



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

30-025-4⁴~~X~~024

December 7, 2017

Oil Conservation Division
State of New Mexico
1625 N. French Drive
District 1 - Hobbs
Hobbs, New Mexico 88240

Attention: Regulatory Department

Re: Legacy Reserves
Lea Unit 61H
Lea County, New Mexico
API # 30-025-4⁴~~X~~024
Job No. 62119

HOBBS OCD
DEC 12 2017
RECEIVED

HOBBS OCD
DEC 12 2017
RECEIVED

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	61H	0	5,825	12/6/17	12/6/17	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,

Brittany Carley

Brittany Carley
Operations Administrator

SURVEY CERTIFICATION FORM

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



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TECHNOLOGY SERVICES

Company: Legacy

Job #: 62119

Well Name: Lea Unit 61H

County/State: Lea/ NM

Survey Instrument Type: North Seek Rate Gyro

API # 30-025-42024

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 (°)
2017-12-06	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2017-12-06	5825	3.84	272.9

Projected TD Survey

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

Grid Correction
-0.45

Gyro Operator: Phoenix Technology Services USA Ltd.

Gyro Supervisor: Angel Guebara

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

Date: 12-7-17

Print Name: Andy Askew

Signature:



Company: Legacy
 Well: Lea Unit 61H
 Location: Lea Co., NM
 Rig: McVay 4

Job Number: 62119
 Grid Corr.: -0.45
 Lat: 32.55
 Long: -103.50

Date: 12-06-17
 Calculation Method: Minimum Curvature
 Proposed Azimuth:
 RKB - MSL in feet: 18.5
 Tie Into: Surface

Survey Tool Type	Survey Depth (ft)	Inclination (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)			
Enter Tie-In Survey on Line 10													
FIELD COPY, NON-DEFINITIVE													
TIE IN	0			0	0	0	0	0					
Gyro	100.00	0.27	298.82	100	100.00	0.11	0.11 N	0.21 W	0.24	298.82	0.27	0.27	298.82
	200.00	0.35	137.43	100	200.00	0.00	0.00 N	0.21 W	0.21	270.62	0.61	0.08	-161.39
	300.00	0.42	314.55	100	300.00	0.03	0.03 N	0.26 W	0.26	277.52	0.77	0.07	177.12
	400.00	0.57	271.22	100	399.99	0.30	0.30 N	1.02 W	1.06	286.51	0.39	0.15	-43.33
	500.00	0.44	236.73	100	499.99	0.10	0.10 N	1.84 W	1.84	273.18	0.32	-0.13	-34.49
	600.00	0.37	315.86	100	599.99	0.12	0.12 N	2.38 W	2.39	272.96	0.52	-0.07	79.13
	700.00	0.33	100.24	100	699.99	0.30	0.30 N	2.33 W	2.34	277.44	0.67	-0.04	-215.62
	800.00	0.27	218.60	100	799.99	0.07	0.07 N	2.19 W	2.19	271.79	0.52	-0.06	118.36
	900.00	0.08	234.70	100	899.99	-0.16	0.16 S	2.39 W	2.40	266.27	0.19	-0.19	16.10
	1000.00	0.14	65.53	100	999.99	-0.15	0.15 S	2.34 W	2.34	266.43	0.22	0.06	-169.17
	1100.00	0.09	345.80	100	1099.99	-0.02	0.02 S	2.25 W	2.25	269.51	0.15	-0.05	280.27
	1200.00	0.17	19.40	100	1199.99	0.20	0.20 N	2.22 W	2.23	275.08	0.11	0.08	-326.40
	1300.00	0.33	340.21	100	1299.99	0.61	0.61 N	2.26 W	2.34	285.02	0.23	0.16	320.81
	1400.00	0.18	261.03	100	1399.98	0.85	0.85 N	2.52 W	2.66	288.75	0.34	-0.15	-79.18
	1500.00	0.28	245.17	100	1499.98	0.73	0.73 N	2.89 W	2.98	284.10	0.12	0.10	-15.86
	1600.00	0.31	75.00	100	1599.98	0.69	0.69 N	2.85 W	2.94	283.68	0.59	0.03	-170.17
	1700.00	0.83	268.31	100	1699.98	0.74	0.74 N	3.32 W	3.40	282.63	1.13	0.52	193.31
	1800.00	1.20	285.85	100	1799.97	1.01	1.01 N	5.05 W	5.15	281.29	0.48	0.37	17.54
	1900.00	1.05	279.14	100	1899.95	1.44	1.44 N	6.96 W	7.11	281.68	0.20	-0.15	-6.71
	2000.00	0.92	287.64	100	1999.93	1.83	1.83 N	8.63 W	8.82	281.96	0.20	-0.13	8.50
	2100.00	1.80	10.80	100	2099.91	3.61	3.61 N	9.10 W	9.79	291.66	1.92	0.88	-276.84
	2200.00	3.32	35.15	100	2199.81	7.53	7.53 N	7.14 W	10.37	316.51	1.84	1.52	24.35
	2300.00	3.17	17.78	100	2299.65	12.53	12.53 N	4.63 W	13.35	339.72	0.99	-0.15	-17.37
	2400.00	4.23	332.32	100	2399.46	18.43	18.43 N	5.50 W	19.23	343.39	3.02	1.06	314.54
	2500.00	4.39	352.32	100	2499.18	25.49	25.49 N	7.72 W	26.63	343.14	1.50	0.16	20.00
	2600.00	4.99	14.79	100	2598.86	33.48	33.48 N	7.12 W	34.23	347.99	1.92	0.60	-337.53
	2700.00	5.21	37.55	100	2698.47	41.29	41.29 N	3.25 W	41.42	355.51	2.02	0.22	22.76



