

SURVEY DATA CERTIFICATION



PHOENIX TECHNOLOGY SERVICES

HOBBBS OCD
OCT 23 2019
RECEIVED

Job #: 64422

Client: Matador Resources

County & State: Lea County, New Mexico

Well: Uncle Don State 35-22S-35E 1

API No: 30-025-45622

Proposed Direction: 0.00°

TIE-IN DATA

MD	TVD	INC	AZM	N/-S	E/-W	DATA SOURCE
0.00 ft	0.00 ft	0.00°	0.00°			Surface
Data Source Company:						

SURVEY DATA

First Survey Date	First Survey Depth	INC	AZM
8-Mar-19	101 ft	0.31°	255.22°

Last Survey Date	Last Survey Depth	INC	AZM
24-Mar-19	12,035 ft	1.19°	74.86°

Projected TD Survey Date	Projected TD Survey Depth	INC	AZM
24-Mar-19	12,100 ft	1.19°	74.86°

Survey Instrument Type

MWD - P360

CORRECTION INFORMATION

Magnetic Declination Used	6.77	degrees
Grid Convergence Used	0.53	degrees

Total Correction	6.24	degrees
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Corrected to True/Grid North

Grid North

Chris Marks

Signature

3/24/2019

Date

TO THE BEST OF MY KNOWLEDGE, I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.



PHOENIX
TECHNOLOGY SERVICES

Matador Resources

Lea County, NM (NAD 27)
Uncle Don State 35-22S-35E
1

OH / 64422

30-025-45622

Survey: Phoenix MWD Surveys

Standard Survey Report

26 March, 2019





Survey Report



Company: Matador Resources
Project: Lea County, NM (NAD 27)
Site: Uncle Don State 35-22S-35E
Well: 1
Wellbore: OH / 64422
Design: Surveys (Patterson 297)

Local Co-ordinate Reference: Well 1
TVD Reference: RKB @ 3560.50usft (Patterson 297)
MD Reference: RKB @ 3560.50usft (Patterson 297)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA Compass

Project	Lea County, NM (NAD 27)		
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 Uncle Don State 35-22S-35E

Site Position:		Northing:	489,487.59 usft	Latitude:	32° 20' 30.6231 N
From:	Lat/Long	Easting:	805,458.58 usft	Longitude:	103° 20' 39.4814 W
Position Uncertainty:	1.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.53 °

Well	1					
Well Position	+N/-S	0.00 usft	Northing:	489,487.60 usft	Latitude:	32° 20' 30.6233 N
	+E/-W	0.00 usft	Easting:	805,458.58 usft	Longitude:	103° 20' 39.4814 W
Position Uncertainty	1.00 usft	Wellhead Elevation:	usft	Ground Level:	3,532.00 usft	

Wellbore OH / 64422

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	4/3/2019	6.77	60.06	48,038.53661817

Design Surveys (Patterson 297)

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.00

Survey Program Date 3/25/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
101.00	12,100.00	Phoenix MWD Surveys (OH / 64422)	MWD+HRGM	OWSG MWD + HRGM

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
101.00	0.31	255.22	101.00	-0.07	-0.26	-0.07	0.31	0.31	0.00
First Phoenix MWD Survey									
195.00	0.34	261.70	195.00	-0.17	-0.79	-0.17	0.05	0.03	6.89
286.00	0.39	211.98	286.00	-0.48	-1.22	-0.48	0.34	0.05	-54.64
380.00	0.59	196.74	379.99	-1.21	-1.53	-1.21	0.25	0.21	-16.21
471.00	0.54	242.37	470.99	-1.86	-2.04	-1.86	0.48	-0.05	50.14
562.00	0.60	232.12	561.98	-2.35	-2.80	-2.35	0.13	0.07	-11.26
654.00	0.81	232.52	653.98	-3.04	-3.69	-3.04	0.23	0.23	0.43
745.00	1.17	226.79	744.96	-4.07	-4.88	-4.07	0.41	0.40	-6.30
838.00	1.32	220.67	837.94	-5.53	-6.27	-5.53	0.22	0.16	-6.58

