



187-19457'

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Tomb Raider 1-12 Fed No. 614H

Eddy County, NM

August 23, 2018

Job No. LNM5176918

Survey Completion Report





Survey Certificate

August 23, 2018



Operator Name: Devon Energy Corp.
Well Name: Tomb Raider 1-12 Fed No. 614H
County/Parish: Eddy County,
State: NM
Rig Name: Nabors X-15
Job Number: LNM5176918

This is to certify the surveys performed on the referenced well by Professional Directional Ent., Inc. are true and correct MWD Surveys, data provided as follows:

<u>Surveyor</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
ProDirectional	187' MD – 19,457' MD	06/09/18 – 07/24/18	MWD

Sincerely,

Mike Coats
Regulatory Specialist
Professional Directional

850 Conroe Park West Drive | Conroe, TX 77303 | Phone: 936.441.7266

prodirectional.com



Devon Energy Corp.

**Eddy County, NM
Tomb Raider 1-12 Fed
No. 614H
OH**

Survey: ProDirectional

Survey Report

23 August, 2018





ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Project Eddy County, NM (NAD83)

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

System Datum: Mean Sea Level

Site Tomb Raider 1-12 Fed

Site Position:	Northing:	488,001.88 usft	Latitude:	32.340171
From: Map	Easting:	726,025.92 usft	Longitude:	-103.735328
Position Uncertainty: 0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.32 °

Well 614H

Well Position	+N/-S	0.00 usft	Northing:	487,968.58 usft	Latitude:	32.340058
	+E/-W	0.00 usft	Easting:	727,452.70 usft	Longitude:	-103.730709
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,475.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/30/2018	6.93	60.12	48,111.40

Design Surveys 187-19457 MD

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	179.68

Survey Program **Date** 8/23/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
187.00	19,457.00	Survey #1 (OH)	MWD+HDGM	OWSG MWD + HDGM



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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	487,968.58	727,452.70
187.00	0.70	185.20	187.00	1.14	-1.14	-0.10	1.14	185.20	487,967.44	727,452.60
Pro MWD First Survey: 187' MD										
280.00	1.00	203.70	279.99	2.44	-2.45	-0.48	2.49	191.13	487,966.13	727,452.22
373.00	1.10	208.50	372.97	3.97	-3.97	-1.23	4.16	197.24	487,964.61	727,451.47
466.00	0.90	217.30	465.96	5.33	-5.34	-2.10	5.74	201.49	487,963.24	727,450.60
559.00	0.90	199.50	558.94	6.59	-6.61	-2.79	7.17	202.87	487,961.97	727,449.91
653.00	0.70	203.60	652.93	7.81	-7.83	-3.26	8.48	202.63	487,960.75	727,449.44
796.00	0.50	211.60	795.93	9.14	-9.16	-3.94	9.97	203.27	487,959.42	727,448.76
888.00	0.80	220.10	887.92	9.97	-10.00	-4.57	10.99	204.55	487,958.58	727,448.13
979.00	1.00	218.60	978.91	11.07	-11.10	-5.47	12.38	206.23	487,957.48	727,447.23
1,071.00	0.90	209.60	1,070.90	12.32	-12.36	-6.33	13.88	207.11	487,956.22	727,446.37
1,162.00	1.00	210.90	1,161.88	13.62	-13.66	-7.09	15.39	207.42	487,954.92	727,445.61
1,253.00	1.00	209.40	1,252.87	14.99	-15.03	-7.89	16.98	207.68	487,953.55	727,444.81
1,345.00	1.00	216.30	1,344.86	16.33	-16.38	-8.76	18.57	208.12	487,952.20	727,443.94
1,441.00	0.90	210.10	1,440.84	17.65	-17.71	-9.63	20.16	208.54	487,950.87	727,443.07
1,535.00	0.80	207.30	1,534.83	18.87	-18.93	-10.30	21.55	208.55	487,949.65	727,442.40
1,629.00	0.70	213.40	1,628.83	19.93	-19.99	-10.92	22.78	208.64	487,948.59	727,441.78
1,722.00	0.70	212.70	1,721.82	20.88	-20.94	-11.54	23.91	208.85	487,947.64	727,441.16
1,816.00	0.70	196.90	1,815.81	21.91	-21.98	-12.01	25.05	208.66	487,946.60	727,440.69
1,910.00	0.60	201.00	1,909.81	22.92	-22.99	-12.36	26.10	208.26	487,945.59	727,440.34
2,004.00	0.50	184.20	2,003.80	23.78	-23.85	-12.56	26.96	207.78	487,944.73	727,440.14
2,098.00	0.60	179.60	2,097.80	24.69	-24.76	-12.59	27.77	206.96	487,943.82	727,440.11
2,192.00	1.40	54.30	2,191.79	24.51	-24.58	-11.65	27.20	205.37	487,944.00	727,441.05
2,286.00	1.90	53.40	2,285.75	22.93	-22.98	-9.47	24.85	202.40	487,945.60	727,443.23
2,380.00	3.50	37.90	2,379.64	19.75	-19.79	-6.46	20.81	198.08	487,948.79	727,446.24
2,474.00	3.80	37.50	2,473.45	15.03	-15.05	-2.80	15.31	190.53	487,953.53	727,449.90



