

Legacy Reserves Operating

Lea County, NM

Hamon Fed Pad

Hamon Fed Com A #12H

Wellbore #1

Design: Wellbore #1

Standard Survey Report

26 September, 2017

Integrity Directional Services, LLC

Survey Report

Company:	Legacy Reserves Operating	Local Co-ordinate Reference:	Well Hamon Fed Com A #12H
Project:	Lea County, NM	TVD Reference:	KB=18 @ 3628.00ft
Site:	Hamon Fed Pad	MD Reference:	KB=18 @ 3628.00ft
Well:	Hamon Fed Com A #12H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

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

Site		Hamon Fed Pad			
Site Position:		Northing:	580,846.2000 usft	Latitude:	32.595407
From:	Map	Easting:	723,480.4000 usft	Longitude:	-103.741904
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well	Hamon Fed Com A #12H					
Well Position	+N/-S	0.00 ft	Northing:	575,257.9000 usft	Latitude:	32.580029
	+E/-W	0.00 ft	Easting:	724,664.7000 usft	Longitude:	-103.738160
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,610.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	6/22/2017	7.10	60.52	48,406

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	8.09	

Survey Program	Date	9/26/2017			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
287.00	15,200.00	MWD Surveys (Wellbore #1)	MWD	MWD - Standard	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
287.00	0.03	32.52	287.00	0.06	0.04	0.07	0.01	0.01	0.00
First IDS MWD Survey									
378.00	0.45	90.72	378.00	0.08	0.41	0.14	0.48	0.46	63.96
470.00	0.76	109.56	469.99	-0.13	1.35	0.06	0.40	0.34	20.48
561.00	0.44	113.21	560.99	-0.47	2.24	-0.15	0.35	-0.35	4.01
652.00	0.61	115.91	651.98	-0.82	2.99	-0.39	0.19	0.19	2.97
743.00	0.72	113.19	742.98	-1.26	3.95	-0.69	0.13	0.12	-2.99
834.00	0.54	115.00	833.97	-1.66	4.87	-0.96	0.20	-0.20	1.99
925.00	0.62	119.45	924.97	-2.09	5.69	-1.26	0.10	0.09	4.89
1,016.00	0.68	134.43	1,015.96	-2.71	6.50	-1.76	0.20	0.07	16.46

