

HOBBS OCD
SEP 21 2018
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Legacy Reserves Operating

Lea County, NM

Lea

Lea Unit #42H

Wellbore #1

Design: Wellbore #1

Standard Survey Report

10 April, 2018

Survey Report

Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Lea
Well: Lea Unit #42H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Lea Unit #42H
TVD Reference: KB @ 3692.00ft
MD Reference: KB @ 3692.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

Project Lea County, NM

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Lea

Site Position:
From: Map
Position Uncertainty: 0.00 ft
Northing: 567,567.70 usft
Easting: 795,066.10 usft
Slot Radius: 13-3/16 "
Latitude: 32.557602
Longitude: -103.509812
Grid Convergence: 0.44 °

Well Lea Unit #42H, MS

Well Position +N/-S 0.00 ft **Northing:** 567,567.70 usft **Latitude:** 32.557602
 +E/-W 0.00 ft **Easting:** 795,066.10 usft **Longitude:** -103.509812
Position Uncertainty 0.00 ft **Wellhead Elevation:** 0.00 ft **Ground Level:** 3,674.01 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/22/2018	6.68	60.50	48,212

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	60.27

Survey Program Date 4/10/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	5,528.00	Gyro Surveys (Wellbore #1)	NS-GYRO-MS	North sensing gyrocompassing m/s
5,652.00	17,300.00	MWD Survey (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
100.00	0.14	101.04	100.00	-0.02	0.12	0.09	0.14	0.14	0.00
200.00	0.30	231.97	200.00	-0.21	0.03	-0.07	0.41	0.16	130.93
300.00	0.35	237.31	300.00	-0.53	-0.43	-0.64	0.06	0.05	5.34
400.00	0.58	237.28	399.99	-0.97	-1.11	-1.45	0.23	0.23	-0.03
500.00	0.51	246.97	499.99	-1.42	-1.95	-2.40	0.12	-0.07	9.69
600.00	0.40	306.65	599.99	-1.39	-2.64	-2.98	0.46	-0.11	59.68
700.00	0.37	307.81	699.99	-0.98	-3.17	-3.24	0.03	-0.03	1.16
800.00	0.39	307.77	799.98	-0.57	-3.70	-3.49	0.02	0.02	-0.04
900.00	0.23	308.82	899.98	-0.24	-4.12	-3.70	0.16	-0.16	1.05

