



HOBBS OCD

AUG 16 2017

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Legacy Reserves

Lea County, NM (NAD-27 2015)

Lea Unit #38H

Lea Unit #38H

30-025-38718

OH

Design: OH

Standard Survey Report

25 November, 2016





TDS
Survey Report



Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #38H
Well: Lea Unit #38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Lea Unit #38H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 #38H

Site Position: Northing: 567,512.00 usft Latitude: 32° 33' 26.931 N
From: Map Easting: 754,654.70 usft Longitude: 103° 30' 24.570 W
Position Uncertainty: 0.00 usft Slot Radius: 13.20 in Grid Convergence: 0.44 °

Well Lea Unit #38H

Well Position +N/-S 0.00 usft Northing: 567,512.00 usft Latitude: 32° 33' 26.931 N
+E/-W 0.00 usft Easting: 754,654.70 usft Longitude: 103° 30' 24.570 W
Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 3,674.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/2/2015	7.14	60.40	48,327

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) Direction (°)
0.00 0.00 0.00 359.57

Survey Program Date 11/25/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
200.00	18,762.00	TDS MWD #1 (OH)	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
200.00	0.40	207.10	200.00	-0.62	-0.32	-0.62	0.20	0.20	0.00
First TDS MWD Survey									
290.00	0.40	189.20	290.00	-1.21	-0.51	-1.21	0.14	0.00	-19.89
382.00	0.50	22.60	382.00	-1.16	-0.41	-1.15	0.97	0.11	-181.09
563.00	0.60	118.00	562.99	-0.87	0.73	-0.88	0.45	0.06	52.71
744.00	0.20	227.60	743.99	-1.53	1.34	-1.54	0.38	-0.22	60.55
835.00	0.60	337.30	834.98	-1.20	1.03	-1.21	0.76	0.44	120.55
927.00	0.10	12.60	926.98	-0.68	0.87	-0.68	0.57	-0.54	38.37
1,018.00	0.30	355.40	1,017.98	-0.36	0.86	-0.37	0.23	0.22	-18.90
1,109.00	0.20	349.10	1,108.98	0.03	0.81	0.03	0.11	-0.11	-6.92



