

EMNRD-OCD ARTESIA
REC'D: 4/21/2020
Department
Revised August 1, 2011
Form C-102
Submit one copy to appropriate
District Office
☒ AMENDED REPORT

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐ yes

Is this well an infill well? ☐ no

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number



Final MWD Survey Certification

County, State: Eddy County, New Mexico

Client: Devon Energy

Well Name: Tomb Raider 12-1 Fed 701H

API No: 30-015-46096

Start Date: June 29th, 2019

End Date: September 5th, 2019

Measure Start Depth: 181.00'

Measured End Depth: 22,235.00'

Vertical Section from SHL to TD: 4.05° Azm

I, Jason Turner, MWD Coordinator, hereby certify that; I am employed by Newsco International Energy Services, Inc. and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Newsco International Energy Services, Inc. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Newsco International Energy Services, Inc.

Date: 01/29/2020

Sign: *Jason Turner*



Devon Energy

Eddy County, NM (N83-NME)

Tomb Raider

Tomb Raider 12-1 Fed 701H

30-015-46096

701H

Survey: Survey #1

Standard Survey Report

29 January, 2020



Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider12-1 Fed 701H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3488.2+23.5 @ 3511.70usft
Site:	Tomb Raider	MD Reference:	3488.2+23.5 @ 3511.70usft
Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 Single User Db

Project	Eddy County, NM (N83-NME)		
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				
Site Position:		Northing:	487,995.06 usft	Latitude:	32° 20' 24.511 N	
From:	Map	Easting:	726,704.85 usft	Longitude:	103° 43' 59.266 W	
Position Uncertainty:		0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well		Tomb Raider 12-1 Fed 701H				
Well Position	+N/-S	0.00 usft	Northing:	477,887.32 usft	Latitude:	32° 18' 44.593 N
	+E/-W	0.00 usft	Easting:	724,860.40 usft	Longitude:	103° 44' 21.418 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,488.20 usft

Wellbore	701H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/29/19	6.81	60.09	47,754.90

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	4.05	

Survey Program	Date	09/06/19			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
181.00	22,260.00	Survey #1 (701H)	MWD	OWSG MWD - Standard	

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	
181.00	0.90	132.00	180.99	-0.95	1.06	-0.87	0.50	0.50	0.00	
272.00	1.00	132.30	271.98	-1.96	2.17	-1.81	0.11	0.11	0.33	
364.00	1.00	134.40	363.97	-3.07	3.34	-2.82	0.04	0.00	2.28	
456.00	0.90	134.50	455.95	-4.13	4.43	-3.81	0.11	-0.11	0.11	
548.00	0.80	136.00	547.94	-5.10	5.39	-4.71	0.11	-0.11	1.63	
639.00	0.70	137.90	638.94	-5.97	6.21	-5.52	0.11	-0.11	2.09	
730.00	0.70	139.00	729.93	-6.80	6.94	-6.30	0.01	0.00	1.21	
879.00	0.40	124.40	878.92	-7.78	7.97	-7.20	0.22	-0.20	-9.80	
969.00	0.40	116.10	968.92	-8.10	8.51	-7.48	0.06	0.00	-9.22	

