



Legacy Reserves

Lea County, NM (NAD-27 2015)

Lea Unit #35H

Lea Unit #35H

30-025-42985

OH

HOBBS OCD

MAR 06 2017

RECEIVED

Design: OH

Standard Survey Report

12 August, 2016





Survey Report



Company:	Legacy Reserves	Local Co-ordinate Reference:	Well Lea Unit #35H
Project:	Lea County, NM (NAD-27 2015)	TVD Reference:	KB @ 3696.00usft (McVay 4)
Site:	Lea Unit #35H	MD Reference:	KB @ 3696.00usft (McVay 4)
Well:	Lea Unit #35H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County, NM (NAD-27 2015)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lea Unit #35H		
Site Position:	Northing:	567,478.80 usft	Latitude: 32° 33' 26.894 N
From: Map	Easting:	750,829.10 usft	Longitude: 103° 31' 9.268 W
Position Uncertainty:	0.00 usft	Slot Radius: 13.20 in	Grid Convergence: 0.44 °

Well	Lea Unit #35H		
Well Position	+N/-S	0.00 usft	Northing: 567,478.80 usft
	+E/-W	0.00 usft	Easting: 750,829.10 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,678.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	09/02/15	7.15
			Dip Angle (°)
			60.40
			Field Strength (nT)
			48,325

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			356.90

Survey Program	Date 08/12/16		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.00	5,374.00	VES Gyro #1 (OH)	VES-ISCWSA-GYRO-3
5,703.00	10,652.00	TDS MWD Survey #1 (OH)	MWD
10,687.00	18,141.00	SLB MWD Survey #1 (OH)	MWD
			Description
			Biaxial Semi-Cont. Gyro
			MWD - Standard
			MWD - Standard

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.41	38.78	100.00	0.28	0.22	0.27	0.41	0.41	0.00	
200.00	0.42	67.74	200.00	0.70	0.79	0.65	0.21	0.01	28.96	
300.00	0.84	68.11	299.99	1.11	1.81	1.01	0.42	0.42	0.37	
400.00	1.10	68.28	399.98	1.74	3.38	1.55	0.26	0.26	0.17	
500.00	1.49	89.20	499.95	2.11	5.57	1.81	0.61	0.39	20.92	
600.00	1.67	92.91	599.91	2.05	8.33	1.60	0.21	0.18	3.71	
700.00	1.98	103.71	699.86	1.57	11.46	0.95	0.46	0.31	10.80	
800.00	2.09	115.82	799.80	0.37	14.78	-0.43	0.44	0.11	12.11	