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1,201.00	0.30	285.60	1,200.98	0.25	0.55	0.25	0.30	0.11	-69.02
1,292.00	0.40	271.10	1,291.98	0.32	0.01	0.32	0.15	0.11	-15.93
1,384.00	0.60	279.10	1,383.98	0.41	-0.79	0.41	0.23	0.22	8.70
1,476.00	1.00	277.80	1,475.97	0.59	-2.06	0.61	0.44	0.43	-1.41
1,570.00	1.60	290.40	1,569.94	1.16	-4.10	1.19	0.70	0.64	13.40
1,664.00	2.00	287.30	1,663.90	2.11	-6.90	2.16	0.44	0.43	-3.30
1,691.00	2.00	291.60	1,690.88	2.42	-7.79	2.48	0.56	0.00	15.93
1,790.00	2.00	294.30	1,789.82	3.77	-10.97	3.85	0.10	0.00	2.73
1,852.00	1.90	292.30	1,851.78	4.60	-12.91	4.70	0.20	-0.16	-3.23
1,947.00	1.50	298.90	1,946.74	5.80	-15.45	5.92	0.47	-0.42	6.95
2,041.00	1.50	305.90	2,040.71	7.12	-17.53	7.25	0.19	0.00	7.45
2,135.00	1.50	309.30	2,134.68	8.62	-19.47	8.76	0.09	0.00	3.62
2,229.00	1.50	311.60	2,228.64	10.21	-21.35	10.37	0.06	0.00	2.45
2,417.00	1.50	310.70	2,416.58	13.45	-25.05	13.64	0.01	0.00	-0.48
2,511.00	1.30	309.90	2,510.55	14.94	-26.80	15.14	0.21	-0.21	-0.85
2,606.00	1.10	314.20	2,605.53	16.26	-28.28	16.48	0.23	-0.21	4.53
2,700.00	1.00	318.20	2,699.52	17.51	-29.48	17.73	0.13	-0.11	4.26
2,794.00	1.00	318.80	2,793.50	18.73	-30.56	18.96	0.01	0.00	0.64
2,888.00	0.60	336.40	2,887.49	19.80	-31.30	20.04	0.49	-0.43	18.72
2,982.00	0.70	21.00	2,981.49	20.79	-31.29	21.02	0.53	0.11	47.45
3,076.00	0.90	44.90	3,075.48	21.85	-30.57	22.08	0.41	0.21	25.43
3,171.00	0.80	50.40	3,170.47	22.80	-29.53	23.02	0.14	-0.11	5.79
3,265.00	0.70	47.20	3,264.46	23.61	-28.60	23.82	0.12	-0.11	-3.40
3,359.00	0.90	31.40	3,358.45	24.63	-27.80	24.84	0.31	0.21	-16.81
3,453.00	0.90	32.50	3,452.44	25.88	-27.01	26.08	0.02	0.00	1.17
3,547.00	1.10	26.60	3,546.42	27.31	-26.21	27.51	0.24	0.21	-6.28
3,642.00	1.10	22.30	3,641.41	28.97	-25.46	29.16	0.09	0.00	-4.53
3,736.00	1.20	19.60	3,735.39	30.73	-24.79	30.92	0.12	0.11	-2.87
3,830.00	1.40	21.70	3,829.36	32.73	-24.03	32.90	0.22	0.21	2.23
3,924.00	1.50	23.30	3,923.33	34.92	-23.12	35.09	0.11	0.11	1.70
4,018.00	1.60	16.80	4,017.30	37.31	-22.25	37.47	0.22	0.11	-6.91
4,112.00	1.50	15.60	4,111.26	39.75	-21.54	39.91	0.11	-0.11	-1.28
4,206.00	1.80	17.20	4,205.23	42.35	-20.78	42.50	0.32	0.32	1.70
4,301.00	1.90	17.60	4,300.18	45.27	-19.86	45.42	0.11	0.11	0.42
4,395.00	1.80	18.50	4,394.13	48.16	-18.92	48.30	0.11	-0.11	0.96
4,489.00	1.50	21.70	4,488.09	50.70	-18.00	50.83	0.33	-0.32	3.40
4,584.00	1.50	25.90	4,583.05	52.97	-16.99	53.10	0.12	0.00	4.42
4,678.00	1.70	33.50	4,677.02	55.24	-15.69	55.36	0.31	0.21	8.09
4,772.00	1.70	31.70	4,770.98	57.59	-14.18	57.70	0.06	0.00	-1.91
4,866.00	1.80	26.70	4,864.93	60.10	-12.79	60.19	0.19	0.11	-5.32
4,960.00	1.30	17.30	4,958.90	62.43	-11.81	62.52	0.60	-0.53	-10.00
5,054.00	1.40	23.90	5,052.87	64.50	-11.03	64.58	0.20	0.11	7.02
5,149.00	1.40	20.30	5,147.84	66.65	-10.15	66.73	0.09	0.00	-3.79



