



Company: NOBLE ENERGY
Well: PEDRO STATE G 36-22
Location: NESE SEC. 36-T4N-R65W
Rig Name: LIGHTNING WIRE
State/County: COLORADO/WELD
Latitude: 40.27
GRID North is 0.58 Degrees East of True North
VS-Azi: 0.00 Degrees



FIELD COPY ONLY (NOT DEFINITIVE)

Service Company : VAUGHN ENERGY SERVICES

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: pedro26-22-2-01.ut
Minimum Curvature Method
Report Date/Time: 3/2/2011 / 12:59

VAUGHN ENERGY SERVICES
CORPUS CHRISTI, TX
800-606-4976
SURVEYOR: CORY ALBERT

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	0.45	295.60	100.00	0.17	-0.36	0.17	0.40	295.60	0.45
200.00	0.42	314.23	200.00	0.60	-0.98	0.60	1.15	301.47	0.15
300.00	0.39	316.92	299.99	1.10	-1.47	1.10	1.84	306.81	0.04
400.00	0.28	339.14	399.99	1.58	-1.79	1.58	2.39	311.42	0.17
500.00	0.22	359.37	499.99	2.00	-1.88	2.00	2.75	316.76	0.11
600.00	0.39	59.53	599.99	2.36	-1.59	2.36	2.85	326.00	0.34
700.00	0.45	63.97	699.99	2.70	-0.95	2.70	2.87	340.65	0.07
800.00	0.50	65.59	799.98	3.06	-0.20	3.06	3.06	356.25	0.05
900.00	0.45	67.58	899.98	3.39	0.56	3.39	3.43	9.42	0.05
1000.00	0.49	65.24	999.98	3.72	1.31	3.72	3.94	19.48	0.04
1100.00	0.46	63.38	1099.97	4.08	2.06	4.08	4.57	26.83	0.03
1200.00	0.53	72.16	1199.97	4.40	2.86	4.40	5.25	33.04	0.10
1300.00	0.51	75.61	1299.97	4.65	3.73	4.65	5.96	38.76	0.03
1400.00	0.44	67.13	1399.96	4.91	4.52	4.91	6.68	42.65	0.10
1500.00	0.51	17.03	1499.96	5.48	5.01	5.48	7.43	42.42	0.41
1600.00	0.50	356.06	1599.96	6.34	5.11	6.34	8.14	38.87	0.18
1700.00	0.21	355.37	1699.95	6.96	5.07	6.96	8.61	36.05	0.29
1800.00	0.16	6.49	1799.95	7.28	5.07	7.28	8.87	34.83	0.07
1900.00	0.33	121.24	1899.95	7.26	5.33	7.26	9.01	36.27	0.42
2000.00	0.49	158.50	1999.95	6.72	5.74	6.72	8.83	40.50	0.30
2100.00	0.61	171.51	2099.95	5.79	5.97	5.79	8.32	45.90	0.18
2200.00	0.67	177.83	2199.94	4.67	6.07	4.67	7.66	52.43	0.09
2300.00	0.38	206.49	2299.93	3.79	5.95	3.79	7.05	57.49	0.39
2400.00	0.40	254.62	2399.93	3.40	5.47	3.40	6.44	58.09	0.32
2500.00	0.49	248.02	2499.93	3.15	4.73	3.15	5.69	56.34	0.11
2600.00	0.57	227.40	2599.93	2.65	3.97	2.65	4.77	56.23	0.21
2700.00	0.55	232.11	2699.92	2.02	3.22	2.02	3.79	57.92	0.05
2800.00	0.60	237.75	2799.92	1.44	2.39	1.44	2.80	58.95	0.07
2900.00	0.57	243.02	2899.91	0.94	1.51	0.94	1.78	58.17	0.06
3000.00	0.57	236.42	2999.91	0.44	0.66	0.44	0.79	56.25	0.07
3100.00	0.61	233.74	3099.90	-0.15	-0.19	-0.15	0.24	231.01	0.05
3200.00	0.77	232.30	3199.89	-0.88	-1.15	-0.88	1.44	232.62	0.16
3300.00	0.77	255.68	3299.88	-1.45	-2.32	-1.45	2.74	238.02	0.31
3400.00	0.82	278.01	3399.87	-1.52	-3.68	-1.52	3.98	247.60	0.31
3500.00	0.91	275.96	3499.86	-1.34	-5.18	-1.34	5.34	255.53	0.09
3600.00	1.04	269.93	3599.85	-1.25	-6.87	-1.25	6.98	259.65	0.17

