



Job Number: 13157
Company: Unit Petroleum
Lease/Well: Holcomb 21 # 1H
Location: Reno County
Rig Name: Unit # 331
RKB: 14
G.L. or M.S.L.: 1681

State/Country: Kansas
Declination: 4.69
Grid: -0.09
File name: P:\SURVEYS\UNIT\13157R3.SVY
Date/Time: 07-May-13 / 15:23
Curve Name: As Drilled

Inwell Inc

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>Dogleg Severity Deg/100</i>	<i>WALK RATE Deg/100</i>	<i>BUILD RATE Deg/100</i>
Gyro Surveys									
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.42	228.63	100.00	-.24	-.28	-.24	.42	-131.37	.42
200.00	1.02	233.31	199.99	-1.02	-1.26	-1.02	.60	4.68	.60
300.00	.66	256.60	299.98	-1.68	-2.54	-1.68	.49	23.29	-.36
400.00	.64	248.60	399.97	-2.02	-3.62	-2.02	.09	-8.00	-.02
500.00	.73	232.72	499.97	-2.61	-4.64	-2.61	.21	-15.88	.09
600.00	.48	225.64	599.96	-3.29	-5.45	-3.29	.26	-7.08	-.25
700.00	.37	224.04	699.96	-3.81	-5.98	-3.81	.11	-1.60	-.11
800.00	.39	230.34	799.96	-4.26	-6.46	-4.26	.05	6.30	.02
900.00	.63	237.32	899.95	-4.78	-7.19	-4.78	.25	6.98	.24
1000.00	.72	227.78	999.95	-5.49	-8.11	-5.49	.14	-9.54	.09

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	WALK RATE Deg/100	BUILD RATE Deg/100
1100.00	.66	225.21	1099.94	-6.32	-8.99	-6.32	.07	-2.57	-.06
1200.00	.67	216.50	1199.93	-7.20	-9.75	-7.20	.10	-8.71	.01
1300.00	.94	230.33	1299.92	-8.19	-10.72	-8.19	.33	13.83	.27
1400.00	.93	237.82	1399.91	-9.15	-12.04	-9.15	.12	7.49	-.01
1500.00	.97	246.05	1499.89	-9.92	-13.50	-9.92	.14	8.23	.04
1600.00	.84	249.35	1599.88	-10.53	-14.96	-10.53	.14	3.30	-.13
1700.00	.57	231.42	1699.87	-11.09	-16.04	-11.09	.35	-17.93	-.27
1800.00	.51	230.91	1799.87	-11.69	-16.77	-11.69	.06	-.51	-.06
1900.00	.43	221.43	1899.87	-12.25	-17.37	-12.25	.11	-9.48	-.08
2000.00	.32	201.96	1999.86	-12.79	-17.72	-12.79	.17	-19.47	-.11
2100.00	.38	183.46	2099.86	-13.38	-17.84	-13.38	.13	-18.50	.06
2200.00	.17	161.74	2199.86	-13.85	-17.82	-13.85	.23	-21.72	-.21
2300.00	.28	164.89	2299.86	-14.23	-17.71	-14.23	.11	3.15	.11
2400.00	.57	173.30	2399.86	-14.96	-17.58	-14.96	.30	8.41	.29
2500.00	.20	178.79	2499.86	-15.62	-17.52	-15.62	.37	5.49	-.37
2600.00	.50	206.08	2599.85	-16.19	-17.71	-16.19	.34	27.29	.30
2700.00	.05	233.37	2699.85	-16.61	-17.94	-16.61	.46	27.29	-.45
2800.00	.28	224.67	2799.85	-16.81	-18.14	-16.81	.23	-8.70	.23
2840.00	.49	255.49	2839.85	-16.92	-18.38	-16.92	.72	77.05	.52
2997.00	.40	254.40	2996.85	-17.24	-19.56	-17.24	.06	-.69	-.06
3027.00	.40	250.60	3026.85	-17.30	-19.76	-17.30	.09	-12.67	.00
3059.00	.40	216.00	3058.84	-17.43	-19.93	-17.43	.74	-108.13	.00
3091.00	.50	197.90	3090.84	-17.65	-20.04	-17.65	.54	-56.56	.31
3123.00	.10	260.30	3122.84	-17.79	-20.11	-17.79	1.44	195.00	-1.25
3154.00	1.20	.20	3153.84	-17.47	-20.13	-17.47	3.94	322.26	3.55
3186.00	3.90	1.90	3185.81	-16.04	-20.09	-16.04	8.44	5.31	8.44
3217.00	6.50	3.80	3216.68	-13.24	-19.94	-13.24	8.40	6.13	8.39
3249.00	9.40	1.80	3248.36	-8.82	-19.74	-8.82	9.10	-6.25	9.06
3280.00	12.10	1.70	3278.82	-3.04	-19.56	-3.04	8.71	-.32	8.71
3312.00	14.80	.80	3309.94	4.40	-19.41	4.40	8.46	-2.81	8.44
3343.00	17.60	359.70	3339.70	13.05	-19.38	13.05	9.09	-3.55	9.03
3375.00	20.70	359.20	3369.93	23.54	-19.48	23.54	9.70	-1.56	9.69
3407.00	23.60	.00	3399.56	35.61	-19.56	35.61	9.11	2.50	9.06
3438.00	26.30	1.20	3427.67	48.68	-19.42	48.68	8.86	3.87	8.71

