



May 30, 2018

Devon Energy Production Company, LP
Well: Tomb Raider 1-12 Fed Com 528H
County/Parish: Eddy County, NM

LEAM MWD: (OH) from 0' MD – 18,844' MD
Projection; 18,902' MD

This Borehole Survey taken between 04/17/18 and 05/26/18 had been conducted and calculated according to the highest professional standards and complies with all known State and Federal requirements.

Reviewed and Approved:

Date: May 30, 2018

NM OIL CONSERVATION
ARTESIA DISTRICT

MAR 29 2019

RECEIVED



Survey Certification Form

State of New Mexico

Eddy County

I, Randy W. Rakowitz, certify that; I am employed by LEAM Drilling Services, that I did on the day(s) of 04/17/2018 through 05/26/2018, conduct or supervise the taking of MWD Survey from a depth of 0' MD to 18,902' MD; that the data is true, correct, complete and within the limitations of the tools as set forth by LEAM Drilling Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy Production Company, LP for the Tomb Raider 1-12 Fed Com 528H in Eddy County, New Mexico; and that I reviewed this report and find that it conforms to the principals and procedures as set forth by LEAM Drilling Services.

A handwritten signature in black ink, appearing to read 'Randy W. Rakowitz', is written over a solid horizontal line.

Randy W. Rakowitz
MWD Operations Coordinator

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi User Db

Project	Eddy County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Tomb Raider 1-12 Fed Com		
Site Position:		Northing:	487,854.70 usft
From:	Map	Easting:	728,777.94 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 20' 23.0068 N
		Longitude:	103° 43' 35.1116 W
		Grid Convergence:	0.32 °

Well	Tomb Raider 1-12 Fed Com 528H		
Well Position	+N/-S	0.00 usft	Northing: 487,855.16 usft
	+E/-W	0.00 usft	Easting: 728,868.04 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 20' 23.0063 N
		Longitude:	103° 43' 34.0614 W
		Ground Level:	3,479.90 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	HDGM	6/28/2017	7.02
			Dip Angle
			60.15
			Field Strength
			48,218

Design	OH		
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
			179.68

Survey Program	Date	5/30/2018		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
138.00	9,474.00	Survey #1 (OH)	LEAM MWD+HDGM	MWD+HDGM
9,513.00	18,844.00	Survey #2 (OH)	LEAM MWD+HDGM	MWD+HDGM
18,902.00	18,902.00	Survey #3 (OH)	Project	Projection

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	
138.00	0.80	92.20	138.00	-0.04	0.96	0.04	0.58	0.58	0.00	
239.00	0.80	89.10	238.99	-0.05	2.37	0.07	0.04	0.00	-3.07	
324.00	0.90	89.20	323.98	-0.03	3.63	0.05	0.12	0.12	0.12	
416.00	0.70	92.60	415.97	-0.05	4.92	0.08	0.22	-0.22	3.70	
507.00	0.70	81.50	506.96	0.01	6.02	0.03	0.15	0.00	-12.20	
598.00	0.60	88.00	597.95	0.11	7.05	-0.07	0.14	-0.11	7.14	
683.00	0.60	84.70	682.95	0.16	7.94	-0.12	0.04	0.00	-3.88	
788.00	0.70	92.10	787.94	0.19	9.12	-0.14	0.12	0.10	7.05	