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Well: Lea Unit #35H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Lea Unit #35H
TVD Reference: KB @ 3696.00usft (McVay 4)
MD Reference: KB @ 3696.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
900.00	2.54	120.48	899.72	-1.55	18.33	-2.54	0.49	0.45	4.66
1,000.00	2.95	130.93	999.60	-4.36	22.18	-5.55	0.65	0.41	10.45
1,100.00	2.87	136.23	1,099.47	-7.85	25.86	-9.24	0.28	-0.08	5.30
1,200.00	2.67	148.92	1,199.36	-11.66	28.79	-13.20	0.64	-0.20	12.69
1,300.00	2.27	170.09	1,299.27	-15.60	30.34	-17.22	0.99	-0.40	21.17
1,400.00	1.92	181.29	1,399.20	-19.23	30.64	-20.86	0.54	-0.35	11.20
1,500.00	1.34	209.22	1,499.16	-21.92	30.03	-23.52	0.97	-0.58	27.93
1,600.00	1.21	253.27	1,599.14	-23.25	28.45	-24.75	0.96	-0.13	44.05
1,700.00	1.05	301.98	1,699.12	-23.07	26.66	-24.47	0.94	-0.16	48.71
1,800.00	1.36	345.78	1,799.10	-21.43	25.59	-22.78	0.94	0.31	43.80
1,900.00	1.81	12.00	1,899.06	-18.74	25.63	-20.09	0.84	0.45	26.22
2,000.00	1.52	44.17	1,999.02	-16.24	26.88	-17.67	0.96	-0.29	32.17
2,100.00	1.52	51.26	2,098.99	-14.46	28.84	-16.00	0.19	0.00	7.09
2,200.00	1.61	68.34	2,198.95	-13.11	31.18	-14.78	0.47	0.09	17.08
2,300.00	1.45	36.26	2,298.92	-11.57	33.23	-13.35	0.86	-0.16	-32.08
2,400.00	1.34	45.62	2,398.89	-9.73	34.82	-11.60	0.25	-0.11	9.36
2,500.00	1.47	45.49	2,498.86	-8.02	36.57	-9.98	0.13	0.13	-0.13
2,600.00	1.50	48.17	2,598.83	-6.24	38.46	-8.31	0.08	0.03	2.68
2,700.00	1.73	47.06	2,698.79	-4.34	40.54	-6.53	0.23	0.23	-1.11
2,800.00	2.41	52.54	2,798.72	-2.04	43.31	-4.37	0.71	0.68	5.48
2,900.00	3.37	54.54	2,898.59	0.95	47.38	-1.62	0.97	0.96	2.00
3,000.00	4.30	59.79	2,998.37	4.54	53.01	1.67	0.99	0.93	5.25
3,100.00	4.58	63.75	3,098.07	8.19	59.83	4.94	0.42	0.28	3.96
3,200.00	4.72	70.52	3,197.74	11.33	67.29	7.67	0.57	0.14	6.77
3,300.00	4.04	77.02	3,297.45	13.49	74.60	9.44	0.84	-0.68	6.50
3,400.00	3.89	75.70	3,397.21	15.12	81.32	10.70	0.18	-0.15	-1.32
3,500.00	3.18	81.93	3,497.02	16.35	87.36	11.60	0.81	-0.71	6.23
3,600.00	2.28	86.74	3,596.90	16.85	92.09	11.85	0.93	-0.90	4.81
3,700.00	1.79	92.97	3,696.84	16.88	95.63	11.69	0.54	-0.49	6.23
3,800.00	1.42	91.08	3,796.80	16.78	98.43	11.43	0.37	-0.37	-1.89
3,900.00	1.07	93.59	3,896.78	16.70	100.60	11.23	0.35	-0.35	2.51
4,000.00	0.87	92.27	3,996.76	16.61	102.29	11.05	0.20	-0.20	-1.32
4,100.00	0.70	99.75	4,096.75	16.48	103.65	10.85	0.20	-0.17	7.48
4,200.00	0.74	91.05	4,196.74	16.36	104.90	10.66	0.12	0.04	-8.70
4,300.00	0.31	120.83	4,296.74	16.21	105.78	10.47	0.50	-0.43	29.78
4,400.00	0.24	66.06	4,396.74	16.16	106.20	10.39	0.26	-0.07	-54.77
4,500.00	0.33	79.69	4,496.74	16.29	106.68	10.50	0.11	0.09	13.63
4,600.00	0.14	122.13	4,596.74	16.28	107.06	10.47	0.25	-0.19	42.44
4,700.00	0.24	103.80	4,696.74	16.17	107.37	10.33	0.12	0.10	-18.33
4,800.00	0.19	177.05	4,796.74	15.95	107.58	10.11	0.26	-0.05	73.25
4,900.00	0.21	237.63	4,896.74	15.69	107.44	9.85	0.20	0.02	60.58
5,000.00	0.21	220.44	4,996.73	15.45	107.16	9.63	0.06	0.00	-17.19
5,100.00	0.20	229.79	5,096.73	15.20	106.91	9.39	0.03	-0.01	9.35

