



Legacy Reserves

Lea County, NM (NAD-27 2015)

Lea Unit #57H

Lea Unit #57H

30-025-42959

Lateral #1

Design: Lateral #1

Standard Survey Report

20 July, 2016

HOBBS OCD

JAN 27 2017

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TDS
Survey Report



Company:	Legacy Reserves	Local Co-ordinate Reference:	Well Lea Unit #57H
Project:	Lea County, NM (NAD-27 2015)	TVD Reference:	KB @ 3681.00usft (McVay 4)
Site:	Lea Unit #57H	MD Reference:	KB @ 3681.00usft (McVay 4)
Well:	Lea Unit #57H	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 #57H		
Site Position:		Northing:	580,858.60 usft
From:	Map	Easting:	748,761.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	32° 35' 39.441 N
		Longitude:	103° 31' 32.238 W
		Grid Convergence:	0.44 °

Well	Lea Unit #57H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 35' 39.441 N
		Longitude:	103° 31' 32.238 W
		Ground Level:	3,663.00 usft

Wellbore	Lateral #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	9/2/2015	7.15
			Dip Angle
			(°)
			60.43
			Field Strength
			(nT)
			48,347

Design	Lateral #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			175.66

Survey Program	Date 7/20/2016		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.00	5,400.00	VES Gyro #1 (Lateral #1)	VES-ISCWSA-GYRO-3
5,504.00	17,641.00	TDS MWD #2 (Lateral #1)	MWD
			Description
			Biaxial Semi-Cont. Gyro
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.65	324.19	100.00	0.46	-0.33	-0.48	0.65	0.65	0.00
200.00	0.91	335.59	199.99	1.64	-0.99	-1.71	0.30	0.26	11.40
300.00	1.11	357.46	299.97	3.33	-1.36	-3.43	0.43	0.20	21.87
400.00	1.60	8.76	399.95	5.68	-1.19	-5.76	0.56	0.49	11.30
500.00	1.95	13.65	499.90	8.71	-0.58	-8.73	0.38	0.35	4.89
600.00	2.48	25.79	599.82	12.32	0.76	-12.22	0.71	0.53	12.14
700.00	2.60	31.54	699.72	16.20	2.89	-15.93	0.28	0.12	5.75
800.00	2.63	47.25	799.62	19.69	5.76	-19.19	0.72	0.03	15.71
900.00	2.84	64.91	899.51	22.30	9.69	-21.50	0.86	0.21	17.66