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 TVD Reference: RKB @ 3560.50usft (Patterson 297)
 MD Reference: RKB @ 3560.50usft (Patterson 297)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: USA Compass

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)
932.00	1.52	205.17	931.91	-7.48	-7.51	-7.48	0.46	0.21	-16.49
1,025.00	2.01	195.78	1,024.87	-10.17	-8.47	-10.17	0.61	0.53	-10.10
1,119.00	2.35	191.76	1,118.80	-13.64	-9.32	-13.64	0.40	0.36	-4.28
1,212.00	2.21	182.35	1,211.73	-17.30	-9.78	-17.30	0.43	-0.15	-10.12
1,306.00	2.17	174.60	1,305.66	-20.88	-9.68	-20.88	0.32	-0.04	-8.24
1,400.00	2.29	164.58	1,399.59	-24.46	-9.02	-24.46	0.43	0.13	-10.66
1,493.00	2.50	153.17	1,492.51	-28.06	-7.61	-28.06	0.56	0.23	-12.27
1,566.11	2.54	147.41	1,565.55	-30.85	-6.02	-30.85	0.35	0.05	-7.87
HL Crossing: 1566' MD									
1,586.00	2.55	145.88	1,585.42	-31.59	-5.53	-31.59	0.35	0.07	-7.71
1,680.00	2.74	136.30	1,679.32	-34.94	-2.81	-34.94	0.51	0.20	-10.19
1,766.00	2.93	131.54	1,765.21	-37.89	0.26	-37.89	0.35	0.22	-5.53
1,888.00	2.99	121.52	1,887.05	-41.62	5.30	-41.62	0.43	0.05	-8.21
1,981.00	2.16	114.63	1,979.96	-43.62	8.97	-43.62	0.95	-0.89	-7.41
2,075.00	1.82	91.44	2,073.90	-44.39	12.07	-44.39	0.92	-0.36	-24.67
2,168.00	1.40	94.02	2,166.86	-44.51	14.68	-44.51	0.46	-0.45	2.77
2,262.00	1.01	68.09	2,260.84	-44.28	16.59	-44.28	0.70	-0.41	-27.59
2,356.00	0.89	73.30	2,354.83	-43.76	18.06	-43.76	0.16	-0.13	5.54
2,449.00	0.55	60.53	2,447.82	-43.33	19.14	-43.33	0.40	-0.37	-13.73
2,543.00	0.59	351.74	2,541.82	-42.63	19.46	-42.63	0.69	0.04	-73.18
2,637.00	0.58	25.09	2,635.82	-41.72	19.60	-41.72	0.36	-0.01	35.48
2,731.00	0.59	65.23	2,729.81	-41.09	20.24	-41.09	0.43	0.01	42.70
2,824.00	0.51	23.76	2,822.81	-40.51	20.84	-40.51	0.43	-0.09	-44.59
2,918.00	0.54	17.20	2,916.80	-39.70	21.14	-39.70	0.07	0.03	-6.98
3,012.00	0.41	51.09	3,010.80	-39.07	21.53	-39.07	0.32	-0.14	36.05
3,105.00	0.48	54.83	3,103.80	-38.64	22.11	-38.64	0.08	0.08	4.02
3,199.00	0.73	43.27	3,197.79	-37.97	22.84	-37.97	0.29	0.27	-12.30
3,293.00	0.52	49.48	3,291.79	-37.26	23.57	-37.26	0.23	-0.22	6.61
3,387.00	1.17	33.97	3,385.78	-36.19	24.44	-36.19	0.73	0.69	-16.50
3,481.00	1.33	31.16	3,479.75	-34.46	25.54	-34.46	0.18	0.17	-2.99
3,575.00	1.38	43.41	3,573.73	-32.70	26.88	-32.70	0.31	0.05	13.03
3,669.00	1.46	38.53	3,667.70	-30.94	28.40	-30.94	0.15	0.09	-5.19
3,687.38	1.50	45.17	3,686.07	-30.59	28.72	-30.59	0.96	0.23	36.14
HL Crossing: 3687' MD									
3,763.00	1.85	67.23	3,761.66	-29.42	30.55	-29.42	0.96	0.46	29.17
3,856.00	1.79	72.11	3,854.61	-28.39	33.31	-28.39	0.18	-0.06	5.25
3,950.00	1.23	52.64	3,948.58	-27.33	35.51	-27.33	0.80	-0.60	-20.71
4,044.00	1.80	16.60	4,042.55	-25.30	36.74	-25.30	1.15	0.61	-38.34
4,138.00	1.37	26.94	4,136.51	-22.88	37.67	-22.88	0.55	-0.46	11.00
4,232.00	1.30	28.37	4,230.49	-20.94	38.68	-20.94	0.08	-0.07	1.52
4,325.00	0.93	20.64	4,323.47	-19.31	39.45	-19.31	0.43	-0.40	-8.31
4,512.00	1.03	36.56	4,510.44	-16.54	40.99	-16.54	0.15	0.05	8.51
4,699.00	0.94	332.23	4,697.42	-13.83	41.27	-13.83	0.56	-0.05	-34.40