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi 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)
878.00	0.50	105.10	877.94	0.07	10.05	-0.01	0.27	-0.22	14.44
969.00	0.40	93.00	968.94	-0.05	10.75	0.11	0.15	-0.11	-13.30
1,060.00	0.40	75.80	1,059.93	0.01	11.38	0.05	0.13	0.00	-18.90
1,152.00	0.40	107.80	1,151.93	-0.01	12.00	0.08	0.24	0.00	34.78
1,242.00	0.40	90.50	1,241.93	-0.11	12.61	0.18	0.13	0.00	-19.22
1,334.00	0.30	127.30	1,333.93	-0.26	13.12	0.33	0.26	-0.11	40.00
1,426.00	0.20	55.40	1,425.93	-0.31	13.45	0.39	0.33	-0.11	-78.15
1,517.00	0.20	76.10	1,516.93	-0.18	13.73	0.26	0.08	0.00	22.75
1,608.00	0.20	16.00	1,607.93	0.01	13.93	0.07	0.22	0.00	-66.04
1,699.00	0.20	80.00	1,698.93	0.19	14.13	-0.11	0.23	0.00	70.33
1,795.00	0.20	47.10	1,794.92	0.33	14.42	-0.25	0.12	0.00	-34.27
1,890.00	0.20	321.00	1,889.92	0.57	14.43	-0.49	0.29	0.00	-90.63
1,985.00	0.10	191.80	1,984.92	0.62	14.31	-0.54	0.29	-0.11	-136.00
2,080.00	0.60	84.40	2,079.92	0.59	14.79	-0.50	0.67	0.53	-113.05
2,175.00	1.40	91.60	2,174.91	0.60	16.45	-0.51	0.85	0.84	7.58
2,270.00	2.00	89.10	2,269.87	0.60	19.26	-0.49	0.64	0.63	-2.63
2,365.00	2.80	97.40	2,364.78	0.32	23.22	-0.19	0.92	0.84	8.74
2,460.00	3.60	93.20	2,459.63	-0.14	28.50	0.30	0.88	0.84	-4.42
2,555.00	4.30	89.30	2,554.41	-0.26	35.04	0.46	0.79	0.74	-4.11
2,650.00	5.10	88.30	2,649.09	-0.10	42.82	0.34	0.85	0.84	-1.05
2,745.00	6.00	87.50	2,743.64	0.25	52.00	0.04	0.95	0.95	-0.84
2,840.00	5.90	86.10	2,838.13	0.79	61.83	-0.45	0.19	-0.11	-1.47
2,935.00	5.30	87.90	2,932.67	1.29	71.09	-0.89	0.66	-0.63	1.89
3,030.00	6.00	86.80	3,027.21	1.73	80.43	-1.28	0.75	0.74	-1.16
3,126.00	5.80	87.00	3,122.70	2.26	90.29	-1.75	0.21	-0.21	0.21
3,221.00	6.20	87.90	3,217.18	2.70	100.21	-2.14	0.43	0.42	0.95
3,316.00	6.10	89.50	3,311.64	2.93	110.38	-2.31	0.21	-0.11	1.68
3,411.00	6.40	90.70	3,406.07	2.91	120.72	-2.24	0.34	0.32	1.26
3,506.00	5.90	90.50	3,500.52	2.80	130.90	-2.07	0.53	-0.53	-0.21
3,602.00	5.50	89.30	3,596.05	2.82	140.43	-2.03	0.43	-0.42	-1.25
3,697.00	6.20	91.90	3,690.55	2.70	150.11	-1.86	0.79	0.74	2.74
3,793.00	6.90	96.50	3,785.93	1.88	161.02	-0.98	0.91	0.73	4.79
3,888.00	6.70	97.40	3,880.26	0.52	172.19	0.45	0.24	-0.21	0.95
3,983.00	6.30	98.80	3,974.65	-0.99	182.84	2.02	0.45	-0.42	1.47
4,078.00	6.00	98.40	4,069.10	-2.52	192.90	3.59	0.32	-0.32	-0.42
4,173.00	6.10	93.40	4,163.57	-3.54	202.85	4.67	0.56	0.11	-5.26
4,269.00	6.20	90.00	4,259.02	-3.84	213.13	5.03	0.39	0.10	-3.54
4,364.00	5.90	90.70	4,353.49	-3.90	223.14	5.15	0.33	-0.32	0.74
4,460.00	5.50	90.50	4,449.02	-4.00	232.67	5.30	0.42	-0.42	-0.21
4,555.00	5.40	90.00	4,543.59	-4.04	241.69	5.39	0.12	-0.11	-0.53
4,650.00	5.90	89.30	4,638.13	-3.98	251.05	5.39	0.53	0.53	-0.74
4,746.00	6.50	89.70	4,733.56	-3.90	261.41	5.36	0.63	0.63	0.42
4,842.00	6.20	89.70	4,828.98	-3.84	272.03	5.36	0.31	-0.31	0.00