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
2,568.00	5.20	36.10	2,567.16	9.15	-9.14	1.61	9.28	170.02	487,959.44	727,454.31
2,663.00	7.10	34.30	2,661.61	0.85	-0.81	7.45	7.50	96.18	487,967.77	727,460.15
2,757.00	7.60	34.10	2,754.84	-9.06	9.14	14.21	16.90	57.26	487,977.72	727,466.91
2,852.00	7.60	34.00	2,849.00	-19.43	19.55	21.25	28.87	47.38	487,988.13	727,473.95
2,947.00	7.70	34.50	2,943.16	-29.84	30.00	28.36	41.29	43.39	487,998.58	727,481.06
3,040.00	7.80	33.90	3,035.31	-40.18	40.37	35.41	53.70	41.25	488,008.95	727,488.11
3,135.00	7.60	32.60	3,129.45	-50.78	51.02	42.39	66.33	39.72	488,019.60	727,495.09
3,229.00	7.30	32.30	3,222.66	-61.03	61.30	48.93	78.44	38.60	488,029.88	727,501.63
3,323.00	7.30	31.70	3,315.89	-71.12	71.43	55.26	90.31	37.73	488,040.01	727,507.96
3,417.00	6.90	31.70	3,409.17	-80.97	81.32	61.37	101.87	37.04	488,049.90	727,514.07
3,512.00	7.40	34.50	3,503.43	-90.83	91.21	67.83	113.67	36.64	488,059.79	727,520.53
3,606.00	7.20	36.20	3,596.67	-100.54	100.96	74.74	125.61	36.51	488,069.54	727,527.44
3,700.00	6.50	41.70	3,690.00	-109.22	109.68	81.76	136.80	36.70	488,078.26	727,534.46
3,794.00	5.60	46.80	3,783.48	-116.30	116.79	88.64	146.62	37.20	488,085.37	727,541.34
3,888.00	4.90	47.70	3,877.08	-122.10	122.64	94.95	155.10	37.75	488,091.22	727,547.65
3,982.00	4.70	51.80	3,970.75	-127.15	127.72	100.95	162.80	38.32	488,096.30	727,553.65
4,076.00	4.40	59.80	4,064.46	-131.31	131.92	107.09	169.91	39.07	488,100.50	727,559.79
4,170.00	4.30	65.70	4,158.19	-134.54	135.18	113.42	176.46	40.00	488,103.76	727,566.12
4,263.00	4.40	71.50	4,250.92	-137.07	137.75	119.98	182.67	41.06	488,106.33	727,572.68
4,357.00	3.80	56.60	4,344.68	-139.90	140.60	126.00	188.80	41.86	488,109.18	727,578.70
4,451.00	3.70	40.60	4,438.48	-143.89	144.62	130.58	194.85	42.08	488,113.20	727,583.28
4,545.00	3.70	37.30	4,532.29	-148.59	149.34	134.39	200.90	41.98	488,117.92	727,587.09
4,639.00	3.40	37.50	4,626.11	-153.19	153.96	137.92	206.71	41.85	488,122.54	727,590.62
4,733.00	3.30	39.60	4,719.95	-157.47	158.26	141.34	212.19	41.77	488,126.84	727,594.04
4,826.00	3.10	27.30	4,812.80	-161.75	162.56	144.20	217.30	41.58	488,131.14	727,596.90
4,919.00	3.40	15.60	4,905.65	-166.63	167.45	146.10	222.22	41.11	488,136.03	727,598.80
5,013.00	3.30	13.70	4,999.49	-171.93	172.76	147.49	227.15	40.49	488,141.34	727,600.19