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Project:	Lea County, NM	TVD Reference:	KB=18 @ 3628.00ft
Site:	Hamon Fed Pad	MD Reference:	KB=18 @ 3628.00ft
Well:	Hamon Fed Com A #12H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,107.00	0.52	177.59	1,106.96	-3.50	6.90	-2.49	0.51	-0.18	47.43
1,199.00	0.25	222.90	1,198.96	-4.06	6.78	-3.06	0.42	-0.29	49.25
1,290.00	0.35	193.08	1,289.96	-4.48	6.59	-3.50	0.20	0.11	-32.77
1,381.00	0.86	206.43	1,380.95	-5.36	6.22	-4.43	0.58	0.56	14.67
1,476.00	0.92	191.46	1,475.94	-6.74	5.75	-5.87	0.25	0.06	-15.76
1,600.00	0.61	180.27	1,599.93	-8.38	5.55	-7.52	0.28	-0.25	-9.02
1,695.00	0.92	162.43	1,694.92	-9.61	5.78	-8.70	0.41	0.33	-18.78
1,790.00	0.93	163.11	1,789.91	-11.08	6.23	-10.09	0.02	0.01	0.72
1,885.00	0.84	158.39	1,884.90	-12.46	6.71	-11.39	0.12	-0.09	-4.97
1,979.00	0.88	153.17	1,978.88	-13.75	7.29	-12.58	0.09	0.04	-5.55
2,074.00	1.02	145.17	2,073.87	-15.09	8.10	-13.80	0.20	0.15	-8.42
2,168.00	1.51	139.93	2,167.85	-16.73	9.38	-15.24	0.54	0.52	-5.57
2,263.00	0.40	340.20	2,262.84	-17.37	10.07	-15.78	1.99	-1.17	-168.14
2,358.00	1.66	343.68	2,357.82	-15.74	9.57	-14.24	1.33	1.33	3.66
2,453.00	0.66	333.05	2,452.80	-13.93	8.94	-12.54	1.07	-1.05	-11.19
2,547.00	0.37	324.46	2,546.80	-13.20	8.52	-11.87	0.32	-0.31	-9.14
2,641.00	0.31	332.40	2,640.80	-12.73	8.22	-11.45	0.08	-0.06	8.45
2,736.00	0.40	184.44	2,735.80	-12.83	8.08	-11.57	0.72	0.09	-155.75
2,831.00	0.31	60.37	2,830.79	-13.04	8.28	-11.74	0.66	-0.09	-130.60
2,926.00	0.51	64.35	2,925.79	-12.73	8.88	-11.35	0.21	0.21	4.19
3,020.00	0.55	75.98	3,019.79	-12.44	9.70	-10.95	0.12	0.04	12.37
3,115.00	0.58	66.86	3,114.78	-12.14	10.58	-10.53	0.10	0.03	-9.60
3,210.00	0.51	79.42	3,209.78	-11.87	11.44	-10.14	0.15	-0.07	13.22
3,305.00	0.40	92.04	3,304.78	-11.80	12.18	-9.97	0.16	-0.12	13.28
3,400.00	0.65	9.19	3,399.77	-11.28	12.60	-9.40	0.76	0.26	-87.21
3,494.00	0.52	142.88	3,493.77	-11.10	12.94	-9.17	1.15	-0.14	142.22
3,589.00	0.61	149.53	3,588.77	-11.88	13.46	-9.86	0.12	0.09	7.00
3,684.00	0.65	165.91	3,683.76	-12.84	13.85	-10.76	0.19	0.04	17.24
3,780.00	0.95	183.84	3,779.75	-14.16	13.93	-12.06	0.40	0.31	18.68
3,874.00	0.77	181.23	3,873.74	-15.57	13.86	-13.46	0.20	-0.19	-2.78
3,968.00	0.52	191.34	3,967.73	-16.62	13.77	-14.51	0.29	-0.27	10.76
4,063.00	0.51	207.62	4,062.73	-17.41	13.48	-15.34	0.15	-0.01	17.14
4,157.00	0.60	209.15	4,156.73	-18.22	13.05	-16.20	0.10	0.10	1.63
4,252.00	0.59	233.72	4,251.72	-18.94	12.41	-17.00	0.27	-0.01	25.86
4,347.00	0.68	249.08	4,346.72	-19.43	11.49	-17.62	0.20	0.09	16.17
4,442.00	0.65	249.72	4,441.71	-19.82	10.46	-18.15	0.03	-0.03	0.67
4,536.00	0.62	254.12	4,535.70	-20.14	9.47	-18.61	0.06	-0.03	4.68
4,631.00	0.45	261.22	4,630.70	-20.34	8.61	-18.92	0.19	-0.18	7.47
4,725.00	0.31	260.31	4,724.70	-20.44	7.99	-19.11	0.15	-0.15	-0.97
4,820.00	0.10	214.67	4,819.70	-20.55	7.69	-19.26	0.26	-0.22	-48.04
4,915.00	0.15	228.39	4,914.70	-20.70	7.55	-19.43	0.06	0.05	14.44
5,010.00	0.19	211.76	5,009.70	-20.92	7.38	-19.67	0.07	0.04	-17.51
5,104.00	0.09	176.77	5,103.70	-21.12	7.30	-19.89	0.14	-0.11	-37.22

