

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Nash Unit 3H - Slot NASH UNIT 3H
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Site:	Nash Unit 3H	MD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Well:	Nash Unit 3H	North Reference:	Grid
Wellbore:	Nash 3H L1 re	Survey Calculation Method:	Minimum Curvature
Design:	Nash 3H L1 re (AsDrilled)	Database:	TP_EDM

Project	Eddy County, NM (NAD27) NMEZ US		
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	Nash Unit 3H			
Site Position:		Northing:	479,526.30 usft	Latitude: 32.3177208
From: Map		Easting:	621,534.30 usft	Longitude: -103.9399192
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: 0.21 °

Well	Nash Unit 3H - Slot NASH UNIT 3H			
Well Position	+N/-S	0.00 usft	Northing:	479,526.30 usft
	+E/-W	0.00 usft	Easting:	621,534.30 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	2,982.00 usft

Wellbore	Nash 3H L1 re				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/27/18	6.98	60.07	47,809

Design	Nash 3H L1 re (AsDrilled)			
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	348.12

Survey Program	Date	02/19/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
83.14	10,363.18	Survey #1 (Nash 3H L1 re)	GYD_DP_MS	Gyrodata gyro-compassing and drop
10,418.00	19,345.00	Survey #2 (Nash 3H L1 re)	MWD	MWD v3:standard declination
19,498.00	19,498.00	Survey #3 (Nash 3H L1 re)	Projection	Projection

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nash Unit 3H SHL										
83.14	0.58	297.76	83.14	0.20	-0.37	0.27	0.70	0.70	0.00	
176.88	0.56	325.84	176.87	0.80	-1.05	0.99	0.30	-0.02	29.96	
270.85	0.69	311.71	270.84	1.55	-1.73	1.88	0.21	0.14	-15.04	
365.19	0.65	305.05	365.17	2.24	-2.59	2.72	0.09	-0.04	-7.06	
459.90	0.64	304.81	459.88	2.85	-3.47	3.50	0.01	-0.01	-0.25	
553.52	0.66	301.15	553.49	3.43	-4.36	4.25	0.05	0.02	-3.91	
647.49	0.57	312.99	647.45	4.02	-5.16	5.00	0.17	-0.10	12.60	

