



Legacy Reserves

Lea County, NM (NAD-27 2015)

Lea Unit #39H

Lea Unit #39H

30-025-42986

Lateral #1

Design: Lateral #1

Standard Survey Report

01 September, 2016



Company:	Legacy Reserves	Local Co-ordinate Reference:	Well Lea Unit #39H
Project:	Lea County, NM (NAD-27 2015)	TVD Reference:	KB @ 3695.00usft (McVay 4)
Site:	Lea Unit #39H	MD Reference:	KB @ 3695.00usft (McVay 4)
Well:	Lea Unit #39H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	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 #39H, Sec 24, T-20S, R-34E, Unit L		
Site Position:		Northing:	567,479.30 usft
From:	Map	Easting:	750,878.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32° 33' 26.895 N
		Longitude:	103° 31' 8.686 W
		Grid Convergence:	0.44 °

Well	Lea Unit #39H		
Well Position	+N/-S	0.00 usft	Northing: 567,479.30 usft
	+E/-W	0.00 usft	Easting: 750,878.90 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,695.00 usft
		Latitude:	32° 33' 26.895 N
		Longitude:	103° 31' 8.686 W
		Ground Level:	3,677.00 usft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/10/2016	7.05	60.39	48,228

Design	Lateral #1				
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	359.85	

Survey Program	Date	9/1/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	5,300.00	VES Gyro #1 (Lateral #1)	VES-ISCWSA-GYRO-3	Biaxial Semi-Cont. Gyro	
5,386.00	17,348.00	TDS MWD #2 (from gyro) (Lateral #1)	MWD	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	0.43	355.33	100.00	0.37	-0.03	0.37	0.43	0.43	0.00	
200.00	0.93	340.14	199.99	1.51	-0.34	1.51	0.53	0.50	-15.19	
300.00	1.95	142.09	299.98	0.93	0.43	0.93	2.85	1.02	161.95	
400.00	2.87	144.34	399.89	-2.44	2.94	-2.45	0.92	0.92	2.25	
500.00	2.13	142.28	499.79	-5.95	5.53	-5.96	0.75	-0.74	-2.06	
600.00	1.94	140.99	599.73	-8.73	7.74	-8.75	0.20	-0.19	-1.29	
700.00	1.68	145.57	699.68	-11.26	9.63	-11.28	0.30	-0.26	4.58	
800.00	1.35	153.54	799.64	-13.52	10.98	-13.55	0.39	-0.33	7.97	
900.00	1.17	157.08	899.62	-15.52	11.91	-15.55	0.20	-0.18	3.54	