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Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 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)
1,061.00	0.40	90.70	1,060.92	-8.25	9.12	-7.58	0.19	0.00	-27.61
1,152.00	0.40	69.10	1,151.92	-8.14	9.74	-7.43	0.16	0.00	-23.74
1,244.00	0.10	128.10	1,243.91	-8.07	10.10	-7.34	0.39	-0.33	64.13
1,336.00	0.10	32.10	1,335.91	-8.05	10.20	-7.31	0.16	0.00	-104.35
1,427.00	0.20	38.10	1,426.91	-7.86	10.34	-7.11	0.11	0.11	6.59
1,521.00	0.40	40.80	1,520.91	-7.48	10.66	-6.71	0.21	0.21	2.87
1,614.00	0.40	46.50	1,613.91	-7.01	11.11	-6.21	0.04	0.00	6.13
1,709.00	0.40	41.00	1,708.91	-6.54	11.57	-5.70	0.04	0.00	-5.79
1,803.00	0.30	34.40	1,802.91	-6.08	11.92	-5.23	0.11	-0.11	-7.02
1,897.00	0.40	53.40	1,896.90	-5.69	12.32	-4.80	0.16	0.11	20.21
1,990.00	0.50	49.60	1,989.90	-5.23	12.89	-4.30	0.11	0.11	-4.09
2,084.00	0.50	62.70	2,083.90	-4.78	13.57	-3.80	0.12	0.00	13.94
2,179.00	0.70	61.50	2,178.89	-4.31	14.45	-3.28	0.21	0.21	-1.26
2,273.00	0.70	65.30	2,272.89	-3.79	15.47	-2.69	0.05	0.00	4.04
2,367.00	0.50	44.20	2,366.88	-3.26	16.28	-2.10	0.31	-0.21	-22.45
2,461.00	0.40	28.60	2,460.88	-2.68	16.72	-1.49	0.17	-0.11	-16.60
2,556.00	0.40	25.90	2,555.88	-2.09	17.03	-0.88	0.02	0.00	-2.84
2,651.00	0.40	354.60	2,650.87	-1.46	17.14	-0.24	0.23	0.00	-32.95
2,744.00	0.50	332.30	2,743.87	-0.78	16.92	0.42	0.21	0.11	-23.98
2,839.00	0.70	327.60	2,838.87	0.08	16.42	1.24	0.22	0.21	-4.95
2,933.00	0.30	304.20	2,932.86	0.70	15.91	1.82	0.47	-0.43	-24.89
3,028.00	1.80	315.90	3,027.84	1.91	14.66	2.95	1.59	1.58	12.32
3,123.00	0.50	313.20	3,122.82	3.27	13.32	4.20	1.37	-1.37	-2.84
3,217.00	0.40	350.20	3,216.82	3.87	12.97	4.78	0.32	-0.11	39.36
3,311.00	0.00	190.80	3,310.82	4.20	12.91	5.10	0.43	-0.43	0.00
3,405.00	0.20	139.30	3,404.82	4.07	13.02	4.98	0.21	0.21	0.00
3,500.00	0.30	178.90	3,499.82	3.70	13.13	4.62	0.20	0.11	41.68
3,594.00	0.40	148.30	3,593.82	3.17	13.31	4.11	0.22	0.11	-32.55
3,688.00	1.20	138.70	3,687.81	2.15	14.13	3.15	0.86	0.85	-10.21
3,783.00	2.70	139.60	3,782.75	-0.30	16.24	0.85	1.58	1.58	0.95
3,877.00	3.00	137.40	3,876.63	-3.79	19.34	-2.42	0.34	0.32	-2.34
3,971.00	3.30	140.60	3,970.49	-7.70	22.72	-6.07	0.37	0.32	3.40
4,066.00	4.60	144.70	4,065.26	-12.92	26.66	-11.00	1.40	1.37	4.32
4,160.00	5.40	128.70	4,158.91	-18.76	32.29	-16.43	1.70	0.85	-17.02
4,255.00	6.60	113.50	4,253.39	-23.73	40.78	-20.79	2.09	1.26	-16.00
4,350.00	7.60	96.80	4,347.67	-26.65	52.03	-22.91	2.40	1.05	-17.58
4,445.00	8.70	94.60	4,441.71	-27.97	65.43	-23.28	1.20	1.16	-2.32
4,540.00	9.70	96.30	4,535.49	-29.43	80.55	-23.66	1.09	1.05	1.79
4,634.00	11.60	95.50	4,627.87	-31.20	97.83	-24.21	2.03	2.02	-0.85
4,729.00	11.70	95.50	4,720.91	-33.04	116.92	-24.69	0.11	0.11	0.00
4,823.00	11.30	94.80	4,813.02	-34.73	135.59	-25.06	0.45	-0.43	-0.74
4,917.00	10.60	92.20	4,905.31	-35.83	153.40	-24.90	0.91	-0.74	-2.77
5,012.00	11.30	95.70	4,998.58	-37.09	171.40	-24.88	1.02	0.74	3.68
5,106.00	11.70	103.20	5,090.70	-40.18	189.84	-26.66	1.65	0.43	7.98