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1,000.00	0.30	235.15	999.98	-0.26	-4.49	-4.03	0.32	0.07	-73.67
1,100.00	0.02	321.32	1,099.98	-0.40	-4.72	-4.30	0.30	-0.28	86.17
1,200.00	0.23	241.32	1,199.98	-0.48	-4.91	-4.50	0.23	0.21	-80.00
1,300.00	0.07	276.18	1,299.98	-0.57	-5.14	-4.75	0.18	-0.16	34.86
1,400.00	0.09	243.25	1,399.98	-0.60	-5.27	-4.88	0.05	0.02	-32.93
1,500.00	0.32	319.69	1,499.98	-0.42	-5.52	-5.01	0.31	0.23	76.44
1,600.00	0.49	298.59	1,599.98	-0.01	-6.08	-5.28	0.22	0.17	-21.10
1,700.00	0.53	295.80	1,699.97	0.40	-6.87	-5.77	0.05	0.04	-2.79
1,800.00	0.97	288.78	1,799.96	0.87	-8.09	-6.59	0.45	0.44	-7.02
1,900.00	0.58	311.93	1,899.95	1.49	-9.27	-7.31	0.49	-0.39	23.15
2,000.00	0.82	64.16	1,999.95	2.14	-9.00	-6.76	1.17	0.24	112.23
2,100.00	1.11	61.72	2,099.94	2.91	-7.50	-5.07	0.29	0.29	-2.44
2,200.00	0.80	33.04	2,199.92	3.95	-6.27	-3.49	0.56	-0.31	-28.68
2,300.00	0.77	20.30	2,299.91	5.17	-5.66	-2.35	0.18	-0.03	-12.74
2,400.00	0.66	31.01	2,399.91	6.29	-5.13	-1.33	0.17	-0.11	10.71
2,500.00	0.43	52.22	2,499.90	7.01	-4.53	-0.46	0.30	-0.23	21.21
2,600.00	0.32	54.41	2,599.90	7.41	-4.01	0.19	0.11	-0.11	2.19
2,700.00	0.25	11.94	2,699.90	7.78	-3.74	0.61	0.22	-0.07	-42.47
2,800.00	0.26	58.64	2,799.90	8.11	-3.50	0.99	0.20	0.01	46.70
2,900.00	0.23	46.66	2,899.90	8.37	-3.16	1.41	0.06	-0.03	-11.98
3,000.00	0.68	19.08	2,999.89	9.07	-2.82	2.05	0.49	0.45	-27.58
3,100.00	0.76	24.48	3,099.88	10.23	-2.35	3.03	0.10	0.08	5.40
3,200.00	0.92	37.22	3,199.87	11.47	-1.59	4.31	0.25	0.16	12.74
3,300.00	0.53	49.34	3,299.87	12.42	-0.75	5.50	0.42	-0.39	12.12
3,400.00	0.80	64.66	3,399.86	13.02	0.23	6.65	0.32	0.27	15.32
3,500.00	0.94	65.11	3,499.85	13.66	1.60	8.17	0.14	0.14	0.45
3,600.00	0.77	117.40	3,599.84	13.70	2.94	9.35	0.77	-0.17	52.29
3,700.00	0.59	87.53	3,699.83	13.41	4.06	10.17	0.39	-0.18	-29.87
3,800.00	0.31	104.41	3,799.83	13.36	4.83	10.82	0.31	-0.28	16.88
3,900.00	0.31	16.07	3,899.83	13.56	5.17	11.21	0.43	0.00	-88.34
4,000.00	0.14	84.53	3,999.83	13.83	5.36	11.52	0.29	-0.17	68.46
4,100.00	0.12	57.99	4,099.83	13.89	5.58	11.73	0.06	-0.02	-26.54
4,200.00	0.25	65.94	4,199.83	14.04	5.86	12.05	0.13	0.13	7.95
4,300.00	0.30	36.76	4,299.82	14.34	6.22	12.51	0.15	0.05	-29.18
4,400.00	0.73	35.42	4,399.82	15.07	6.75	13.33	0.43	0.43	-1.34
4,500.00	0.98	115.74	4,499.81	15.21	7.88	14.39	1.12	0.25	80.32
4,600.00	1.01	101.70	4,599.80	14.66	9.52	15.54	0.25	0.03	-14.04
4,700.00	1.01	105.40	4,699.78	14.25	11.23	16.82	0.07	0.00	3.70
4,800.00	0.71	101.57	4,799.77	13.89	12.69	17.91	0.31	-0.30	-3.83
4,900.00	1.07	109.54	4,899.76	13.46	14.17	18.98	0.38	0.36	7.97
5,000.00	0.91	67.79	4,999.74	13.44	15.79	20.38	0.72	-0.16	-41.75
5,100.00	1.16	75.46	5,099.73	14.00	17.50	22.14	0.29	0.25	7.67
5,200.00	1.26	74.72	5,199.71	14.54	19.54	24.18	0.10	0.10	-0.74