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #39H
Well: Lea Unit #39H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Well Lea Unit #39H
TVD Reference: KB @ 3695.00usft (McVay 4)
MD Reference: KB @ 3695.00usft (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)
1,000.00	1.18	168.86	999.60	-17.47	12.50	-17.50	0.24	0.01	11.78
1,100.00	0.98	174.11	1,099.58	-19.33	12.79	-19.36	0.22	-0.20	5.25
1,200.00	1.03	163.72	1,199.57	-21.04	13.13	-21.08	0.19	0.05	-10.39
1,300.00	0.98	154.63	1,299.55	-22.68	13.75	-22.71	0.17	-0.05	-9.09
1,400.00	0.86	165.29	1,399.54	-24.18	14.31	-24.21	0.21	-0.12	10.66
1,500.00	0.54	191.34	1,499.53	-25.36	14.40	-25.40	0.44	-0.32	26.05
1,600.00	0.30	253.46	1,599.53	-25.90	14.06	-25.94	0.48	-0.24	62.12
1,700.00	0.25	237.45	1,699.53	-26.09	13.62	-26.13	0.09	-0.05	-16.01
1,800.00	0.32	211.90	1,799.53	-26.45	13.29	-26.48	0.14	0.07	-25.55
1,900.00	0.62	164.95	1,899.52	-27.21	13.29	-27.24	0.46	0.30	-46.95
2,000.00	1.64	147.65	1,999.50	-28.94	14.19	-28.97	1.06	1.02	-17.30
2,100.00	1.21	146.96	2,099.47	-31.03	15.53	-31.07	0.43	-0.43	-0.69
2,200.00	1.41	151.56	2,199.44	-33.00	16.70	-33.04	0.23	0.20	4.60
2,300.00	1.17	149.49	2,299.42	-34.96	17.80	-35.01	0.24	-0.24	-2.07
2,400.00	1.00	144.91	2,399.40	-36.55	18.82	-36.60	0.19	-0.17	-4.58
2,500.00	2.87	122.47	2,499.34	-38.61	21.43	-38.67	1.98	1.87	-22.44
2,600.00	2.65	113.16	2,599.22	-40.86	25.67	-40.93	0.50	-0.22	-9.31
2,700.00	2.33	110.45	2,699.13	-42.48	29.70	-42.56	0.34	-0.32	-2.71
2,800.00	2.56	106.15	2,799.04	-43.82	33.75	-43.90	0.29	0.23	-4.30
2,900.00	2.34	103.52	2,898.95	-44.91	37.88	-45.01	0.25	-0.22	-2.63
3,000.00	2.26	106.30	2,998.87	-45.94	41.76	-46.05	0.14	-0.08	2.78
3,100.00	2.01	114.77	3,098.80	-47.23	45.24	-47.35	0.40	-0.25	8.47
3,200.00	1.92	108.53	3,198.74	-48.50	48.42	-48.63	0.23	-0.09	-6.24
3,300.00	1.51	105.33	3,298.69	-49.38	51.28	-49.51	0.42	-0.41	-3.20
3,400.00	1.61	102.25	3,398.66	-50.03	53.93	-50.17	0.13	0.10	-3.08
3,500.00	1.36	99.46	3,498.62	-50.52	56.47	-50.67	0.26	-0.25	-2.79
3,600.00	1.27	97.09	3,598.60	-50.85	58.74	-51.00	0.11	-0.09	-2.37
3,700.00	0.99	98.52	3,698.58	-51.12	60.69	-51.27	0.28	-0.28	1.43
3,800.00	0.75	104.70	3,798.57	-51.41	62.18	-51.57	0.26	-0.24	6.18
3,900.00	0.65	107.95	3,898.56	-51.75	63.35	-51.92	0.11	-0.10	3.25
4,000.00	0.54	102.74	3,998.55	-52.03	64.35	-52.20	0.12	-0.11	-5.21
4,100.00	0.45	93.74	4,098.55	-52.16	65.21	-52.33	0.12	-0.09	-9.00
4,200.00	0.51	104.83	4,198.55	-52.30	66.03	-52.47	0.11	0.06	11.09
4,300.00	0.55	84.24	4,298.54	-52.37	66.94	-52.54	0.19	0.04	-20.59
4,400.00	0.51	85.16	4,398.54	-52.28	67.86	-52.46	0.04	-0.04	0.92
4,500.00	0.43	75.30	4,498.53	-52.15	68.66	-52.32	0.11	-0.08	-9.86
4,600.00	0.35	76.18	4,598.53	-51.98	69.32	-52.16	0.08	-0.08	0.88
4,700.00	0.38	57.70	4,698.53	-51.73	69.90	-51.91	0.12	0.03	-18.48
4,800.00	0.39	67.41	4,798.53	-51.42	70.49	-51.60	0.07	0.01	9.71
4,900.00	0.38	64.92	4,898.53	-51.15	71.11	-51.33	0.02	-0.01	-2.49
5,000.00	0.29	88.25	4,998.52	-51.00	71.66	-51.19	0.16	-0.09	23.33
5,100.00	0.53	154.90	5,098.52	-51.41	72.11	-51.60	0.49	0.24	66.65
5,200.00	0.45	165.14	5,198.52	-52.21	72.41	-52.40	0.12	-0.08	10.24