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5,197.00	0.15	142.33	5,196.70	-21.29	7.38	-20.04	0.10	0.06	-37.03
5,292.00	0.14	150.07	5,291.70	-21.49	7.51	-20.22	0.02	-0.01	8.15
5,351.00	0.11	189.62	5,350.70	-21.61	7.54	-20.33	0.15	-0.05	67.03
5,484.00	0.09	167.26	5,483.69	-21.84	7.54	-20.56	0.03	-0.02	-16.81
5,579.00	1.25	86.78	5,578.69	-21.85	8.59	-20.43	1.30	1.22	-84.72
5,673.00	2.87	75.95	5,672.62	-21.22	11.90	-19.34	1.76	1.72	-11.52
5,767.00	4.10	73.26	5,766.45	-19.68	17.40	-17.04	1.32	1.31	-2.86
5,862.00	5.43	75.20	5,861.12	-17.56	25.00	-13.86	1.41	1.40	2.04
5,957.00	7.23	76.06	5,955.53	-14.97	35.15	-9.87	1.90	1.89	0.91
6,051.00	8.95	74.00	6,048.60	-11.53	47.92	-4.67	1.86	1.83	-2.19
6,145.00	9.30	73.13	6,141.41	-7.31	62.21	1.52	0.40	0.37	-0.93
6,240.00	9.62	72.81	6,235.11	-2.74	77.14	8.15	0.34	0.34	-0.34
6,335.00	9.89	72.36	6,328.74	2.08	92.50	15.09	0.30	0.28	-0.47
6,429.00	9.92	72.37	6,421.34	6.98	107.91	22.10	0.03	0.03	0.01
6,524.00	9.96	72.49	6,514.91	11.93	123.54	29.21	0.05	0.04	0.13
6,617.00	10.28	72.47	6,606.47	16.85	139.13	36.27	0.34	0.34	-0.02
6,712.00	10.41	72.65	6,699.92	21.96	155.40	43.62	0.14	0.14	0.19
6,806.00	10.51	73.21	6,792.36	26.97	171.72	50.88	0.15	0.11	0.60
6,900.00	10.67	73.24	6,884.76	31.96	188.26	58.15	0.17	0.17	0.03
6,995.00	10.64	73.11	6,978.12	37.04	205.07	65.55	0.04	-0.03	-0.14
7,090.00	10.63	73.28	7,071.49	42.11	221.85	72.93	0.03	-0.01	0.18
7,184.00	10.62	73.35	7,163.88	47.09	238.45	80.19	0.02	-0.01	0.07
7,279.00	10.59	74.21	7,257.25	51.97	255.24	87.39	0.17	-0.03	0.91
7,373.00	10.56	74.28	7,349.66	56.66	271.84	94.36	0.03	-0.03	0.07
7,467.00	10.44	77.99	7,442.09	60.76	288.47	100.77	0.73	-0.13	3.95
7,562.00	10.38	78.89	7,535.52	64.20	305.28	106.54	0.18	-0.06	0.95
7,657.00	10.10	77.74	7,629.01	67.62	321.82	112.26	0.36	-0.29	-1.21
7,751.00	10.04	77.35	7,721.56	71.16	337.87	118.02	0.10	-0.06	-0.41
7,846.00	10.16	77.81	7,815.09	74.75	354.14	123.86	0.15	0.13	0.48
7,941.00	10.31	77.55	7,908.58	78.35	370.63	129.75	0.17	0.16	-0.27
8,035.00	10.51	77.27	8,001.03	82.05	387.21	135.75	0.22	0.21	-0.30
8,129.00	10.76	76.16	8,093.41	86.04	404.09	142.08	0.34	0.27	-1.18
8,224.00	10.49	75.57	8,186.79	90.32	421.08	148.70	0.31	-0.28	-0.62
8,319.00	10.42	75.32	8,280.21	94.65	437.76	155.34	0.09	-0.07	-0.26
8,414.00	9.37	73.86	8,373.79	98.98	453.50	161.84	1.14	-1.11	-1.54
8,509.00	8.59	73.43	8,467.63	103.15	467.73	167.97	0.82	-0.82	-0.45
8,604.00	8.58	73.22	8,561.56	107.22	481.32	173.91	0.03	-0.01	-0.22
8,698.00	7.59	69.74	8,654.63	111.39	493.85	179.81	1.17	-1.05	-3.70
8,793.00	7.50	64.99	8,748.81	116.19	505.36	186.18	0.66	-0.09	-5.00
8,889.00	7.37	64.89	8,844.00	121.45	516.61	192.97	0.14	-0.14	-0.10
8,983.00	8.38	70.06	8,937.11	126.34	528.51	199.49	1.31	1.07	5.50
9,077.00	8.40	71.64	9,030.11	130.84	541.46	205.77	0.25	0.02	1.68
9,172.00	7.75	72.78	9,124.17	134.92	554.17	211.60	0.70	-0.68	1.20