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5,243.00	1.30	26.00	5,241.82	68.69	-9.29	68.76	0.18	-0.11	6.06
5,337.00	1.20	23.50	5,335.80	70.55	-8.43	70.61	0.12	-0.11	-2.66
5,431.00	1.40	19.90	5,429.77	72.53	-7.64	72.59	0.23	0.21	-3.83
5,517.00	1.50	20.30	5,515.74	74.57	-6.90	74.62	0.12	0.12	0.47
5,649.00	1.30	18.90	5,647.70	77.61	-5.81	77.65	0.15	-0.15	-1.06
5,744.00	0.30	221.50	5,742.70	78.44	-5.63	78.48	1.66	-1.05	-165.68
5,838.00	0.70	214.20	5,836.69	77.79	-6.11	77.83	0.43	0.43	-7.77
5,932.00	1.10	218.10	5,930.68	76.60	-6.99	76.65	0.43	0.43	4.15
6,026.00	1.20	223.20	6,024.66	75.17	-8.22	75.23	0.15	0.11	5.43
6,120.00	1.10	222.80	6,118.64	73.79	-9.51	73.86	0.11	-0.11	-0.43
6,215.00	1.10	223.10	6,213.63	72.46	-10.75	72.54	0.01	0.00	0.32
6,309.00	1.20	224.80	6,307.61	71.10	-12.06	71.19	0.11	0.11	1.81
6,403.00	1.10	223.50	6,401.59	69.75	-13.38	69.85	0.11	-0.11	-1.38
6,497.00	1.30	219.70	6,495.57	68.27	-14.68	68.38	0.23	0.21	-4.04
6,591.00	1.70	223.90	6,589.54	66.45	-16.33	66.57	0.44	0.43	4.47
6,686.00	1.80	228.30	6,684.49	64.44	-18.42	64.58	0.18	0.11	4.63
6,780.00	2.20	232.90	6,778.43	62.37	-20.96	62.53	0.46	0.43	4.89
6,874.00	1.70	224.80	6,872.38	60.29	-23.38	60.47	0.61	-0.53	-8.62
6,968.00	1.10	192.90	6,966.35	58.42	-24.57	58.61	1.02	-0.64	-33.94
7,062.00	1.40	183.20	7,060.33	56.40	-24.83	56.58	0.39	0.32	-10.32
7,156.00	1.50	182.20	7,154.30	54.02	-24.94	54.21	0.11	0.11	-1.06
7,251.00	1.60	187.70	7,249.27	51.46	-25.17	51.65	0.19	0.11	5.79
7,345.00	1.00	167.20	7,343.24	49.36	-25.16	49.55	0.80	-0.64	-21.81
7,439.00	0.90	162.80	7,437.23	47.86	-24.76	48.04	0.13	-0.11	-4.68
7,533.00	1.00	175.40	7,531.22	46.34	-24.48	46.52	0.25	0.11	13.40
7,628.00	1.10	181.80	7,626.20	44.60	-24.44	44.78	0.16	0.11	6.74
7,722.00	1.40	185.30	7,720.18	42.55	-24.57	42.74	0.33	0.32	3.72
7,817.00	1.70	187.60	7,815.14	40.00	-24.87	40.19	0.32	0.32	2.42
7,911.00	1.80	192.10	7,909.10	37.18	-25.36	37.36	0.18	0.11	4.79
8,005.00	1.30	170.30	8,003.06	34.68	-25.49	34.87	0.81	-0.53	-23.19
8,099.00	1.40	162.20	8,097.04	32.54	-24.96	32.72	0.23	0.11	-8.62
8,193.00	1.50	168.60	8,191.01	30.24	-24.37	30.42	0.20	0.11	6.81
8,288.00	1.40	181.00	8,285.98	27.86	-24.14	28.04	0.35	-0.11	13.05
8,382.00	1.00	201.30	8,379.96	25.95	-24.46	26.13	0.61	-0.43	21.60
8,476.00	0.70	237.30	8,473.95	24.87	-25.24	25.06	0.64	-0.32	38.30
8,570.00	1.20	265.00	8,567.94	24.48	-26.70	24.67	0.71	0.53	29.47
8,664.00	1.80	271.80	8,661.90	24.44	-29.16	24.65	0.66	0.64	7.23
8,759.00	2.20	267.60	8,756.84	24.41	-32.47	24.65	0.45	0.42	-4.42
8,853.00	1.80	258.70	8,850.79	24.04	-35.72	24.31	0.54	-0.43	-9.47
8,947.00	2.20	256.00	8,944.73	23.32	-38.92	23.61	0.44	0.43	-2.87
9,041.00	2.40	251.70	9,038.65	22.26	-42.54	22.58	0.28	0.21	-4.57
9,135.00	1.30	244.60	9,132.60	21.19	-45.37	21.53	1.19	-1.17	-7.55
9,230.00	1.70	289.70	9,227.57	21.20	-47.67	21.56	1.27	0.42	47.47