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider12-1 Fed 701H
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Site:	Tomb Raider	MD Reference:	3488.2+23.5 @ 3511.70usft
Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 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)
5,201.00	12.00	102.70	5,183.67	-44.55	208.85	-29.68	0.33	0.32	-0.53
5,295.00	11.40	102.60	5,275.72	-48.73	227.45	-32.53	0.64	-0.64	-0.11
5,390.00	10.60	101.20	5,368.97	-52.47	245.19	-35.01	0.89	-0.84	-1.47
5,484.00	11.40	102.80	5,461.25	-56.21	262.73	-37.50	0.91	0.85	1.70
5,579.00	13.70	104.20	5,553.97	-61.05	282.79	-40.91	2.44	2.42	1.47
5,673.00	13.30	104.20	5,645.37	-66.43	304.06	-44.77	0.43	-0.43	0.00
5,767.00	13.30	103.60	5,736.85	-71.63	325.06	-48.47	0.15	0.00	-0.64
5,862.00	13.40	102.70	5,829.29	-76.62	346.42	-51.94	0.24	0.11	-0.95
5,956.00	13.20	101.90	5,920.76	-81.22	367.54	-55.04	0.29	-0.21	-0.85
6,051.00	15.00	101.50	6,012.90	-85.91	390.21	-58.12	1.90	1.89	-0.42
6,146.00	14.30	100.50	6,104.81	-90.50	413.79	-61.03	0.78	-0.74	-1.05
6,241.00	13.70	99.60	6,196.99	-94.51	436.42	-63.43	0.67	-0.63	-0.95
6,335.00	13.20	98.80	6,288.41	-98.01	458.00	-65.39	0.57	-0.53	-0.85
6,429.00	12.80	98.20	6,380.00	-101.14	478.91	-67.04	0.45	-0.43	-0.64
6,523.00	14.20	101.10	6,471.40	-104.85	500.53	-69.20	1.65	1.49	3.09
6,616.00	13.90	100.30	6,561.62	-109.04	522.72	-71.82	0.38	-0.32	-0.86
6,711.00	13.00	99.20	6,654.01	-112.79	544.49	-74.02	0.98	-0.95	-1.16
6,805.00	12.80	98.60	6,745.64	-116.04	565.23	-75.79	0.26	-0.21	-0.64
6,899.00	14.20	96.50	6,837.04	-118.90	586.98	-77.11	1.58	1.49	-2.23
6,993.00	14.10	96.20	6,928.19	-121.44	609.82	-78.03	0.13	-0.11	-0.32
7,088.00	13.60	96.10	7,020.43	-123.88	632.43	-78.86	0.53	-0.53	-0.11
7,182.00	12.60	93.90	7,111.98	-125.75	653.64	-79.23	1.19	-1.06	-2.34
7,276.00	14.20	96.00	7,203.42	-127.65	675.34	-79.59	1.78	1.70	2.23
7,370.00	13.70	94.90	7,294.65	-129.81	697.90	-80.15	0.60	-0.53	-1.17
7,465.00	13.00	94.00	7,387.08	-131.51	719.77	-80.31	0.77	-0.74	-0.95
7,559.00	12.00	92.30	7,478.85	-132.64	740.08	-80.00	1.13	-1.06	-1.81
7,653.00	10.70	95.80	7,571.01	-133.92	758.52	-79.97	1.56	-1.38	3.72
7,749.00	8.60	100.50	7,665.65	-136.13	774.45	-81.04	2.33	-2.19	4.90
7,843.00	6.80	102.00	7,758.80	-138.56	786.81	-82.60	1.93	-1.91	1.60
7,939.00	4.40	102.50	7,854.33	-140.54	795.96	-83.93	2.50	-2.50	0.52
8,034.00	2.40	103.90	7,949.16	-141.81	801.45	-84.80	2.11	-2.11	1.47
8,129.00	0.70	66.70	8,044.12	-142.06	803.91	-84.88	1.99	-1.79	-39.16
8,224.00	0.80	70.50	8,139.11	-141.61	805.07	-84.35	0.12	0.11	4.00
8,319.00	0.90	78.20	8,234.10	-141.23	806.43	-83.88	0.16	0.11	8.11
8,423.00	0.40	183.90	8,338.10	-141.43	807.20	-84.02	1.04	-0.48	101.63
8,518.00	0.60	167.80	8,433.10	-142.24	807.29	-84.83	0.26	0.21	-16.95
8,614.00	1.10	156.80	8,529.08	-143.58	807.75	-86.13	0.55	0.52	-11.46
8,708.00	1.40	145.50	8,623.06	-145.36	808.76	-87.83	0.41	0.32	-12.02
8,803.00	1.80	144.40	8,718.03	-147.53	810.29	-89.88	0.42	0.42	-1.16
8,897.00	1.40	135.10	8,811.99	-149.54	811.96	-91.78	0.51	-0.43	-9.89
8,991.00	1.80	145.40	8,905.95	-151.57	813.61	-93.68	0.52	0.43	10.96
9,085.00	2.20	158.60	8,999.90	-154.47	815.10	-96.46	0.65	0.43	14.04
9,179.00	2.60	158.10	9,093.81	-158.12	816.56	-100.01	0.43	0.43	-0.53