Integrity Directional Services, LLC

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Site:	Hamon Fed Pad	MD Reference:	KB=18 @ 3628.00ft
Well:	Hamon Fed Com A #12H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,267.00	6.80	73.48	9,218.40	138.42	565.68	216.68	1.00	-1.00	0.74
9,362.00	6.34	75.13	9,312.78	141.36	576.14	221.07	0.52	-0.48	1.74
9,457.00	6.21	75.65	9,407.21	143.98	586.19	225.08	0.15	-0.14	0.55
9,552.00	5.92	75.95	9,501.68	146.45	595.92	228.89	0.31	-0.31	0.32
9,647.00	6.17	80.64	9,596.15	148.47	605.71	232.27	0.58	0.26	4.94
9,710.00	7.24	79.37	9,658.72	149.75	612.95	234.56	1.71	1.70	-2.02
9,742.00	10.03	66.55	9,690.35	151.23	617.49	236.66	10.54	8.72	-40.06
9,774.00	13.66	56.17	9,721.67	154.44	623.19	240.65	13.11	11.34	-32.44
9,806.00	16.69	50.31	9,752.55	159.48	629.87	246.57	10.60	9.47	-18.31
9,837.00	18.29	40.60	9,782.12	166.02	636.46	253.98	10.72	5.16	-31.32
9,884.00	21.95	28.70	9,826.27	179.34	645.48	268.43	11.65	7.79	-25.32
9,932.00	26.25	25.13	9,870.08	196.83	654.30	286.98	9.46	8.96	-7.44
9,979.00	29.32	20.44	9,911.66	217.03	662.74	308.17	8.01	6.53	-9.98
10,026.00	33.56	16.29	9,951.75	240.29	670.41	332.28	10.12	9.02	-8.83
10,073.00	36.62	14.28	9,990.21	266.35	677.51	359.09	6.96	6.51	-4.28
10,121.00	38.23	11.55	10,028.33	294.78	684.02	388.15	4.82	3.35	-5.69
10,168.00	40.43	6.48	10,064.69	324.18	688.65	417.91	8.28	4.68	-10.79
South Lease Line Crossing @ 10,168' MD									
10,216.00	43.65	6.56	10,100.33	356.11	692.30	450.04	6.71	6.71	0.17
10,247.00	45.18	-6.63	10,122.48	377.67	694.79	471.72	4.94	4.94	0.23
10,279.00	46.45	9.23	10,144.78	400.39	697.96	494.67	7.05	3.97	8.13
10,311.00	48.82	9.76	10,166.34	423.71	701.86	518.30	7.51	7.41	1.66
10,343.00	52.79	9.02	10,186.56	448.17	705.91	543.09	12.53	12.41	-2.31
10,374.00	55.47	7.22	10,204.72	473.03	709.45	568.21	9.84	8.65	-5.81
10,406.00	58.31	6.97	10,222.20	499.63	712.76	595.00	8.90	8.88	-0.78
10,438.00	62.08	6.10	10,238.11	527.21	715.91	622.75	12.01	11.78	-2.72
10,469.00	66.29	4.32	10,251.60	555.00	718.44	650.62	14.53	13.58	-5.74
10,501.00	68.67	4.38	10,263.86	584.47	720.68	680.11	7.44	7.44	0.19
10,533.00	73.35	3.79	10,274.27	614.64	722.83	710.29	14.73	14.63	-1.84
10,564.00	77.22	2.75	10,282.14	644.57	724.54	740.16	12.90	12.48	-3.35
10,571.67	78.16	2.59	10,283.78	652.05	724.89	747.61	12.46	12.30	-2.05
H Fed Com A 12H FTP									
10,573.66	78.41	2.55	10,284.18	654.00	724.98	749.55	12.46	12.30	-2.04
South 330' Hardline Crossing @ 10,573.66' MD									
10,594.00	80.91	2.14	10,287.83	673.99	725.79	769.47	12.46	12.30	-2.03
10,626.00	85.71	2.73	10,291.56	705.74	727.15	801.08	15.11	15.00	1.84
10,707.00	91.82	3.74	10,293.30	786.55	731.71	881.73	7.65	7.54	1.25
10,801.00	91.62	3.59	10,290.48	880.32	737.72	975.41	0.27	-0.21	-0.16
10,896.00	91.43	3.68	10,287.95	975.09	743.74	1,070.09	0.22	-0.20	0.09
10,991.00	92.32	2.02	10,284.84	1,069.92	748.46	1,164.64	1.98	0.94	-1.75
11,085.00	92.41	2.21	10,280.97	1,163.77	751.93	1,258.05	0.22	0.10	0.20
11,180.00	92.94	2.10	10,276.53	1,258.60	755.50	1,352.43	0.57	0.56	-0.12
11,274.00	92.27	359.50	10,272.26	1,352.49	756.81	1,445.57	2.85	-0.71	-2.77
11,369.00	93.25	358.89	10,267.68	1,447.37	755.47	1,539.31	1.21	1.03	-0.64