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
742.62	0.56	339.31	742.58	4.78	-5.67	5.85	0.27	-0.01	27.67
836.36	0.43	11.28	836.32	5.56	-5.77	6.62	0.32	-0.14	34.10
930.17	0.53	31.76	930.12	6.27	-5.47	7.26	0.21	0.11	21.83
1,024.14	0.58	38.63	1,024.09	7.01	-4.94	7.88	0.09	0.05	7.31
1,118.59	0.54	33.03	1,118.53	7.76	-4.40	8.50	0.07	-0.04	-5.93
1,213.72	0.40	33.18	1,213.66	8.41	-3.98	9.05	0.15	-0.15	0.16
1,308.09	0.32	30.15	1,308.03	8.91	-3.66	9.48	0.09	-0.08	-3.21
1,402.04	0.22	22.29	1,401.98	9.31	-3.46	9.82	0.11	-0.11	-8.37
1,495.38	0.13	230.55	1,495.32	9.41	-3.48	9.92	0.36	-0.10	-162.57
1,590.54	0.29	187.14	1,590.48	9.10	-3.59	9.64	0.23	0.17	-45.62
1,685.21	0.48	174.88	1,685.15	8.47	-3.58	9.02	0.22	0.20	-12.95
1,779.29	0.53	177.03	1,779.22	7.64	-3.53	8.20	0.06	0.05	2.29
1,872.68	0.94	177.03	1,872.60	6.44	-3.46	7.02	0.44	0.44	0.00
1,968.04	1.29	184.34	1,967.95	4.59	-3.50	5.21	0.40	0.37	7.67
2,062.61	1.27	184.10	2,062.49	2.48	-3.66	3.18	0.02	-0.02	-0.25
2,156.15	1.30	190.94	2,156.01	0.41	-3.94	1.21	0.17	0.03	7.31
2,249.31	1.23	179.05	2,249.15	-1.63	-4.12	-0.75	0.29	-0.08	-12.76
2,343.83	1.50	152.59	2,343.64	-3.74	-3.53	-2.93	0.72	0.29	-27.99
2,437.89	2.07	144.37	2,437.65	-6.21	-1.98	-5.67	0.66	0.61	-8.74
2,532.79	2.16	134.85	2,532.49	-8.87	0.29	-8.74	0.38	0.09	-10.03
2,626.87	2.39	133.57	2,626.50	-11.47	2.97	-11.84	0.25	0.24	-1.36
2,720.22	2.78	132.82	2,719.75	-14.35	6.04	-15.29	0.42	0.42	-0.80
2,814.58	2.97	133.26	2,813.99	-17.58	9.50	-19.16	0.20	0.20	0.47
2,910.67	2.70	129.65	2,909.96	-20.73	13.05	-22.97	0.34	-0.28	-3.76
3,005.29	2.25	136.16	3,004.50	-23.49	16.06	-26.30	0.56	-0.48	6.88
3,099.45	1.58	142.88	3,098.60	-25.86	18.12	-29.04	0.75	-0.71	7.14
3,193.53	1.23	140.04	3,192.65	-27.67	19.55	-31.10	0.38	-0.37	-3.02
3,288.12	1.24	139.30	3,287.22	-29.22	20.87	-32.89	0.02	0.01	-0.78
3,381.91	1.08	136.65	3,380.99	-30.64	22.14	-34.54	0.18	-0.17	-2.83
3,476.11	0.93	132.30	3,475.18	-31.80	23.31	-35.91	0.18	-0.16	-4.62
3,569.40	0.86	131.59	3,568.46	-32.77	24.40	-37.09	0.08	-0.08	-0.76
3,663.80	0.67	127.22	3,662.85	-33.58	25.37	-38.08	0.21	-0.20	-4.63
3,758.16	0.57	128.26	3,757.20	-34.20	26.17	-38.85	0.11	-0.11	1.10
3,853.12	0.49	152.66	3,852.16	-34.85	26.73	-39.61	0.25	-0.08	25.69
3,947.41	0.44	153.93	3,946.45	-35.54	27.08	-40.35	0.05	-0.05	1.35
4,040.79	0.44	167.38	4,039.82	-36.21	27.31	-41.05	0.11	0.00	14.40
4,135.01	0.44	162.10	4,134.04	-36.91	27.50	-41.78	0.04	0.00	-5.60
4,229.15	0.41	194.54	4,228.18	-37.58	27.53	-42.44	0.25	-0.03	34.46
4,323.72	0.30	177.33	4,322.75	-38.15	27.45	-42.98	0.16	-0.12	-18.20
4,418.05	0.35	157.74	4,417.08	-38.66	27.58	-43.51	0.13	0.05	-20.77
4,512.92	0.33	169.17	4,511.94	-39.20	27.74	-44.07	0.07	-0.02	12.05
4,608.49	0.36	156.64	4,607.51	-39.75	27.91	-44.64	0.08	0.03	-13.11
4,702.85	0.41	166.80	4,701.87	-40.35	28.10	-45.27	0.09	0.05	10.77