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi 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)
4,937.00	5.50	90.20	4,923.48	-3.83	281.71	5.40	0.74	-0.74	0.53
5,033.00	6.00	86.30	5,019.00	-3.52	291.32	5.15	0.66	0.52	-4.06
5,129.00	6.80	86.50	5,114.40	-2.85	302.00	4.54	0.83	0.83	0.21
5,224.00	6.80	87.70	5,208.73	-2.28	313.24	4.03	0.15	0.00	1.26
5,320.00	6.50	86.70	5,304.08	-1.74	324.34	3.55	0.33	-0.31	-1.04
5,415.00	6.20	86.50	5,398.50	-1.12	334.83	2.99	0.32	-0.32	-0.21
5,511.00	6.20	93.90	5,493.94	-1.15	345.17	3.08	0.83	0.00	7.71
5,606.00	6.00	95.50	5,588.40	-1.98	355.23	3.96	0.28	-0.21	1.68
5,701.00	5.90	91.60	5,682.89	-2.59	365.06	4.63	0.44	-0.11	-4.11
5,796.00	5.80	92.10	5,777.40	-2.90	374.74	5.00	0.12	-0.11	0.53
5,892.00	5.70	92.60	5,872.91	-3.30	384.34	5.44	0.12	-0.10	0.52
5,950.00	5.60	92.80	5,930.63	-3.57	390.05	5.74	0.18	-0.17	0.34
6,086.00	5.30	93.00	6,066.02	-4.22	402.95	6.47	0.22	-0.22	0.15
6,182.00	5.50	86.00	6,161.59	-4.13	411.97	6.43	0.72	0.21	-7.29
6,277.00	6.10	84.70	6,256.11	-3.35	421.53	5.70	0.65	0.63	-1.37
6,373.00	6.30	91.20	6,351.54	-2.99	431.88	5.40	0.76	0.21	6.77
6,469.00	6.50	94.40	6,446.95	-3.51	442.56	5.98	0.43	0.21	3.33
6,564.00	6.20	91.40	6,541.36	-4.05	453.05	6.58	0.47	-0.32	-3.16
6,659.00	5.90	90.90	6,635.84	-4.25	463.06	6.84	0.32	-0.32	-0.53
6,755.00	5.40	92.10	6,731.37	-4.50	472.51	7.13	0.54	-0.52	1.25
6,851.00	5.60	86.50	6,826.93	-4.38	481.70	7.07	0.60	0.21	-5.83
6,946.00	6.90	86.30	6,921.36	-3.72	492.02	6.47	1.37	1.37	-0.21
7,041.00	7.00	89.50	7,015.66	-3.31	503.51	6.12	0.42	0.11	3.37
7,137.00	6.20	89.70	7,111.03	-3.23	514.54	6.10	0.83	-0.83	0.21
7,232.00	5.60	91.80	7,205.52	-3.35	524.30	6.27	0.67	-0.63	2.21
7,328.00	4.80	92.60	7,301.13	-3.68	533.00	6.65	0.84	-0.83	0.83
7,424.00	4.90	87.00	7,396.78	-3.64	541.10	6.67	0.50	0.10	-5.83
7,519.00	4.80	86.30	7,491.44	-3.17	549.12	6.24	0.12	-0.11	-0.74
7,614.00	4.70	91.20	7,586.12	-3.00	556.98	6.11	0.44	-0.11	5.16
7,709.00	4.30	93.50	7,680.82	-3.30	564.42	6.45	0.46	-0.42	2.42
7,804.00	3.40	96.50	7,775.61	-3.83	570.78	7.02	0.97	-0.95	3.16
7,899.00	2.80	96.90	7,870.47	-4.43	575.88	7.65	0.63	-0.63	0.42
7,994.00	2.10	95.80	7,965.38	-4.89	579.92	8.13	0.74	-0.74	-1.16
8,090.00	1.50	86.80	8,061.33	-4.99	582.92	8.25	0.69	-0.63	-9.38
8,186.00	0.60	115.10	8,157.32	-5.14	584.63	8.40	1.05	-0.94	29.48
8,281.00	0.50	171.70	8,252.31	-5.76	585.14	9.03	0.56	-0.11	59.58
8,377.00	0.70	180.40	8,348.31	-6.76	585.20	10.03	0.23	0.21	9.06
8,472.00	0.90	199.90	8,443.30	-8.04	584.94	11.31	0.35	0.21	20.53
8,511.00	0.70	211.10	8,482.30	-8.53	584.71	11.80	0.65	-0.51	28.72
8,569.00	1.30	208.70	8,540.29	-9.41	584.21	12.68	1.04	1.03	-4.14
8,664.00	12.80	187.70	8,634.42	-20.83	582.28	24.08	12.21	12.11	-22.11
8,712.00	19.30	186.50	8,680.52	-33.99	580.67	37.23	13.56	13.54	-2.50
8,760.00	24.00	187.00	8,725.12	-51.57	578.58	54.80	9.80	9.79	1.04

