



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

90-025-44329

June 13, 2018

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

**HOBBS OCD
JUN 18 2018
RECEIVED**

Attention: Regulatory Department

Re: Legacy Reserves
Lea Unit 43H
Lea County, New Mexico
API # 30-025-44329
Job No. 62652

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	
Thomas Nord	43H	5,648	8,951	4/13/18	4/22/18	MWD

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 DATA CERTIFICATION



PHOENIX
TECHNOLOGY SERVICES

Job #: 62652
 Client: Legacy
 County & State: Lea Co., New Mexico
 Well: Lea Unit 43H
 API No: 30-025-44329
 Proposed Direction: 0.50

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
5500.00	5497.19	6.09	104.55	26.56 N	121.37 E	Gyro
Data Source Company:						Phoenix

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
13-Apr-18	5,648 ft	5.71°	103.53°

Last Survey Date	Last Survey Depth	INC	AZM
22-Apr-18	8,951 ft	3.55°	283.83°

Survey Instrument Type
Phoenix MWD

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
22-Apr-18	9,040 ft	3.55°	283.83°

CORRECTION INFORMATION

Magnetic Declination Used	6.73 degrees
Grid Convergence Used	-0.44 degrees

Corrected to True/Grid North
6.29

Total Correction	6.29 degrees
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TO THE BEST OF MY KNOWLEDGE, I
 CERTIFY THIS SURVEY DATA TO BE TRUE
 AND CORRECT.

Thomas Nord
 Signature

April 22, 2018
 Date

Legacy Reserves Oppering LLC.

Lea County, NM (NAD83)

Lea Unit

43H

OH / 62652

Survey: Phoenix MWD Surveys

Standard Survey Report

23 April, 2018

Survey Report

Company:	Legacy Reserves Operating LLC.	Local Co-ordinate Reference:	Well 43H
Project:	Lea County, NM (NAD83)	TVD Reference:	RKB @ 3695.00usft (McVay #4)
Site:	Lea Unit	MD Reference:	RKB @ 3695.00usft (McVay #4)
Well:	43H	North Reference:	Grid
Wellbore:	OH / 62652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (McVay #4)	Database:	USA Compass

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Lea Unit
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Site Position:		Northing:	567,575.30 usft	Latitude:	32° 33' 27.37656 N
From:	Map	Easting:	795,936.01 usft	Longitude:	103° 30' 25.15752 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44 °

Well	43H					
Well Position	+N/-S	0.00 usft	Northing:	567,575.30 usft	Latitude:	32° 33' 27.37656 N
	+E/-W	0.00 usft	Easting:	795,936.01 usft	Longitude:	103° 30' 25.15752 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,677.00 usft

Wellbore	OH / 62652
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	4/13/2018	6.73	60.52	48,236.41934673

Design	Surveys (McVay #4)
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Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.50

Survey Program		Date	4/23/2018	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	5,500.00	Phoenix Gyro Surveys (OH / 62652)	SPT_GTD	Continuous north-seeking gyro
5,648.00	9,040.00	Phoenix MWD Surveys (OH / 62652)	MWD+HDGM	OWSG Rev.2 MWD + HDGM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,500.00	6.09	104.55	5,497.19	26.56	121.37	27.63	0.00	0.00	0.00
Tie In									
5,648.00	5.71	103.53	5,644.40	22.87	136.13	24.07	0.27	-0.26	-0.69
First Phoenix MWD Survey									
5,742.00	4.58	106.06	5,738.02	20.73	144.29	22.00	1.23	-1.20	2.69
5,836.00	2.79	114.00	5,831.83	18.77	149.98	20.09	1.98	-1.90	8.45
5,931.00	1.86	127.32	5,926.75	16.89	153.32	18.24	1.13	-0.98	14.02
6,025.00	1.72	135.82	6,020.70	14.95	155.52	16.32	0.32	-0.15	9.04
6,119.00	1.56	162.82	6,114.66	12.72	156.88	14.10	0.83	-0.17	28.72

Survey Report

Company:	Legacy Reserves Operating LLC.	Local Co-ordinate Reference:	Well 43H
Project:	Lea County, NM (NAD83)	TVD Reference:	RKB @ 3695.00usft (McVay #4)
Site:	Lea Unit	MD Reference:	RKB @ 3695.00usft (McVay #4)
Well:	43H	North Reference:	Grid
Wellbore:	OH / 62652	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (McVay #4)	Database:	USA Compass

