



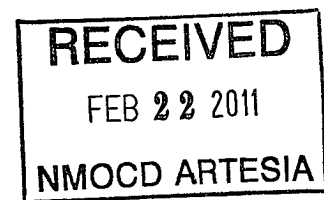
30-015-38107

Scientific Drilling

Gyroscopic Survey Report
for
MARBOB

Well Location	LEA COUNTY, NEW MEXICO
Well Name	LIZARD POT STATE COM #1H
Rig Name	McVAY #7
Survey Date	10/2/2010
Latitude	32.61 deg
North Reference	Grid North
Grid Correction	-0.15 deg
Depth Reference	RKB
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 182.85Azim (deg)
Definitive Survey	FINAL OUTRUN SURVEY
Operator	A.MADRID

Comments





Survey Report

Well Name:		LIZARD POT STATE COM #1H								
Survey:		FINAL OUTFRAN SURVEY								
Survey Date:		10/2/2010								
MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft	Closure Distance ft	Closure Angle deg	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00	
100.00	0.41	311.62	100.00	-0.22	0.24	-0.27	0.41	0.36	311.62	
200.00	0.40	316.15	200.00	-0.68	0.72	-0.77	0.03	1.06	313.11	
300.00	0.33	298.33	299.99	-1.05	1.11	-1.27	0.13	1.68	311.25	
400.00	0.22	301.26	399.99	-1.26	1.34	-1.68	0.11	2.15	308.66	
500.00	0.09	20.97	499.99	-1.43	1.52	-1.81	0.22	2.37	309.93	
600.00	0.24	79.72	599.99	-1.55	1.63	-1.58	0.20	2.27	315.87	
700.00	0.65	110.94	699.99	-1.42	1.47	-0.85	0.46	1.69	329.89	
800.00	0.91	93.08	799.98	-1.24	1.22	0.47	0.35	1.31	21.12	
900.00	1.38	77.05	899.96	-1.57	1.45	2.44	0.56	2.84	59.29	
1000.00	1.76	83.61	999.92	-2.14	1.89	5.13	0.42	5.47	69.81	
1100.00	2.55	85.91	1099.85	-2.66	2.22	8.87	0.80	9.15	75.97	
1200.00	3.05	95.35	1199.73	-2.81	2.13	13.74	0.68	13.91	81.20	
1300.00	2.93	105.29	1299.60	-2.14	1.21	18.86	0.53	18.90	86.34	
1400.00	2.90	108.11	1399.47	-0.92	-0.26	23.73	0.15	23.74	90.62	
1500.00	2.22	102.11	1499.37	0.05	-1.45	28.04	0.73	28.08	92.96	
1600.00	1.91	78.06	1599.30	-0.06	-1.51	31.57	0.91	31.60	92.74	
1700.00	2.38	68.83	1699.23	-1.33	-0.42	35.14	0.58	35.14	90.68	
1800.00	2.61	64.36	1799.14	-3.26	1.32	39.12	0.30	39.14	88.07	
1900.00	2.46	61.79	1899.04	-5.45	3.31	43.06	0.18	43.19	85.60	
2000.00	2.68	64.34	1998.94	-7.68	5.34	47.06	0.25	47.36	83.52	
2100.00	2.74	60.92	2098.83	-10.06	7.52	51.26	0.17	51.81	81.65	
2200.00	2.56	64.16	2198.72	-12.40	9.66	55.36	0.24	56.20	80.11	
2300.00	1.66	72.52	2298.65	-13.97	11.07	58.76	0.94	59.79	79.33	
2400.00	1.03	68.43	2398.62	-14.85	11.83	60.98	0.64	62.12	79.02	
2500.00	0.29	77.28	2498.62	-15.29	12.22	62.06	0.75	63.26	78.86	
2600.00	0.34	319.08	2598.62	-15.57	12.50	62.11	0.54	63.36	78.62	
2700.00	0.55	298.99	2698.61	-16.00	12.96	61.50	0.26	62.85	78.10	
2800.00	0.73	296.24	2798.61	-16.47	13.48	60.50	0.18	61.98	77.44	
2900.00	0.57	286.22	2898.60	-16.84	13.90	59.45	0.20	61.05	76.84	
3000.00	0.74	286.82	2998.59	-17.11	14.23	58.35	0.17	60.06	76.30	
3100.00	1.17	284.51	3098.58	-17.47	14.67	56.75	0.43	58.61	75.51	
3200.00	1.55	240.32	3198.55	-16.95	14.25	54.58	1.08	56.41	75.37	
3300.00	1.57	245.30	3298.52	-15.59	13.01	52.16	0.14	53.76	76.00	
3400.00	1.49	234.51	3398.48	-14.15	11.68	49.86	0.30	51.21	76.81	
3500.00	1.61	241.70	3498.44	-12.61	10.26	47.56	0.23	48.65	77.83	
3600.00	2.00	224.34	3598.40	-10.57	8.34	45.09	0.67	45.86	79.52	
3700.00	2.25	213.38	3698.33	-7.57	5.45	42.79	0.47	43.14	82.74	
3800.00	2.29	211.75	3798.25	-4.13	2.11	40.66	0.07	40.72	87.03	