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Survey

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5,106.00	3.20	12.60	5,092.34	-177.06	177.89	148.69	231.85	39.89	488,146.47	727,601.39
5,199.00	3.30	7.30	5,185.19	-182.24	183.08	149.60	236.43	39.25	488,151.66	727,602.30
5,293.00	3.00	0.20	5,279.05	-187.38	188.22	149.95	240.65	38.54	488,156.80	727,602.65
5,386.00	2.20	339.80	5,371.96	-191.50	192.33	149.34	243.50	37.83	488,160.91	727,602.04
5,480.00	2.20	305.20	5,465.89	-194.24	195.07	147.24	244.40	37.05	488,163.65	727,599.94
5,574.00	1.90	276.80	5,559.84	-195.48	196.29	144.22	243.58	36.31	488,164.87	727,596.92
5,668.00	1.20	247.90	5,653.80	-195.31	196.11	141.76	241.98	35.86	488,164.69	727,594.46
5,762.00	1.10	239.90	5,747.78	-194.50	195.28	140.07	240.32	35.65	488,163.86	727,592.77
5,855.00	1.00	233.40	5,840.77	-193.57	194.35	138.65	238.74	35.50	488,162.93	727,591.35
5,948.00	1.00	229.10	5,933.75	-192.57	193.34	137.38	237.18	35.40	488,161.92	727,590.08
6,043.00	1.00	236.40	6,028.74	-191.57	192.33	136.06	235.60	35.28	488,160.91	727,588.76
6,137.00	0.80	235.70	6,122.73	-190.75	191.51	134.84	234.22	35.15	488,160.09	727,587.54
6,231.00	0.80	240.90	6,216.72	-190.07	190.82	133.72	233.01	35.02	488,159.40	727,586.42
6,325.00	0.90	251.90	6,310.71	-189.53	190.27	132.45	231.83	34.84	488,158.85	727,585.15
6,419.00	0.80	247.30	6,404.70	-189.06	189.79	131.14	230.69	34.64	488,158.37	727,583.84
6,513.00	0.80	243.20	6,498.69	-188.51	189.24	129.95	229.56	34.48	488,157.82	727,582.65
6,608.00	0.80	247.40	6,593.68	-187.97	188.69	128.74	228.43	34.31	488,157.27	727,581.44
6,702.00	0.60	261.00	6,687.67	-187.64	188.36	127.65	227.54	34.13	488,156.94	727,580.35
6,797.00	0.90	39.40	6,782.67	-188.14	188.86	127.64	227.94	34.05	488,157.44	727,580.34
6,892.00	1.00	37.70	6,877.66	-189.37	190.09	128.62	229.51	34.08	488,158.67	727,581.32
6,985.00	0.80	35.50	6,970.64	-190.53	191.26	129.49	230.97	34.10	488,159.84	727,582.19
7,080.00	0.50	24.10	7,065.64	-191.45	192.18	130.04	232.04	34.09	488,160.76	727,582.74
7,175.00	0.80	34.50	7,160.63	-192.37	193.10	130.59	233.11	34.07	488,161.68	727,583.29
7,269.00	0.80	18.30	7,254.62	-193.53	194.27	131.17	234.40	34.03	488,162.85	727,583.87
7,364.00	0.80	16.80	7,349.61	-194.79	195.53	131.57	235.67	33.94	488,164.11	727,584.27
7,459.00	0.60	31.30	7,444.61	-195.85	196.59	132.02	236.81	33.88	488,165.17	727,584.72
7,553.00	0.40	32.50	7,538.60	-196.55	197.29	132.45	237.62	33.87	488,165.87	727,585.15