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi 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)
8,808.00	28.80	186.70	8,768.10	-72.76	576.04	75.97	10.00	10.00	-0.63
8,855.00	32.60	185.50	8,808.51	-96.61	573.50	99.81	8.19	8.09	-2.55
8,903.00	36.80	184.40	8,847.96	-123.83	571.16	127.02	8.85	8.75	-2.29
8,951.00	40.70	182.80	8,885.39	-153.81	569.29	156.98	8.39	8.13	-3.33
8,999.00	45.00	181.20	8,920.57	-186.42	568.17	189.59	9.24	8.96	-3.33
9,046.00	49.40	179.50	8,952.50	-220.90	567.98	224.07	9.73	9.36	-3.62
9,094.00	51.50	178.60	8,983.06	-257.90	568.60	261.07	4.61	4.38	-1.88
9,141.00	54.80	178.60	9,011.25	-295.49	569.51	298.67	7.02	7.02	0.00
9,189.00	59.00	179.70	9,037.46	-335.69	570.10	338.87	8.96	8.75	2.29
9,236.00	63.40	180.50	9,060.09	-376.87	570.02	380.04	9.48	9.36	1.70
9,284.00	66.30	180.90	9,080.49	-420.31	569.49	423.48	6.09	6.04	0.83
9,331.00	70.80	180.20	9,097.67	-464.04	569.08	467.21	9.67	9.57	-1.49
9,378.00	75.20	180.20	9,111.41	-508.97	568.92	512.14	9.36	9.36	0.00
9,426.00	79.20	179.50	9,122.04	-555.77	569.04	558.94	8.45	8.33	-1.46
9,474.00	83.20	177.90	9,129.39	-603.18	570.12	606.36	8.96	8.33	-3.33
9,513.00	87.00	177.50	9,132.72	-642.00	571.68	645.18	9.80	9.74	-1.03
9,609.00	92.10	177.40	9,133.47	-737.87	575.95	741.08	5.31	5.31	-0.10
9,704.00	92.20	177.40	9,129.91	-832.71	580.26	835.93	0.11	0.11	0.00
9,799.00	92.70	179.70	9,125.84	-927.58	582.66	930.82	2.48	0.53	2.42
9,895.00	93.30	180.50	9,120.82	-1,023.45	582.49	1,026.69	1.04	0.63	0.83
9,990.00	92.50	179.80	9,116.01	-1,118.33	582.25	1,121.56	1.12	-0.84	-0.74
10,086.00	91.30	180.20	9,112.83	-1,214.27	582.25	1,217.50	1.32	-1.25	0.42
10,181.00	90.10	180.50	9,111.67	-1,309.26	581.66	1,312.49	1.30	-1.26	0.32
10,276.00	89.90	180.90	9,111.67	-1,404.25	580.50	1,407.47	0.47	-0.21	0.42
10,372.00	89.40	181.10	9,112.26	-1,500.24	578.83	1,503.45	0.56	-0.52	0.21
10,463.00	89.10	180.00	9,113.45	-1,591.22	577.96	1,594.43	1.25	-0.33	-1.21
10,554.00	88.90	180.50	9,115.04	-1,682.21	577.56	1,685.41	0.59	-0.22	0.55
10,646.00	90.00	179.70	9,115.92	-1,774.20	577.40	1,777.40	1.48	1.20	-0.87
10,737.00	91.20	179.80	9,114.97	-1,865.19	577.80	1,868.39	1.32	1.32	0.11
10,828.00	90.00	179.00	9,114.01	-1,956.18	578.75	1,959.38	1.58	-1.32	-0.88
10,919.00	90.00	178.80	9,114.01	-2,047.16	580.49	2,050.37	0.22	0.00	-0.22
11,009.00	89.50	178.60	9,114.41	-2,137.14	582.54	2,140.36	0.60	-0.56	-0.22
11,101.00	88.50	178.80	9,116.01	-2,229.10	584.62	2,232.33	1.11	-1.09	0.22
11,192.00	89.20	178.60	9,117.84	-2,320.06	586.69	2,323.30	0.80	0.77	-0.22
11,283.00	88.70	178.40	9,119.51	-2,411.01	589.07	2,414.26	0.59	-0.55	-0.22
11,374.00	87.60	178.40	9,122.44	-2,501.93	591.61	2,505.19	1.21	-1.21	0.00
11,466.00	88.10	177.90	9,125.90	-2,593.81	594.58	2,597.09	0.77	0.54	-0.54
11,557.00	88.40	179.10	9,128.67	-2,684.74	596.96	2,688.03	1.36	0.33	1.32
11,649.00	89.60	179.50	9,130.28	-2,776.72	598.08	2,780.01	1.37	1.30	0.43
11,740.00	90.70	180.20	9,130.04	-2,867.71	598.32	2,871.01	1.43	1.21	0.77
11,836.00	91.00	180.20	9,128.62	-2,963.70	597.98	2,967.00	0.31	0.31	0.00
11,931.00	91.30	179.70	9,126.71	-3,058.68	598.07	3,061.98	0.61	0.32	-0.53
12,027.00	91.00	180.70	9,124.78	-3,154.66	597.73	3,157.95	1.09	-0.31	1.04
12,123.00	91.30	180.70	9,122.86	-3,250.63	596.56	3,253.92	0.31	0.31	0.00