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9,324.00	1.90	307.40	9,321.53	22.61	-50.22	22.99	0.63	0.21	18.83
9,418.00	2.30	318.40	9,415.47	24.97	-52.71	25.37	0.60	0.43	11.70
9,512.00	2.20	314.00	9,509.39	27.64	-55.26	28.05	0.21	-0.11	-4.68
9,607.00	1.50	286.90	9,604.35	29.26	-57.77	29.70	1.16	-0.74	-28.53
9,701.00	2.00	279.00	9,698.30	29.88	-60.56	30.33	0.59	0.53	-8.40
9,795.00	1.80	289.00	9,792.25	30.62	-63.58	31.09	0.41	-0.21	10.64
9,889.00	2.20	285.00	9,886.19	31.56	-66.72	32.06	0.45	0.43	-4.26
9,983.00	1.90	270.10	9,980.13	32.03	-70.02	32.56	0.65	-0.32	-15.85
10,077.00	1.20	242.70	10,074.10	31.58	-72.45	32.13	1.06	-0.74	-29.15
10,172.00	1.50	259.50	10,169.07	30.90	-74.56	31.46	0.52	0.32	17.68
10,266.00	2.10	241.40	10,263.03	29.85	-77.28	30.43	0.87	0.64	-19.26
10,360.00	1.50	254.10	10,356.98	28.69	-79.98	29.29	0.76	-0.64	13.51
10,453.00	1.50	247.40	10,449.95	27.89	-82.27	28.51	0.19	0.00	-7.20
10,500.00	1.10	348.00	10,496.94	28.09	-82.93	28.72	4.29	-0.85	214.04
10,548.00	5.80	7.80	10,544.84	30.95	-82.70	31.57	9.96	9.79	41.25
10,595.00	10.50	8.50	10,591.35	37.54	-81.74	38.15	10.00	10.00	1.49
10,642.00	15.40	6.70	10,637.14	47.98	-80.38	48.58	10.46	10.43	-3.83
10,689.00	19.30	2.80	10,682.00	61.94	-79.27	62.54	8.65	8.30	-8.30
10,736.00	23.50	5.50	10,725.75	79.04	-77.99	79.62	9.18	8.94	5.74
10,783.00	28.30	8.50	10,768.02	99.40	-75.45	99.96	10.58	10.21	6.38
10,830.00	33.10	9.70	10,808.42	123.08	-71.64	123.61	10.30	10.21	2.55
10,877.00	38.00	7.80	10,846.65	150.08	-67.51	150.58	10.69	10.43	-4.04
10,924.00	43.80	5.90	10,882.16	180.62	-63.87	181.09	12.62	12.34	-4.04
10,971.00	48.30	5.20	10,914.77	214.29	-60.61	214.74	9.63	9.57	-1.49
11,018.00	51.90	4.90	10,944.92	250.20	-57.43	250.63	7.68	7.66	-0.64
11,065.00	56.90	4.80	10,972.27	288.27	-54.21	288.67	10.64	10.64	-0.21
11,112.00	59.80	4.40	10,996.93	328.15	-51.00	328.52	6.21	6.17	-0.85
11,159.00	60.70	4.10	11,020.25	368.84	-47.98	369.19	1.99	1.91	-0.64
11,206.00	62.50	4.20	11,042.60	410.07	-44.98	410.40	3.83	3.83	0.21
11,253.00	67.00	4.00	11,062.64	452.46	-41.95	452.76	9.58	9.57	-0.43
11,300.00	73.30	4.40	11,078.60	496.53	-38.71	496.80	13.43	13.40	0.85
11,347.00	78.60	4.40	11,090.00	541.97	-35.21	542.22	11.28	11.28	0.00
11,394.00	81.70	3.70	11,098.04	588.16	-31.94	588.38	6.76	6.60	-1.49
11,427.00	84.00	2.90	11,102.15	620.84	-30.06	621.05	7.37	6.97	-2.42
11,474.00	84.40	2.40	11,106.90	667.55	-27.90	667.74	1.36	0.85	-1.06
11,500.00	84.23	2.51	11,109.47	693.40	-26.79	693.58	0.77	-0.64	0.43
AS-Drilled FTP									
11,521.00	84.10	2.60	11,111.61	714.27	-25.86	714.45	0.77	-0.64	0.43
11,568.00	84.00	3.30	11,116.48	760.96	-23.45	761.11	1.50	-0.21	1.49
11,615.00	85.50	2.60	11,120.78	807.70	-21.04	807.83	3.52	3.19	-1.49
11,662.00	87.60	2.00	11,123.61	854.57	-19.16	854.69	4.65	4.47	-1.28
11,709.00	88.30	2.00	11,125.29	901.51	-17.52	901.62	1.49	1.49	0.00
11,756.00	89.30	0.90	11,126.27	948.48	-16.33	948.58	3.16	2.13	-2.34
11,803.00	89.50	1.00	11,126.77	995.47	-15.55	995.56	0.48	0.43	0.21