Survey Report

Well Name: LIZARD POT STATE COM #1H

Survey: FINAL OUTFRAN SURVEY

Survey Date: 10/2/2010

MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft	Closure Distance ft	Closure Angle deg
3900.00	1.94	218.20	3898.18	-1.01	-0.91	38.57	0.42	38.58	91.36
4000.00	1.71	212.80	3998.13	1.67	-3.50	36.71	0.29	36.88	95.44
4100.00	1.81	220.69	4098.08	4.21	-5.95	34.87	0.26	35.38	99.68
4200.00	1.71	220.66	4198.04	6.63	-8.27	32.87	0.10	33.90	104.13
4300.00	1.56	208.06	4298.00	9.04	-10.61	31.26	0.39	33.01	108.74
4400.00	1.53	201.83	4397.96	11.53	-13.05	30.13	0.17	32.83	113.42
4500.00	1.18	178.17	4497.93	13.82	-15.31	29.66	0.65	33.38	117.31
4600.00	1.14	181.15	4597.91	15.84	-17.34	29.68	0.07	34.37	120.29
4700.00	0.99	179.94	4697.89	17.69	-19.19	29.66	0.15	35.33	122.91
4800.00	0.84	179.49	4797.88	19.29	-20.79	29.66	0.15	36.22	125.02
4900.00	0.80	183.95	4897.87	20.72	-22.22	29.62	0.07	37.03	126.87
5000.00	0.77	190.60	4997.86	22.09	-23.58	29.45	0.10	37.73	128.69
5100.00	0.43	182.88	5097.86	23.14	-24.62	29.31	0.35	38.28	130.04
5200.00	0.55	177.85	5197.85	23.99	-25.48	29.31	0.12	38.83	131.01
5300.00	0.29	199.38	5297.85	24.71	-26.20	29.24	0.30	39.26	131.86
5400.00	0.32	160.95	5397.85	25.21	-26.70	29.25	0.20	39.60	132.39
5500.00	0.35	188.85	5497.85	25.77	-27.26	29.29	0.16	40.01	132.94
5600.00	0.21	172.53	5597.85	26.26	-27.75	29.27	0.16	40.33	133.47
5700.00	0.17	82.17	5697.85	26.41	-27.91	29.44	0.28	40.57	133.47
5800.00	0.30	117.30	5797.84	26.49	-28.01	29.82	0.18	40.91	133.20
5900.00	0.22	124.72	5897.84	26.70	-28.24	30.21	0.09	41.35	133.07
6000.00	0.39	97.33	5997.84	26.83	-28.39	30.70	0.22	41.82	132.76
6100.00	0.12	98.14	6097.84	26.86	-28.45	31.14	0.27	42.18	132.41
6200.00	0.19	18.54	6197.84	26.72	-28.31	31.29	0.20	42.20	132.13
6300.00	0.23	36.82	6297.84	26.39	-27.99	31.47	0.08	42.12	131.65
6400.00	0.31	61.16	6397.84	26.08	-27.70	31.83	0.14	42.19	131.03
6500.00	0.44	42.69	6497.84	25.65	-27.29	32.32	0.17	42.30	130.17
6600.00	0.39	9.49	6597.83	25.01	-26.67	32.64	0.24	42.15	129.25
6700.00	0.35	13.27	6697.83	24.37	-26.03	32.76	0.05	41.85	128.47
6800.00	0.51	32.53	6797.83	23.69	-25.37	33.07	0.21	41.68	127.49
6900.00	0.26	3.99	6897.83	23.08	-24.77	33.33	0.31	41.52	126.62
7000.00	0.17	4.57	6997.83	22.71	-24.40	33.35	0.09	41.32	126.18
7100.00	0.35	29.78	7097.83	22.29	-23.98	33.52	0.21	41.21	125.58
7200.00	0.26	36.91	7197.82	21.82	-23.53	33.81	0.10	41.19	124.84
7300.00	0.54	42.53	7297.82	21.27	-23.00	34.26	0.27	41.27	123.87
7400.00	0.73	40.59	7397.82	20.40	-22.17	35.00	0.20	41.43	122.36
7500.00	0.77	32.24	7497.81	19.31	-21.12	35.77	0.11	41.54	120.56
7600.00	0.78	28.01	7597.80	18.12	-19.95	36.45	0.06	41.55	118.70