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Site:	Lea Unit #57H	MD Reference:	KB @ 3681.00usft (McVay 4)
Well:	Lea Unit #57H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	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	2.64	66.13	999.40	24.28	14.04	-23.15	0.21	-0.20	1.22
1,100.00	2.49	77.13	1,099.30	25.69	18.26	-24.24	0.51	-0.15	11.00
1,200.00	2.02	90.07	1,199.22	26.18	22.14	-24.42	0.69	-0.47	12.94
1,300.00	1.10	94.74	1,299.18	26.09	24.86	-24.14	0.93	-0.92	4.67
1,400.00	0.63	154.09	1,399.17	25.52	26.06	-23.47	0.95	-0.47	59.35
1,500.00	0.72	215.05	1,499.16	24.51	25.94	-22.48	0.69	0.09	60.96
1,600.00	1.50	248.55	1,599.15	23.52	24.36	-21.61	0.98	0.78	33.50
1,700.00	1.71	265.88	1,699.11	22.93	21.65	-21.23	0.53	0.21	17.33
1,800.00	0.98	286.41	1,799.08	23.07	19.35	-21.54	0.86	-0.73	20.53
1,900.00	0.97	306.97	1,899.07	23.82	17.85	-22.40	0.35	-0.01	20.56
2,000.00	0.98	305.03	1,999.05	24.82	16.47	-23.50	0.03	0.01	-1.94
2,100.00	0.87	292.85	2,099.04	25.60	15.07	-24.39	0.22	-0.11	-12.18
2,200.00	0.45	322.22	2,199.03	26.21	14.13	-25.06	0.53	-0.42	29.37
2,300.00	0.34	326.47	2,299.03	26.77	13.73	-25.65	0.11	-0.11	4.25
2,400.00	0.50	8.80	2,399.03	27.44	13.63	-26.33	0.34	0.16	42.33
2,500.00	0.52	12.62	2,499.02	28.32	13.80	-27.19	0.04	0.02	3.82
2,600.00	0.69	48.18	2,599.02	29.16	14.34	-27.99	0.40	0.17	35.56
2,700.00	1.63	57.46	2,699.00	30.33	15.99	-29.03	0.96	0.94	9.28
2,800.00	2.48	70.29	2,798.93	31.82	19.23	-30.28	0.96	0.85	12.83
2,900.00	3.38	72.99	2,898.80	33.42	24.08	-31.50	0.91	0.90	2.70
3,000.00	3.66	73.04	2,998.61	35.21	29.96	-32.84	0.28	0.28	0.05
3,100.00	2.73	69.48	3,098.45	36.98	35.24	-34.20	0.95	-0.93	-3.56
3,200.00	2.41	71.35	3,198.35	38.48	39.46	-35.39	0.33	-0.32	1.87
3,300.00	2.00	91.87	3,298.28	39.10	43.20	-35.72	0.88	-0.41	20.52
3,400.00	1.67	119.42	3,398.23	38.33	46.21	-34.72	0.93	-0.33	27.55
3,500.00	1.83	150.39	3,498.19	36.22	48.27	-32.46	0.95	0.16	30.97
3,600.00	2.39	162.67	3,598.12	32.84	49.68	-28.99	0.72	0.56	12.28
3,700.00	2.74	170.29	3,698.02	28.50	50.70	-24.58	0.49	0.35	7.62
3,800.00	2.85	178.95	3,797.90	23.65	51.15	-19.72	0.44	0.11	8.66
3,900.00	2.66	197.30	3,897.79	18.95	50.51	-15.08	0.90	-0.19	18.35
4,000.00	2.59	204.42	3,997.68	14.68	48.88	-10.94	0.33	-0.07	7.12
4,100.00	2.31	225.21	4,097.59	11.20	46.52	-7.65	0.93	-0.28	20.79
4,200.00	1.67	239.09	4,197.53	9.03	43.84	-5.69	0.80	-0.64	13.88
4,300.00	1.16	240.78	4,297.50	7.79	41.71	-4.61	0.51	-0.51	1.69
4,400.00	0.93	267.36	4,397.49	7.26	40.01	-4.21	0.53	-0.23	26.58
4,500.00	0.92	283.51	4,497.47	7.41	38.42	-4.48	0.26	-0.01	16.15
4,600.00	0.95	298.01	4,597.46	7.99	36.91	-5.17	0.24	0.03	14.50
4,700.00	0.78	297.40	4,697.45	8.69	35.57	-5.97	0.17	-0.17	-0.61
4,800.00	0.68	303.80	4,797.44	9.33	34.47	-6.70	0.13	-0.10	6.40
4,900.00	0.84	306.22	4,897.43	10.10	33.39	-7.54	0.16	0.16	2.42
5,000.00	0.52	285.03	4,997.42	10.65	32.36	-8.17	0.40	-0.32	-21.19
5,100.00	0.41	257.09	5,097.42	10.69	31.57	-8.27	0.25	-0.11	-27.94
5,200.00	0.81	239.02	5,197.42	10.24	30.62	-7.90	0.44	0.40	-18.07