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5,200.00	0.39	208.71	5,196.73	14.78	106.61	9.00	0.22	0.19	-21.08
5,300.00	0.50	239.50	5,296.73	14.26	106.07	8.51	0.26	0.11	30.79
5,374.00	0.59	241.64	5,370.73	13.92	105.46	8.20	0.12	0.12	2.89
5,703.00	1.10	256.20	5,699.69	12.36	100.90	6.89	0.17	0.16	4.43
First TDS MWD Survey									
5,798.00	1.00	258.10	5,794.67	11.97	99.21	6.59	0.11	-0.11	2.00
5,892.00	1.30	258.00	5,888.65	11.58	97.36	6.30	0.32	0.32	-0.11
5,986.00	1.20	259.90	5,982.63	11.19	95.35	6.02	0.12	-0.11	2.02
6,080.00	1.50	271.60	6,076.61	11.05	93.15	6.00	0.43	0.32	12.45
6,174.00	1.40	270.20	6,170.58	11.09	90.77	6.16	0.11	-0.11	-1.49
6,268.00	1.40	266.00	6,264.55	11.01	88.48	6.21	0.11	0.00	-4.47
6,362.00	1.50	270.00	6,358.52	10.93	86.10	6.26	0.15	0.11	4.26
6,456.00	1.50	272.50	6,452.49	10.99	83.64	6.45	0.07	0.00	2.66
6,550.00	1.80	269.20	6,546.45	11.02	80.94	6.63	0.33	0.32	-3.51
6,645.00	1.80	258.80	6,641.40	10.71	77.98	6.48	0.34	0.00	-10.95
6,739.00	1.80	257.20	6,735.35	10.09	75.09	6.02	0.05	0.00	-1.70
6,834.00	1.80	257.50	6,830.31	9.44	72.18	5.52	0.01	0.00	0.32
6,928.00	1.70	252.70	6,924.26	8.71	69.41	4.94	0.19	-0.11	-5.11
7,023.00	1.50	242.80	7,019.23	7.72	66.96	4.09	0.36	-0.21	-10.42
7,117.00	1.60	246.60	7,113.19	6.64	64.66	3.13	0.15	0.11	4.04
7,211.00	1.60	240.30	7,207.16	5.46	62.32	2.09	0.19	0.00	-6.70
7,305.00	1.50	243.70	7,301.12	4.27	60.07	1.01	0.14	-0.11	3.62
7,400.00	1.50	250.30	7,396.09	3.30	57.79	0.17	0.18	0.00	6.95
7,494.00	1.40	255.30	7,490.06	2.59	55.52	-0.41	0.17	-0.11	5.32
7,589.00	1.30	250.10	7,585.03	1.93	53.38	-0.96	0.17	-0.11	-5.47
7,683.00	1.30	258.10	7,679.01	1.35	51.34	-1.43	0.19	0.00	8.51
7,778.00	1.30	252.40	7,773.98	0.80	49.26	-1.86	0.14	0.00	-6.00
7,872.00	1.20	240.80	7,867.96	0.00	47.38	-2.56	0.29	-0.11	-12.34
7,966.00	1.10	243.60	7,961.94	-0.88	45.71	-3.35	0.12	-0.11	2.98
8,061.00	1.40	239.20	8,056.92	-1.88	43.90	-4.25	0.33	0.32	-4.63
8,155.00	1.30	251.50	8,150.89	-2.81	41.90	-5.07	0.33	-0.11	13.09
8,250.00	1.30	243.70	8,245.87	-3.63	39.91	-5.78	0.19	0.00	-8.21
8,344.00	1.20	251.70	8,339.85	-4.41	38.02	-6.46	0.21	-0.11	8.51
8,439.00	1.20	264.10	8,434.83	-4.82	36.09	-6.77	0.27	0.00	13.05
8,533.00	1.00	280.60	8,528.81	-4.77	34.30	-6.62	0.40	-0.21	17.55
8,628.00	0.60	293.60	8,623.80	-4.42	33.03	-6.20	0.46	-0.42	13.68
8,722.00	0.50	256.00	8,717.80	-4.33	32.18	-6.06	0.39	-0.11	-40.00
8,816.00	0.40	93.00	8,811.80	-4.44	32.11	-6.17	0.95	-0.11	-173.40
8,911.00	1.10	107.80	8,906.79	-4.74	33.31	-6.53	0.76	0.74	15.58
9,005.00	0.40	160.60	9,000.78	-5.32	34.28	-7.17	0.97	-0.74	56.17
9,100.00	1.20	315.60	9,095.77	-4.93	33.70	-6.74	1.65	0.84	163.16
9,194.00	1.10	311.70	9,189.75	-3.62	32.33	-5.37	0.14	-0.11	-4.15
9,288.00	0.90	318.50	9,283.74	-2.47	31.17	-4.15	0.25	-0.21	7.23
9,334.00	0.70	339.80	9,329.74	-1.93	30.83	-3.60	0.77	-0.43	46.30

