



Scientific Drilling

Gyroscopic Survey Report
for
MACK ENERGY

Well Location	EDDY COUNTY, NEW MEXICO
Well Name	MADDEN FEDERAL COM #1
Rig Name	SILVER OAK #2
Survey Date	10/24/2009
Latitude	32.90 deg
North Reference	Grid North
Grid Correction	-0.13 deg
Depth Reference	RKB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 269.98Azim (deg)
Definitive Survey	FINAL SURVEY
Operator	A.MADRID

Comments



Well Name: MADDEN FEDERAL COM #1

Survey: FINAL SURVEY

Survey Date: 10/24/2009

MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.58	225.01	100.00	0.36	-0.36	-0.36	0.58	0.51	225.01
200.00	1.20	218.11	199.99	1.36	-1.54	-1.36	0.62	2.05	221.51
300.00	1.25	217.11	299.96	2.66	-3.23	-2.66	0.05	4.18	219.52
400.00	1.28	212.51	399.94	3.92	-5.04	-3.92	0.11	6.38	217.89
500.00	0.98	192.86	499.92	4.71	-6.81	-4.71	0.49	8.28	214.66
600.00	0.65	167.30	599.91	4.78	-8.19	-4.77	0.48	9.48	210.22
700.00	0.69	161.20	699.90	4.46	-9.31	-4.46	0.08	10.32	205.57
800.00	0.69	159.26	799.90	4.05	-10.44	-4.05	0.02	11.20	201.20
900.00	0.59	158.02	899.89	3.65	-11.48	-3.64	0.10	12.04	197.62
1000.00	0.60	159.61	999.88	3.27	-12.45	-3.27	0.02	12.87	194.71
1100.00	0.62	164.82	1099.88	2.95	-13.47	-2.94	0.06	13.78	192.33
1200.00	0.69	177.41	1199.87	2.78	-14.59	-2.77	0.16	14.85	190.77
1300.00	0.35	190.44	1299.87	2.81	-15.49	-2.80	0.36	15.74	190.26
1400.00	0.17	181.78	1399.87	2.87	-15.94	-2.86	0.18	16.19	190.18
1500.00	0.22	164.74	1499.87	2.82	-16.27	-2.82	0.07	16.52	189.82
1600.00	0.14	113.90	1599.87	2.66	-16.51	-2.66	0.17	16.72	189.14
1700.00	0.09	187.36	1699.87	2.56	-16.63	-2.56	0.14	16.83	188.74
1800.00	0.17	281.03	1799.87	2.72	-16.68	-2.72	0.20	16.90	189.25
1900.00	0.13	311.64	1899.87	2.95	-16.58	-2.95	0.09	16.84	190.07
2000.00	0.17	278.99	1999.86	3.18	-16.49	-3.17	0.09	16.79	190.90
2100.00	0.42	268.40	2099.86	3.69	-16.47	-3.69	0.25	16.88	192.62
2200.00	0.30	297.40	2199.86	4.29	-16.36	-4.29	0.21	16.91	194.69
2300.00	0.49	269.61	2299.86	4.96	-16.24	-4.95	0.26	16.98	196.95
2400.00	0.39	284.46	2399.86	5.71	-16.16	-5.70	0.15	17.14	199.44
2500.00	0.34	266.34	2499.85	6.34	-16.10	-6.33	0.12	17.30	201.47
2600.00	0.40	282.27	2599.85	6.97	-16.04	-6.97	0.12	17.49	203.48
2700.00	0.35	295.64	2699.85	7.59	-15.83	-7.58	0.10	17.56	205.59
2800.00	0.44	259.03	2799.85	8.25	-15.78	-8.24	0.27	17.80	207.58
2900.00	0.32	275.72	2899.85	8.90	-15.82	-8.90	0.17	18.15	209.35
3000.00	0.47	285.20	2999.84	9.58	-15.69	-9.57	0.17	18.38	211.39
3100.00	0.40	307.71	3099.84	10.25	-15.36	-10.24	0.18	18.47	213.70
3200.00	0.26	306.60	3199.84	10.71	-15.01	-10.71	0.14	18.44	215.49
3300.00	0.22	313.62	3299.84	11.04	-14.74	-11.03	0.05	18.41	216.81
3400.00	0.26	49.83	3399.84	11.00	-14.46	-11.00	0.36	18.17	217.26
3500.00	0.11	63.76	3499.84	10.75	-14.27	-10.74	0.16	17.86	216.96
3600.00	0.27	25.71	3599.84	10.56	-14.02	-10.55	0.19	17.55	216.97
3700.00	0.33	75.48	3699.83	10.18	-13.74	-10.17	0.26	17.09	216.52
3800.00	0.37	73.21	3799.83	9.59	-13.57	-9.59	0.04	16.62	215.24



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ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
3900.00	0.48	68.63	3899.83	8.90	-13.33	-8.89	0.12	16.02	213.71
4000.00	0.28	33.46	3999.83	8.37	-12.97	-8.37	0.29	15.44	212.83
4100.00	0.26	67.63	4099.83	8.03	-12.68	-8.02	0.16	15.00	212.32
4200.00	0.35	45.18	4199.83	7.60	-12.38	-7.59	0.15	14.52	211.54
4300.00	0.37	53.96	4299.82	7.12	-11.97	-7.12	0.06	13.92	210.73
4400.00	0.48	12.33	4399.82	6.77	-11.37	-6.76	0.32	13.23	210.75
4500.00	0.40	42.54	4499.82	6.44	-10.70	-6.44	0.24	12.49	211.04
4600.00	0.39	15.95	4599.82	6.11	-10.12	-6.11	0.18	11.82	211.13
4700.00	0.38	358.62	4699.81	6.03	-9.47	-6.03	0.12	11.22	212.48
4800.00	0.33	351.50	4799.81	6.08	-8.85	-6.08	0.06	10.74	214.46
4900.00	0.30	320.17	4899.81	6.29	-8.37	-6.29	0.17	10.47	216.92
5000.00	0.30	345.22	4999.81	6.52	-7.91	-6.52	0.13	10.25	219.50
5100.00	0.25	320.19	5099.81	6.73	-7.49	-6.73	0.13	10.07	221.92
5200.00	0.41	314.54	5199.81	7.12	-7.07	-7.12	0.17	10.04	225.19
5300.00	0.59	323.16	5299.80	7.69	-6.41	-7.69	0.20	10.01	230.19
5400.00	0.42	323.33	5399.80	8.22	-5.70	-8.22	0.17	10.00	235.25
5500.00	0.44	320.15	5499.80	8.69	-5.11	-8.68	0.03	10.07	239.53
5600.00	0.29	315.17	5599.79	9.11	-4.63	-9.11	0.16	10.22	243.03
5700.00	0.29	345.02	5699.79	9.35	-4.21	-9.35	0.15	10.25	245.73
5800.00	0.34	32.65	5799.79	9.26	-3.72	-9.26	0.26	9.98	248.08
5900.00	0.36	56.72	5899.79	8.84	-3.31	-8.84	0.15	9.43	249.48
6000.00	0.39	46.94	5999.79	8.33	-2.90	-8.33	0.07	8.82	250.78