TDS
Survey Report



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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)
5,300.00	1.12	262.57	5,297.40	9.75	29.04	-7.53	0.50	0.31	23.55
5,400.00	0.73	248.04	5,397.39	9.39	27.48	-7.28	0.45	-0.39	-14.53
Tie-In to VES Gyro									
5,504.00	0.80	250.10	5,501.38	8.89	26.19	-6.88	0.07	0.07	1.98
First TDS MWD Survey									
5,599.00	0.10	120.40	5,596.38	8.62	25.63	-6.66	0.91	-0.74	-136.53
5,693.00	0.70	74.90	5,690.37	8.73	26.26	-6.72	0.67	0.64	-48.40
5,787.00	1.10	77.00	5,784.36	9.08	27.69	-6.96	0.43	0.43	2.23
5,881.00	1.10	74.00	5,878.34	9.54	29.44	-7.28	0.06	0.00	-3.19
5,975.00	1.30	76.90	5,972.32	10.03	31.35	-7.63	0.22	0.21	3.09
6,163.00	1.50	61.90	6,160.27	11.67	35.59	-8.94	0.22	0.11	-7.98
6,257.00	1.50	62.70	6,254.24	12.81	37.77	-9.92	0.02	0.00	0.85
6,351.00	1.50	63.80	6,348.20	13.92	39.97	-10.86	0.03	0.00	1.17
6,446.00	1.50	63.70	6,443.17	15.02	42.20	-11.78	0.00	0.00	-0.11
6,540.00	1.20	62.90	6,537.14	16.01	44.18	-12.62	0.32	-0.32	-0.85
6,634.00	1.10	64.60	6,631.13	16.85	45.87	-13.33	0.11	-0.11	1.81
6,728.00	1.10	65.10	6,725.11	17.62	47.50	-13.97	0.01	0.00	0.53
6,822.00	1.20	67.60	6,819.09	18.37	49.23	-14.59	0.12	0.11	2.66
6,916.00	1.10	70.70	6,913.07	19.04	50.99	-15.13	0.13	-0.11	3.30
7,010.00	1.10	73.30	7,007.05	19.60	52.71	-15.56	0.05	0.00	2.77
7,105.00	1.00	80.30	7,102.04	20.00	54.40	-15.83	0.17	-0.11	7.37
7,199.00	0.90	78.90	7,196.02	20.28	55.93	-15.99	0.11	-0.11	-1.49
7,293.00	0.80	77.10	7,290.01	20.57	57.30	-16.18	0.11	-0.11	-1.91
7,387.00	0.80	81.00	7,384.01	20.82	58.58	-16.33	0.06	0.00	4.15
7,481.00	0.80	83.80	7,478.00	21.00	59.88	-16.40	0.04	0.00	2.98
7,575.00	0.70	81.20	7,571.99	21.15	61.10	-16.47	0.11	-0.11	-2.77
7,670.00	0.60	100.10	7,666.98	21.16	62.17	-16.39	0.25	-0.11	19.89
7,764.00	0.80	123.80	7,760.98	20.70	63.20	-15.86	0.37	0.21	25.21
7,858.00	0.90	125.50	7,854.96	19.91	64.34	-14.98	0.11	0.11	1.81
7,952.00	0.80	131.50	7,948.95	19.05	65.44	-14.04	0.14	-0.11	6.38
8,046.00	0.60	115.40	8,042.95	18.40	66.37	-13.33	0.30	-0.21	-17.13
8,140.00	0.40	96.60	8,136.94	18.15	67.14	-13.02	0.27	-0.21	-20.00
8,234.00	0.40	58.70	8,230.94	18.29	67.75	-13.11	0.28	0.00	-40.32
8,328.00	0.70	29.00	8,324.94	18.96	68.31	-13.73	0.43	0.32	-31.60
8,423.00	0.70	21.70	8,419.93	20.00	68.80	-14.74	0.09	0.00	-7.68
8,517.00	0.70	23.20	8,513.92	21.07	69.24	-15.77	0.02	0.00	1.60
8,611.00	0.80	19.30	8,607.92	22.21	69.69	-16.88	0.12	0.11	-4.15
8,705.00	0.80	36.40	8,701.91	23.36	70.29	-17.97	0.25	0.00	18.19
8,799.00	0.70	33.90	8,795.90	24.37	71.00	-18.92	0.11	-0.11	-2.66
8,893.00	0.70	26.70	8,889.89	25.35	71.58	-19.87	0.09	0.00	-7.66
8,988.00	0.80	113.30	8,984.89	25.61	72.45	-20.05	1.09	0.11	91.16
9,082.00	1.50	128.40	9,078.87	24.59	74.02	-18.92	0.81	0.74	16.06
9,236.00	1.50	140.10	9,232.81	21.79	76.89	-15.91	0.20	0.00	7.60
9,330.00	1.50	142.30	9,326.78	19.87	78.43	-13.88	0.06	0.00	2.34