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	WALK RATE Deg/100	BUILD RATE Deg/100
3470.00	29.30	1.60	3455.97	63.60	-19.05	63.60	9.39	1.25	9.38
3500.00	32.60	.70	3481.70	79.02	-18.75	79.02	11.11	-3.00	11.00
3531.00	35.80	.10	3507.33	96.44	-18.63	96.44	10.38	-1.94	10.32
3563.00	39.10	359.80	3532.73	115.90	-18.65	115.90	10.33	-.94	10.31
3595.00	42.50	.10	3556.96	136.80	-18.66	136.80	10.64	.94	10.63
3626.00	45.80	.50	3579.20	158.39	-18.55	158.39	10.68	1.29	10.65
3658.00	49.30	1.30	3600.79	182.00	-18.17	182.00	11.09	2.50	10.94
Begin Tangent @ 3690' MD									
3690.00	51.00	1.50	3621.29	206.56	-17.57	206.56	5.33	.62	5.31
3722.00	51.50	1.60	3641.32	231.50	-16.90	231.50	1.58	.31	1.56
3754.00	51.40	1.50	3661.27	256.52	-16.22	256.52	.40	-.31	-.31
3785.00	51.40	1.70	3680.61	280.74	-15.54	280.74	.50	.65	.00
3817.00	51.60	1.60	3700.53	305.77	-14.82	305.77	.67	-.31	.63
End Tangent @ 3853' MD									
3849.00	52.60	1.60	3720.18	331.01	-14.12	331.01	3.12	.00	3.13
3880.00	55.90	1.70	3738.29	356.16	-13.39	356.16	10.65	.32	10.65
3912.00	59.70	1.50	3755.34	383.22	-12.64	383.22	11.89	-.62	11.88
3944.00	63.70	1.00	3770.51	411.38	-12.03	411.38	12.58	-1.56	12.50
3975.00	67.50	.40	3783.31	439.61	-11.68	439.61	12.38	-1.94	12.26
4007.00	70.60	.20	3794.75	469.49	-11.53	469.49	9.71	-.63	9.69
4039.00	73.50	.50	3804.62	499.93	-11.34	499.93	9.11	.94	9.06
4071.00	77.10	.60	3812.73	530.87	-11.04	530.87	11.25	.31	11.25
4102.00	81.00	.50	3818.62	561.30	-10.75	561.30	12.58	-.32	12.58
4134.00	85.00	.90	3822.52	593.05	-10.36	593.05	12.56	1.25	12.50
4189.00	89.10	.90	3825.35	647.96	-9.50	647.96	7.45	.00	7.45
4221.00	89.60	.70	3825.71	679.96	-9.05	679.96	1.68	-.62	1.56
4253.00	90.10	.30	3825.80	711.95	-8.77	711.95	2.00	-1.25	1.56
4316.00	90.30	.60	3825.58	774.95	-8.28	774.95	.57	.48	.32
4379.00	91.50	.20	3824.59	837.94	-7.84	837.94	2.01	-.63	1.90
4443.00	91.30	359.20	3823.02	901.92	-8.17	901.92	1.59	-1.56	-.31
4506.00	91.00	358.90	3821.76	964.90	-9.22	964.90	.67	-.48	-.48
4569.00	90.30	358.00	3821.04	1027.87	-10.92	1027.87	1.81	-1.43	-1.11
4632.00	89.80	358.00	3820.99	1090.83	-13.12	1090.83	.79	.00	-.79