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,213.00	1.19	178.52	6,208.64	10.52	157.28	11.91	0.56	-0.39	16.70
6,308.00	1.23	189.24	6,303.62	8.53	157.14	9.91	0.24	0.04	11.28
6,404.00	1.24	194.77	6,399.59	6.51	156.71	7.89	0.12	0.01	5.76
6,499.00	1.17	200.09	6,494.57	4.60	156.12	5.98	0.14	-0.07	5.60
6,593.00	1.20	202.89	6,588.55	2.79	155.40	4.16	0.07	0.03	2.98
6,688.00	1.44	204.86	6,683.53	0.79	154.52	2.16	0.26	0.25	2.07
6,782.00	1.39	222.82	6,777.50	-1.11	153.24	0.24	0.47	-0.05	19.11
6,876.00	1.47	225.56	6,871.47	-2.79	151.61	-1.46	0.11	0.09	2.91
6,971.00	1.36	223.33	6,966.44	-4.47	149.97	-3.15	0.13	-0.12	-2.35
7,065.00	1.62	217.74	7,060.41	-6.33	148.39	-5.02	0.32	0.28	-5.95
7,159.00	1.45	214.72	7,154.38	-8.36	146.90	-7.06	0.20	-0.18	-3.21
7,254.00	1.66	239.53	7,249.34	-10.04	145.03	-8.76	0.74	0.22	26.12
7,348.00	2.10	243.11	7,343.29	-11.51	142.32	-10.26	0.48	0.47	3.81
7,443.00	1.99	251.48	7,438.23	-12.82	139.20	-11.60	0.33	-0.12	8.81
7,537.00	1.89	247.11	7,532.18	-13.95	136.22	-12.74	0.19	-0.11	-4.65
7,631.00	2.21	243.71	7,626.12	-15.35	133.17	-14.18	0.36	0.34	-3.62
7,726.00	2.13	248.83	7,721.05	-16.80	129.88	-15.65	0.22	-0.08	5.39
7,820.00	2.45	249.65	7,814.97	-18.13	126.37	-17.01	0.34	0.34	0.87
7,914.00	2.52	272.56	7,908.89	-18.74	122.42	-17.66	1.05	0.07	24.37
8,009.00	2.57	283.43	8,003.79	-18.15	118.26	-17.10	0.51	0.05	11.44
8,103.00	2.83	290.33	8,097.69	-16.85	114.04	-15.85	0.44	0.28	7.34
8,197.00	2.78	290.47	8,191.58	-15.25	109.73	-14.28	0.05	-0.05	0.15
8,292.00	2.80	292.33	8,286.46	-13.56	105.42	-12.63	0.10	0.02	1.96
8,386.00	2.74	284.79	8,380.36	-12.12	101.12	-11.22	0.39	-0.06	-8.02
8,480.00	2.92	291.87	8,474.24	-10.65	96.73	-9.80	0.42	0.19	7.53
8,574.00	3.07	290.02	8,568.11	-8.90	92.14	-8.08	0.19	0.16	-1.97
8,669.00	3.41	288.38	8,662.96	-7.13	87.07	-6.37	0.37	0.36	-1.73
8,763.00	3.48	288.67	8,756.79	-5.34	81.72	-4.62	0.08	0.07	0.31
8,857.00	3.66	285.92	8,850.61	-3.60	76.13	-2.93	0.26	0.19	-2.93
8,951.00	3.55	283.83	8,944.42	-2.08	70.42	-1.46	0.18	-0.12	-2.22
Final Phoenix MWD Survey									
9,040.00	3.55	283.83	9,033.25	-0.77	65.07	-0.20	0.00	0.00	0.00
Projection to TD									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,500.00	5,497.19	26.56	121.37	Tie In
5,648.00	5,644.40	22.87	136.13	First Phoenix MWD Survey
8,951.00	8,944.42	-2.08	70.42	Final Phoenix MWD Survey
9,040.00	9,033.25	-0.77	65.07	Projection to TD

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Artec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Frances Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

HOBBS OCD
JUN 18 2018
RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-44329	Pool Code 37570	Pool Name LEA; POKE SPRING
Property Code 702802	Property Name LEA UNIT	Well Number 43H
OGRID No. 240974	Operator Name LEGACY RESERVES OPERATING LP	Elevation 3677'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	20 S	34 E		2270	SOUTH	560	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	13	20 S	34 E		330	NORTH	430	EAST	LEA
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

NOTE:
1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1983. Distances shown hereon are mean horizontal surface values.

(BHL & LTP)

13

24

#43H (SL)

2270'

560'

330'

2313'

N 0°30'25" E - 7954.1'

Total Distance from (SL) to (BHL)

T-20-S, R-35-E

T-20-S, R-34-E

BOTTOM HOLE LOCATION & LAST TAKE POINT (NAD83)
Plane Coordinate
X = 796,006.1
Y = 575,527.7
Geodetic (D.D.)
32.5794601° N
103.5065602° W

FIRST TAKE POINT (NAD83)
Plane Coordinate
X = 795,942.3
Y = 568,283.4
Geodetic (D.D.)
32.5595507° N
103.5069501° W

SURFACE LOCATION (NAD83)
Plane Coordinate
X = 795,575.3
Y = 567,764.0
Geodetic (D.D.)
32.5576046° N
103.5069882° W

Scale
1" = 2000'

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

E-mail Address _____

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

April 24, 2017

Date of Survey _____

Signature & Seal of Professional Surveyor _____

04-26-17

LINDSAY GYGAX
NEW MEXICO
23263
PROFESSIONAL SURVEYOR

W.O. Num. 2015 _____

Certificate No. Lindsay Gyax 23263