



PHOENIX

TECHNOLOGY SERVICES USA INC.

3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com

Celebrating 20 Years of Focused Solutions

October 6, 2016

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 17 2016

Dear District 2 - Artesia

RECEIVED

Attention: Regulatory Department

Re: Mewbourne Oil
Annabelle 13/18 W2BA Federal Com 1H
Eddy County, NM
API #30-015-42765
Job No. 60375

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Andy Askew	1H	0	8000	09/22/16	09/22/16	Gyro

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Claudia Carreon
Operations Administrator

OCT 17 2016

SURVEY CERTIFICATION FORM



3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

Company: Mewbourne Oil

Job #: 60375

Well Name: Annabelle 13/18 W2BA Federal Com 1H

County/State: Eddy/ NM

Survey Instrument Type: North Seek Rate Gyro

API # 30-015-42765

TIE-IN DATA

Measure Depth (ft)	Vertical Depth (ft)	Inclination (°)	Azimuth (°)	N-S Coordinates	E-W Coordinates	Data Source
0	0	0	0	0	0	Surface

First Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2016-09-22	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2016-09-22	8000	1.04	134.56

Projected TD Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
0	0	0	0

Grid Correction
-0.05

Gyro Operator: Phoenix Technology Services USA Ltd.

Gyro Supervisor: Jaime Stephenson

To the best of my knowledge I certify this survey data to be correct and true

Date: 9-23-16

Print Name: Andy Askew

Signature: *Andy Askew*



PHOENIX
TECHNOLOGY SERVICES

Company:

Mewbourne Oil

Well:

Annabelle 13/18 W28A Federal Com 1H

Location:

Eddy Co., NM

Rig:

Patterson 270

Job Number:

60375

Grid Corr.:

-0.05

Lat:

32.22

Long:

-104.24

Date: 09-22-16

Calculation Method: Minimum Curvature

Proposed Azimuth: 93.45

RKB - MSL in feet: 28

Tie Into: Surface

Survey Tool Type	Survey Depth (ft)	Inclina- tion (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
FIELD COPY, NON-DEFINITIVE													
TIE IN	0			0	0	0	0	0					
Gyro	100.00	0.89	101.50	100	100.00	0.77	0.15 S		0.76 E		0.89	0.89	101.50
	200.00	0.97	113.10	100	199.98	2.34	0.64 S		2.30 E		0.20	0.08	11.60
	300.00	1.09	116.73	100	299.97	4.01	1.40 S		3.93 E		0.14	0.12	3.63
	400.00	0.95	127.36	100	399.95	5.57	2.33 S		5.44 E		0.23	-0.14	10.63
	500.00	1.40	136.08	100	499.93	7.15	3.72 S		6.94 E		0.48	0.45	8.72
	600.00	1.53	85.28	100	599.90	9.37	4.49 S		9.12 E		1.26	0.13	-50.80
	700.00	1.74	89.34	100	699.86	12.21	4.36 S		11.97 E		0.24	0.21	4.06
	800.00	1.57	94.81	100	799.82	15.09	4.46 S		14.85 E		0.23	-0.17	5.47
	900.00	1.45	92.36	100	899.78	17.73	4.62 S		17.48 E		0.14	-0.12	-2.45
	1000.00	1.31	100.09	100	999.75	20.13	4.88 S		19.87 E		0.23	-0.14	7.73
	1100.00	0.81	121.90	100	1099.74	21.89	5.45 S		21.60 E		0.63	-0.50	21.81
	1200.00	1.46	113.05	100	1199.72	23.71	6.32 S		23.37 E		0.67	0.65	-8.85
	1300.00	1.44	114.92	100	1299.69	26.08	7.35 S		25.68 E		0.05	-0.02	1.87
	1400.00	1.46	115.27	100	1399.65	28.43	8.42 S		27.97 E		0.02	0.02	0.35
	1500.00	1.86	100.33	100	1499.61	31.22	9.26 S		30.72 E		0.59	0.40	-14.94
	1600.00	2.14	94.93	100	1599.55	34.70	9.71 S		34.18 E		0.34	0.28	-5.40
	1700.00	2.27	98.91	100	1699.48	38.54	10.18 S		38.00 E		0.20	0.13	3.98
	1800.00	1.89	103.44	100	1799.41	42.13	10.87 S		41.56 E		0.41	-0.38	4.53
	1900.00	1.55	95.77	100	1899.37	45.11	11.39 S		44.51 E		0.41	-0.34	-7.67
	2000.00	1.38	88.18	100	1999.33	47.66	11.48 S		47.05 E		0.26	-0.17	-7.59
	2100.00	1.24	95.65	100	2099.31	49.94	11.55 S		49.33 E		0.22	-0.14	7.47
	2200.00	1.07	104.03	100	2199.29	51.94	11.88 S		51.32 E		0.24	-0.17	8.38
	2300.00	0.97	109.64	100	2299.27	53.67	12.40 S		53.02 E		0.14	-0.10	5.61
	2400.00	1.22	135.37	100	2399.25	55.28	13.44 S		54.57 E		0.55	0.25	25.73
	2500.00	1.04	126.28	100	2499.23	56.83	14.73 S		56.04 E		0.25	-0.18	-9.09
	2600.00	1.18	114.62	100	2599.21	58.55	15.70 S		57.71 E		0.27	0.14	-11.66
	2700.00	0.79	139.38	100	2699.20	59.99	16.65 S		59.10 E		0.57	-0.39	24.76