TDS
Survey Report



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9,425.00	1.70	153.90	9,421.74	17.62	79.81	-11.53	0.40	0.21	12.21
9,519.00	1.60	151.70	9,515.71	15.21	81.05	-9.04	0.13	-0.11	-2.34
9,613.00	1.80	154.80	9,609.66	12.72	82.30	-6.46	0.23	0.21	3.30
9,707.00	1.70	157.20	9,703.62	10.10	83.47	-3.76	0.13	-0.11	2.55
9,801.00	1.90	156.30	9,797.57	7.39	84.63	-0.96	0.21	0.21	-0.96
9,848.00	2.70	173.10	9,844.54	5.58	85.08	0.88	2.21	1.70	35.74
9,895.00	6.60	192.80	9,891.38	1.84	84.61	4.57	8.85	8.30	41.91
9,942.00	11.60	200.00	9,937.77	-5.24	82.40	11.46	10.89	10.64	15.32
9,989.00	15.00	195.20	9,983.50	-15.55	79.19	21.50	7.60	7.23	-10.21
10,036.00	18.90	186.10	10,028.46	-29.00	76.78	34.72	10.01	8.30	-19.36
10,084.00	23.00	180.00	10,073.28	-46.11	75.95	51.73	9.66	8.54	-12.71
10,131.00	28.70	174.80	10,115.57	-66.55	76.98	72.19	13.04	12.13	-11.06
10,178.00	32.30	172.70	10,156.06	-90.26	79.60	96.02	7.99	7.66	-4.47
10,225.00	36.30	170.20	10,194.88	-116.43	83.56	122.42	9.02	8.51	-5.32
10,272.00	40.60	165.60	10,231.69	-144.97	89.74	151.35	10.98	9.15	-9.79
10,319.00	43.70	160.20	10,266.54	-175.08	99.05	182.07	10.14	6.60	-11.49
10,366.00	47.00	157.70	10,299.57	-206.27	111.07	214.08	7.98	7.02	-5.32
10,413.00	52.80	158.60	10,329.83	-239.63	124.43	248.36	12.43	12.34	1.91
10,460.00	57.80	160.60	10,356.58	-275.84	137.88	285.48	11.20	10.64	4.26
10,507.00	62.50	163.70	10,379.97	-314.63	150.34	325.10	11.52	10.00	6.60
10,554.00	66.90	165.60	10,400.05	-355.60	161.58	366.80	10.05	9.36	4.04
10,601.00	72.20	166.80	10,416.47	-398.35	172.07	410.23	11.53	11.28	2.55
10,624.29	74.92	168.21	10,423.06	-420.15	176.90	432.34	13.04	11.68	6.04
As-Drilled PP									
10,648.00	77.70	169.60	10,428.67	-442.76	181.33	455.21	13.04	11.72	5.88
10,695.00	81.50	173.10	10,437.16	-488.44	188.27	501.29	10.91	8.09	7.45
10,743.00	82.90	173.70	10,443.67	-535.68	193.74	548.81	3.17	2.92	1.25
10,790.00	85.00	172.40	10,448.62	-582.07	199.40	595.50	5.25	4.47	-2.77
10,837.00	86.60	171.30	10,452.07	-628.47	206.04	642.26	4.13	3.40	-2.34
10,884.00	87.30	170.70	10,454.57	-674.83	213.38	689.04	1.96	1.49	-1.28
10,931.00	88.50	171.40	10,456.29	-721.22	220.69	735.86	2.96	2.55	1.49
10,962.00	90.50	173.00	10,456.56	-751.93	224.90	766.80	8.26	6.45	5.16
11,025.00	92.70	175.40	10,454.80	-814.58	231.26	829.74	5.17	3.49	3.81
11,057.00	93.60	175.90	10,453.04	-846.44	233.68	861.69	3.22	2.81	1.56
11,088.00	92.40	177.10	10,451.42	-877.34	235.57	892.65	5.47	-3.87	3.87
11,119.00	91.20	177.80	10,450.45	-908.29	236.95	923.62	4.48	-3.87	2.26
11,151.00	89.10	178.30	10,450.36	-940.27	238.04	955.59	6.75	-6.56	1.56
11,182.00	87.80	178.50	10,451.20	-971.24	238.91	986.54	4.24	-4.19	0.65
11,213.00	87.80	178.50	10,452.39	-1,002.21	239.72	1,017.48	0.00	0.00	0.00
11,245.00	88.10	178.70	10,453.54	-1,034.18	240.50	1,049.41	1.13	0.94	0.63
11,340.00	88.40	179.40	10,456.44	-1,129.12	242.07	1,144.20	0.80	0.32	0.74
11,434.00	90.10	180.00	10,457.67	-1,223.11	242.56	1,237.96	1.92	1.81	0.64
11,528.00	90.60	179.90	10,457.09	-1,317.11	242.65	1,331.69	0.54	0.53	-0.11