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9,274.00	2.40	160.10	9,188.72	-161.99	818.04	-103.77	0.23	-0.21	2.11
9,369.00	1.60	185.50	9,283.67	-165.18	818.59	-106.91	1.24	-0.84	26.74
9,464.00	0.90	243.30	9,378.65	-166.84	817.79	-108.62	1.43	-0.74	60.84
9,559.00	0.80	255.90	9,473.63	-167.34	816.48	-109.21	0.22	-0.11	13.26
9,653.00	0.70	247.80	9,567.63	-167.71	815.31	-109.66	0.15	-0.11	-8.62
9,748.00	0.70	245.50	9,662.62	-168.17	814.25	-110.20	0.03	0.00	-2.42
9,843.00	0.90	238.80	9,757.61	-168.80	813.08	-110.91	0.23	0.21	-7.05
9,938.00	0.80	216.10	9,852.60	-169.72	812.05	-111.90	0.37	-0.11	-23.89
10,032.00	0.60	174.30	9,946.59	-170.74	811.72	-112.94	0.57	-0.21	-44.47
10,126.00	0.90	131.70	10,040.59	-171.72	812.32	-113.88	0.65	0.32	-45.32
10,220.00	1.00	140.10	10,134.57	-172.84	813.39	-114.92	0.18	0.11	8.94
10,314.00	1.10	140.40	10,228.56	-174.17	814.50	-116.16	0.11	0.11	0.32
10,409.00	1.00	152.50	10,323.54	-175.61	815.46	-117.53	0.26	-0.11	12.74
10,504.00	1.20	172.60	10,418.52	-177.33	815.97	-119.21	0.45	0.21	21.16
10,598.00	1.50	184.90	10,512.50	-179.53	815.99	-121.40	0.44	0.32	13.09
10,692.00	1.60	194.20	10,606.46	-182.03	815.56	-123.92	0.29	0.11	9.89
10,788.00	1.80	194.20	10,702.42	-184.79	814.87	-126.73	0.21	0.21	0.00
10,882.00	1.70	200.30	10,796.38	-187.53	814.02	-129.52	0.22	-0.11	6.49
10,976.00	1.80	209.40	10,890.33	-190.12	812.81	-132.19	0.31	0.11	9.68
11,070.00	1.80	224.70	10,984.29	-192.46	811.05	-134.65	0.51	0.00	16.28
11,132.00	1.80	230.30	11,046.26	-193.77	809.61	-136.06	0.28	0.00	9.03
11,232.00	1.80	229.80	11,146.21	-195.79	807.21	-138.24	0.02	0.00	-0.50
11,326.00	1.30	223.20	11,240.17	-197.52	805.35	-140.10	0.56	-0.53	-7.02
11,420.00	1.70	235.60	11,334.14	-199.08	803.47	-141.79	0.55	0.43	13.19
11,514.00	1.60	271.00	11,428.11	-199.85	801.01	-142.73	1.07	-0.11	37.66
11,609.00	10.80	358.40	11,522.53	-190.90	799.43	-133.92	11.42	9.68	92.00
11,656.00	15.80	357.90	11,568.25	-180.10	799.07	-123.17	10.64	10.64	-1.06
11,703.00	21.10	357.30	11,612.82	-165.24	798.44	-108.39	11.28	11.28	-1.28
11,799.00	29.70	353.70	11,699.46	-124.26	795.01	-67.76	9.10	8.96	-3.75
11,893.00	40.40	0.30	11,776.33	-70.48	792.60	-14.28	12.06	11.38	7.02
11,986.00	51.50	0.30	11,840.89	-3.74	792.95	52.31	11.94	11.94	0.00
12,080.00	65.90	0.20	11,889.60	76.36	793.30	132.24	15.32	15.32	-0.11
12,175.00	72.50	0.20	11,923.32	165.12	793.61	220.80	6.95	6.95	0.00
12,269.00	80.10	1.60	11,945.56	256.37	795.06	311.92	8.21	8.09	1.49
12,363.00	88.40	359.80	11,954.98	349.80	796.19	405.20	9.03	8.83	-1.91
12,458.00	87.70	359.30	11,958.21	444.74	795.44	499.85	0.91	-0.74	-0.53
12,552.00	89.10	359.50	11,960.83	538.70	794.46	593.51	1.50	1.49	0.21
12,646.00	90.20	0.00	11,961.41	632.69	794.05	687.24	1.29	1.17	0.53
12,740.00	90.80	0.50	11,960.59	726.69	794.46	781.03	0.83	0.64	0.53
12,834.00	89.60	0.80	11,960.26	820.68	795.52	874.86	1.32	-1.28	0.32
12,928.00	92.20	0.10	11,958.78	914.66	796.26	968.65	2.86	2.77	-0.74
13,022.00	92.00	359.50	11,955.34	1,008.59	795.93	1,062.33	0.67	-0.21	-0.64
13,116.00	91.40	1.00	11,952.55	1,102.55	796.34	1,156.08	1.72	-0.64	1.60

