07

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	2.19	250.21	3899.16	-1.07	-63.87	-1.07	63.88	269.04	.18
4000.00	1.73	255.06	3999.11	-2.10	-67.13	-2.10	67.16	268.21	.49
4100.00	1.31	244.67	4099.07	-2.98	-69.62	-2.98	69.68	267.55	.50
4200.00	1.18	240.78	4199.05	-3.97	-71.55	-3.97	71.66	266.82	.15
4300.00	1.44	249.84	4299.02	-4.91	-73.63	-4.91	73.79	266.19	.33
4400.00	1.16	237.18	4399.00	-5.89	-75.66	-5.89	75.89	265.55	.40
4500.00	1.53	235.90	4498.97	-7.19	-77.62	-7.19	77.95	264.71	.37
4600.00	1.55	236.07	4598.93	-8.69	-79.84	-8.69	80.32	263.79	.02
4700.00	1.24	240.98	4698.90	-9.97	-81.91	-9.97	82.52	263.06	.33
4800.00	1.25	241.90	4798.88	-11.01	-83.82	-11.01	84.54	262.52	.02
4900.00	.70	229.69	4898.86	-11.92	-85.25	-11.92	86.08	262.04	.58
5000.00	.85	250.21	4998.85	-12.56	-86.41	-12.56	87.32	261.73	.31
5100.00	.61	245.74	5098.85	-13.03	-87.60	-13.03	88.56	261.54	.25
5200.00	.50	290.66	5198.84	-13.10	-88.49	-13.10	89.45	261.58	.44
5300.00	.48	329.65	5298.84	-12.58	-89.11	-12.58	89.99	261.96	.33
5400.00	.95	349.19	5398.83	-11.41	-89.48	-11.41	90.20	262.73	.52
5500.00	.97	15.77	5498.82	-9.78	-89.40	-9.78	89.93	263.76	.44
5600.00	1.01	.73	5598.80	-8.08	-89.16	-8.08	89.53	264.82	.26
5700.00	.98	17.53	5698.79	-6.39	-88.89	-6.39	89.12	265.89	.29
5800.00	.47	12.57	5798.78	-5.17	-88.54	-5.17	88.70	266.66	.51
5900.00	.67	35.41	5898.77	-4.29	-88.12	-4.29	88.22	267.21	.30
6000.00	.45	57.38	5998.77	-3.61	-87.45	-3.61	87.52	267.64	.30
6100.00	.71	22.97	6098.76	-2.82	-86.87	-2.82	86.92	268.14	.42
6200.00	.37	38.16	6198.76	-2.00	-86.43	-2.00	86.46	268.68	.37
6300.00	.39	103.76	6298.76	-1.83	-85.90	-1.83	85.92	268.78	.41
6400.00	.49	67.28	6398.76	-1.74	-85.18	-1.74	85.20	268.83	.29
6500.00	.42	108.03	6498.75	-1.69	-84.44	-1.69	84.45	268.85	.32
6600.00	.39	134.07	6598.75	-2.04	-83.84	-2.04	83.87	268.61	.18
6700.00	.65	174.43	6698.75	-2.84	-83.54	-2.84	83.59	268.05	.43

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	.58	211.96	6798.74	-3.84	-83.76	-3.84	83.84	267.38	.40
6900.00	.57	161.90	6898.74	-4.74	-83.87	-4.74	84.00	266.77	.49
7000.00	.54	194.78	6998.73	-5.67	-83.83	-5.67	84.03	266.13	.32
7100.00	.19	141.44	7098.73	-6.25	-83.85	-6.25	84.08	265.74	.45
7200.00	.13	135.08	7198.73	-6.46	-83.67	-6.46	83.92	265.58	.06
7300.00	.10	62.27	7298.73	-6.50	-83.51	-6.50	83.76	265.55	.14
7400.00	.33	77.99	7398.73	-6.40	-83.15	-6.40	83.40	265.60	.24
7500.00	.46	46.53	7498.73	-6.06	-82.58	-6.06	82.80	265.80	.25
<b>Last Survey Depth Recorded</b>									
7570.00	.32	130.88	7568.73	-6.00	-82.23	-6.00	82.45	265.83	.76