Company: Legacy
 Well: Lea Unit 61H
 Location: Lea Co., NM
 Rig: McVay 4

Job Number: 62119
 Grid Corr.: -0.45
 Lat: 32.55
 Long: -103.50

Calculation Method: Minimum Curvature
 Proposed Azimuth:
 RKB - MSL in feet: 18.5
 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)			
	2800.00	5.34	47.88	100	2798.05	48.01	48.01 N	2.97 E	48.10	3.54	0.96	0.13	10.33
	2900.00	6.01	46.02	100	2897.56	54.77	54.77 N	10.19 E	55.71	10.54	0.69	0.67	-1.86
	3000.00	6.08	42.35	100	2997.00	62.32	62.32 N	17.53 E	64.73	15.71	0.39	0.07	-3.67
	3100.00	6.81	52.59	100	3096.37	69.83	69.83 N	25.80 E	74.45	20.28	1.36	0.73	10.24
	3200.00	6.97	53.05	100	3195.65	77.08	77.08 N	35.36 E	84.81	24.64	0.17	0.16	0.46
	3300.00	6.70	54.14	100	3294.94	84.15	84.15 N	44.94 E	95.39	28.11	0.30	-0.27	1.09
	3400.00	6.59	53.18	100	3394.27	91.00	91.00 N	54.26 E	105.95	30.81	0.16	-0.11	-0.96
	3500.00	5.94	50.02	100	3493.67	97.77	97.77 N	62.82 E	116.21	32.72	0.74	-0.65	-3.16
	3600.00	3.62	48.32	100	3593.32	103.19	103.19 N	69.14 E	124.21	33.82	2.32	-2.32	-1.70
	3700.00	2.69	312.89	100	3693.22	106.89	106.89 N	69.78 E	127.65	33.14	4.71	-0.93	264.57
	3800.00	3.31	287.90	100	3793.09	109.37	109.37 N	65.31 E	127.39	30.84	1.43	0.62	-24.99
	3900.00	2.68	240.87	100	3892.96	109.12	109.12 N	60.52 E	124.78	29.02	2.46	-0.63	-47.03
	4000.00	2.40	339.25	100	3992.90	109.94	109.94 N	57.74 E	124.18	27.71	3.85	-0.28	98.38
	4100.00	2.94	321.99	100	4092.80	113.92	113.92 N	55.42 E	126.69	25.94	0.96	0.54	-17.26
	4200.00	2.47	302.70	100	4192.69	117.11	117.11 N	52.03 E	128.14	23.95	1.02	-0.47	-19.29
	4300.00	1.16	245.54	100	4292.64	117.85	117.85 N	49.29 E	127.74	22.70	2.08	-1.31	-57.16
	4400.00	1.23	245.85	100	4392.62	116.99	116.99 N	47.39 E	126.23	22.05	0.07	0.07	0.31
	4500.00	1.44	242.46	100	4492.59	115.97	115.97 N	45.30 E	124.50	21.33	0.22	0.21	-3.39
	4600.00	1.69	311.70	100	4592.56	116.37	116.37 N	43.08 E	124.09	20.31	1.79	0.25	69.24
	4700.00	2.15	306.75	100	4692.50	118.48	118.48 N	40.48 E	125.20	18.86	0.49	0.46	-4.95
	4800.00	2.90	301.98	100	4792.41	120.94	120.94 N	36.83 E	126.42	16.94	0.78	0.75	-4.77
	4900.00	3.51	276.31	100	4892.26	122.61	122.61 N	31.64 E	126.63	14.47	1.54	0.61	-25.67
	5000.00	3.92	282.73	100	4992.05	123.70	123.70 N	25.26 E	126.26	11.54	0.58	0.41	6.42
	5100.00	3.54	228.14	100	5091.86	122.40	122.40 N	19.63 E	123.96	9.11	3.44	-0.38	-54.59
	5200.00	2.34	216.46	100	5191.73	118.69	118.69 N	16.12 E	119.78	7.73	1.34	-1.20	-11.68
	5300.00	4.15	239.17	100	5291.57	115.20	115.20 N	11.79 E	115.80	5.85	2.19	1.81	22.71
	5400.00	4.67	247.10	100	5391.27	111.76	111.76 N	4.94 E	111.87	2.53	0.80	0.52	7.93
	5500.00	5.30	251.15	100	5490.90	108.68	108.68 N	3.18 W	108.73	358.32	0.72	0.63	4.05
	5600.00	4.74	259.64	100	5590.51	106.45	106.45 N	11.62 W	107.08	353.77	0.93	-0.56	8.49
	5700.00	4.72	264.02	100	5690.17	105.28	105.28 N	19.78 W	107.12	349.36	0.36	-0.02	4.38



Company: Legacy
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 Rig: McVay 4

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							N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)			
	5800.00	4.50	261.21	100	5789.85	104.25	104.25 N	27.74 W	107.88	345.10	0.32	-0.22	-2.81
	5825.00	3.84	272.90	25	5814.78	104.14	104.14 N	29.55 W	108.25	344.16	4.29	-2.64	46.76