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi 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)	
12,218.00	89.90	179.50	9,121.86	-3,345.63	596.39	3,348.90	1.94	-1.47	-1.26	
12,313.00	89.90	179.50	9,122.03	-3,440.62	597.22	3,443.90	0.00	0.00	0.00	
12,409.00	89.50	179.50	9,122.53	-3,536.62	598.06	3,539.90	0.42	-0.42	0.00	
12,504.00	89.90	179.30	9,123.03	-3,631.61	599.06	3,634.90	0.47	0.42	-0.21	
12,599.00	89.80	179.50	9,123.28	-3,726.60	600.05	3,729.90	0.24	-0.11	0.21	
12,695.00	88.80	179.70	9,124.45	-3,822.59	600.72	3,825.89	1.06	-1.04	0.21	
12,790.00	89.30	180.20	9,126.02	-3,917.58	600.80	3,920.87	0.74	0.53	0.53	
12,885.00	89.60	180.40	9,126.94	-4,012.57	600.31	4,015.86	0.38	0.32	0.21	
12,980.00	89.90	180.50	9,127.35	-4,107.57	599.56	4,110.85	0.33	0.32	0.11	
13,075.00	90.60	179.50	9,126.94	-4,202.57	599.56	4,205.85	1.28	0.74	-1.05	
13,170.00	90.80	179.80	9,125.78	-4,297.56	600.14	4,300.84	0.38	0.21	0.32	
13,266.00	90.70	179.80	9,124.52	-4,393.55	600.48	4,396.83	0.10	-0.10	0.00	
13,361.00	90.30	179.50	9,123.69	-4,488.54	601.06	4,491.83	0.53	-0.42	-0.32	
13,457.00	89.50	179.70	9,123.86	-4,584.54	601.73	4,587.83	0.86	-0.83	0.21	
13,552.00	89.00	180.20	9,125.10	-4,679.53	601.81	4,682.82	0.74	-0.53	0.53	
13,648.00	89.50	180.00	9,126.36	-4,775.52	601.64	4,778.81	0.56	0.52	-0.21	
13,743.00	90.40	179.10	9,126.44	-4,870.52	602.39	4,873.81	1.34	0.95	-0.95	
13,838.00	91.00	179.30	9,125.28	-4,965.50	603.71	4,968.80	0.67	0.63	0.21	
13,934.00	90.90	179.30	9,123.69	-5,061.48	604.89	5,064.78	0.10	-0.10	0.00	
14,030.00	89.90	179.80	9,123.02	-5,157.47	605.64	5,160.78	1.16	-1.04	0.52	
14,125.00	89.20	180.50	9,123.76	-5,252.47	605.39	5,255.77	1.04	-0.74	0.74	
