

Report No.: 1
 Date: 4-Jun-14



RYAN DIRECTIONAL SERVICES, INC.
 A NABORS COMPANY

Ryan Job # 7716
 Kit #

SURVEY REPORT

Customer: Apache (873)
 Well Name & No.: McDonald A/C 2-37 30-025-4178/
 County, State: Lea Co, NM ULA 13-225-36E
 Rig Contractor & No.: Capstar 119 990' FNL + 990' FEL
 Surface Location: Y or Lat: 32.396383
 X or Long: -103.213617
 NAD27 or NAD83: NAD27
 Survey Corrected To: Grid North

MWD Operator: Thad Sanches
 RKB: 11
 Ground Elevation: 3457
 Vertical Section Direction: 0.00
 Magnetic Declination: 7.07
 Convergence: 0.60
 * API Number: 30-025-41781

Minimum Curvature Calculation

Sur #	Meas. Depth	Inc.	Azm.	Course Length	T.V.D.	Ver.Sect.	+N / -S	+E / -W	DLS	ClsD	Cls Az
Tie in to Gyro Surveys											
Tie In	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	2246.5	4.80	49.60	2246.50	2243.87	60.95	60.95	71.62	0.21	94.05	49.60
2	2280.80	4.7	49.3	34.30	2278.06	62.80	62.80	73.78	0.30	96.89	49.60
3	2342.30	4.0	44.5	61.50	2339.38	65.97	65.97	77.19	1.28	101.54	49.48
4	2438.50	3.5	41.1	96.20	2435.37	70.58	70.58	81.47	0.57	107.79	49.10
5	2533.10	1.8	38.3	94.60	2529.87	73.92	73.92	84.29	1.80	112.11	48.75
6	2628.40	1.8	41.0	95.30	2625.12	76.23	76.23	86.20	0.09	115.07	48.52
7	2880.90	1.7	54.5	252.50	2877.50	81.39	81.39	91.85	0.17	122.73	48.46
8	3134.80	1.6	66.4	253.90	3131.30	85.00	85.00	98.17	0.14	129.85	49.11
9	3385.00	1.3	61.2	250.20	3381.42	87.76	87.76	103.86	0.13	135.97	49.80
10	3636.60	1.2	59.3	251.60	3632.96	90.48	90.48	108.62	0.04	141.37	50.20
11	3889.40	1.3	58.7	252.80	3885.70	93.33	93.33	113.35	0.04	146.83	50.53
12	4141.90	1.1	61.3	252.50	4138.14	95.98	95.98	117.92	0.08	152.04	50.86
13	4394.30	0.8	68.2	252.40	4390.51	97.80	97.80	121.68	0.13	156.11	51.21
14	4647.70	0.9	79.1	253.40	4643.88	98.83	98.83	125.28	0.07	159.57	51.73
15	4902.00	1.1	67.4	254.30	4898.14	100.14	100.14	129.49	0.11	163.70	52.28
16	5154.00	1.2	47.7	252.00	5150.09	102.85	102.85	133.68	0.16	168.67	52.43
17	5407.10	1.3	62.6	253.10	5403.13	105.96	105.96	138.19	0.13	174.13	52.52
18	5659.00	1.3	60.8	251.90	5654.97	108.66	108.66	143.22	0.02	179.78	52.81
19	5911.70	1.4	56.2	252.70	5907.60	111.78	111.78	148.29	0.06	185.70	52.99
20	6133.90	1.5	59.3	222.20	6129.73	114.77	114.77	153.04	0.06	191.30	53.13
21	6417.90	1.5	73.0	284.00	6413.63	117.76	117.76	159.79	0.13	198.50	53.61
22	6669.70	1.5	67.6	251.80	6665.34	119.98	119.98	165.99	0.06	204.81	54.14
23	6985.40	1.4	83.4	315.70	6980.94	122.00	122.00	173.64	0.13	212.22	54.91
24	7208.00	1.3	80.7	222.60	7203.48	122.72	122.72	178.84	0.05	216.89	55.54
25	7450.00	1.0	97.7	242.00	7445.43	122.88	122.88	183.64	0.19	220.96	56.21

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