PHOENIX

TECHNOLOGY SERVICES

Company: Mewbourne Oil

Well: Annabelle 13/18 W28A Federal Com 1H

Location: Eddy Co., NM

Rig: Patterson 270

Job Number: 60375

Grid Corr.: -0.05

Lat: 32.22

Long: -104.24

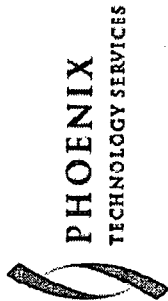
Calculation Method: Minimum Curvature

Proposed Azimuth: 93.45

RKB - MSL in feet: 28

Tie Into: Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	Closure Distance (ft)	Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	2800.00	0.55	169.96	100	2799.19	60.58	17.65 S	59.63 E	62.19	106.48	0.42	-0.24	30.58
	2900.00	0.33	160.76	100	2899.19	60.81	18.39 S	59.81 E	62.57	107.09	0.23	-0.22	-9.20
	3000.00	0.50	357.37	100	2999.19	60.87	18.23 S	59.88 E	62.60	106.93	0.82	0.17	196.61
	3100.00	0.33	166.96	100	3099.19	60.91	18.07 S	59.93 E	62.59	106.78	0.83	-0.17	-190.41
	3200.00	1.02	249.64	100	3199.18	60.17	18.66 S	59.16 E	62.03	107.51	1.03	0.69	82.68
	3300.00	1.33	245.09	100	3299.16	58.34	19.46 S	57.27 E	60.49	108.77	0.32	0.31	-4.55
	3400.00	1.17	249.38	100	3399.14	56.39	20.31 S	55.26 E	58.88	110.18	0.19	-0.16	4.29
	3500.00	1.13	230.11	100	3499.12	54.74	21.30 S	53.55 E	57.63	111.69	0.39	-0.04	-19.27
	3600.00	1.17	270.92	100	3599.10	53.00	21.92 S	51.77 E	56.22	112.94	0.80	0.04	40.81
	3700.00	1.03	230.49	100	3699.08	51.32	22.47 S	50.06 E	54.87	114.18	0.77	-0.14	-40.43
	3800.00	1.23	228.93	100	3799.06	49.90	23.75 S	48.56 E	54.05	116.06	0.20	0.20	-1.56
	3900.00	0.93	262.79	100	3899.05	48.34	24.56 S	46.94 E	52.98	117.61	0.69	-0.30	33.86
	4000.00	0.79	290.15	100	3999.03	46.88	24.42 S	45.49 E	51.63	118.23	0.43	-0.14	27.36
	4100.00	0.99	257.08	100	4099.02	45.39	24.38 S	44.00 E	50.30	118.99	0.54	0.20	-33.07
	4200.00	0.56	301.64	100	4199.01	44.13	24.31 S	42.74 E	49.17	119.63	0.71	-0.43	44.56
	4300.00	0.91	272.13	100	4299.01	42.90	24.03 S	41.53 E	47.98	120.05	0.50	0.35	-29.51
	4400.00	0.95	270.18	100	4398.99	41.28	23.99 S	39.91 E	46.57	121.01	0.05	0.04	-1.95
	4500.00	1.05	253.20	100	4498.98	39.60	24.26 S	38.21 E	45.25	122.41	0.31	0.10	-16.98
	4600.00	0.88	250.15	100	4598.96	38.03	24.78 S	36.61 E	44.21	124.10	0.18	-0.17	-3.05
	4700.00	0.62	253.70	100	4698.95	36.82	25.19 S	35.36 E	43.42	125.47	0.26	-0.26	3.55
	4800.00	0.56	233.38	100	4798.95	35.93	25.64 S	34.45 E	42.95	126.66	0.22	-0.06	-20.32
	4900.00	0.44	279.66	100	4898.95	35.18	25.87 S	33.68 E	42.47	127.52	0.41	-0.12	46.28
	5000.00	0.61	230.80	100	4998.94	34.40	26.14 S	32.89 E	42.01	128.47	0.46	0.17	-48.86
	5100.00	0.71	227.58	100	5098.94	33.58	26.89 S	32.02 E	41.82	130.02	0.11	0.10	-3.22
	5200.00	0.52	225.34	100	5198.93	32.85	27.63 S	31.24 E	41.71	131.49	0.19	-0.19	-2.24
	5300.00	0.75	180.63	100	5298.92	32.58	28.60 S	30.91 E	42.11	132.78	0.53	0.23	-44.71
	5400.00	0.75	187.94	100	5398.92	32.56	29.90 S	30.81 E	42.94	134.14	0.10	0.00	7.31
	5500.00	1.06	227.27	100	5498.90	31.87	31.18 S	30.04 E	43.30	136.06	0.68	0.31	39.33
	5600.00	1.45	250.75	100	5598.88	30.06	32.23 S	28.17 E	42.80	138.84	0.64	0.39	23.48
	5700.00	1.05	252.14	100	5698.86	28.04	32.92 S	26.10 E	42.02	141.59	0.40	-0.40	1.39