Survey Report



Company: Matador Resources
Project: Lea County, NM (NAD 27)
Site: Uncle Don State 35-22S-35E
Well: 1
Wellbore: OH / 64422
Design: Surveys (Patterson 297)

Local Co-ordinate Reference: Well 1
TVD Reference: RKB @ 3560.50usft (Patterson 297)
MD Reference: RKB @ 3560.50usft (Patterson 297)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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)
4,793.00	3.81	317.04	4,791.33	-10.86	38.78	-10.86	3.10	3.05	-16.16
4,887.00	4.42	316.74	4,885.09	-5.94	34.17	-5.94	0.65	0.65	-0.32
4,980.00	4.15	319.79	4,977.83	-0.76	29.55	-0.76	0.38	-0.29	3.28
5,074.00	3.60	314.84	5,071.61	3.92	25.26	3.92	0.68	-0.59	-5.27
5,168.00	3.32	318.02	5,165.44	8.02	21.34	8.02	0.36	-0.30	3.38
5,261.00	3.25	319.05	5,258.29	12.01	17.81	12.01	0.10	-0.08	1.11
5,449.00	2.99	309.99	5,446.01	19.19	10.57	19.19	0.30	-0.14	-4.82
5,542.00	2.32	312.30	5,538.91	22.02	7.31	22.02	0.73	-0.72	2.48
5,636.00	2.28	314.05	5,632.84	24.60	4.56	24.60	0.09	-0.04	1.86
5,730.00	1.83	310.26	5,726.77	26.87	2.07	26.87	0.50	-0.48	-4.03
5,824.00	1.84	310.19	5,820.73	28.81	-0.22	28.81	0.01	0.01	-0.07
5,917.00	1.59	307.14	5,913.68	30.55	-2.39	30.55	0.29	-0.27	-3.28
6,011.00	1.57	303.86	6,007.65	32.06	-4.50	32.06	0.10	-0.02	-3.49
6,057.00	1.31	310.22	6,053.63	32.75	-5.43	32.75	0.66	-0.57	13.83
6,189.00	1.39	319.40	6,185.60	34.94	-7.62	34.94	0.17	0.06	6.95
6,282.00	1.35	321.60	6,278.57	36.65	-9.04	36.65	0.07	-0.04	2.37
6,376.00	1.46	320.77	6,372.54	38.45	-10.48	38.45	0.12	0.12	-0.88
6,470.00	1.32	333.26	6,466.52	40.34	-11.72	40.34	0.35	-0.15	13.29
6,563.00	1.43	344.94	6,559.49	42.42	-12.51	42.42	0.32	0.12	12.56