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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)
11,898.00	89.70	0.80	11,127.43	1,090.46	-14.06	1,090.54	0.30	0.21	-0.21
11,992.00	89.80	359.80	11,127.84	1,184.46	-13.57	1,184.53	1.07	0.11	-1.06
12,086.00	90.80	359.50	11,127.35	1,278.45	-14.14	1,278.52	1.11	1.06	-0.32
12,180.00	91.40	359.80	11,125.54	1,372.43	-14.72	1,372.50	0.71	0.64	0.32
12,275.00	91.80	0.60	11,122.89	1,467.39	-14.38	1,467.46	0.94	0.42	0.84
12,369.00	90.90	0.30	11,120.68	1,561.36	-13.65	1,561.42	1.01	-0.96	-0.32
12,463.00	89.80	359.70	11,120.10	1,655.36	-13.65	1,655.42	1.33	-1.17	-0.64
12,557.00	90.20	0.30	11,120.10	1,749.36	-13.65	1,749.41	0.77	0.43	0.64
12,652.00	89.30	0.50	11,120.52	1,844.36	-12.98	1,844.40	0.97	-0.95	0.21
12,746.00	89.10	0.70	11,121.83	1,938.34	-12.00	1,938.38	0.30	-0.21	0.21
12,840.00	89.80	0.10	11,122.73	2,032.33	-11.34	2,032.36	0.98	0.74	-0.64
12,934.00	89.20	359.20	11,123.55	2,126.33	-11.92	2,126.36	1.15	-0.64	-0.96
13,028.00	89.70	358.80	11,124.45	2,220.31	-13.56	2,220.35	0.68	0.53	-0.43
13,123.00	90.30	359.20	11,124.45	2,315.29	-15.22	2,315.34	0.76	0.63	0.42
13,217.00	90.90	359.50	11,123.47	2,409.28	-16.28	2,409.34	0.71	0.64	0.32
13,311.00	91.50	359.80	11,121.50	2,503.26	-16.86	2,503.31	0.71	0.64	0.32
13,405.00	91.50	359.80	11,119.04	2,597.23	-17.18	2,597.28	0.00	0.00	0.00
13,500.00	91.50	359.10	11,116.55	2,692.19	-18.10	2,692.25	0.74	0.00	-0.74
13,594.00	91.30	358.70	11,114.26	2,786.14	-19.90	2,786.21	0.48	-0.21	-0.43
13,688.00	91.50	359.10	11,111.96	2,880.10	-21.70	2,880.18	0.48	0.21	0.43