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7,648.00	0.30	32.60	7,633.60	-197.03	197.78	132.76	238.21	33.87	488,166.36	727,585.46
7,742.00	0.40	32.70	7,727.60	-197.52	198.26	133.07	238.78	33.87	488,166.84	727,585.77
7,835.00	0.40	31.50	7,820.60	-198.06	198.81	133.42	239.43	33.86	488,167.39	727,586.12
7,930.00	0.10	30.50	7,915.60	-198.42	199.17	133.63	239.84	33.86	488,167.75	727,586.33
8,025.00	0.10	42.00	8,010.60	-198.55	199.30	133.73	240.01	33.86	488,167.88	727,586.43
8,119.00	0.20	354.50	8,104.59	-198.77	199.52	133.77	240.22	33.84	488,168.10	727,586.47
8,214.00	0.00	23.40	8,199.59	-198.94	199.69	133.75	240.34	33.81	488,168.27	727,586.45
8,307.00	0.20	8.40	8,292.59	-199.10	199.85	133.77	240.49	33.80	488,168.43	727,586.47
8,401.00	0.20	328.00	8,386.59	-199.40	200.15	133.71	240.71	33.75	488,168.73	727,586.41
8,496.00	0.30	304.30	8,481.59	-199.68	200.43	133.42	240.78	33.65	488,169.01	727,586.12
8,589.00	0.30	357.10	8,574.59	-200.06	200.81	133.21	240.97	33.56	488,169.39	727,585.91
8,683.00	0.70	5.90	8,668.59	-200.88	201.63	133.25	241.68	33.46	488,170.21	727,585.95
8,778.00	0.50	23.80	8,763.58	-201.84	202.59	133.48	242.61	33.38	488,171.17	727,586.18
8,873.00	0.50	45.40	8,858.58	-202.50	203.26	133.94	243.42	33.38	488,171.84	727,586.64
8,966.00	0.50	51.40	8,951.58	-203.04	203.79	134.55	244.20	33.43	488,172.37	727,587.25
9,060.00	0.70	98.80	9,045.57	-203.20	203.96	135.44	244.83	33.59	488,172.54	727,588.14
9,155.00	1.00	118.90	9,140.56	-202.71	203.47	136.73	245.15	33.90	488,172.05	727,589.43
9,249.00	1.00	138.60	9,234.55	-201.69	202.46	137.99	245.02	34.28	488,171.04	727,590.69
9,344.00	1.00	144.70	9,329.53	-200.38	201.16	139.02	244.53	34.65	488,169.74	727,591.72
9,437.00	0.90	156.10	9,422.52	-199.05	199.83	139.79	243.87	34.97	488,168.41	727,592.49
9,532.00	1.30	148.20	9,517.50	-197.45	198.23	140.66	243.07	35.36	488,166.81	727,593.36
9,627.00	1.10	151.30	9,612.48	-195.72	196.52	141.66	242.26	35.79	488,165.10	727,594.36
9,720.00	0.90	166.30	9,705.47	-194.23	195.03	142.26	241.40	36.11	488,163.61	727,594.96
9,815.00	1.00	193.20	9,800.45	-192.70	193.49	142.25	240.16	36.32	488,162.07	727,594.95
9,910.00	0.90	196.40	9,895.44	-191.18	191.97	141.85	238.69	36.46	488,160.55	727,594.55
10,005.00	1.00	218.60	9,990.43	-189.82	190.61	141.12	237.16	36.52	488,159.19	727,593.82
10,099.00	1.30	229.90	10,084.41	-188.50	189.28	139.80	235.31	36.45	488,157.86	727,592.50