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	WALK RATE Deg/100	BUILD RATE Deg/100
4696.00	89.60	358.50	3821.33	1154.80	-15.08	1154.80	.84	.78	-.31
4759.00	90.40	358.40	3821.33	1217.78	-16.78	1217.78	1.28	-.16	1.27
4823.00	90.40	358.50	3820.88	1281.75	-18.51	1281.75	.16	.16	.00
4886.00	91.00	358.20	3820.11	1344.72	-20.32	1344.72	1.06	-.48	.95
4950.00	90.70	358.30	3819.16	1408.69	-22.28	1408.69	.49	.16	-.47
5013.00	90.60	358.50	3818.44	1471.66	-24.04	1471.66	.35	.32	-.16
5076.00	90.30	358.40	3817.95	1534.63	-25.74	1534.63	.50	-.16	-.48
5139.00	91.10	358.00	3817.18	1597.59	-27.72	1597.59	1.42	-.63	1.27
5201.00	91.20	358.80	3815.94	1659.56	-29.45	1659.56	1.30	1.29	.16
5262.00	91.50	358.70	3814.50	1720.53	-30.78	1720.53	.52	-.16	.49
5324.00	91.40	359.70	3812.93	1782.50	-31.65	1782.50	1.62	1.61	-.16
5385.00	90.50	359.70	3811.92	1843.49	-31.97	1843.49	1.48	.00	-1.48
5447.00	89.30	359.20	3812.03	1905.49	-32.56	1905.49	2.10	-.81	-1.94
5508.00	88.40	357.80	3813.25	1966.45	-34.16	1966.45	2.73	-2.30	-1.48
5569.00	89.20	358.50	3814.53	2027.40	-36.13	2027.40	1.74	1.15	1.31
5630.00	90.40	359.00	3814.74	2088.39	-37.46	2088.39	2.13	.82	1.97
5692.00	90.10	358.80	3814.47	2150.38	-38.65	2150.38	.58	-.32	-.48
5752.00	90.70	358.90	3814.05	2210.36	-39.85	2210.36	1.01	.17	1.00
5814.00	91.40	359.10	3812.92	2272.34	-40.93	2272.34	1.17	.32	1.13
5876.00	91.60	359.10	3811.29	2334.31	-41.91	2334.31	.32	.00	.32
5937.00	91.10	359.40	3809.86	2395.29	-42.71	2395.29	.96	.49	-.82
5998.00	90.70	359.80	3808.90	2456.28	-43.13	2456.28	.93	.66	-.66
6059.00	91.70	359.80	3807.62	2517.27	-43.34	2517.27	1.64	.00	1.64
6121.00	91.40	.30	3805.94	2579.24	-43.29	2579.24	.94	.81	-.48
6181.00	90.50	.50	3804.95	2639.23	-42.87	2639.23	1.54	.33	-1.50
6243.00	90.00	.30	3804.68	2701.23	-42.44	2701.23	.87	-.32	-.81
6305.00	89.70	.00	3804.84	2763.23	-42.28	2763.23	.68	-.48	-.48
6367.00	88.80	359.90	3805.65	2825.22	-42.33	2825.22	1.46	-.16	-1.45
6430.00	88.30	.30	3807.25	2888.20	-42.22	2888.20	1.02	.63	-.79
6492.00	87.80	.40	3809.36	2950.17	-41.84	2950.17	.82	.16	-.81
6554.00	87.80	.30	3811.74	3012.12	-41.46	3012.12	.16	-.16	.00
6616.00	89.30	1.00	3813.30	3074.09	-40.76	3074.09	2.67	1.13	2.42
6678.00	88.70	1.70	3814.39	3136.07	-39.30	3136.07	1.49	1.13	-.97
6740.00	89.20	1.60	3815.52	3198.03	-37.51	3198.03	.82	-.16	.81