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #39H
Well: Lea Unit #39H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Well Lea Unit #39H
TVD Reference: KB @ 3695.00usft (McVay 4)
MD Reference: KB @ 3695.00usft (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)
5,300.00	0.61	163.71	5,298.51	-53.10	72.66	-53.29	0.16	0.16	-1.43
Tie-In to VES Gyro									
5,386.00	0.60	188.60	5,384.51	-53.99	72.72	-54.17	0.30	-0.01	28.94
First TDS MWD Survey									
5,480.00	0.50	183.90	5,478.50	-54.88	72.62	-55.07	0.12	-0.11	-5.00
5,537.00	0.70	164.60	5,535.50	-55.47	72.69	-55.65	0.49	0.35	-33.86
5,639.00	0.60	183.50	5,637.50	-56.60	72.83	-56.79	0.23	-0.10	18.53
5,702.00	0.60	192.10	5,700.49	-57.25	72.74	-57.44	0.14	0.00	13.65
5,796.00	0.60	194.70	5,794.49	-58.21	72.51	-58.40	0.03	0.00	2.77
5,890.00	0.70	189.60	5,888.48	-59.25	72.29	-59.44	0.12	0.11	-5.43
5,984.00	0.80	192.30	5,982.47	-60.46	72.05	-60.64	0.11	0.11	2.87
6,079.00	0.80	227.10	6,077.46	-61.56	71.42	-61.74	0.50	0.00	36.63
6,173.00	0.90	228.40	6,171.45	-62.49	70.39	-62.68	0.11	0.11	1.38
6,267.00	1.00	233.90	6,265.44	-63.47	69.18	-63.65	0.14	0.11	5.85
6,361.00	0.80	224.60	6,359.43	-64.42	68.05	-64.59	0.26	-0.21	-9.89
6,455.00	0.70	207.40	6,453.42	-65.40	67.33	-65.57	0.26	-0.11	-18.30
6,550.00	0.80	205.00	6,548.41	-66.51	66.78	-66.68	0.11	0.11	-2.53
6,644.00	0.90	209.80	6,642.40	-67.75	66.14	-67.92	0.13	0.11	5.11
6,738.00	0.90	207.10	6,736.39	-69.04	65.43	-69.21	0.05	0.00	-2.87
6,832.00	1.00	217.30	6,830.38	-70.35	64.60	-70.52	0.21	0.11	10.85
6,926.00	0.90	193.90	6,924.37	-71.72	63.93	-71.89	0.42	-0.11	-24.89
7,021.00	1.00	172.40	7,019.35	-73.27	63.86	-73.43	0.39	0.11	-22.63
7,115.00	1.00	166.70	7,113.34	-74.88	64.15	-75.05	0.11	0.00	-6.06
7,210.00	1.10	167.00	7,208.32	-76.58	64.55	-76.74	0.11	0.11	0.32
7,304.00	0.90	177.30	7,302.31	-78.19	64.79	-78.36	0.29	-0.21	10.96
7,398.00	0.80	178.50	7,396.30	-79.59	64.84	-79.75	0.11	-0.11	1.28
7,493.00	0.90	188.50	7,491.29	-80.99	64.75	-81.15	0.19	0.11	10.53
7,587.00	1.00	193.60	7,585.27	-82.51	64.44	-82.68	0.14	0.11	5.43
7,682.00	1.00	188.60	7,680.26	-84.14	64.13	-84.31	0.09	0.00	-5.26
7,776.00	1.20	188.40	7,774.24	-85.92	63.86	-86.09	0.21	0.21	-0.21
7,870.00	1.30	185.50	7,868.22	-87.96	63.61	-88.12	0.13	0.11	-3.09
7,965.00	1.30	188.50	7,963.20	-90.10	63.35	-90.26	0.07	0.00	3.16
8,059.00	1.40	183.50	8,057.17	-92.30	63.12	-92.46	0.16	0.11	-5.32
8,153.00	1.30	170.80	8,151.14	-94.50	63.22	-94.66	0.33	-0.11	-13.51
8,248.00	1.60	174.00	8,246.11	-96.88	63.53	-97.04	0.33	0.32	3.37
8,342.00	1.10	170.80	8,340.09	-99.08	63.82	-99.24	0.54	-0.53	-3.40
8,437.00	0.40	190.00	8,435.08	-100.30	63.90	-100.47	0.77	-0.74	20.21
8,531.00	0.30	198.40	8,529.08	-100.86	63.77	-101.02	0.12	-0.11	8.94
8,625.00	0.10	198.70	8,623.08	-101.17	63.67	-101.34	0.21	-0.21	0.32
8,719.00	0.10	231.00	8,717.08	-101.30	63.58	-101.46	0.06	0.00	34.36
8,814.00	0.30	2.50	8,812.08	-101.10	63.52	-101.27	0.39	0.21	138.42
8,908.00	0.80	348.70	8,906.07	-100.21	63.40	-100.38	0.55	0.53	-14.68
8,963.00	1.60	342.10	8,961.06	-99.11	63.09	-99.27	1.47	1.45	-12.00
9,010.00	7.70	346.80	9,007.88	-95.41	62.17	-95.57	12.99	12.98	10.00