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5,300.00	1.17	88.04	5,299.68	14.87	21.63	26.15	0.30	-0.09	13.32
5,400.00	1.21	96.53	5,399.66	14.78	23.70	27.91	0.18	0.04	8.49
5,500.00	1.10	73.69	5,499.64	14.93	25.67	29.69	0.47	-0.11	-22.84
5,528.00	1.15	98.63	5,527.64	14.97	26.20	30.17	1.74	0.18	89.07
Tie in to Gyro Surveys @ 5528'MD									
5,652.00	1.30	81.10	5,651.61	15.00	28.82	32.46	0.32	0.12	-14.14
First MWD Survey @ 5652'MD									
5,746.00	0.70	102.30	5,745.59	15.04	30.44	33.89	0.74	-0.64	22.55
5,840.00	0.30	208.60	5,839.59	14.70	30.88	34.10	0.89	-0.43	113.09
5,934.00	0.80	221.60	5,933.59	13.99	30.33	33.27	0.54	0.53	13.83
6,028.00	0.40	143.00	6,027.58	13.24	30.09	32.69	0.87	-0.43	-83.62
6,122.00	0.10	227.90	6,121.58	12.92	30.22	32.65	0.43	-0.32	90.32
6,216.00	0.10	341.20	6,215.58	12.95	30.14	32.59	0.18	0.00	120.53
6,405.00	0.21	339.70	6,404.58	13.43	29.96	32.68	0.06	0.06	-0.79
6,593.00	0.30	317.70	6,592.58	14.11	29.51	32.63	0.07	0.05	-11.70
6,782.00	0.40	302.40	6,781.58	14.83	28.62	32.21	0.07	0.05	-8.10
7,065.00	0.50	259.90	7,064.57	15.15	26.57	30.59	0.12	0.04	-15.02
7,160.00	0.60	237.80	7,159.56	14.81	25.74	29.70	0.24	0.11	-23.26
7,349.00	0.50	209.20	7,348.56	13.56	24.50	28.00	0.15	-0.05	-15.13
7,537.00	0.70	223.70	7,536.55	12.02	23.31	26.20	0.13	0.11	7.71
7,726.00	0.70	215.60	7,725.53	10.24	21.84	24.04	0.05	0.00	-4.29
7,915.00	0.90	210.70	7,914.51	8.03	20.41	21.70	0.11	0.11	-2.59
8,103.00	0.90	229.80	8,102.49	5.80	18.53	18.97	0.16	0.00	10.16
8,292.00	1.10	233.50	8,291.46	3.77	15.94	15.71	0.11	0.11	1.96
8,481.00	0.80	254.10	8,480.44	2.33	13.21	12.62	0.24	-0.16	10.90
8,669.00	0.90	265.00	8,668.41	1.84	10.48	10.01	0.10	0.05	5.80
8,858.00	1.30	246.60	8,857.38	0.86	7.03	6.53	0.28	0.21	-9.74
9,028.00	1.70	244.80	9,027.32	-0.98	2.98	2.10	0.24	0.24	-1.06
9,039.00	1.70	244.10	9,038.32	-1.12	2.68	1.77	0.19	0.00	-6.36
9,086.00	2.80	302.40	9,085.29	-0.81	1.09	0.54	5.09	2.34	124.04
9,133.00	8.50	354.30	9,132.06	3.26	-0.23	1.42	15.15	12.13	110.43
9,180.00	14.90	358.00	9,178.06	12.77	-0.78	5.65	13.70	13.62	7.87
9,228.00	21.80	0.60	9,223.59	27.87	-0.91	13.03	14.47	14.38	5.42
9,275.00	29.70	0.90	9,265.89	48.27	-0.63	23.39	16.81	16.81	0.64
9,322.00	34.60	3.00	9,305.67	73.25	0.25	36.55	10.69	10.43	4.47
9,369.00	41.10	358.70	9,342.77	102.06	0.60	51.14	14.92	13.83	-9.15
9,416.00	46.00	356.60	9,376.83	134.40	-0.76	66.00	10.87	10.43	-4.47
9,463.00	51.70	355.40	9,407.74	169.69	-3.24	81.35	12.28	12.13	-2.55
9,511.00	56.00	355.70	9,436.05	208.32	-6.24	97.90	8.97	8.96	0.63
9,558.00	57.80	354.80	9,461.72	247.56	-9.51	114.52	4.15	3.83	-1.91
9,605.00	58.80	354.20	9,486.41	287.36	-13.34	130.94	2.39	2.13	-1.28
9,652.00	61.50	355.30	9,509.81	327.95	-17.06	147.83	6.09	5.74	2.34
9,654.27	61.56	355.30	9,510.89	329.94	-17.23	148.68	2.77	2.77	0.22
South Hardline Crossing @ 9654'MD									