TDS
Survey Report



Company:	Legacy Reserves	Local Co-ordinate Reference:	Well Lea Unit #57H
Project:	Lea County, NM (NAD-27 2015)	TVD Reference:	KB @ 3681.00usft (McVay 4)
Site:	Lea Unit #57H	MD Reference:	KB @ 3681.00usft (McVay 4)
Well:	Lea Unit #57H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	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)
11,622.00	89.90	177.10	10,456.68	-1,411.06	245.11	1,425.57	3.07	-0.74	-2.98
11,716.00	91.40	178.10	10,455.62	-1,504.97	249.04	1,519.50	1.92	1.60	1.06
11,811.00	91.60	178.90	10,453.13	-1,599.91	251.53	1,614.35	0.87	0.21	0.84
11,905.00	91.50	176.50	10,450.59	-1,693.79	255.30	1,708.25	2.55	-0.11	-2.55
11,999.00	91.20	176.40	10,448.37	-1,787.58	261.12	1,802.22	0.34	-0.32	-0.11
12,093.00	90.40	176.90	10,447.06	-1,881.41	266.61	1,896.19	1.00	-0.85	0.53
12,187.00	91.10	175.80	10,445.83	-1,975.21	272.59	1,990.18	1.39	0.74	-1.17
12,281.00	91.30	176.60	10,443.86	-2,068.98	278.82	2,084.15	0.88	0.21	0.85
12,375.00	90.80	177.20	10,442.14	-2,162.83	283.91	2,178.11	0.83	-0.53	0.64
12,470.00	92.50	177.20	10,439.40	-2,257.67	288.54	2,273.03	1.79	1.79	0.00
12,564.00	91.40	178.10	10,436.20	-2,351.54	292.40	2,366.92	1.51	-1.17	0.96
12,658.00	90.60	178.30	10,434.56	-2,445.48	295.35	2,460.81	0.88	-0.85	0.21
12,752.00	89.90	177.40	10,434.15	-2,539.41	298.87	2,554.74	1.21	-0.74	-0.96
12,846.00	89.60	176.20	10,434.56	-2,633.26	304.12	2,648.72	1.32	-0.32	-1.28
12,935.00	90.10	175.70	10,434.80	-2,722.03	310.41	2,737.72	0.79	0.56	-0.56
13,029.00	92.60	175.60	10,432.58	-2,815.73	317.53	2,831.69	2.66	2.66	-0.11
13,124.00	94.10	175.60	10,427.03	-2,910.29	324.81	2,926.52	1.58	1.58	0.00
13,218.00	93.70	175.50	10,420.64	-3,003.78	332.09	3,020.30	0.44	-0.43	-0.11
13,312.00	91.90	175.20	10,416.05	-3,097.36	339.70	3,114.18	1.94	-1.91	-0.32