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #39H
Well: Lea Unit #39H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Well Lea Unit #39H
TVD Reference: KB @ 3695.00usft (McVay 4)
MD Reference: KB @ 3695.00usft (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)
9,057.00	14.10	354.40	9,054.01	-86.64	60.89	-86.80	13.93	13.62	16.17
9,104.00	21.80	359.30	9,098.69	-72.19	60.23	-72.35	16.68	16.38	10.43
9,152.00	24.60	0.80	9,142.81	-53.29	60.26	-53.44	5.96	5.83	3.13
9,199.00	26.40	2.90	9,185.23	-33.07	60.92	-33.23	4.29	3.83	4.47
9,246.00	29.00	1.80	9,226.84	-11.24	61.81	-11.40	5.64	5.53	-2.34
9,293.00	33.50	359.30	9,267.01	13.13	62.01	12.97	9.96	9.57	-5.32
9,340.00	36.50	358.90	9,305.51	40.08	61.58	39.92	6.40	6.38	-0.85
9,387.00	40.80	359.10	9,342.20	69.42	61.07	69.26	9.15	9.15	0.43
9,434.00	45.50	0.50	9,376.48	101.56	60.98	101.40	10.20	10.00	2.98
9,481.00	50.90	2.60	9,407.80	136.56	61.95	136.40	11.96	11.49	4.47
9,528.00	55.20	2.70	9,436.05	174.07	63.69	173.91	9.15	9.15	0.21
9,575.00	57.00	2.90	9,462.26	213.04	65.59	212.87	3.85	3.83	0.43
9,622.00	60.60	0.50	9,486.61	253.21	66.77	253.04	8.82	7.66	-5.11
9,669.00	64.20	358.30	9,508.38	294.85	66.32	294.68	8.71	7.66	-4.68
9,716.00	67.60	356.60	9,527.57	337.70	64.40	337.53	7.95	7.23	-3.62
9,763.00	68.70	356.10	9,545.06	381.24	61.63	381.07	2.54	2.34	-1.06
9,811.00	69.80	356.20	9,562.07	426.02	58.61	425.87	2.30	2.29	0.21
9,858.00	72.70	356.90	9,577.17	470.44	55.94	470.29	6.33	6.17	1.49
9,905.00	77.10	357.30	9,589.41	515.75	53.64	515.61	9.40	9.36	0.85
9,952.00	81.50	357.80	9,598.14	561.88	51.67	561.74	9.42	9.36	1.06
10,026.00	88.30	357.70	9,604.71	635.48	48.78	635.36	9.19	9.19	-0.14
10,090.87	89.96	358.53	9,605.70	700.31	46.64	700.19	2.85	2.55	1.28
As-Drilled FTP									
10,120.00	90.70	358.90	9,605.53	729.43	45.99	729.31	2.85	2.55	1.28
10,215.00	92.00	359.10	9,603.30	824.39	44.33	824.27	1.38	1.37	0.21
10,309.00	91.20	359.40	9,600.67	918.34	43.10	918.23	0.91	-0.85	0.32
10,403.00	90.60	359.90	9,599.19	1,012.33	42.53	1,012.21	0.83	-0.64	0.53
10,497.00	91.40	0.00	9,597.55	1,106.31	42.45	1,106.20	0.86	0.85	0.11
10,591.00	90.40	0.40	9,596.08	1,200.30	42.78	1,200.18	1.15	-1.06	0.43
10,685.00	89.50	359.20	9,596.16	1,294.30	42.45	1,294.18	1.60	-0.96	-1.28
10,780.00	89.90	358.10	9,596.66	1,389.27	40.21	1,389.16	1.23	0.42	-1.16
10,874.00	90.50	358.70	9,596.33	1,483.23	37.58	1,483.13	0.90	0.64	0.64
10,968.00	90.10	358.80	9,595.84	1,577.20	35.53	1,577.11	0.44	-0.43	0.11
11,062.00	89.60	359.50	9,596.08	1,671.19	34.14	1,671.10	0.92	-0.53	0.74
11,156.00	89.80	0.40	9,596.57	1,765.19	34.06	1,765.10	0.98	0.21	0.96
11,250.00	89.60	0.80	9,597.07	1,859.18	35.04	1,859.09	0.48	-0.21	0.43
11,345.00	90.10	1.20	9,597.32	1,954.17	36.70	1,954.07	0.67	0.53	0.42
11,439.00	89.10	0.50	9,597.97	2,048.15	38.09	2,048.05	1.30	-1.06	-0.74
11,533.00	89.40	0.70	9,599.20	2,142.14	39.08	2,142.03	0.38	0.32	0.21
11,627.00	90.10	1.20	9,599.61	2,236.13	40.64	2,236.01	0.92	0.74	0.53
11,721.00	90.30	0.60	9,599.28	2,330.11	42.11	2,330.00	0.67	0.21	-0.64
11,815.00	90.70	0.20	9,598.46	2,424.11	42.77	2,423.99	0.60	0.43	-0.43
11,910.00	90.20	358.90	9,597.72	2,519.10	42.02	2,518.98	1.47	-0.53	-1.37