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Survey									
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4,797.61	0.46	177.34	4,796.63	-41.06	28.20	-45.98	0.10	0.05	11.12
4,892.07	0.48	181.89	4,891.08	-41.83	28.20	-46.74	0.04	0.02	4.82
4,986.40	0.51	183.10	4,985.41	-42.64	28.17	-47.53	0.03	0.03	1.28
5,081.93	0.49	190.25	5,080.94	-43.47	28.07	-48.32	0.07	-0.02	7.48
5,176.96	0.49	191.25	5,175.96	-44.27	27.92	-49.07	0.01	0.00	1.05
5,271.09	0.59	207.77	5,270.09	-45.09	27.61	-49.81	0.20	0.11	17.55
5,365.30	0.57	216.94	5,364.29	-45.90	27.11	-50.49	0.10	-0.02	9.73
5,459.21	0.68	224.97	5,458.20	-46.66	26.43	-51.11	0.15	0.12	8.55
5,553.52	0.71	218.51	5,552.50	-47.52	25.67	-51.78	0.09	0.03	-6.85
5,646.87	0.83	215.32	5,645.84	-48.52	24.92	-52.61	0.14	0.13	-3.42
5,740.84	0.88	218.79	5,739.80	-49.64	24.08	-53.53	0.08	0.05	3.69
5,834.58	0.88	218.86	5,833.53	-50.76	23.17	-54.44	0.00	0.00	0.07
5,929.25	0.84	217.25	5,928.19	-51.88	22.30	-55.36	0.05	-0.04	-1.70
6,023.52	0.77	215.86	6,022.45	-52.94	21.51	-56.24	0.08	-0.07	-1.47
6,117.86	0.74	213.18	6,116.78	-53.97	20.80	-57.09	0.05	-0.03	-2.84
6,212.24	0.75	202.71	6,211.16	-55.05	20.23	-58.03	0.14	0.01	-11.09
6,305.53	0.79	194.61	6,304.44	-56.23	19.83	-59.11	0.12	0.04	-8.68
6,399.57	0.86	197.08	6,398.47	-57.53	19.46	-60.31	0.08	0.07	2.63
6,494.86	0.89	193.50	6,493.75	-58.94	19.08	-61.60	0.07	0.03	-3.76
6,589.64	0.89	191.90	6,588.52	-60.37	18.76	-62.94	0.03	0.00	-1.69
6,685.05	0.96	189.00	6,683.91	-61.89	18.48	-64.37	0.09	0.07	-3.04
6,779.94	0.86	183.99	6,778.79	-63.38	18.30	-65.79	0.13	-0.11	-5.28
6,873.77	0.90	179.65	6,872.61	-64.82	18.26	-67.19	0.08	0.04	-4.63
6,967.98	0.75	178.71	6,966.81	-66.18	18.28	-68.52	0.16	-0.16	-1.00
7,062.17	0.72	175.60	7,060.99	-67.39	18.34	-69.72	0.05	-0.03	-3.30
7,156.48	0.54	200.36	7,155.30	-68.39	18.23	-70.68	0.34	-0.19	26.25
7,250.92	0.52	208.86	7,249.73	-69.19	17.87	-71.38	0.09	-0.02	9.00
7,345.39	0.43	195.64	7,344.20	-69.90	17.56	-72.02	0.15	-0.10	-13.99
7,440.51	0.24	216.12	7,439.32	-70.41	17.35	-72.47	0.23	-0.20	21.53
7,534.92	0.25	292.17	7,533.73	-70.49	17.04	-72.49	0.32	0.01	80.55
7,629.30	0.62	314.83	7,628.10	-70.05	16.49	-71.95	0.42	0.39	24.01
7,723.31	0.83	337.38	7,722.11	-69.06	15.87	-70.85	0.37	0.22	23.99
7,816.96	0.87	349.19	7,815.75	-67.74	15.47	-69.47	0.19	0.04	12.61
7,912.23	0.66	358.39	7,911.01	-66.48	15.32	-68.21	0.25	-0.22	9.66
8,006.33	0.60	1.37	8,005.10	-65.45	15.32	-67.20	0.07	-0.06	3.17
8,100.13	0.54	358.53	8,098.90	-64.51	15.32	-66.29	0.07	-0.06	-3.03
8,194.83	0.38	320.34	8,193.59	-63.83	15.11	-65.57	0.36	-0.17	-40.33
8,289.81	0.40	186.08	8,288.57	-63.91	14.87	-65.61	0.76	0.02	-141.36
8,383.49	0.58	179.44	8,382.25	-64.71	14.84	-66.38	0.20	0.19	-7.09
8,477.75	0.70	177.89	8,476.50	-65.77	14.87	-67.42	0.13	0.13	-1.64
8,571.53	0.84	159.92	8,570.28	-66.98	15.12	-68.66	0.30	0.15	-19.16
8,665.06	1.12	135.59	8,663.79	-68.28	16.00	-70.11	0.53	0.30	-26.01
8,759.03	1.11	135.99	8,757.75	-69.59	17.27	-71.66	0.01	-0.01	0.43
8,853.29	1.13	137.52	8,851.99	-70.93	18.54	-73.23	0.04	0.02	1.62