13,406.00	90.10	174.80	10,414.41	-3,190.98	347.89	3,208.16	1.96	-1.91	-0.43
13,500.00	90.60	174.20	10,413.83	-3,284.55	356.90	3,302.14	0.83	0.53	-0.64
13,594.00	88.40	174.40	10,414.65	-3,378.07	366.23	3,396.10	2.35	-2.34	0.21
13,689.00	89.40	175.30	10,416.48	-3,472.67	374.76	3,491.07	1.42	1.05	0.95
13,783.00	89.90	176.10	10,417.05	-3,566.40	381.81	3,585.07	1.00	0.53	0.85
13,877.00	88.50	176.00	10,418.36	-3,660.17	388.28	3,679.06	1.49	-1.49	-0.11
13,971.00	87.30	176.90	10,421.81	-3,753.92	394.10	3,772.98	1.60	-1.28	0.96
14,065.00	88.80	180.00	10,425.01	-3,847.82	396.64	3,866.80	3.66	1.60	3.30
14,159.00	89.60	179.90	10,426.32	-3,941.81	396.72	3,960.53	0.86	0.85	-0.11
14,254.00	92.10	179.80	10,424.91	-4,036.79	396.97	4,055.26	2.63	2.63	-0.11
14,348.00	92.30	179.40	10,421.30	-4,130.72	397.62	4,148.97	0.48	0.21	-0.43
14,442.00	91.30	179.10	10,418.35	-4,224.66	398.85	4,242.73	1.11	-1.06	-0.32
14,536.00	91.30	178.10	10,416.22	-4,318.61	401.15	4,336.58	1.06	0.00	-1.06
14,630.00	91.00	177.20	10,414.33	-4,412.51	405.00	4,430.51	1.01	-0.32	-0.96
14,725.00	90.90	176.60	10,412.75	-4,507.36	410.14	4,525.47	0.64	-0.11	-0.63
14,819.00	90.70	176.20	10,411.44	-4,601.16	416.04	4,619.45	0.48	-0.21	-0.43
14,913.00	91.00	176.90	10,410.05	-4,694.98	421.70	4,713.43	0.81	0.32	0.74
15,007.00	91.30	176.00	10,408.16	-4,788.78	427.52	4,807.40	1.01	0.32	-0.96
15,102.00	90.20	174.80	10,406.92	-4,883.47	435.13	4,902.39	1.71	-1.16	-1.26
15,196.00	89.10	174.90	10,407.49	-4,977.08	443.57	4,996.38	1.18	-1.17	0.11
15,290.00	88.30	175.80	10,409.62	-5,070.75	451.19	5,090.35	1.28	-0.85	0.96
15,384.00	88.10	175.10	10,412.58	-5,164.40	458.64	5,184.30	0.77	-0.21	-0.74
15,479.00	86.60	175.30	10,416.97	-5,258.97	466.58	5,279.20	1.59	-1.58	0.21
15,573.00	86.50	177.10	10,422.63	-5,352.59	472.80	5,373.02	1.91	-0.11	1.91