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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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)
9,428.00	0.70	350.00	9,423.73	-0.83	30.54	-2.48	0.13	0.00	10.85
9,522.00	0.80	350.20	9,517.72	0.38	30.32	-1.26	0.11	0.11	0.21
9,617.00	0.80	346.30	9,612.71	1.68	30.05	0.05	0.06	0.00	-4.11
9,711.00	0.90	343.40	9,706.70	3.02	29.69	1.42	0.12	0.11	-3.09
9,805.00	0.90	342.20	9,800.69	4.44	29.25	2.85	0.02	0.00	-1.28
9,868.00	2.30	346.10	9,863.66	6.13	28.80	4.57	2.23	2.22	6.19
9,899.00	4.30	351.70	9,894.61	7.89	28.48	6.34	6.53	6.45	18.06
9,946.00	9.10	351.30	9,941.28	13.31	27.66	11.79	10.21	10.21	-0.85
9,993.00	14.80	354.20	9,987.24	22.96	26.49	21.50	12.19	12.13	6.17
10,040.00	20.60	355.80	10,031.99	37.19	25.28	35.77	12.38	12.34	3.40
10,088.00	25.30	355.10	10,076.18	55.84	23.78	54.48	9.81	9.79	-1.46
10,135.00	29.10	351.50	10,117.98	77.16	21.24	75.90	8.81	8.09	-7.66
10,182.00	34.00	349.80	10,158.02	101.42	17.22	100.34	10.59	10.43	-3.62
10,229.00	38.00	349.80	10,196.04	128.60	12.33	127.74	8.51	8.51	0.00
10,276.00	40.40	353.90	10,232.46	157.99	8.14	157.32	7.51	5.11	8.72
10,323.00	44.00	357.10	10,267.28	189.45	5.70	188.87	8.92	7.66	6.81
10,370.00	48.10	356.40	10,299.89	223.23	3.77	222.70	8.79	8.72	-1.49
10,417.00	53.90	354.80	10,329.46	259.63	0.95	259.20	12.62	12.34	-3.40
10,464.00	60.20	354.60	10,355.01	298.88	-2.69	298.59	13.41	13.40	-0.43
10,511.00	66.10	356.40	10,376.23	340.66	-5.96	340.49	13.01	12.55	3.83
10,558.00	69.10	356.80	10,394.14	384.04	-8.54	383.94	6.43	6.38	0.85
10,605.00	71.50	356.50	10,409.98	428.21	-11.13	428.18	5.14	5.11	-0.64
10,652.00	77.10	356.30	10,422.69	473.35	-13.97	473.41	11.92	11.91	-0.43
Last TDS MWD Survey - First SLB MWD Survey									
10,687.00	80.91	355.46	10,429.37	507.61	-16.44	507.75	11.14	10.89	-2.40
10,719.00	82.12	355.40	10,434.09	539.16	-18.96	539.39	3.79	3.78	-0.19
10,750.00	82.25	355.25	10,438.30	569.77	-21.46	570.09	0.64	0.42	-0.48
10,782.00	83.46	354.99	10,442.28	601.40	-24.16	601.83	3.87	3.78	-0.81
10,813.00	86.06	354.42	10,445.12	632.14	-27.01	632.67	8.58	8.39	-1.84
10,844.00	87.09	354.66	10,446.97	662.94	-29.95	663.59	3.41	3.32	0.77
10,876.00	87.20	354.86	10,448.56	694.77	-32.87	695.53	0.71	0.34	0.63
10,907.00	88.38	355.35	10,449.76	725.63	-35.52	726.49	4.12	3.81	1.58
10,938.00	89.97	356.06	10,450.20	756.54	-37.84	757.48	5.62	5.13	2.29
10,970.00	90.27	356.20	10,450.14	788.47	-40.00	789.48	1.03	0.94	0.44
11,064.00	91.40	356.77	10,448.77	882.28	-45.76	883.46	1.35	1.20	0.61
11,158.00	90.21	357.10	10,447.45	976.13	-50.79	977.45	1.31	-1.27	0.35
11,252.00	90.27	357.57	10,447.05	1,070.03	-55.16	1,071.45	0.50	0.06	0.50
11,347.00	90.78	357.92	10,446.18	1,164.95	-58.89	1,166.43	0.65	0.54	0.37
11,441.00	90.23	356.75	10,445.35	1,258.84	-63.26	1,260.42	1.38	-0.59	-1.24
11,535.00	91.29	356.98	10,444.11	1,352.69	-68.40	1,354.41	1.15	1.13	0.24
11,629.00	88.08	357.38	10,444.62	1,446.57	-73.03	1,448.40	3.44	-3.41	0.43
11,723.00	87.88	357.10	10,447.94	1,540.40	-77.55	1,542.34	0.37	-0.21	-0.30
11,817.00	88.65	356.20	10,450.78	1,634.19	-83.04	1,636.29	1.26	0.82	-0.96

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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Single User Db