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9,699.00	62.80	355.40	9,531.76	369.37	-20.43	165.45	2.77	2.77	0.21
9,746.00	66.00	356.40	9,552.07	411.64	-23.46	183.79	7.07	6.81	2.13
9,794.00	70.40	357.10	9,569.89	456.12	-25.98	203.66	9.27	9.17	1.46
9,841.00	75.00	357.70	9,583.86	500.94	-28.01	224.12	9.86	9.79	1.28
9,888.00	79.60	357.90	9,594.19	546.74	-29.77	245.31	9.80	9.79	0.43
9,935.00	84.00	358.40	9,600.89	593.23	-31.27	267.06	9.42	9.36	1.06
9,983.00	88.00	359.50	9,604.24	641.09	-32.15	290.04	8.64	8.33	2.29
10,077.00	90.90	359.30	9,605.14	735.07	-33.13	335.80	3.09	3.09	-0.21
10,171.00	92.40	358.50	9,602.44	829.01	-34.94	380.82	1.81	1.60	-0.85
10,266.00	91.00	357.90	9,599.62	923.92	-37.92	425.30	1.60	-1.47	-0.63
10,360.00	89.60	356.90	9,599.13	1,017.82	-42.18	468.17	1.83	-1.49	-1.06
10,455.00	91.60	357.30	9,598.13	1,112.69	-46.99	511.05	2.15	2.11	0.42
10,549.00	89.90	356.20	9,596.90	1,206.52	-52.32	552.96	2.15	-1.81	-1.17
10,643.00	90.80	356.60	9,596.33	1,300.33	-58.22	594.36	1.05	0.96	0.43
10,738.00	92.10	356.50	9,593.92	1,395.13	-63.93	636.42	1.37	1.37	-0.11
10,832.00	90.60	356.70	9,591.71	1,488.93	-69.51	678.10	1.61	-1.60	0.21
10,927.00	91.80	356.90	9,589.72	1,583.76	-74.81	720.53	1.28	1.26	0.21
11,021.00	90.70	356.20	9,587.67	1,677.57	-80.46	762.14	1.39	-1.17	-0.74
11,116.00	90.20	356.40	9,586.92	1,772.37	-86.59	803.84	0.57	-0.53	0.21
11,210.00	88.20	357.00	9,588.24	1,866.20	-92.00	845.67	2.22	-2.13	0.64
11,305.00	89.00	356.70	9,590.56	1,961.03	-97.22	888.17	0.90	0.84	-0.32
11,399.00	91.20	357.20	9,590.39	2,054.89	-102.22	930.38	2.40	2.34	0.53
11,493.00	91.10	356.80	9,588.51	2,148.74	-107.14	972.66	0.44	-0.11	-0.43
11,588.00	90.40	357.70	9,587.26	2,243.62	-111.70	1,015.76	1.20	-0.74	0.95
11,682.00	91.90	357.70	9,585.38	2,337.52	-115.47	1,059.05	1.60	1.60	0.00
11,777.00	90.40	357.20	9,583.47	2,432.41	-119.70	1,102.44	1.66	-1.58	-0.53
11,871.00	88.60	358.00	9,584.29	2,526.31	-123.63	1,145.60	2.10	-1.91	0.85
11,966.00	89.40	358.00	9,585.95	2,621.24	-126.95	1,189.80	0.84	0.84	0.00
12,060.00	88.50	358.00	9,587.67	2,715.17	-130.23	1,233.54	0.96	-0.96	0.00
12,154.00	89.50	357.80	9,589.31	2,809.09	-133.67	1,277.13	1.08	1.06	-0.21
12,249.00	90.20	357.20	9,589.56	2,904.00	-137.82	1,320.60	0.97	0.74	-0.63
12,343.00	90.30	356.10	9,589.15	2,997.83	-143.31	1,362.37	1.18	0.11	-1.17
12,351.59	90.45	356.06	9,589.09	3,006.40	-143.90	1,366.11	1.82	1.74	-0.52
Crossing Section 24/13 @ 12351'MD									
12,458.00	92.30	355.50	9,586.54	3,112.49	-151.73	1,411.93	1.82	1.74	-0.52
12,552.00	89.40	354.70	9,585.15	3,206.12	-159.76	1,451.40	3.20	-3.09	-0.85
12,646.00	88.20	355.30	9,587.12	3,299.74	-167.95	1,490.72	1.43	-1.28	0.64
12,739.00	86.80	355.60	9,591.17	3,392.36	-175.32	1,530.25	1.54	-1.51	0.32
12,833.00	87.70	356.20	9,595.68	3,486.01	-182.03	1,570.87	1.15	0.96	0.64
12,926.00	89.30	356.40	9,598.12	3,578.78	-188.03	1,611.67	1.73	1.72	0.22
13,020.00	91.70	0.40	9,597.30	3,672.72	-190.65	1,655.98	4.96	2.55	4.26
13,114.00	91.00	0.20	9,595.08	3,766.69	-190.16	1,703.01	0.77	-0.74	-0.21
13,208.00	90.40	359.90	9,593.93	3,860.68	-190.08	1,749.70	0.71	-0.64	-0.32