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #39H
Well: Lea Unit #39H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Well Lea Unit #39H
TVD Reference: KB @ 3695.00usft (McVay 4)
MD Reference: KB @ 3695.00usft (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)	
12,004.00	90.50	358.60	9,597.14	2,613.07	39.97	2,612.96	0.45	0.32	-0.32	
12,098.00	91.30	0.00	9,595.67	2,707.05	38.82	2,706.94	1.72	0.85	1.49	
12,192.00	90.90	359.50	9,593.86	2,801.03	38.41	2,800.93	0.68	-0.43	-0.53	
12,286.00	88.40	358.40	9,594.44	2,895.01	36.69	2,894.90	2.91	-2.66	-1.17	
12,380.00	89.80	358.80	9,595.91	2,988.97	34.40	2,988.87	1.55	1.49	0.43	
12,475.00	89.10	359.40	9,596.83	3,083.95	32.90	3,083.85	0.97	-0.74	0.63	
12,569.00	89.20	359.60	9,598.22	3,177.93	32.08	3,177.84	0.24	0.11	0.21	
12,663.00	89.20	359.90	9,599.53	3,271.92	31.67	3,271.83	0.32	0.00	0.32	
12,757.00	90.60	359.80	9,599.70	3,365.92	31.43	3,365.83	1.49	1.49	-0.11	
12,852.00	91.50	359.90	9,597.96	3,460.90	31.18	3,460.81	0.95	0.95	0.11	
12,946.00	91.00	359.40	9,595.90	3,554.88	30.60	3,554.79	0.75	-0.53	-0.53	
13,041.00	91.10	359.20	9,594.16	3,649.86	29.44	3,649.77	0.24	0.11	-0.21	
13,135.00	91.30	359.10	9,592.20	3,743.83	28.05	3,743.74	0.24	0.21	-0.11	
13,229.00	90.40	358.30	9,590.80	3,837.79	25.92	3,837.71	1.28	-0.96	-0.85	
13,323.00	90.70	358.10	9,589.90	3,931.74	22.97	3,931.67	0.38	0.32	-0.21	
13,417.00	91.10	357.90	9,588.42	4,025.67	19.68	4,025.60	0.48	0.43	-0.21	
13,512.00	89.90	358.70	9,587.59	4,120.62	16.87	4,120.56	1.52	-1.26	0.84	
13,606.00	90.20	358.80	9,587.51	4,214.60	14.82	4,214.55	0.34	0.32	0.11	
13,700.00	90.20	359.00	9,587.18	4,308.58	13.01	4,308.53	0.21	0.00	0.21	
13,794.00	89.90	358.60	9,587.10	4,402.56	11.04	4,402.52	0.53	-0.32	-0.43	
13,889.00	89.90	358.90	9,587.27	4,497.54	8.97	4,497.50	0.32	0.00	0.32	
13,983.00	90.10	359.40	9,587.27	4,591.53	7.58	4,591.49	0.57	0.21	0.53	
14,077.00	89.50	359.10	9,587.59	4,685.52	6.35	4,685.49	0.71	-0.64	-0.32	
14,171.00	89.00	359.00	9,588.83	4,779.50	4.79	4,779.47	0.54	-0.53	-0.11	
14,265.00	89.40	358.80	9,590.14	4,873.47	2.98	4,873.45	0.48	0.43	-0.21	
14,359.00	89.50	359.10	9,591.04	4,967.45	1.26	4,967.43	0.34	0.11	0.32	
14,454.00	91.00	2.80	9,590.63	5,062.42	2.84	5,062.39	4.20	1.58	3.89	
14,548.00	91.10	2.30	9,588.90	5,156.31	7.02	5,156.27	0.54	0.11	-0.53	
14,642.00	90.20	0.80	9,587.84	5,250.26	9.56	5,250.22	1.86	-0.96	-1.60	
14,736.00	90.50	0.50	9,587.26	5,344.25	10.63	5,344.21	0.45	0.32	-0.32	
14,831.00	90.90	0.30	9,586.10	5,439.24	11.29	5,439.20	0.47	0.42	-0.21	
14,925.00	89.80	0.50	9,585.53	5,533.24	11.94	5,533.19	1.19	-1.17	0.21	
15,019.00	90.20	0.90	9,585.53	5,627.23	13.09	5,627.18	0.60	0.43	0.43	
15,113.00	89.90	359.80	9,585.45	5,721.23	13.67	5,721.17	1.21	-0.32	-1.17	
15,207.00	90.10	359.60	9,585.45	5,815.23	13.18	5,815.17	0.30	0.21	-0.21	
15,302.00	90.60	359.70	9,584.87	5,910.22	12.59	5,910.17	0.54	0.53	0.11	
15,396.00	89.30	359.00	9,584.95	6,004.21	11.53	6,004.16	1.57	-1.38	-0.74	
15,490.00	89.40	359.10	9,586.01	6,098.20	9.97	6,098.15	0.15	0.11	0.11	
15,584.00	90.10	358.70	9,586.42	6,192.18	8.17	6,192.13	0.86	0.74	-0.43	
15,679.00	91.00	359.10	9,585.51	6,287.15	6.34	6,287.12	1.04	0.95	0.42	
15,773.00	90.80	358.50	9,584.04	6,381.12	4.37	6,381.09	0.67	-0.21	-0.64	
15,867.00	90.80	358.30	9,582.72	6,475.08	1.75	6,475.05	0.21	0.00	-0.21	
15,961.00	90.60	358.30	9,581.57	6,569.03	-1.04	6,569.01	0.21	-0.21	0.00	

Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #39H
Well: Lea Unit #39H
Wellbore: Lateral #1
Design: Lateral #1

Local Co-ordinate Reference: Well Lea Unit #39H
TVD Reference: KB @ 3695.00usft (McVay 4)
MD Reference: KB @ 3695.00usft (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)
16,055.00	89.90	358.50	9,581.16	6,662.99	-3.66	6,662.98	0.77	-0.74	0.21
16,150.00	90.50	358.60	9,580.83	6,757.96	-6.07	6,757.95	0.64	0.63	0.11
16,244.00	89.90	358.30	9,580.50	6,851.92	-8.61	6,851.92	0.71	-0.64	-0.32
16,338.00	89.70	358.50	9,580.83	6,945.88	-11.24	6,945.89	0.30	-0.21	0.21
16,432.00	90.20	358.30	9,580.91	7,039.85	-13.86	7,039.86	0.57	0.53	-0.21
16,527.00	90.30	358.80	9,580.50	7,134.82	-16.26	7,134.83	0.54	0.11	0.53
16,621.00	88.20	358.70	9,581.73	7,228.78	-18.31	7,228.80	2.24	-2.23	-0.11
16,715.00	87.80	359.00	9,585.01	7,322.70	-20.20	7,322.73	0.53	-0.43	0.32
16,809.00	88.50	359.00	9,588.05	7,416.64	-21.84	7,416.67	0.74	0.74	0.00
16,904.00	89.30	359.80	9,589.87	7,511.62	-22.83	7,511.65	1.19	0.84	0.84
16,998.00	89.50	359.20	9,590.85	7,605.61	-23.65	7,605.64	0.67	0.21	-0.64
17,092.00	91.20	359.70	9,590.28	7,699.60	-24.56	7,699.63	1.89	1.81	0.53
17,187.00	91.20	358.60	9,588.29	7,794.56	-25.96	7,794.60	1.16	0.00	-1.16
17,281.00	92.10	359.00	9,585.58	7,888.50	-27.93	7,888.55	1.05	0.96	0.43
Last TDS MWD Survey									
17,344.20	92.10	359.00	9,583.27	7,951.65	-29.04	7,951.70	0.00	0.00	0.00
As-Drilled LTP									
17,348.00	92.10	359.00	9,583.13	7,955.45	-29.10	7,955.50	0.00	0.00	0.00
Projection to Bit/TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,300.00	5,298.51	-53.10	72.66	Tie-In to VES Gyro
5,386.00	5,384.51	-53.99	72.72	First TDS MWD Survey
10,090.87	9,605.70	700.31	46.64	As-Drilled FTP
17,281.00	9,585.58	7,888.50	-27.93	Last TDS MWD Survey
17,344.20	9,583.27	7,951.65	-29.04	As-Drilled LTP
17,348.00	9,583.13	7,955.45	-29.10	Projection to Bit/TD

Checked By: _____ Approved By: _____ Date: _____