14,221.00	89.80	180.20	9,124.60	-5,348.46	604.81	5,351.76	0.70	0.63	-0.31	
14,316.00	89.80	180.50	9,124.93	-5,443.46	604.23	5,446.75	0.32	0.00	0.32	
14,412.00	88.80	179.80	9,126.11	-5,539.45	603.97	5,542.74	1.27	-1.04	-0.73	
14,507.00	89.30	180.20	9,127.68	-5,634.44	603.97	5,637.72	0.67	0.53	0.42	
14,602.00	89.90	180.50	9,128.35	-5,729.43	603.39	5,732.71	0.71	0.63	0.32	
14,697.00	89.00	179.30	9,129.26	-5,824.43	603.56	5,827.71	1.58	-0.95	-1.26	
14,793.00	89.10	180.40	9,130.85	-5,920.41	603.81	5,923.69	1.15	0.10	1.15	
14,887.00	89.30	178.40	9,132.16	-6,014.39	604.79	6,017.68	2.14	0.21	-2.13	
14,982.00	90.20	178.80	9,132.58	-6,109.36	607.12	6,112.66	1.04	0.95	0.42	
15,078.00	90.60	179.30	9,131.91	-6,205.35	608.71	6,208.65	0.67	0.42	0.52	
15,173.00	89.30	179.30	9,131.99	-6,300.34	609.87	6,303.64	1.37	-1.37	0.00	
15,268.00	90.10	179.50	9,132.49	-6,395.33	610.86	6,398.64	0.87	0.84	0.21	
15,363.00	88.00	178.40	9,134.06	-6,490.29	612.60	6,493.61	2.50	-2.21	-1.16	
15,458.00	88.00	178.30	9,137.38	-6,585.20	615.34	6,588.53	0.11	0.00	-0.11	
15,553.00	89.90	179.30	9,139.12	-6,680.15	617.33	6,683.50	2.26	2.00	1.05	
15,648.00	90.10	178.60	9,139.12	-6,775.14	619.07	6,778.49	0.77	0.21	-0.74	
15,744.00	91.00	179.30	9,138.20	-6,871.12	620.83	6,874.48	1.19	0.94	0.73	
15,839.00	89.10	179.10	9,138.11	-6,966.10	622.15	6,969.47	2.01	-2.00	-0.21	
15,934.00	89.10	178.80	9,139.61	-7,061.07	623.89	7,064.45	0.32	0.00	-0.32	
16,030.00	91.20	180.00	9,139.35	-7,157.06	624.90	7,160.44	2.52	2.19	1.25	
16,125.00	92.00	179.80	9,136.70	-7,252.02	625.06	7,255.40	0.87	0.84	-0.21	
16,221.00	90.00	181.20	9,135.03	-7,348.00	624.23	7,351.37	2.54	-2.08	1.46	