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)
11,911.00	89.70	355.68	10,452.14	1,727.95	-89.70	1,730.27	1.25	1.12	-0.55
12,006.00	90.30	355.94	10,452.14	1,822.69	-96.64	1,825.25	0.69	0.63	0.27
12,100.00	90.96	355.61	10,451.10	1,916.43	-103.56	1,919.23	0.78	0.70	-0.35
12,194.00	91.00	356.35	10,449.49	2,010.18	-110.15	2,013.20	0.79	0.04	0.79
12,288.00	90.36	356.73	10,448.38	2,104.01	-115.82	2,107.19	0.79	-0.68	0.40
12,382.00	90.91	356.63	10,447.34	2,197.84	-121.27	2,201.18	0.59	0.59	-0.11
12,477.00	89.44	356.23	10,447.05	2,292.65	-127.18	2,296.18	1.60	-1.55	-0.42
12,570.00	89.59	356.19	10,447.83	2,385.45	-133.33	2,389.17	0.17	0.16	-0.04
12,665.00	90.43	355.91	10,447.82	2,480.22	-139.87	2,484.16	0.93	0.88	-0.29
12,759.00	89.55	356.94	10,447.83	2,574.04	-145.74	2,578.15	1.44	-0.94	1.10
12,853.00	89.99	356.94	10,448.21	2,667.90	-150.75	2,672.15	0.47	0.47	0.00
12,947.00	91.18	356.94	10,447.25	2,761.76	-155.77	2,766.14	1.27	1.27	0.00
13,042.00	90.10	357.40	10,446.19	2,856.64	-160.46	2,861.13	1.24	-1.14	0.48
13,136.00	89.24	357.33	10,446.73	2,950.53	-164.78	2,955.13	0.92	-0.91	-0.07
13,230.00	88.91	357.12	10,448.25	3,044.41	-169.33	3,049.11	0.42	-0.35	-0.22
13,324.00	89.37	356.88	10,449.66	3,138.27	-174.25	3,143.10	0.55	0.49	-0.26
13,418.00	89.57	357.44	10,450.53	3,232.15	-178.91	3,237.10	0.63	0.21	0.60
13,513.00	88.91	357.38	10,451.79	3,327.05	-183.20	3,332.09	0.70	-0.69	-0.06
13,607.00	88.76	356.63	10,453.70	3,420.90	-188.11	3,426.07	0.81	-0.16	-0.80
13,701.00	89.68	356.31	10,454.98	3,514.71	-193.90	3,520.05	1.04	0.98	-0.34
13,795.00	89.59	356.07	10,455.58	3,608.50	-200.14	3,614.04	0.27	-0.10	-0.26
13,889.00	89.68	356.75	10,456.18	3,702.31	-206.03	3,708.04	0.73	0.10	0.72
13,983.00	88.80	357.07	10,457.43	3,796.17	-211.10	3,802.03	1.00	-0.94	0.34
14,078.00	89.73	356.39	10,458.64	3,891.00	-216.52	3,897.02	1.21	0.98	-0.72
14,172.00	89.11	356.99	10,459.60	3,984.84	-221.94	3,991.01	0.92	-0.66	0.64
14,266.00	89.31	356.89	10,460.89	4,078.70	-226.96	4,085.00	0.24	0.21	-0.11
14,360.00	89.29	356.88	10,462.04	4,172.55	-232.07	4,179.00	0.02	-0.02	-0.01
14,454.00	89.95	356.51	10,462.66	4,266.39	-237.49	4,272.99	0.80	0.70	-0.39
14,548.00	90.41	355.42	10,462.37	4,360.16	-244.10	4,366.98	1.26	0.49	-1.16
14,643.00	90.38	357.49	10,461.71	4,454.97	-249.97	4,461.97	2.18	-0.03	2.18
14,737.00	91.11	357.68	10,460.49	4,548.88	-253.94	4,555.95	0.80	0.78	0.20
14,831.00	90.89	357.29	10,458.85	4,642.77	-258.06	4,649.93	0.48	-0.23	-0.41
14,925.00	90.38	356.92	10,457.81	4,736.65	-262.81	4,743.93	0.67	-0.54	-0.39
15,020.00	90.19	356.54	10,457.34	4,831.49	-268.23	4,838.92	0.45	-0.20	-0.40
15,114.00	91.35	356.19	10,456.07	4,925.29	-274.18	4,932.91	1.29	1.23	-0.37
15,208.00	90.41	356.86	10,454.63	5,019.10	-279.88	5,026.90	1.23	-1.00	0.71
15,302.00	89.42	358.34	10,454.77	5,113.02	-283.82	5,120.88	1.89	-1.05	1.57
15,397.00	89.20	358.14	10,455.91	5,207.97	-286.73	5,215.85	0.31	-0.23	-0.21
15,491.00	89.55	358.03	10,456.94	5,301.91	-289.88	5,309.83	0.39	0.37	-0.12
15,585.00	90.63	358.04	10,456.79	5,395.85	-293.10	5,403.81	1.15	1.15	0.01
15,679.00	91.59	357.01	10,454.97	5,489.74	-297.16	5,497.78	1.50	1.02	-1.10
15,773.00	91.20	357.27	10,452.68	5,583.60	-301.85	5,591.75	0.50	-0.41	0.28
15,868.00	90.69	357.21	10,451.11	5,678.47	-306.42	5,686.74	0.54	-0.54	-0.06