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
10,194.00	0.80	230.00	10,179.39	-187.38	188.16	138.46	233.62	36.35	488,156.74	727,591.16
10,288.00	0.60	221.80	10,273.39	-186.60	187.37	137.63	232.49	36.30	488,155.95	727,590.33
10,380.00	0.50	216.50	10,365.38	-185.92	186.69	137.07	231.61	36.29	488,155.27	727,589.77
10,474.00	0.30	183.30	10,459.38	-185.35	186.11	136.82	230.99	36.32	488,154.69	727,589.52
10,568.00	0.30	176.80	10,553.38	-184.85	185.62	136.82	230.59	36.39	488,154.20	727,589.52
10,663.00	0.30	219.50	10,648.38	-184.42	185.18	136.67	230.15	36.43	488,153.76	727,589.37
10,757.00	0.50	242.50	10,742.38	-184.04	184.80	136.15	229.54	36.38	488,153.38	727,588.85
10,852.00	0.70	215.30	10,837.37	-183.38	184.14	135.45	228.59	36.34	488,152.72	727,588.15
10,946.00	0.80	230.40	10,931.36	-182.50	183.25	134.61	227.38	36.30	488,151.83	727,587.31
11,041.00	0.80	225.30	11,026.35	-181.61	182.36	133.63	226.08	36.23	488,150.94	727,586.33
11,125.00	4.80	188.50	11,110.24	-177.73	178.47	132.69	222.39	36.63	488,147.05	727,585.39
11,220.00	15.50	180.40	11,203.62	-161.06	161.80	132.01	208.82	39.21	488,130.38	727,584.71
11,267.00	20.30	176.90	11,248.33	-146.63	147.37	132.41	198.12	41.94	488,115.95	727,585.11
11,314.00	24.30	178.50	11,291.81	-128.81	129.55	133.10	185.74	45.78	488,098.13	727,585.80
11,361.00	29.50	174.70	11,333.71	-107.59	108.35	134.43	172.65	51.13	488,076.93	727,587.13
11,408.00	33.70	173.00	11,373.74	-83.10	83.87	137.09	160.71	58.54	488,052.45	727,589.79
11,455.00	35.80	173.40	11,412.35	-56.49	57.27	140.26	151.50	67.79	488,025.85	727,592.96
11,502.00	40.40	176.20	11,449.33	-27.60	28.40	142.85	145.64	78.76	487,996.98	727,595.55
11,549.00	44.60	177.60	11,483.97	4.11	-3.30	144.55	144.59	91.31	487,965.28	727,597.25
11,597.00	48.20	177.80	11,517.07	38.84	-38.03	145.94	150.81	104.60	487,930.55	727,598.64
11,644.00	52.20	178.40	11,547.15	74.93	-74.11	147.13	164.74	116.73	487,894.47	727,599.83
11,691.00	56.40	180.80	11,574.57	113.08	-112.26	147.38	185.26	127.30	487,856.32	727,600.08
11,738.00	59.80	183.00	11,599.41	152.94	-152.13	146.04	210.88	136.17	487,816.45	727,598.74
11,785.00	63.20	182.20	11,621.83	194.19	-193.39	144.17	241.21	143.29	487,775.19	727,596.87
11,832.00	64.50	181.20	11,642.55	236.35	-235.56	142.92	275.52	148.75	487,733.02	727,595.62
11,879.00	66.90	179.00	11,661.89	279.18	-278.38	142.86	312.90	152.83	487,690.20	727,595.56
11,926.00	71.50	178.30	11,678.57	323.10	-322.30	143.90	352.96	155.94	487,646.28	727,596.60