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
3700.00	1.76	257.49	3699.82	-1.59	-9.27	-1.59	9.41	260.29	0.77
3800.00	1.72	263.81	3799.77	-2.08	-12.26	-2.08	12.44	260.37	0.20
3900.00	1.91	257.10	3899.72	-2.62	-15.38	-2.62	15.60	260.35	0.28
4000.00	1.82	255.83	3999.67	-3.38	-18.54	-3.38	18.85	259.68	0.10
4100.00	1.72	242.43	4099.62	-4.46	-21.41	-4.46	21.87	258.24	0.42
4200.00	1.81	239.22	4199.58	-5.96	-24.09	-5.96	24.82	256.11	0.13
4300.00	1.69	245.59	4299.53	-7.38	-26.79	-7.38	27.79	254.61	0.23
4400.00	1.69	248.38	4399.49	-8.53	-29.50	-8.53	30.71	253.88	0.08
4500.00	1.79	254.24	4499.44	-9.50	-32.38	-9.50	33.74	253.65	0.21
4600.00	1.68	257.93	4599.39	-10.23	-35.31	-10.23	36.76	253.85	0.16
4700.00	1.48	256.32	4699.36	-10.84	-38.00	-10.84	39.52	254.08	0.20
4800.00	1.69	250.61	4799.32	-11.64	-40.66	-11.64	42.29	254.03	0.26
4900.00	1.81	251.30	4899.27	-12.63	-43.55	-12.63	45.34	253.82	0.13
5000.00	2.05	248.82	4999.21	-13.79	-46.72	-13.79	48.71	253.56	0.25
5100.00	1.73	246.76	5099.16	-15.03	-49.77	-15.03	52.00	253.20	0.33
5200.00	1.34	236.54	5199.12	-16.27	-52.14	-16.27	54.62	252.67	0.48
5300.00	0.86	222.61	5299.10	-17.47	-53.62	-17.47	56.40	251.95	0.54
5400.00	0.74	207.53	5399.09	-18.59	-54.43	-18.59	57.52	251.14	0.24
5500.00	0.71	191.07	5499.09	-19.77	-54.85	-19.77	58.30	250.18	0.21
5600.00	0.71	189.68	5599.08	-20.99	-55.07	-20.99	58.93	249.13	0.02
5700.00	0.89	190.75	5699.07	-22.37	-55.32	-22.37	59.67	247.98	0.18
5800.00	0.80	188.33	5799.06	-23.83	-55.57	-23.83	60.46	246.79	0.10
5900.00	0.99	202.63	5899.05	-25.32	-56.00	-25.32	61.46	245.67	0.29
6000.00	1.04	211.03	5999.03	-26.89	-56.80	-26.89	62.84	244.66	0.16
6100.00	0.97	224.36	6099.01	-28.28	-57.86	-28.28	64.40	243.95	0.24
6200.00	0.72	231.88	6199.00	-29.27	-58.95	-29.27	65.81	243.59	0.27
6300.00	0.61	264.48	6299.00	-29.71	-59.97	-29.71	66.92	243.64	0.39
6400.00	0.62	290.89	6398.99	-29.57	-61.00	-29.57	67.79	244.14	0.28
6500.00	0.69	293.67	6498.99	-29.13	-62.05	-29.13	68.55	244.85	0.08
6600.00	0.81	300.55	6598.98	-28.53	-63.22	-28.53	69.36	245.71	0.15
6700.00	0.99	298.15	6698.96	-27.77	-64.58	-27.77	70.30	246.74	0.18
6800.00	1.33	303.63	6798.94	-26.72	-66.31	-26.72	71.49	248.06	0.36
6900.00	1.36	306.20	6898.92	-25.37	-68.24	-25.37	72.80	249.61	0.07
7000.00	1.70	352.76	6998.88	-23.19	-69.39	-23.19	73.16	251.52	1.25
7100.00	2.19	50.24	7098.83	-20.50	-68.11	-20.50	71.12	253.25	1.92
7200.00	3.13	71.99	7198.73	-18.44	-64.04	-18.44	66.64	253.94	1.36
7300.00	3.21	83.52	7298.58	-17.28	-58.67	-17.28	61.16	253.59	0.64
7400.00	2.74	77.12	7398.44	-16.43	-53.56	-16.43	56.02	252.95	0.57
7500.00	2.16	81.84	7498.35	-15.63	-49.37	-15.63	51.79	252.44	0.62
7530.00	2.17	79.83	7528.33	-15.45	-48.26	-15.45	50.67	252.25	0.26

HORIZONTAL DISPLACEMENT IS
50.67 FEET AT 252.25 DEGREES