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider12-1 Fed 701H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3488.2+23.5 @ 3511.70usft
Site:	Tomb Raider	MD Reference:	3488.2+23.5 @ 3511.70usft
Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 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)
13,211.00	90.80	0.30	11,950.72	1,197.52	797.42	1,250.89	0.97	-0.63	-0.74
13,305.00	90.30	0.60	11,949.82	1,291.51	798.16	1,344.70	0.62	-0.53	0.32
13,400.00	89.20	359.40	11,950.24	1,386.51	798.16	1,439.46	1.71	-1.16	-1.26
13,493.00	88.90	358.70	11,951.78	1,479.48	796.62	1,532.09	0.82	-0.32	-0.75
13,588.00	89.80	359.20	11,952.86	1,574.46	794.88	1,626.71	1.08	0.95	0.53
13,682.00	90.20	359.70	11,952.86	1,668.46	793.98	1,720.40	0.68	0.43	0.53
13,777.00	89.60	0.30	11,953.02	1,763.45	793.98	1,815.17	0.89	-0.63	0.63
13,871.00	90.10	1.60	11,953.27	1,857.44	795.53	1,909.02	1.48	0.53	1.38
13,965.00	91.10	2.20	11,952.28	1,951.38	798.65	2,002.95	1.24	1.06	0.64
14,059.00	89.20	1.40	11,952.04	2,045.33	801.60	2,096.87	2.19	-2.02	-0.85
14,154.00	86.90	359.60	11,955.27	2,140.26	802.43	2,191.63	3.07	-2.42	-1.89
14,220.00	85.90	359.80	11,959.41	2,206.13	802.09	2,257.30	1.55	-1.52	0.30
14,314.00	84.70	358.00	11,967.12	2,299.79	800.29	2,350.60	2.30	-1.28	-1.91
14,408.00	90.90	358.00	11,970.72	2,393.62	797.01	2,443.97	6.60	6.60	0.00
14,503.00	91.80	357.30	11,968.49	2,488.51	793.12	2,538.35	1.20	0.95	-0.74
14,596.00	92.70	358.00	11,964.83	2,581.36	789.31	2,630.69	1.23	0.97	0.75
14,691.00	93.10	357.20	11,960.03	2,676.15	785.34	2,724.97	0.94	0.42	-0.84
14,784.00	93.00	355.90	11,955.08	2,768.85	779.75	2,817.04	1.40	-0.11	-1.40
14,879.00	93.40	356.80	11,949.78	2,863.51	773.71	2,911.03	1.04	0.42	0.95
14,972.00	90.70	359.40	11,946.45	2,956.38	770.63	3,003.46	4.03	-2.90	2.80
