



Company: Noble Energy  
Lease/Well: Wells Ranch USX AA / 25-10  
Location: S-25 T-6N R-63W  
Rig Name: Production  
State/County: Colorado / Weld County  
Latitude: 40.46, Longitude: -104.38  
GRID North is 0.72 Degrees East of True North  
VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Depth Reference : RKB = Ground Level

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: inrun\_ed.ut  
Minimum Curvature Method  
Report Date/Time: 6/24/2011 / 21:36

Vaughn Energy Services  
Denver, CO  
720-215-1841  
Robert Davis

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N-S FT	+E-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.47	291.48	100.00	0.15	-0.38	0.15	0.41	291.48	0.47
200.00	0.45	338.89	200.00	0.67	-0.91	0.67	1.13	306.37	0.37
300.00	0.06	192.48	300.00	0.98	-1.06	0.98	1.45	312.71	0.51
400.00	0.22	293.94	399.99	1.00	-1.25	1.00	1.60	308.76	0.24
500.00	0.38	5.32	499.99	1.41	-1.39	1.41	1.98	315.38	0.37
600.00	0.22	297.18	599.99	1.83	-1.54	1.83	2.39	320.02	0.36
700.00	0.37	24.10	699.99	2.21	-1.58	2.21	2.72	324.46	0.42
800.00	0.27	23.48	799.99	2.72	-1.35	2.72	3.04	333.56	0.09
900.00	0.16	24.39	899.99	3.07	-1.20	3.07	3.30	338.68	0.11
1000.00	0.21	28.63	999.99	3.36	-1.05	3.36	3.52	342.65	0.05
1100.00	0.30	188.81	1099.99	3.27	-1.00	3.27	3.42	342.97	0.50
1200.00	0.44	63.14	1199.99	3.19	-0.70	3.19	3.26	347.65	0.66
1300.00	0.38	56.21	1299.98	3.55	-0.08	3.55	3.55	358.69	0.08
1400.00	0.40	88.92	1399.98	3.74	0.54	3.74	3.77	8.27	0.22
1500.00	0.50	151.44	1499.98	3.36	1.10	3.36	3.54	18.16	0.47
1600.00	0.17	260.10	1599.98	2.95	1.16	2.95	3.17	21.46	0.58
1700.00	0.20	301.33	1699.98	3.02	0.86	3.02	3.14	15.96	0.13
1800.00	0.23	315.87	1799.98	3.25	0.57	3.25	3.30	9.99	0.06
1900.00	0.25	122.78	1899.98	3.28	0.62	3.28	3.34	10.65	0.48
2000.00	0.30	134.59	1999.98	2.97	0.99	2.97	3.13	18.39	0.08
2100.00	0.33	137.56	2099.97	2.58	1.37	2.58	2.92	28.03	0.03
2200.00	0.24	222.40	2199.97	2.21	1.42	2.21	2.62	32.83	0.39
2300.00	0.27	310.88	2299.97	2.20	1.10	2.20	2.46	26.65	0.36
2400.00	0.33	310.65	2399.97	2.54	0.71	2.54	2.64	15.70	0.06
2500.00	0.28	203.81	2499.97	2.50	0.40	2.50	2.53	9.06	0.49
2600.00	0.32	350.65	2599.97	2.55	0.25	2.55	2.56	5.67	0.58
2700.00	0.32	17.52	2699.97	3.09	0.29	3.09	3.11	5.37	0.15
2800.00	0.26	152.79	2799.97	3.15	0.48	3.15	3.19	8.63	0.54
2900.00	0.26	101.85	2899.97	2.90	0.80	2.90	3.01	15.49	0.22
3000.00	0.26	340.96	2999.97	3.07	0.95	3.07	3.22	17.24	0.45
3100.00	0.21	115.58	3099.97	3.20	1.05	3.20	3.37	18.09	0.43
3200.00	0.40	209.86	3199.97	2.82	1.04	2.82	3.01	20.24	0.46
3300.00	0.55	243.72	3299.96	2.31	0.44	2.31	2.35	10.68	0.32
3400.00	0.28	261.71	3399.96	2.06	-0.24	2.06	2.07	353.33	0.30

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
3500.00	0.74	297.79	3499.96	2.32	-1.05	2.32	2.55	335.64	0.54
3600.00	0.70	275.11	3599.95	2.68	-2.23	2.68	3.49	320.19	0.29
3700.00	0.26	87.54	3699.95	2.74	-2.62	2.74	3.79	316.37	0.96
3800.00	0.35	54.42	3799.94	2.93	-2.14	2.93	3.63	323.88	0.19
3900.00	0.31	301.60	3899.94	3.25	-2.12	3.25	3.88	326.89	0.55
4000.00	0.38	308.55	3999.94	3.59	-2.60	3.59	4.44	324.07	0.09
4100.00	0.42	28.05	4099.94	4.12	-2.69	4.12	4.92	326.84	0.51
4200.00	0.28	18.92	4199.94	4.67	-2.44	4.67	5.27	332.37	0.15
4300.00	0.21	246.53	4299.94	4.83	-2.53	4.83	5.45	332.29	0.45
4400.00	0.40	312.08	4399.94	4.99	-2.96	4.99	5.80	329.30	0.37
4500.00	0.18	277.72	4499.94	5.24	-3.37	5.24	6.23	327.23	0.27
4600.00	0.19	279.23	4599.93	5.29	-3.69	5.29	6.45	325.11	0.01
4700.00	0.15	87.32	4699.93	5.32	-3.71	5.32	6.49	325.08	0.34
4800.00	0.21	16.44	4799.93	5.50	-3.53	5.50	6.53	327.32	0.21
4900.00	0.29	30.58	4899.93	5.89	-3.35	5.89	6.78	330.39	0.10
5000.00	0.25	71.02	4999.93	6.18	-3.01	6.18	6.87	334.03	0.19
5100.00	0.25	125.84	5099.93	6.12	-2.62	6.12	6.66	336.80	0.23
5200.00	0.40	62.27	5199.93	6.16	-2.14	6.16	6.52	340.83	0.36
5300.00	0.39	11.45	5299.93	6.65	-1.77	6.65	6.88	345.13	0.34
5400.00	0.47	142.27	5399.93	6.66	-1.45	6.66	6.81	347.74	0.78
5500.00	0.49	127.89	5499.92	6.07	-0.86	6.07	6.13	351.93	0.12
5600.00	0.51	96.19	5599.92	5.76	-0.09	5.76	5.76	359.15	0.27
5700.00	0.26	319.32	5699.92	5.89	0.21	5.89	5.89	2.00	0.72
5800.00	0.36	140.77	5799.92	5.82	0.26	5.82	5.82	2.53	0.63
5900.00	0.29	227.76	5899.92	5.41	0.27	5.41	5.41	2.88	0.45
6000.00	0.25	73.43	5999.92	5.30	0.29	5.30	5.31	3.16	0.52
6100.00	0.33	57.21	6099.92	5.52	0.74	5.52	5.57	7.67	0.12
6200.00	0.26	70.08	6199.91	5.75	1.20	5.75	5.88	11.79	0.10
6300.00	0.22	72.88	6299.91	5.88	1.59	5.88	6.10	15.15	0.05
6400.00	0.26	132.48	6399.91	5.79	1.94	5.79	6.10	18.50	0.24
6500.00	0.30	255.53	6499.91	5.57	1.85	5.57	5.87	18.36	0.49
6600.00	0.09	267.33	6599.91	5.51	1.52	5.51	5.71	15.48	0.21

HORIZONTAL DISPLACEMENT IS 5.71 FEET AT 15.48 DEGREES									
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