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
11,973.00	75.50	178.50	11,691.92	368.14	-367.33	145.15	394.97	158.44	487,601.25	727,597.85
12,036.00	82.30	178.30	11,704.04	429.91	-429.10	146.88	453.54	161.10	487,539.48	727,599.58
12,050.00	83.80	177.90	11,705.74	443.80	-442.99	147.34	466.85	161.60	487,525.59	727,600.04
12,186.00	88.10	179.00	11,715.34	579.40	-578.56	151.00	597.94	165.37	487,390.02	727,603.70
12,280.00	89.60	178.90	11,717.22	673.37	-672.52	152.73	689.65	167.21	487,296.06	727,605.43
12,374.00	88.30	176.60	11,718.95	767.29	-766.43	156.42	782.23	168.47	487,202.15	727,609.12
12,469.00	90.70	176.90	11,719.78	862.15	-861.26	161.80	876.33	169.36	487,107.32	727,614.50
12,564.00	85.60	175.30	11,722.84	956.89	-955.96	168.25	970.65	170.02	487,012.62	727,620.95
12,659.00	90.60	176.40	11,725.99	1,051.59	-1,050.63	175.12	1,065.12	170.54	486,917.95	727,627.82
12,752.00	89.60	174.70	11,725.83	1,144.34	-1,143.34	182.34	1,157.79	170.94	486,825.24	727,635.04
12,847.00	91.00	178.40	11,725.33	1,239.18	-1,238.15	188.05	1,252.35	171.36	486,730.43	727,640.75
12,941.00	90.30	179.90	11,724.27	1,333.17	-1,332.13	189.45	1,345.53	171.91	486,636.45	727,642.15
13,036.00	92.40	180.10	11,722.03	1,428.14	-1,427.10	189.45	1,439.62	172.44	486,541.48	727,642.15
13,131.00	89.20	179.80	11,720.70	1,523.11	-1,522.08	189.53	1,533.83	172.90	486,446.50	727,642.23
13,225.00	87.40	177.70	11,723.49	1,617.05	-1,616.00	191.58	1,627.32	173.24	486,352.58	727,644.28
13,319.00	88.80	178.50	11,726.61	1,710.96	-1,709.90	194.69	1,720.95	173.50	486,258.68	727,647.39
13,414.00	90.60	179.00	11,727.10	1,805.94	-1,804.87	196.77	1,815.56	173.78	486,163.71	727,649.47
13,508.00	90.70	179.80	11,726.04	1,899.93	-1,898.86	197.75	1,909.13	174.05	486,069.72	727,650.45
13,603.00	93.20	181.10	11,722.80	1,994.86	-1,993.79	197.01	2,003.50	174.36	485,974.79	727,649.71
13,697.00	91.00	180.10	11,719.36	2,088.78	-2,087.72	196.02	2,096.90	174.64	485,880.86	727,648.72
13,791.00	89.50	178.80	11,718.95	2,182.77	-2,181.71	196.93	2,190.58	174.84	485,786.87	727,649.63
13,885.00	88.20	177.30	11,720.84	2,276.71	-2,275.63	200.12	2,284.41	174.97	485,692.95	727,652.82
13,980.00	89.30	175.20	11,722.91	2,371.51	-2,370.39	206.33	2,379.36	175.03	485,598.19	727,659.03
14,075.00	91.20	177.40	11,722.50	2,466.33	-2,465.19	212.46	2,474.32	175.07	485,503.39	727,665.16
14,169.00	89.10	174.70	11,722.25	2,560.13	-2,558.95	218.94	2,568.30	175.11	485,409.63	727,671.64
14,264.00	90.10	177.30	11,722.91	2,654.92	-2,653.71	225.56	2,663.27	175.14	485,314.87	727,678.26
14,359.00	90.80	179.70	11,722.17	2,749.89	-2,748.66	228.05	2,758.11	175.26	485,219.92	727,680.75