15,066.00	92.30	1.00	11,943.99	3,050.34	770.96	3,097.21	2.41	1.70	1.70
15,160.00	87.90	2.20	11,943.82	3,144.28	773.58	3,191.10	4.85	-4.68	1.28
15,255.00	87.80	1.80	11,947.39	3,239.16	776.89	3,285.97	0.43	-0.11	-0.42
15,349.00	87.60	1.80	11,951.16	3,333.03	779.85	3,379.82	0.21	-0.21	0.00
15,442.00	87.10	1.40	11,955.46	3,425.90	782.44	3,472.63	0.69	-0.54	-0.43
15,536.00	86.90	1.00	11,960.38	3,519.75	784.41	3,566.39	0.48	-0.21	-0.43
15,630.00	87.20	358.40	11,965.22	3,613.61	783.91	3,659.99	2.78	0.32	-2.77
15,724.00	88.10	357.20	11,969.07	3,707.46	780.31	3,753.34	1.59	0.96	-1.28
15,818.00	88.20	355.20	11,972.11	3,801.20	774.08	3,846.41	2.13	0.11	-2.13
15,914.00	92.50	356.30	11,971.52	3,896.91	766.97	3,941.38	4.62	4.48	1.15
16,007.00	93.10	355.90	11,966.98	3,989.59	760.65	4,033.37	0.78	0.65	-0.43
16,101.00	91.80	355.10	11,962.96	4,083.21	753.28	4,126.24	1.62	-1.38	-0.85
16,195.00	91.20	357.30	11,960.50	4,176.96	747.06	4,219.32	2.43	-0.64	2.34
16,289.00	91.40	358.90	11,958.37	4,270.88	743.94	4,312.79	1.71	0.21	1.70
16,383.00	89.30	0.30	11,957.79	4,364.87	743.28	4,406.49	2.68	-2.23	1.49
16,477.00	89.10	0.50	11,959.11	4,458.86	743.94	4,500.29	0.30	-0.21	0.21
16,572.00	90.40	0.50	11,959.52	4,553.85	744.77	4,595.11	1.37	1.37	0.00
16,667.00	89.10	359.90	11,959.93	4,648.85	745.10	4,689.89	1.51	-1.37	-0.63
16,762.00	90.80	0.60	11,960.02	4,743.84	745.51	4,784.68	1.94	1.79	0.74
16,855.00	90.90	359.80	11,958.64	4,836.83	745.84	4,877.45	0.87	0.11	-0.86
16,948.00	91.40	359.50	11,956.77	4,929.81	745.27	4,970.16	0.63	0.54	-0.32
17,042.00	91.80	359.60	11,954.15	5,023.77	744.53	5,063.83	0.44	0.43	0.11
17,136.00	91.70	1.30	11,951.28	5,117.72	745.27	5,157.60	1.81	-0.11	1.81
17,230.00	91.10	1.60	11,948.98	5,211.66	747.65	5,251.48	0.71	-0.64	0.32