LEAM Drilling Services

Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider 1-12 Fed Com 528H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Site:	Tomb Raider 1-12 Fed Com	MD Reference:	3479.9' GE + 23.5' KB @ 3503.40usft
Well:	Tomb Raider 1-12 Fed Com 528H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Multi 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)
16,316.00	88.20	180.40	9,136.52	-7,442.97	622.90	7,446.33	2.07	-1.89	-0.84
16,412.00	88.40	180.50	9,139.37	-7,538.93	622.15	7,542.28	0.23	0.21	0.10
16,507.00	88.50	180.20	9,141.94	-7,633.89	621.57	7,637.24	0.33	0.11	-0.32
16,602.00	90.30	180.40	9,142.93	-7,728.88	621.07	7,732.23	1.91	1.89	0.21
16,697.00	90.90	180.20	9,141.94	-7,823.87	620.57	7,827.22	0.67	0.63	-0.21
16,792.00	91.90	179.80	9,139.61	-7,918.84	620.57	7,922.19	1.13	1.05	-0.42
16,888.00	90.90	179.10	9,137.27	-8,014.81	621.49	8,018.15	1.27	-1.04	-0.73
16,984.00	90.00	179.50	9,136.52	-8,110.80	622.66	8,114.15	1.03	-0.94	0.42
17,079.00	89.10	180.00	9,137.26	-8,205.79	623.08	8,209.14	1.08	-0.95	0.53
17,174.00	89.70	179.10	9,138.26	-8,300.78	623.83	8,304.14	1.14	0.63	-0.95
17,270.00	89.20	179.70	9,139.18	-8,396.77	624.83	8,400.13	0.81	-0.52	0.63
17,364.00	87.70	180.20	9,141.72	-8,490.73	624.91	8,494.09	1.68	-1.60	0.53
17,459.00	89.10	179.80	9,144.37	-8,585.69	624.91	8,589.05	1.53	1.47	-0.42
17,555.00	89.70	180.00	9,145.38	-8,681.69	625.08	8,685.04	0.66	0.63	0.21
17,650.00	88.60	180.70	9,146.79	-8,776.67	624.50	8,780.03	1.37	-1.16	0.74
17,746.00	88.10	180.20	9,149.55	-8,872.63	623.75	8,875.98	0.74	-0.52	-0.52
17,841.00	89.20	180.20	9,151.79	-8,967.60	623.41	8,970.94	1.16	1.16	0.00
17,937.00	87.90	180.40	9,154.22	-9,063.57	622.91	9,066.91	1.37	-1.35	0.21
18,032.00	87.80	180.20	9,157.78	-9,158.50	622.42	9,161.83	0.24	-0.11	-0.21
18,128.00	90.40	180.20	9,159.29	-9,254.48	622.08	9,257.81	2.71	2.71	0.00
18,223.00	90.50	180.20	9,158.54	-9,349.48	621.75	9,352.80	0.11	0.11	0.00
18,319.00	90.50	180.20	9,157.71	-9,445.47	621.41	9,448.79	0.00	0.00	0.00
18,413.00	91.00	178.60	9,156.48	-9,539.46	622.40	9,542.78	1.78	0.53	-1.70
18,508.00	91.00	178.80	9,154.82	-9,634.42	624.55	9,637.75	0.21	0.00	0.21
18,603.00	92.60	179.00	9,151.83	-9,729.35	626.38	9,732.70	1.70	1.68	0.21
18,698.00	92.60	181.60	9,147.52	-9,824.24	625.88	9,827.58	2.73	0.00	2.74
18,793.00	88.70	181.80	9,146.45	-9,919.18	623.06	9,922.50	4.11	-4.11	0.21
18,844.00	85.20	180.90	9,149.16	-9,970.08	621.86	9,973.40	7.09	-6.86	-1.76
18,902.00	85.20	180.90	9,154.01	-10,027.87	620.95	10,031.18	0.00	0.00	0.00
Projection									