13,782.00	91.20	359.50	11,109.74	2,974.06	-22.85	2,974.15	0.53	-0.32	0.43
13,876.00	90.90	0.20	11,108.02	3,068.05	-23.10	3,068.13	0.81	-0.32	0.74
13,970.00	91.20	0.80	11,106.30	3,162.03	-22.28	3,162.10	0.71	0.32	0.64
14,064.00	91.60	1.90	11,104.00	3,255.97	-20.06	3,256.03	1.24	0.43	1.17
14,159.00	91.10	1.30	11,101.76	3,350.91	-17.41	3,350.94	0.82	-0.53	-0.63
14,253.00	91.00	1.80	11,100.04	3,444.86	-14.87	3,444.87	0.54	-0.11	0.53
14,347.00	90.90	1.70	11,098.48	3,538.80	-12.00	3,538.79	0.15	-0.11	-0.11
14,441.00	91.90	2.20	11,096.19	3,632.72	-8.80	3,632.68	1.19	1.06	0.53
14,536.00	92.50	2.10	11,092.54	3,727.58	-5.24	3,727.51	0.64	0.63	-0.11
14,630.00	90.80	1.30	11,089.83	3,821.49	-2.45	3,821.40	2.00	-1.81	-0.85
14,724.00	89.70	0.20	11,089.42	3,915.48	-1.22	3,915.38	1.65	-1.17	-1.17
14,818.00	90.10	0.10	11,089.59	4,009.48	-0.98	4,009.38	0.44	0.43	-0.11
14,913.00	90.30	359.20	11,089.26	4,104.48	-1.56	4,104.37	0.97	0.21	-0.95
15,007.00	90.00	359.90	11,089.01	4,198.47	-2.30	4,198.37	0.81	-0.32	0.74
15,101.00	90.10	0.00	11,088.93	4,292.47	-2.38	4,292.37	0.15	0.11	0.11
15,195.00	90.60	0.00	11,088.35	4,386.47	-2.38	4,386.37	0.53	0.53	0.00
15,289.00	91.00	0.50	11,087.04	4,480.46	-1.97	4,480.35	0.68	0.43	0.53
15,384.00	91.80	1.30	11,084.72	4,575.42	-0.48	4,575.29	1.19	0.84	0.84
15,478.00	92.20	1.40	11,081.44	4,669.34	1.74	4,669.19	0.44	0.43	0.11
15,572.00	92.10	0.70	11,077.91	4,763.25	3.46	4,763.09	0.75	-0.11	-0.74
15,665.00	93.40	1.60	11,073.45	4,856.12	5.32	4,855.95	1.70	1.40	0.97
15,759.00	93.60	2.00	11,067.71	4,949.90	8.27	4,949.70	0.48	0.21	0.43
15,854.00	91.40	0.30	11,063.57	5,044.78	10.17	5,044.57	2.93	-2.32	-1.79