Company:

Mewbourne Oil

Well:

Annabelle 13/18 W2BA Federal Com 1H

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Eddy Co., NM

Rig:

Patterson 270

Job Number:

60375

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Calculation Method:

Minimum Curvature

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Tie Into:

Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	Closure Distance (ft)	Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	5800.00	1.24	271.51	100	5798.84	26.10	33.18 S	24.15 E	41.03	143.95	0.43	0.19	19.37
	5900.00	1.64	301.46	100	5898.81	23.76	32.40 S	21.85 E	39.08	146.01	0.84	0.40	29.95
	6000.00	1.85	311.24	100	5998.76	21.22	30.59 S	19.41 E	36.23	147.60	0.36	0.21	9.78
	6100.00	1.93	304.58	100	6098.71	18.50	28.57 S	16.81 E	33.15	149.53	0.23	0.08	-6.66
	6200.00	1.89	319.64	100	6198.65	15.92	26.36 S	14.36 E	30.01	151.42	0.50	-0.04	15.06
	6300.00	2.29	311.99	100	6298.58	13.21	23.76 S	11.80 E	26.53	153.58	0.49	0.40	-7.65
	6400.00	2.48	296.55	100	6398.50	9.66	21.46 S	8.38 E	23.04	158.66	0.67	0.19	-15.44
	6500.00	2.43	293.54	100	6498.41	5.68	19.65 S	4.51 E	20.16	167.08	0.14	-0.05	-3.01
	6600.00	1.46	314.69	100	6598.35	2.73	17.90 S	1.66 E	17.98	174.71	1.19	-0.97	21.15
	6700.00	1.58	20.55	100	6698.32	2.18	15.72 S	1.23 E	15.77	175.51	1.66	0.12	-294.14
	6800.00	1.93	51.75	100	6798.28	3.84	13.38 S	3.04 E	13.72	167.20	1.00	0.35	31.20
	6900.00	0.96	355.33	100	6898.25	4.98	11.51 S	4.30 E	12.28	159.53	1.61	-0.97	303.58
	7000.00	0.62	316.09	100	6998.24	4.46	10.28 S	3.85 E	10.98	159.46	0.62	-0.34	-39.24
	7100.00	1.00	342.24	100	7098.23	3.75	9.06 S	3.21 E	9.61	160.49	0.52	0.38	26.15
	7200.00	0.44	331.86	100	7198.22	3.23	7.89 S	2.76 E	8.36	160.70	0.57	-0.56	-10.38
	7300.00	0.83	313.02	100	7298.21	2.47	7.06 S	2.05 E	7.35	163.79	0.44	0.39	-18.84
	7400.00	0.98	318.71	100	7398.20	1.31	5.92 S	0.96 E	6.00	170.80	0.17	0.15	5.69
	7500.00	0.82	329.87	100	7498.19	0.32	4.66 S	0.04 E	4.66	179.57	0.24	-0.16	11.16
	7600.00	2.19	331.99	100	7598.15	-1.08	2.35 S	1.22 W	2.65	207.42	1.37	1.37	2.12
	7700.00	0.74	327.37	100	7698.12	-2.46	0.12 S	2.47 W	2.47	267.13	1.45	-1.45	-4.62
	7800.00	1.28	100.25	100	7798.11	-1.73	0.22 N	1.72 W	1.73	277.36	1.86	0.54	-227.12
	7900.00	0.90	121.18	100	7898.09	0.08	0.38 S	0.06 E	0.39	171.84	0.54	-0.38	20.93
	8000.00	1.04	134.56	100	7998.08	1.46	1.43 S	1.37 E	1.98	136.10	0.27	0.14	13.38