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	WALK RATE Deg/100	BUILD RATE Deg/100
6802.00	89.70	1.00	3816.12	3260.01	-36.11	3260.01	1.26	-.97	.81
6865.00	89.20	.80	3816.72	3323.00	-35.12	3323.00	.85	-.32	-.79
6926.00	88.40	1.00	3818.00	3383.98	-34.16	3383.98	1.35	.33	-1.31
6988.00	87.90	1.20	3820.00	3445.93	-32.97	3445.93	.87	.32	-.81
7050.00	87.90	1.20	3822.27	3507.88	-31.67	3507.88	.00	.00	.00
7112.00	88.70	1.20	3824.11	3569.84	-30.38	3569.84	1.29	.00	1.29
7174.00	89.70	1.00	3824.98	3631.82	-29.19	3631.82	1.64	-.32	1.61
7237.00	90.40	1.00	3824.92	3694.81	-28.09	3694.81	1.11	.00	1.11
7299.00	91.20	1.10	3824.06	3756.79	-26.95	3756.79	1.30	.16	1.29
7361.00	90.10	1.20	3823.35	3818.78	-25.71	3818.78	1.78	.16	-1.77
7424.00	90.80	1.50	3822.86	3881.76	-24.22	3881.76	1.21	.48	1.11
7486.00	89.60	.90	3822.64	3943.74	-22.92	3943.74	2.16	-.97	-1.94
7548.00	90.40	1.00	3822.64	4005.73	-21.90	4005.73	1.30	.16	1.29
7609.00	90.30	1.00	3822.27	4066.72	-20.83	4066.72	.16	.00	-.16
7672.00	91.20	.50	3821.45	4129.71	-20.01	4129.71	1.63	-.79	1.43
7734.00	89.80	1.20	3820.90	4191.70	-19.09	4191.70	2.52	1.13	-2.26
7797.00	90.30	1.30	3820.85	4254.68	-17.71	4254.68	.81	.16	.79
7860.00	90.60	1.00	3820.35	4317.67	-16.45	4317.67	.67	-.48	.48
7924.00	89.40	.90	3820.35	4381.66	-15.39	4381.66	1.88	-.16	-1.87
7987.00	89.60	.90	3820.90	4444.65	-14.40	4444.65	.32	.00	.32
8050.00	89.70	.70	3821.29	4507.64	-13.52	4507.64	.35	-.32	.16
8114.00	89.80	.90	3821.57	4571.63	-12.62	4571.63	.35	.31	.16
8175.00	89.80	.70	3821.78	4632.63	-11.77	4632.63	.33	-.33	.00
8238.00	89.80	.40	3822.00	4695.62	-11.17	4695.62	.48	-.48	.00
8302.00	90.10	.40	3822.06	4759.62	-10.72	4759.62	.47	.00	.47
8365.00	90.60	.60	3821.67	4822.62	-10.17	4822.62	.85	.32	.79
8428.00	90.70	.60	3820.96	4885.61	-9.51	4885.61	.16	.00	.16
8489.00	91.40	.80	3819.84	4946.60	-8.77	4946.60	1.19	.33	1.15
8552.00	91.50	.60	3818.25	5009.57	-8.00	5009.57	.35	-.32	.16
8615.00	91.90	.80	3816.38	5072.54	-7.23	5072.54	.71	.32	.63
8679.00	91.30	.80	3814.59	5136.51	-6.33	5136.51	.94	.00	-.94
8742.00	90.40	.00	3813.66	5199.50	-5.89	5199.50	1.91	-1.27	-1.43
8805.00	90.80	359.90	3813.00	5262.49	-5.95	5262.49	.65	-.16	.63
8868.00	90.70	.10	3812.17	5325.49	-5.95	5325.49	.35	.32	-.16

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	Dogleg Severity Deg/100	WALK RATE Deg/100	BUILD RATE Deg/100
8931.00	89.70	359.70	3811.95	5388.49	-6.06	5388.49	1.71	-.63	-1.59
8994.00	90.30	359.50	3811.95	5451.48	-6.50	5451.48	1.00	-.32	.95
9057.00	90.90	359.60	3811.29	5514.48	-6.99	5514.48	.97	.16	.95
9121.00	90.20	359.00	3810.68	5578.47	-7.78	5578.47	1.44	-.94	-1.09
9184.00	90.70	359.00	3810.18	5641.46	-8.88	5641.46	.79	.00	.79
9247.00	89.70	358.60	3809.96	5704.44	-10.19	5704.44	1.71	-.63	-1.59
9310.00	89.90	358.80	3810.18	5767.43	-11.62	5767.43	.45	.32	.32
9373.00	89.50	358.80	3810.51	5830.41	-12.94	5830.41	.63	.00	-.63
9436.00	89.70	358.80	3810.95	5893.40	-14.26	5893.40	.32	.00	.32
9499.00	89.60	359.00	3811.34	5956.38	-15.47	5956.38	.35	.32	-.16
9563.00	89.50	359.20	3811.84	6020.37	-16.48	6020.37	.35	.31	-.16
9626.00	89.10	359.00	3812.61	6083.36	-17.47	6083.36	.71	-.32	-.63
9689.00	89.20	358.70	3813.54	6146.34	-18.73	6146.34	.50	-.48	.16
9752.00	89.00	359.00	3814.53	6209.32	-20.00	6209.32	.57	.48	-.32
9816.00	89.00	358.50	3815.65	6273.30	-21.39	6273.30	.78	-.78	.00
9879.00	90.30	358.40	3816.03	6336.27	-23.10	6336.27	2.07	-.16	2.06
9942.00	90.70	358.80	3815.49	6399.25	-24.63	6399.25	.90	.63	.63
10005.00	91.20	358.70	3814.44	6462.22	-26.01	6462.22	.81	-.16	.79
Projected to TD @ 10053' MD									
10053.00	91.20	358.70	3813.44	6510.20	-27.10	6510.20	.00	.00	.00