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider12-1 Fed 701H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3488.2+23.5 @ 3511.70usft
Site:	Tomb Raider	MD Reference:	3488.2+23.5 @ 3511.70usft
Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 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)
17,325.00	89.30	2.80	11,948.65	5,306.59	751.30	5,346.42	2.28	-1.89	1.26
17,419.00	88.80	2.60	11,950.21	5,400.47	755.72	5,440.38	0.57	-0.53	-0.21
17,514.00	88.50	2.40	11,952.44	5,495.35	759.87	5,535.32	0.38	-0.32	-0.21
17,609.00	87.40	2.20	11,955.84	5,590.21	763.68	5,630.21	1.18	-1.16	-0.21
17,704.00	88.70	0.70	11,959.08	5,685.12	766.08	5,725.05	2.09	1.37	-1.58
17,798.00	88.60	0.80	11,961.29	5,779.09	767.31	5,818.87	0.15	-0.11	0.11
17,893.00	91.10	359.70	11,961.54	5,874.08	767.72	5,913.65	2.88	2.63	-1.16
17,988.00	90.70	358.90	11,960.05	5,969.06	766.56	6,008.31	0.94	-0.42	-0.84
18,082.00	90.30	359.60	11,959.23	6,063.05	765.33	6,101.98	0.86	-0.43	0.74
18,177.00	89.60	359.50	11,959.31	6,158.04	764.59	6,196.69	0.74	-0.74	-0.11
18,272.00	88.30	358.90	11,961.05	6,253.02	763.26	6,291.33	1.51	-1.37	-0.63
18,366.00	91.20	358.10	11,961.46	6,346.97	760.80	6,384.87	3.20	3.09	-0.85
18,462.00	91.00	357.70	11,959.62	6,442.89	757.28	6,480.30	0.47	-0.21	-0.42
18,556.00	90.10	357.30	11,958.71	6,536.79	753.18	6,573.68	1.05	-0.96	-0.43
18,650.00	90.80	358.40	11,957.98	6,630.72	749.66	6,667.13	1.39	0.74	1.17
18,744.00	89.40	358.00	11,957.81	6,724.67	746.70	6,760.63	1.55	-1.49	-0.43
18,839.00	90.10	356.40	11,958.23	6,819.56	742.06	6,854.95	1.84	0.74	-1.68
18,934.00	91.70	358.20	11,956.73	6,914.43	737.59	6,949.27	2.53	1.68	1.89
19,029.00	90.80	359.20	11,954.66	7,009.38	735.43	7,043.83	1.42	-0.95	1.05
19,123.00	90.50	358.40	11,953.60	7,103.36	733.47	7,137.43	0.91	-0.32	-0.85
19,217.00	90.00	1.50	11,953.19	7,197.34	733.38	7,231.18	3.34	-0.53	3.30
19,311.00	90.30	1.10	11,952.94	7,291.32	735.52	7,325.07	0.53	0.32	-0.43
19,406.00	90.60	1.40	11,952.19	7,386.29	737.59	7,419.95	0.45	0.32	0.32
19,500.00	91.00	1.40	11,950.88	7,480.26	739.88	7,513.84	0.43	0.43	0.00
19,593.00	90.40	0.60	11,949.74	7,573.23	741.51	7,606.70	1.08	-0.65	-0.86
19,688.00	90.60	0.80	11,948.92	7,668.22	742.67	7,701.54	0.30	0.21	0.21
19,782.00	91.00	1.40	11,947.60	7,762.20	744.47	7,795.40	0.77	0.43	0.64
19,876.00	91.20	1.60	11,945.80	7,856.15	746.93	7,889.29	0.30	0.21	0.21
19,970.00	89.90	1.30	11,944.90	7,950.11	749.31	7,983.19	1.42	-1.38	-0.32
20,064.00	89.30	0.00	11,945.55	8,044.10	750.38	8,077.02	1.52	-0.64	-1.38
20,158.00	88.40	0.10	11,947.44	8,138.08	750.46	8,170.77	0.96	-0.96	0.11
20,252.00	89.50	359.60	11,949.16	8,232.06	750.21	8,264.50	1.29	1.17	-0.53
20,346.00	89.10	0.00	11,950.31	8,326.05	749.89	8,358.23	0.60	-0.43	0.43
20,440.00	88.50	0.00	11,952.28	8,420.03	749.89	8,451.98	0.64	-0.64	0.00
20,534.00	88.20	359.70	11,954.99	8,513.99	749.64	8,545.68	0.45	-0.32	-0.32
20,628.00	89.80	359.20	11,956.63	8,607.97	748.74	8,639.36	1.78	1.70	-0.53
20,722.00	89.70	358.90	11,957.04	8,701.96	747.18	8,733.00	0.34	-0.11	-0.32
20,816.00	89.80	358.80	11,957.45	8,795.94	745.29	8,826.62	0.15	0.11	-0.11
20,911.00	88.50	358.30	11,958.86	8,890.89	742.89	8,921.16	1.47	-1.37	-0.53
21,006.00	92.40	1.10	11,958.11	8,985.86	742.39	9,015.86	5.05	4.11	2.95
21,101.00	92.10	1.60	11,954.38	9,080.76	744.63	9,110.68	0.61	-0.32	0.53
21,196.00	91.60	1.30	11,951.31	9,175.68	747.03	9,205.53	0.61	-0.53	-0.32
21,289.00	90.70	358.90	11,949.45	9,268.65	747.19	9,298.29	2.76	-0.97	-2.58