6,657.00	1.45	344.11	6,653.46	44.70	-13.14	44.70	0.03	0.02	-0.88
6,750.00	1.45	349.53	6,746.43	46.99	-13.67	46.99	0.15	0.00	5.83
6,844.00	1.58	346.35	6,840.40	49.41	-14.20	49.41	0.16	0.14	-3.38
6,938.00	1.96	341.57	6,934.35	52.20	-15.01	52.20	0.43	0.40	-5.09
7,032.00	0.94	333.01	7,028.32	54.41	-15.87	54.41	1.11	-1.09	-9.11
7,126.00	0.53	328.12	7,122.31	55.47	-16.45	55.47	0.44	-0.44	-5.20
7,219.00	0.41	340.51	7,215.31	56.15	-16.79	56.15	0.17	-0.13	13.32
7,313.00	0.42	14.82	7,309.31	56.80	-16.81	56.80	0.26	0.01	36.50
7,407.00	0.91	17.46	7,403.30	57.84	-16.50	57.84	0.52	0.52	2.81
7,500.00	1.59	3.56	7,496.28	59.83	-16.20	59.83	0.80	0.73	-14.95
7,594.00	1.35	356.44	7,590.25	62.24	-16.18	62.24	0.32	-0.26	-7.57
7,688.00	1.23	349.24	7,684.22	64.34	-16.44	64.34	0.21	-0.13	-7.66
7,782.00	1.26	347.24	7,778.20	66.34	-16.86	66.34	0.06	0.03	-2.13
7,876.00	1.05	30.80	7,872.18	68.08	-16.65	68.08	0.94	-0.22	46.34
7,969.00	1.48	50.89	7,965.16	69.57	-15.28	69.57	0.66	0.46	21.60
8,063.00	1.72	62.22	8,059.13	71.00	-13.09	71.00	0.42	0.26	12.05
8,157.00	1.89	65.31	8,153.08	72.30	-10.43	72.30	0.21	0.18	3.29
8,251.00	1.97	75.13	8,247.03	73.36	-7.46	73.36	0.36	0.09	10.45
8,345.00	2.56	81.44	8,340.95	74.09	-3.82	74.09	0.68	0.63	6.71
8,439.00	2.81	77.21	8,434.85	74.91	0.50	74.91	0.34	0.27	-4.50
8,533.00	1.20	89.14	8,528.79	75.44	3.73	75.44	1.76	-1.71	12.69
8,627.00	0.55	118.19	8,622.78	75.24	5.11	75.24	0.82	-0.69	30.90
8,720.00	1.60	102.35	8,715.76	74.75	6.77	74.75	1.16	1.13	-17.03
8,814.00	1.68	101.66	8,809.72	74.19	9.41	74.19	0.09	0.09	-0.73
8,907.00	1.84	88.66	8,902.68	73.95	12.23	73.95	0.46	0.17	-13.98