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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)
13,303.00	89.70	359.30	9,593.85	3,955.68	-190.74	1,796.24	0.97	-0.74	-0.63
13,397.00	89.80	359.90	9,594.26	4,049.67	-191.40	1,842.29	0.65	0.11	0.64
13,491.00	90.00	0.80	9,594.42	4,143.67	-190.83	1,889.41	0.98	0.21	0.96
13,585.00	90.60	359.70	9,593.93	4,237.67	-190.41	1,936.38	1.33	0.64	-1.17
13,679.00	90.90	359.90	9,592.70	4,331.66	-190.74	1,982.71	0.38	0.32	0.21
13,773.00	90.80	359.30	9,591.31	4,425.64	-191.40	2,028.76	0.65	-0.11	-0.64
13,866.00	90.80	357.90	9,590.01	4,518.61	-193.67	2,072.89	1.51	0.00	-1.51
13,960.00	91.70	357.40	9,587.96	4,612.50	-197.52	2,116.11	1.10	0.96	-0.53
14,055.00	91.60	357.10	9,585.22	4,707.35	-202.08	2,159.20	0.33	-0.11	-0.32
14,149.00	91.00	355.50	9,583.09	4,801.13	-208.14	2,200.44	1.82	-0.64	-1.70
14,243.00	90.10	355.50	9,582.19	4,894.84	-215.52	2,240.51	0.96	-0.96	0.00
14,336.00	90.50	355.10	9,581.70	4,987.52	-223.14	2,279.86	0.61	0.43	-0.43
14,430.00	90.20	354.20	9,581.13	5,081.11	-231.90	2,318.67	1.01	-0.32	-0.96
14,525.00	89.50	355.10	9,581.37	5,175.69	-240.76	2,357.89	1.20	-0.74	0.95
14,620.00	90.70	357.00	9,581.21	5,270.46	-247.31	2,399.21	2.37	1.26	2.00
14,713.00	90.70	359.00	9,580.07	5,363.39	-250.55	2,442.48	2.15	0.00	2.15
14,807.00	90.70	358.60	9,578.92	5,457.36	-252.52	2,487.38	0.43	0.00	-0.43
14,901.00	90.80	358.60	9,577.69	5,551.33	-254.82	2,531.99	0.11	0.11	0.00
14,995.00	90.30	358.60	9,576.79	5,645.30	-257.11	2,576.60	0.53	-0.53	0.00
15,089.00	89.50	359.90	9,576.96	5,739.28	-258.34	2,622.14	1.62	-0.85	1.38
15,183.00	89.40	359.50	9,577.86	5,833.28	-258.83	2,668.33	0.44	-0.11	-0.43
15,277.00	90.70	359.10	9,577.78	5,927.27	-259.98	2,713.95	1.45	1.38	-0.43
15,371.00	91.40	357.00	9,576.05	6,021.19	-263.18	2,757.76	2.35	0.74	-2.23
15,466.00	91.30	357.10	9,573.81	6,116.04	-268.07	2,800.55	0.15	-0.11	0.11
15,559.00	89.90	357.10	9,572.84	6,208.92	-272.77	2,842.53	1.51	-1.51	0.00
15,654.00	90.40	356.40	9,572.59	6,303.76	-278.16	2,884.89	0.91	0.53	-0.74
15,747.00	89.90	356.40	9,572.35	6,396.58	-284.00	2,925.86	0.54	-0.54	0.00