Integrity Directional Services, LLC

Survey Report

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Well:	Hamon Fed Com A #12H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,464.00	91.43	358.11	10,263.81	1,542.25	752.99	1,632.90	2.08	-1.92	-0.82
11,558.00	92.02	358.11	10,260.98	1,636.16	749.89	1,725.44	0.63	0.63	0.00
11,652.00	91.01	359.42	10,258.49	1,730.10	747.87	1,818.16	1.76	-1.07	1.39
11,747.00	91.85	359.79	10,256.12	1,825.07	747.21	1,912.09	0.97	0.88	0.39
11,841.00	89.30	359.30	10,255.18	1,919.05	746.46	2,005.03	2.76	-2.71	-0.52
11,935.00	89.05	359.02	10,256.53	2,013.03	745.09	2,097.88	0.40	-0.27	-0.30
12,030.00	90.62	359.64	10,256.80	2,108.02	743.98	2,191.77	1.78	1.65	0.65
12,124.00	90.14	359.45	10,256.18	2,202.01	743.23	2,284.72	0.55	-0.51	-0.20
12,218.00	92.42	0.36	10,254.08	2,295.98	743.07	2,377.73	2.61	2.43	0.97
12,313.00	91.65	0.25	10,250.71	2,390.92	743.58	2,471.80	0.82	-0.81	-0.12
12,408.00	90.42	0.24	10,248.99	2,485.90	743.98	2,565.89	1.29	-1.29	-0.01
12,502.00	90.22	0.19	10,248.47	2,579.90	744.34	2,659.00	0.22	-0.21	-0.05
12,597.00	90.00	0.10	10,248.28	2,674.90	744.58	2,753.09	0.25	-0.23	-0.09
12,693.00	90.14	359.76	10,248.17	2,770.90	744.46	2,848.11	0.38	0.15	-0.35
12,787.00	90.39	0.12	10,247.73	2,864.90	744.36	2,941.16	0.47	0.27	0.38
12,881.00	90.08	0.88	10,247.35	2,958.89	745.18	3,034.34	0.87	-0.33	0.81
12,976.00	91.29	1.03	10,246.21	3,053.87	746.77	3,128.59	1.28	1.27	0.16
13,071.00	92.58	1.21	10,243.00	3,148.80	748.62	3,222.83	1.37	1.36	0.19
13,165.00	91.34	0.90	10,239.79	3,242.73	750.35	3,316.07	1.36	-1.32	-0.33
13,260.00	89.44	359.41	10,239.14	3,337.72	750.61	3,410.15	2.54	-2.00	-1.57
13,354.00	89.72	359.15	10,239.83	3,431.71	749.43	3,503.04	0.41	0.30	-0.28
13,447.00	90.08	359.00	10,239.99	3,524.69	747.93	3,594.89	0.42	0.39	-0.16
13,542.00	90.45	359.62	10,239.55	3,619.68	746.78	3,688.77	0.76	0.39	0.65
13,637.00	90.25	0.37	10,238.97	3,714.68	746.77	3,782.82	0.82	-0.21	0.79
13,731.00	90.73	1.18	10,238.17	3,808.67	748.04	3,876.05	1.00	0.51	0.86
13,827.00	92.44	1.58	10,235.51	3,904.60	750.35	3,971.35	1.83	1.78	0.42
13,921.00	90.70	359.85	10,232.94	3,998.55	751.53	4,064.53	2.61	-1.85	-1.84