Company:	Devon Energy	Local Co-ordinate Reference:	Well Tomb Raider12-1 Fed 701H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3488.2+23.5 @ 3511.70usft
Site:	Tomb Raider	MD Reference:	3488.2+23.5 @ 3511.70usft
Well:	Tomb Raider 12-1 Fed 701H	North Reference:	Grid
Wellbore:	701H	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM 5000.15 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)
21,385.00	90.30	0.40	11,948.61	9,364.65	746.61	9,394.00	1.62	-0.42	1.56
21,479.00	89.50	359.60	11,948.77	9,458.64	746.61	9,487.76	1.20	-0.85	-0.85
21,573.00	88.40	358.70	11,950.49	9,552.62	745.21	9,581.40	1.51	-1.17	-0.96
21,668.00	87.90	358.90	11,953.56	9,647.54	743.22	9,675.95	0.57	-0.53	0.21
21,762.00	86.40	358.20	11,958.24	9,741.39	740.85	9,769.40	1.76	-1.60	-0.74
21,857.00	86.40	357.40	11,964.20	9,836.14	737.21	9,863.64	0.84	0.00	-0.84
21,952.00	85.80	357.30	11,970.66	9,930.82	732.83	9,957.77	0.64	-0.63	-0.11
22,047.00	85.20	357.00	11,978.12	10,025.40	728.12	10,051.79	0.71	-0.63	-0.32
22,141.00	85.40	357.00	11,985.82	10,118.96	723.21	10,144.77	0.21	0.21	0.00
22,235.00	84.30	356.50	11,994.26	10,212.43	717.91	10,237.63	1.28	-1.17	-0.53
Last Survey - 22235.00' MD, 11994.26' TVD									
22,260.00	84.20	356.00	11,996.76	10,237.25	716.28	10,262.27	2.03	-0.40	-2.00
PTB									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
EON(TR701)	0.00	0.00	8,000.00	-145.16	796.10	477,742.16	725,656.50	32° 18' 43.113 N	103° 44' 12.151 W
- survey misses target center by 7.65usft at 8084.70usft MD (7999.83 TVD, -142.12 N, 803.11 E)									
- Point									
PBHL(TR701)	0.00	0.00	11,962.00	10,292.47	729.34	488,179.79	725,589.74	32° 20' 26.401 N	103° 44' 12.252 W
- survey misses target center by 66.54usft at 22260.00usft MD (11996.76 TVD, 10237.25 N, 716.28 E)									
- Point									
LP(TR701)	0.00	0.00	11,962.00	84.33	794.64	477,971.66	725,655.03	32° 18' 45.384 N	103° 44' 12.153 W
- survey misses target center by 63.62usft at 12113.19usft MD (11902.54 TVD, 106.92 N, 793.40 E)									
- Point									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
22,235.00	11,994.26	10,212.43	717.91	Last Survey - 22235.00' MD, 11994.26' TVD
22,260.00	11,996.76	10,237.25	716.28	PTB