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
14,453.00	92.50	180.10	11,719.46	2,843.85	-2,842.62	228.22	2,851.77	175.41	485,125.96	727,680.92
14,548.00	92.30	181.70	11,715.48	2,938.74	-2,937.52	226.72	2,946.26	175.59	485,031.06	727,679.42
14,642.00	89.10	182.00	11,714.33	3,032.66	-3,031.45	223.69	3,039.69	175.78	484,937.13	727,676.39
14,737.00	88.40	180.90	11,716.41	3,127.59	-3,126.40	221.29	3,134.22	175.95	484,842.18	727,673.99
14,832.00	91.70	182.70	11,716.32	3,222.50	-3,221.33	218.30	3,228.72	176.12	484,747.25	727,671.00
14,926.00	92.30	182.40	11,713.04	3,316.33	-3,315.18	214.12	3,322.09	176.30	484,653.40	727,666.82
15,020.00	90.20	181.50	11,710.99	3,410.23	-3,409.10	210.93	3,415.62	176.46	484,559.48	727,663.63
15,115.00	93.10	182.00	11,708.26	3,505.11	-3,504.01	208.03	3,510.18	176.60	484,464.57	727,660.73
15,209.00	86.70	180.40	11,708.42	3,599.03	-3,597.93	206.06	3,603.83	176.72	484,370.65	727,658.76
15,303.00	86.60	178.70	11,713.91	3,692.86	-3,691.77	206.80	3,697.55	176.79	484,276.81	727,659.50
15,398.00	90.20	178.10	11,716.57	3,787.79	-3,786.68	209.45	3,792.46	176.83	484,181.90	727,662.15
15,493.00	92.50	179.40	11,714.33	3,882.74	-3,881.62	211.52	3,887.38	176.88	484,086.96	727,664.22
15,587.00	92.10	182.10	11,710.55	3,976.64	-3,975.53	210.29	3,981.08	176.97	483,993.05	727,662.99
15,681.00	89.30	180.00	11,709.41	4,070.59	-4,069.49	208.57	4,074.83	177.07	483,899.09	727,661.27
15,776.00	90.70	180.10	11,709.41	4,165.59	-4,164.49	208.49	4,169.70	177.13	483,804.09	727,661.19
15,871.00	93.10	180.80	11,706.26	4,260.52	-4,259.42	207.74	4,264.49	177.21	483,709.16	727,660.44
15,965.00	89.60	179.30	11,704.04	4,354.47	-4,353.38	207.66	4,358.33	177.27	483,615.20	727,660.36
16,060.00	91.00	179.10	11,703.54	4,449.47	-4,448.37	208.99	4,453.27	177.31	483,520.21	727,661.69
16,155.00	92.00	181.00	11,701.06	4,544.43	-4,543.33	208.90	4,548.13	177.37	483,425.25	727,661.60
16,249.00	89.90	181.30	11,699.50	4,638.38	-4,637.29	207.02	4,641.91	177.44	483,331.29	727,659.72
16,343.00	89.10	180.60	11,700.32	4,732.35	-4,731.27	205.46	4,735.73	177.51	483,237.31	727,658.16
16,438.00	88.40	181.10	11,702.39	4,827.30	-4,826.24	204.05	4,830.55	177.58	483,142.34	727,656.75
16,532.00	88.80	181.00	11,704.69	4,921.25	-4,920.20	202.33	4,924.35	177.65	483,048.38	727,655.03
16,627.00	91.30	182.70	11,704.61	5,016.17	-5,015.14	199.26	5,019.09	177.72	482,953.44	727,651.96
16,721.00	89.90	182.20	11,703.62	5,110.05	-5,109.04	195.24	5,112.77	177.81	482,859.54	727,647.94
16,815.00	90.50	181.30	11,703.29	5,203.99	-5,203.00	192.37	5,206.55	177.88	482,765.58	727,645.07
16,909.00	90.80	180.60	11,702.23	5,297.96	-5,296.98	190.81	5,300.41	177.94	482,671.60	727,643.51