TDS
Survey Report



Company:	Legacy Reserves	Local Co-ordinate Reference:	Well Lea Unit #57H
Project:	Lea County, NM (NAD-27 2015)	TVD Reference:	KB @ 3681.00usft (McVay 4)
Site:	Lea Unit #57H	MD Reference:	KB @ 3681.00usft (McVay 4)
Well:	Lea Unit #57H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	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)	
15,667.00	88.00	178.30	10,427.14	-5,446.40	476.57	5,466.85	2.04	1.60	1.28	
15,762.00	88.70	178.70	10,429.87	-5,541.33	479.06	5,561.69	0.85	0.74	0.42	
15,856.00	89.70	180.20	10,431.18	-5,635.31	479.96	5,655.47	1.92	1.06	1.60	
15,950.00	91.30	179.20	10,430.36	-5,729.30	480.45	5,749.23	2.01	1.70	-1.06	
16,044.00	91.80	178.20	10,427.82	-5,823.24	482.58	5,843.06	1.19	0.53	-1.06	
16,139.00	91.80	178.10	10,424.84	-5,918.14	485.65	5,937.92	0.11	0.00	-0.11	
16,233.00	91.60	177.90	10,422.05	-6,012.04	488.93	6,031.80	0.30	-0.21	-0.21	
16,327.00	89.50	174.60	10,421.15	-6,105.82	495.07	6,125.78	4.16	-2.23	-3.51	
16,421.00	89.30	173.80	10,422.13	-6,199.33	504.57	6,219.74	0.88	-0.21	-0.85	
16,516.00	89.80	173.60	10,422.88	-6,293.76	515.00	6,314.68	0.57	0.53	-0.21	
16,610.00	88.70	175.20	10,424.11	-6,387.29	524.17	6,408.65	2.07	-1.17	1.70	
16,704.00	91.50	177.00	10,423.94	-6,481.06	530.56	6,502.63	3.54	2.98	1.91	
16,798.00	92.40	177.30	10,420.74	-6,574.89	535.23	6,596.54	1.01	0.96	0.32	
16,893.00	92.60	176.90	10,416.60	-6,669.68	540.03	6,691.42	0.47	0.21	-0.42	
16,987.00	93.30	176.70	10,411.76	-6,763.41	545.27	6,785.28	0.77	0.74	-0.21	
17,081.00	90.70	177.30	10,408.48	-6,857.21	550.19	6,879.19	2.84	-2.77	0.64	
17,175.00	89.50	177.50	10,408.32	-6,951.12	554.45	6,973.14	1.29	-1.28	0.21	
17,270.00	90.10	176.70	10,408.65	-7,045.99	559.26	7,068.11	1.05	0.63	-0.84	
17,364.00	88.60	177.40	10,409.72	-7,139.86	564.10	7,162.07	1.76	-1.60	0.74	
17,458.00	88.40	177.10	10,412.18	-7,233.72	568.61	7,256.00	0.38	-0.21	-0.32	
17,553.00	88.40	177.00	10,414.83	-7,328.55	573.49	7,350.94	0.11	0.00	-0.11	
Final MWD Survey										
17,637.59	88.40	177.00	10,417.19	-7,413.00	577.92	7,435.47	0.00	0.00	0.00	
As-Drilled LTP										
17,641.00	88.40	177.00	10,417.29	-7,416.40	578.10	7,438.88	0.00	0.00	0.00	
Projection to Bit/TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
5,400.00	5,397.39	9.39	27.48	Tie-In to VES Gyro	
5,504.00	5,501.38	8.89	26.19	First TDS MWD Survey	
10,624.29	10,423.06	-420.15	176.90	As-Drilled PP	
17,553.00	10,414.83	-7,328.55	573.49	Final MWD Survey	
17,637.59	10,417.19	-7,413.00	577.92	As-Drilled LTP	
17,641.00	10,417.29	-7,416.40	578.10	Projection to Bit/TD	

Checked By: _____ Approved By: _____ Date: _____