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8,947.31	1.11	134.78	8,945.99	-72.26	19.81	-74.79	0.06	-0.02	-2.91
9,042.76	1.11	129.84	9,041.42	-73.50	21.18	-76.29	0.10	0.00	-5.18
9,137.57	1.32	105.38	9,136.21	-74.38	22.93	-77.51	0.58	0.22	-25.80
9,231.79	1.32	111.54	9,230.41	-75.07	24.99	-78.60	0.15	0.00	6.54
9,327.14	1.05	136.14	9,325.74	-76.10	26.62	-79.95	0.60	-0.28	25.80
9,420.53	0.95	141.11	9,419.11	-77.32	27.70	-81.36	0.14	-0.11	5.32
9,514.29	0.92	147.04	9,512.86	-78.55	28.59	-82.76	0.11	-0.03	6.32
9,607.86	0.85	165.71	9,606.42	-79.86	29.17	-84.15	0.32	-0.07	19.95
9,702.52	0.69	184.98	9,701.07	-81.11	29.30	-85.40	0.32	-0.17	20.36
9,796.27	0.70	196.53	9,794.81	-82.22	29.08	-86.44	0.15	0.01	12.32
9,890.53	0.71	196.36	9,889.07	-83.33	28.76	-87.46	0.01	0.01	-0.18
9,985.26	0.76	193.30	9,983.79	-84.50	28.45	-88.55	0.07	0.05	-3.23
10,079.34	0.74	199.56	10,077.86	-85.68	28.10	-89.63	0.09	-0.02	6.65
10,173.59	0.76	202.78	10,172.10	-86.83	27.65	-90.67	0.05	0.02	3.42
10,268.34	0.69	206.25	10,266.84	-87.92	27.16	-91.63	0.09	-0.07	3.66
10,363.18	0.47	189.76	10,361.68	-88.82	26.84	-92.44	0.29	-0.23	-17.39
10,418.00	7.30	258.70	10,416.35	-89.73	23.38	-92.62	13.03	12.46	125.76
10,449.00	7.60	260.90	10,447.09	-90.44	19.43	-92.50	1.34	0.97	7.10
10,481.00	8.40	243.30	10,478.78	-91.82	15.25	-92.99	8.02	2.50	-55.00
10,512.00	10.00	260.90	10,509.38	-93.26	10.57	-93.44	10.38	5.16	56.77
10,543.00	13.10	270.40	10,539.76	-93.67	4.39	-92.56	11.70	10.00	30.65
10,575.00	16.00	271.30	10,570.73	-93.54	-3.64	-90.79	9.09	9.06	2.81
10,606.00	17.30	270.50	10,600.43	-93.40	-12.52	-88.83	4.26	4.19	-2.58
10,637.00	17.30	268.20	10,630.02	-93.51	-21.74	-87.03	2.21	0.00	-7.42
10,669.00	18.10	270.10	10,660.51	-93.65	-31.47	-85.17	3.08	2.50	5.94
10,700.00	20.10	274.40	10,689.80	-93.23	-41.60	-82.67	7.88	6.45	13.87
10,732.00	21.00	275.00	10,719.77	-92.31	-52.79	-79.47	2.89	2.81	1.87
10,760.00	22.20	275.80	10,745.80	-91.34	-63.05	-76.41	4.41	4.29	2.86
10,792.00	23.00	279.10	10,775.34	-89.74	-75.24	-72.33	4.68	2.50	10.31
10,823.00	25.40	285.00	10,803.62	-87.06	-87.65	-67.16	10.98	7.74	19.03
10,854.00	28.50	290.60	10,831.26	-82.73	-101.00	-60.18	12.91	10.00	18.06
10,885.00	31.70	296.40	10,858.08	-76.51	-115.22	-51.16	13.94	10.32	18.71
10,917.00	36.10	301.50	10,884.64	-67.84	-130.80	-39.47	16.36	13.75	15.94
10,948.00	41.50	303.50	10,908.79	-57.39	-147.16	-25.87	17.88	17.42	6.45
10,979.00	46.60	304.20	10,931.06	-45.38	-165.06	-10.44	16.53	16.45	2.26
11,011.00	52.00	303.90	10,951.92	-31.81	-185.15	6.98	16.89	16.87	-0.94
11,042.00	55.60	304.00	10,970.23	-17.84	-205.90	24.92	11.62	11.61	0.32
11,073.00	58.20	305.00	10,987.16	-3.13	-227.30	43.72	8.81	8.39	3.23
11,104.00	59.40	306.40	11,003.21	12.35	-248.83	63.29	5.47	3.87	4.52
11,135.00	60.40	305.00	11,018.76	28.00	-270.61	83.09	5.07	3.23	-4.52
11,167.00	61.30	302.90	11,034.35	43.60	-293.79	103.13	6.38	2.81	-6.56
11,199.00	63.00	302.20	11,049.30	58.82	-317.64	122.93	5.65	5.31	-2.19
11,230.00	65.40	301.90	11,062.79	73.63	-341.29	142.29	7.79	7.74	-0.97