Survey Report



Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #35H
Well: Lea Unit #35H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Lea Unit #35H
TVD Reference: KB @ 3696.00usft (McVay 4)
MD Reference: KB @ 3696.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
15,962.00	91.83	356.89	10,449.05	5,772.33	-311.26	5,780.71	1.26	1.21	-0.34
16,056.00	91.51	357.22	10,446.31	5,866.16	-316.08	5,874.67	0.49	-0.34	0.35
16,151.00	92.47	357.14	10,443.01	5,960.99	-320.75	5,969.61	1.01	1.01	-0.08
16,245.00	91.51	356.93	10,439.74	6,054.80	-325.61	6,063.55	1.05	-1.02	-0.22
16,339.00	90.05	357.01	10,438.47	6,148.66	-330.58	6,157.54	1.56	-1.55	0.09
16,433.00	90.63	356.55	10,437.91	6,242.51	-335.86	6,251.54	0.79	0.62	-0.49
16,528.00	91.79	356.31	10,435.90	6,337.30	-341.78	6,346.51	1.25	1.22	-0.25
16,622.00	92.19	357.47	10,432.64	6,431.11	-346.87	6,440.45	1.30	0.43	1.23
16,716.00	91.04	356.20	10,429.99	6,524.92	-352.06	6,534.41	1.82	-1.22	-1.35
16,811.00	88.56	357.04	10,430.32	6,619.75	-357.66	6,629.40	2.76	-2.61	0.88
16,905.00	89.15	356.62	10,432.20	6,713.59	-362.86	6,723.38	0.77	0.63	-0.45
16,999.00	89.81	356.25	10,433.05	6,807.40	-368.70	6,817.38	0.80	0.70	-0.39
17,093.00	90.32	356.10	10,432.94	6,901.19	-374.97	6,911.37	0.57	0.54	-0.16
17,187.00	91.59	355.66	10,431.38	6,994.93	-381.73	7,005.34	1.43	1.35	-0.47
17,282.00	90.54	356.71	10,429.61	7,089.70	-388.05	7,100.31	1.56	-1.11	1.11
17,376.00	91.31	356.57	10,428.09	7,183.53	-393.55	7,194.30	0.83	0.82	-0.15
17,470.00	90.19	356.96	10,426.86	7,277.37	-398.86	7,288.29	1.26	-1.19	0.41
17,564.00	90.30	356.45	10,426.46	7,371.21	-404.26	7,382.29	0.56	0.12	-0.54
17,659.00	91.07	356.03	10,425.33	7,466.00	-410.49	7,477.27	0.92	0.81	-0.44
17,753.00	91.35	356.20	10,423.34	7,559.76	-416.86	7,571.24	0.35	0.30	0.18
17,847.00	91.53	355.06	10,420.98	7,653.46	-424.02	7,665.19	1.23	0.19	-1.21
17,941.00	92.10	354.13	10,418.00	7,746.99	-432.87	7,759.06	1.16	0.61	-0.99
18,035.00	92.65	353.38	10,414.11	7,840.35	-443.08	7,852.84	0.99	0.59	-0.80
Last SLB MWD Survey									
18,141.00	92.65	353.38	10,409.21	7,945.53	-455.29	7,958.53	0.00	0.00	0.00
Proj to Bit									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,703.00	5,699.69	12.36	100.90	First TDS MWD Survey
10,652.00	10,422.69	473.35	-13.97	Last TDS MWD Survey
10,652.00	10,422.69	473.35	-13.97	First SLB MWD Survey
18,035.00	10,414.11	7,840.35	-443.08	Last SLB MWD Survey
18,141.00	10,409.21	7,945.53	-455.29	Proj to Bit

Checked By: _____

Approved By: _____

Date: _____