Survey Report

Well Name: LIZARD POT STATE COM #1H

Survey: FINAL OUTRUN SURVEY

Survey Date: 10/2/2010

MD ft	Inc deg	Azim deg	TVD ft	VS ft	Northing ft	Easting ft	DLS deg/100ft	Closure Distance ft	Closure Angle deg
7700.00	0.26	213.07	7697.80	17.69	-19.54	36.64	1.04	41.53	118.06
7800.00	0.59	160.34	7797.79	18.36	-20.21	36.70	0.48	41.89	118.85
7900.00	0.94	167.93	7897.78	19.63	-21.50	37.04	0.36	42.83	120.14
8000.00	0.90	172.57	7997.77	21.20	-23.08	37.31	0.08	43.88	121.74
8100.00	1.09	184.38	8097.76	22.93	-24.81	37.34	0.28	44.84	123.60
8200.00	1.45	199.84	8197.73	25.09	-26.95	36.84	0.50	45.65	126.19
8300.00	1.50	166.41	8297.70	27.55	-29.41	36.72	0.85	47.05	128.69
8400.00	1.89	164.59	8397.66	30.37	-32.27	37.46	0.40	49.45	130.74
8500.00	1.86	171.61	8497.60	33.53	-35.47	38.14	0.23	52.08	132.92
8600.00	1.54	167.31	8597.56	36.41	-38.38	38.67	0.34	54.49	134.79
8700.00	1.52	171.12	8697.52	39.01	-41.01	39.17	0.10	56.71	136.31
8800.00	1.67	196.91	8797.49	41.72	-43.71	38.95	0.73	58.55	138.29
8900.00	2.06	199.29	8897.43	44.85	-46.80	37.94	0.40	60.24	140.97
9000.00	2.03	193.80	8997.37	48.32	-50.21	36.92	0.20	62.33	143.67
9100.00	2.00	198.28	9097.31	51.74	-53.60	35.95	0.16	64.54	146.15
9200.00	2.62	193.39	9197.23	55.67	-57.47	34.87	0.65	67.23	148.75
9300.00	2.55	192.29	9297.12	60.11	-61.87	33.87	0.08	70.54	151.30
9400.00	2.69	198.68	9397.02	64.56	-66.27	32.65	0.32	73.87	153.77
9500.00	2.38	207.26	9496.92	68.71	-70.34	30.94	0.49	76.84	156.25
9600.00	2.56	213.55	9596.83	72.52	-74.04	28.76	0.32	79.43	158.77

MTDEP	INC	AZI
8719	6.3	171.12
8751	13.2	160.1
8783	18.4	160.7
8815	20.7	162.5
8847	23.2	165.9
8878	26.1	167.4
8910	28.1	168.4
8942	30.6	173.7
8974	33.5	174.3
9005	36	177.3
9037	38.4	178
9068	40.4	180.2
9100	41.8	179.6
9132	44	181.1
9164	46.2	183.2
9196	48.9	184.1

DDC SURVEYS