ProDirectional
Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
17,004.00	91.20	179.90	11,700.57	5,392.94	-5,391.96	190.40	5,395.32	177.98	482,576.62	727,643.10
17,098.00	88.80	178.40	11,700.57	5,486.93	-5,485.94	191.79	5,489.29	178.00	482,482.64	727,644.49
17,192.00	89.50	178.50	11,701.96	5,580.89	-5,579.89	194.34	5,583.28	178.01	482,388.69	727,647.04
17,287.00	89.70	180.60	11,702.63	5,675.89	-5,674.88	195.08	5,678.24	178.03	482,293.70	727,647.78
17,381.00	87.00	179.70	11,705.33	5,769.83	-5,768.84	194.84	5,772.12	178.07	482,199.74	727,647.54
17,475.00	90.60	178.90	11,707.30	5,863.79	-5,862.79	195.98	5,866.07	178.09	482,105.79	727,648.68
17,570.00	87.40	178.50	11,708.96	5,958.75	-5,957.74	198.14	5,961.03	178.10	482,010.84	727,650.84
17,663.00	88.40	179.60	11,712.37	6,051.68	-6,050.66	199.68	6,053.96	178.11	481,917.92	727,652.38
17,758.00	88.40	179.00	11,715.02	6,146.64	-6,145.62	200.84	6,148.90	178.13	481,822.96	727,653.54
17,852.00	91.00	178.30	11,715.51	6,240.62	-6,239.58	203.05	6,242.88	178.14	481,729.00	727,655.75
17,947.00	91.90	178.90	11,713.11	6,335.57	-6,334.52	205.37	6,337.85	178.14	481,634.06	727,658.07
18,041.00	93.50	182.50	11,708.68	6,429.43	-6,428.39	204.23	6,431.63	178.18	481,540.19	727,656.93
18,135.00	89.50	184.00	11,706.22	6,523.20	-6,522.19	198.90	6,525.22	178.25	481,446.39	727,651.60
18,229.00	91.00	182.30	11,705.81	6,617.02	-6,616.04	193.74	6,618.87	178.32	481,352.54	727,646.44
18,324.00	88.40	180.90	11,706.31	6,711.95	-6,710.99	191.09	6,713.71	178.37	481,257.59	727,643.79
18,418.00	90.20	180.50	11,707.45	6,805.93	-6,804.97	189.94	6,807.62	178.40	481,163.61	727,642.64
18,513.00	90.10	179.80	11,707.20	6,900.92	-6,899.97	189.69	6,902.58	178.43	481,068.61	727,642.39
18,607.00	86.80	178.10	11,709.75	6,994.86	-6,993.90	191.41	6,996.52	178.43	480,974.68	727,644.11
18,702.00	86.10	177.60	11,715.63	7,089.63	-7,088.65	194.97	7,091.33	178.42	480,879.93	727,647.67
18,796.00	92.90	176.80	11,716.45	7,183.48	-7,182.48	199.56	7,185.25	178.41	480,786.10	727,652.26
18,891.00	87.40	175.60	11,716.20	7,278.27	-7,277.23	205.85	7,280.14	178.38	480,691.35	727,658.55
18,985.00	89.30	175.90	11,718.91	7,372.01	-7,370.93	212.81	7,374.00	178.35	480,597.65	727,665.51
19,080.00	89.90	177.30	11,719.57	7,466.86	-7,465.76	218.45	7,468.95	178.32	480,502.82	727,671.15
19,174.00	90.60	176.60	11,719.16	7,560.75	-7,559.62	223.45	7,562.93	178.31	480,408.96	727,676.15
19,268.00	93.40	178.40	11,715.88	7,654.62	-7,653.46	227.55	7,656.85	178.30	480,315.12	727,680.25
19,362.00	92.40	183.00	11,711.12	7,748.45	-7,747.31	226.40	7,750.62	178.33	480,221.27	727,679.10



ProDirectional Survey Report



Company: Devon Energy Corp.
Project: Eddy County, NM (NAD83)
Site: Tomb Raider 1-12 Fed
Well: 614H
Wellbore: OH
Design: Surveys 187-19457 MD

Local Co-ordinate Reference: Well 614H
TVD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
MD Reference: GL 3475'+KB 32.8' @ 3507.80usft (Nabors X15)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: WellPlanner1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
19,457.00	92.00	182.00	11,707.47	7,843.27	-7,842.15	222.26	7,845.30	178.38	480,126.43	727,674.96
Final Pro Survey: 19457' MD										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
187.00	187.00	-1.14	-0.10	Pro MWD First Survey: 187' MD
19,457.00	11,707.47	-7,842.15	222.26	Final Pro Survey: 19457' MD