TDS
Survey Report



Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #38H
Well: Lea Unit #38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Lea Unit #38H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (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)
15,948.00	91.80	358.90	11,060.94	5,138.74	9.52	5,138.53	1.55	0.43	-1.49
16,042.00	93.40	357.80	11,056.68	5,232.60	6.81	5,232.40	2.06	1.70	-1.17
16,136.00	91.90	358.00	11,052.33	5,326.44	3.37	5,326.26	1.61	-1.60	0.21
16,230.00	90.60	358.60	11,050.28	5,420.37	0.59	5,420.21	1.52	-1.38	0.64
16,324.00	90.50	357.50	11,049.38	5,514.31	-2.61	5,514.17	1.17	-0.11	-1.17
16,419.00	91.40	357.00	11,047.81	5,609.19	-7.17	5,609.08	1.08	0.95	-0.53
16,513.00	90.00	357.40	11,046.66	5,703.06	-11.76	5,702.99	1.55	-1.49	0.43
16,607.00	91.20	357.80	11,045.67	5,796.97	-15.70	5,796.93	1.35	1.28	0.43
16,702.00	90.20	357.60	11,044.51	5,891.89	-19.51	5,891.87	1.07	-1.05	-0.21
16,796.00	90.30	357.90	11,044.10	5,985.82	-23.20	5,985.82	0.34	0.11	0.32
16,890.00	91.80	358.80	11,042.38	6,079.76	-25.91	6,079.78	1.86	1.60	0.96
16,985.00	89.60	358.80	11,041.22	6,174.72	-27.90	6,174.76	2.32	-2.32	0.00
17,079.00	90.60	359.40	11,041.06	6,268.71	-29.37	6,268.75	1.24	1.06	0.64
17,173.00	90.00	359.30	11,040.56	6,362.70	-30.44	6,362.75	0.65	-0.64	-0.11
17,267.00	90.50	359.90	11,040.15	6,456.70	-31.10	6,456.75	0.83	0.53	0.64
17,362.00	91.80	359.90	11,038.25	6,551.68	-31.26	6,551.73	1.37	1.37	0.00
17,453.00	91.50	359.70	11,035.63	6,642.64	-31.58	6,642.69	0.40	-0.33	-0.22
17,548.00	90.20	357.80	11,034.22	6,737.60	-33.65	6,737.66	2.42	-1.37	-2.00
17,642.00	91.60	357.80	11,032.74	6,831.52	-37.26	6,831.60	1.49	1.49	0.00
17,736.00	92.00	358.20	11,029.79	6,925.41	-40.54	6,925.52	0.60	0.43	0.43
17,830.00	90.60	358.10	11,027.66	7,019.34	-43.57	7,019.47	1.49	-1.49	-0.11
17,925.00	90.20	357.30	11,026.99	7,114.26	-47.38	7,114.41	0.94	-0.42	-0.84
18,019.00	89.10	357.40	11,027.57	7,208.15	-51.73	7,208.34	1.18	-1.17	0.11
18,113.00	90.20	356.90	11,028.14	7,302.03	-56.40	7,302.25	1.29	1.17	-0.53
18,208.00	90.20	357.10	11,027.81	7,396.90	-61.38	7,397.16	0.21	0.00	0.21
18,302.00	90.30	357.10	11,027.40	7,490.78	-66.13	7,491.07	0.11	0.11	0.00
18,396.00	88.80	356.90	11,028.14	7,584.65	-71.05	7,584.97	1.61	-1.60	-0.21
18,491.00	89.20	356.40	11,029.79	7,679.47	-76.60	7,679.83	0.67	0.42	-0.53
18,585.00	90.50	355.70	11,030.04	7,773.24	-83.08	7,773.65	1.57	1.38	-0.74
18,679.00	91.40	355.30	11,028.48	7,866.94	-90.45	7,867.40	1.05	0.96	-0.43
Last TDS MWD Survey									
18,762.00	91.40	355.30	11,026.45	7,949.64	-97.25	7,950.14	0.00	0.00	0.00
Projection to Bit/TD - As-Drilled LTP									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	-0.62	-0.32	First TDS MWD Survey
11,500.00	11,109.47	693.40	-26.79	AS-Drilled FTP
18,679.00	11,028.48	7,866.94	-90.45	Last TDS MWD Survey
18,762.00	11,026.45	7,949.64	-97.25	Projection to Bit/TD
18,762.00	11,026.45	7,949.64	-97.25	As-Drilled LTP



TDS
Survey Report



Company: Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #38H
Well: Lea Unit #38H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Lea Unit #38H
TVD Reference: KB @ 3692.00usft (McVay 4)
MD Reference: KB @ 3692.00usft (McVay 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Checked By: _____ Approved By: _____ Date: _____