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9,001.00	2.05	93.79	8,996.62	73.88	15.42	73.88	0.29	0.22	5.46
9,095.00	1.91	99.93	9,090.57	73.49	18.64	73.49	0.27	-0.15	6.53
9,188.00	1.86	105.28	9,183.52	72.83	21.62	72.83	0.20	-0.05	5.75
9,282.00	2.27	101.27	9,277.46	72.06	24.92	72.06	0.46	0.44	-4.27
9,376.00	2.27	105.63	9,371.38	71.20	28.54	71.20	0.18	0.00	4.64
9,469.00	2.60	92.37	9,464.30	70.62	32.42	70.62	0.70	0.35	-14.26
9,563.00	2.05	136.63	9,558.23	69.30	35.71	69.30	1.94	-0.59	47.09
9,656.00	1.88	144.67	9,651.17	66.85	37.73	66.85	0.35	-0.18	8.65
9,750.00	1.99	128.80	9,745.12	64.57	39.89	64.57	0.58	0.12	-16.88
9,844.00	2.39	107.81	9,839.05	62.95	43.03	62.95	0.95	0.43	-22.33
9,937.00	2.41	99.06	9,931.97	62.05	46.81	62.05	0.39	0.02	-9.41
10,031.00	2.46	103.14	10,025.89	61.28	50.72	61.28	0.19	0.05	4.34
10,125.00	1.65	132.91	10,119.83	59.90	53.68	59.90	1.40	-0.86	31.67
10,219.00	1.04	167.97	10,213.80	58.14	54.85	58.14	1.06	-0.65	37.30
10,312.00	0.55	191.49	10,306.79	56.88	54.94	56.88	0.62	-0.53	25.29
10,406.00	0.84	215.29	10,400.79	55.87	54.45	55.87	0.43	0.31	25.32
10,499.00	0.84	231.73	10,493.78	54.90	53.52	54.90	0.26	0.00	17.68
10,592.00	1.05	238.63	10,586.77	54.03	52.26	54.03	0.26	0.23	7.42
10,686.00	0.92	231.96	10,680.75	53.12	50.93	53.12	0.18	-0.14	-7.10
10,779.00	1.12	199.75	10,773.74	51.80	50.03	51.80	0.64	0.22	-34.63
10,873.00	1.37	176.67	10,867.72	49.81	49.79	49.81	0.59	0.27	-24.55
10,966.00	1.78	174.96	10,960.68	47.27	49.98	47.27	0.44	0.44	-1.84
11,060.00	2.36	177.32	11,054.62	43.88	50.20	43.88	0.62	0.62	2.51
11,153.00	1.59	173.39	11,147.56	40.68	50.44	40.68	0.84	-0.83	-4.23
11,247.00	0.95	156.68	11,241.54	38.67	50.89	38.67	0.78	-0.68	-17.78
11,340.00	0.62	130.34	11,334.53	37.64	51.58	37.64	0.52	-0.35	-28.32
11,434.00	1.50	99.39	11,428.51	37.11	53.18	37.11	1.08	0.94	-32.93
11,528.00	1.38	97.89	11,522.49	36.75	55.52	36.75	0.13	-0.13	-1.60
11,622.00	1.14	97.41	11,616.46	36.48	57.57	36.48	0.26	-0.26	-0.51
11,715.00	1.26	99.96	11,709.44	36.18	59.49	36.18	0.14	0.13	2.74
11,809.00	1.17	89.76	11,803.42	36.01	61.47	36.01	0.25	-0.10	-10.85
11,903.00	1.35	81.50	11,897.40	36.17	63.52	36.17	0.27	0.19	-8.79
11,997.00	1.29	77.17	11,991.37	36.57	65.65	36.57	0.12	-0.06	-4.61
12,035.00	1.19	74.86	12,029.36	36.77	66.45	36.77	0.29	-0.26	-6.08
Final Phoenix MWD Survey									
12,100.00	1.19	74.86	12,094.35	37.12	67.75	37.12	0.00	0.00	0.00
Projection to TD									



Survey Report



Company: Matador Resources
Project: Lea County, NM (NAD 27)
Site: Uncle Don State 35-22S-35E
Well: 1
Wellbore: OH / 64422
Design: Surveys (Patterson 297)

Local Co-ordinate Reference: Well 1
TVD Reference: RKB @ 3560.50usft (Patterson 297)
MD Reference: RKB @ 3560.50usft (Patterson 297)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: USA Compass

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
101.00	101.00	-0.07	-0.26	First Phoenix MWD Survey
1,566.11	1,565.55	-30.85	-6.02	HL Crossing: 1566' MD
3,687.38	3,686.07	-30.59	28.72	HL Crossing: 3687' MD
12,035.00	12,029.36	36.77	66.45	Final Phoenix MWD Survey
12,100.00	12,094.35	37.12	67.75	Projection to TD