14,015.00	90.22	359.89	10,232.18	4,092.55	751.31	4,157.56	0.51	-0.51	0.04
14,110.00	89.64	0.05	10,232.30	4,187.55	751.26	4,251.61	0.63	-0.61	0.17
14,205.00	88.77	0.02	10,233.62	4,282.54	751.32	4,345.66	0.92	-0.92	-0.03
14,300.00	88.82	359.80	10,235.62	4,377.52	751.17	4,439.67	0.24	0.05	-0.23
14,394.00	87.87	1.27	10,238.33	4,471.47	752.05	4,532.81	1.86	-1.01	1.56
14,489.00	88.60	2.42	10,241.26	4,566.37	755.11	4,627.20	1.43	0.77	1.21
14,583.00	88.77	1.46	10,243.41	4,660.29	758.29	4,720.63	1.04	0.18	-1.02
14,678.00	89.24	359.99	10,245.06	4,755.27	759.49	4,814.83	1.62	0.49	-1.55
14,772.00	88.93	359.10	10,246.57	4,849.25	758.74	4,907.77	1.00	-0.33	-0.95
14,866.00	88.68	359.00	10,248.53	4,943.22	757.19	5,000.59	0.29	-0.27	-0.11
14,962.00	89.06	358.32	10,250.42	5,039.17	754.94	5,095.27	0.81	0.40	-0.71
15,056.00	90.48	358.32	10,250.80	5,133.13	752.19	5,187.90	1.51	1.51	0.00
15,146.00	90.64	358.40	10,249.92	5,223.09	749.61	5,276.60	0.20	0.18	0.09
Last IDS MWD Survey									
15,196.76	90.64	358.40	10,249.35	5,273.82	748.19	5,326.63	0.00	0.00	0.00
PBHL Hamon Fed Com A #12H									
15,200.00	90.64	358.40	10,249.31	5,277.06	748.10	5,329.83	0.00	0.00	0.00

Integrity Directional Services, LLC

Survey Report

Company:	Legacy Reserves Operating	Local Co-ordinate Reference:	Well Hamon Fed Com A #12H
Project:	Lea County, NM	TVD Reference:	KB=18 @ 3628.00ft
Site:	Hamon Fed Pad	MD Reference:	KB=18 @ 3628.00ft
Well:	Hamon Fed Com A #12H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Projection to TD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
South Lease Line Crossi	0.00	0.00	10,064.69	324.18	688.65	575,582.0826	725,353.3486	32.580909	-103.735919
- actual wellpath hits target center									
- Point									
South 330' Hardline Cro:	0.00	0.00	10,284.18	654.00	724.98	575,911.8987	725,389.6747	32.581815	-103.735795
- actual wellpath hits target center									
- Point									

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
287.00	287.00	0.06	0.04	First IDS MWD Survey
15,146.00	10,249.92	5,223.09	749.61	Last IDS MWD Survey
15,200.00	10,249.31	5,277.06	748.10	Projection to TD

Checked By: _____ Approved By: _____ Date: _____