15,842.00	89.70	356.60	9,572.68	6,491.40	-289.80	2,967.85	0.30	-0.21	0.21
15,935.00	89.40	356.60	9,573.41	6,584.23	-295.31	3,009.10	0.32	-0.32	0.00
16,029.00	89.10	356.30	9,574.64	6,678.04	-301.13	3,050.58	0.45	-0.32	-0.32
16,122.00	89.40	357.20	9,575.86	6,770.89	-306.41	3,092.04	1.02	0.32	0.97
16,215.00	90.40	356.80	9,576.02	6,863.76	-311.27	3,133.88	1.16	1.08	-0.43
16,309.00	89.10	355.60	9,576.43	6,957.54	-317.50	3,174.98	1.88	-1.38	-1.28
16,403.00	89.00	356.20	9,577.99	7,051.29	-324.22	3,215.64	0.65	-0.11	0.64
16,497.00	89.60	356.10	9,579.14	7,145.07	-330.53	3,256.67	0.65	0.64	-0.11
16,592.00	89.70	356.00	9,579.72	7,239.84	-337.08	3,298.00	0.15	0.11	-0.11
16,686.00	90.30	356.80	9,579.72	7,333.66	-342.98	3,339.40	1.06	0.64	0.85
16,779.00	88.80	356.30	9,580.45	7,426.48	-348.57	3,380.58	1.70	-1.61	-0.54
16,873.00	89.30	357.40	9,582.01	7,520.33	-353.74	3,422.64	1.29	0.53	1.17
16,966.00	89.10	356.80	9,583.31	7,613.20	-358.44	3,464.61	0.68	-0.22	-0.65
17,061.00	90.50	357.10	9,583.64	7,708.06	-363.50	3,507.27	1.51	1.47	0.32
17,155.00	89.90	355.80	9,583.31	7,801.88	-369.32	3,548.75	1.52	-0.64	-1.38
17,244.00	89.00	355.00	9,584.16	7,890.58	-376.46	3,586.54	1.35	-1.01	-0.90

Last MWD Survey @ 17244'MD

Survey Report

Company: Legacy Reserves Operating
Project: Lea County, NM
Site: Lea
Well: Lea Unit #42H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Lea Unit #42H
TVD Reference: KB @ 3692.00ft
MD Reference: KB @ 3692.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1

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)
17,300.00	89.00	355.00	9,585.14	7,946.36	-381.34	3,609.97	0.00	0.00	0.00
PTB @ TD @ 17300'MD									

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
5,528.00	5,527.64	14.97	26.20	Tie in to Gyro Surveys @ 5528'MD
5,652.00	5,651.61	15.00	28.82	First MWD Survey @ 5652'MD
9,654.27	9,510.89	329.94	-17.23	South Hardline Crossing @ 9654'MD
12,351.59	9,589.09	3,006.40	-143.90	Crossing Section 24/13 @ 12351'MD
17,244.00	9,584.16	7,890.58	-376.46	Last MWD Survey @ 17244'MD
17,300.00	9,585.14	7,946.36	-381.34	PTB @ TD @ 17300'MD

Checked By: _____ Approved By: _____ Date: _____