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Nash Unit 3H - Slot NASH UNIT 3H
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Site:	Nash Unit 3H	MD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Well:	Nash Unit 3H	North Reference:	Grid
Wellbore:	Nash 3H L1 re	Survey Calculation Method:	Minimum Curvature
Design:	Nash 3H L1 re (AsDrilled)	Database:	TP_EDM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
11,262.00	67.20	301.40	11,075.65	89.00	-366.23	162.47	5.80	5.62	-1.56	
11,293.00	68.90	301.20	11,087.24	103.94	-390.80	182.15	5.52	5.48	-0.65	
11,325.00	71.50	300.60	11,098.08	119.40	-416.63	202.59	8.31	8.12	-1.87	
11,356.00	74.70	299.10	11,107.09	134.16	-442.36	222.33	11.31	10.32	-4.84	
11,388.00	78.60	299.60	11,114.48	149.42	-469.49	242.84	12.28	12.19	1.56	
11,420.00	82.90	299.50	11,119.62	164.99	-496.96	263.74	13.44	13.44	-0.31	
11,451.00	86.20	301.20	11,122.56	180.58	-523.59	284.47	11.96	10.65	5.48	
11,482.00	87.70	302.40	11,124.21	196.89	-549.89	305.85	6.19	4.84	3.87	
11,513.00	89.30	305.20	11,125.02	214.13	-575.64	328.02	10.40	5.16	9.03	
11,516.06	89.45	305.34	11,125.06	215.90	-578.14	330.26	6.62	4.84	4.52	
Nash Unit 3H LP p4										
11,544.00	90.80	306.60	11,125.00	232.31	-600.75	350.97	6.62	4.84	4.52	
11,640.00	88.40	307.90	11,125.67	290.41	-677.16	423.55	2.84	-2.50	1.35	
11,734.00	91.60	312.50	11,125.67	351.06	-748.93	497.68	5.96	3.40	4.89	
11,827.00	93.40	316.40	11,121.61	416.10	-815.24	574.98	4.61	1.94	4.19	
11,921.00	88.90	315.70	11,119.72	483.75	-880.45	654.59	4.84	-4.79	-0.74	
12,016.00	90.00	318.70	11,120.63	553.44	-944.98	736.08	3.36	1.16	3.16	
12,110.00	92.50	324.50	11,118.58	627.05	-1,003.33	820.12	6.72	2.66	6.17	
12,206.00	90.50	327.30	11,116.07	706.51	-1,057.12	908.94	3.58	-2.08	2.92	
12,300.00	90.90	326.50	11,114.92	785.25	-1,108.45	996.56	0.95	0.43	-0.85	
12,395.00	90.70	328.50	11,113.59	865.36	-1,159.49	1,085.46	2.12	-0.21	2.11	
12,490.00	91.00	334.30	11,112.18	948.72	-1,204.94	1,176.39	6.11	0.32	6.11	
12,584.00	91.20	337.30	11,110.38	1,034.43	-1,243.46	1,268.20	3.20	0.21	3.19	
12,677.00	89.20	341.00	11,110.05	1,121.32	-1,276.55	1,360.04	4.52	-2.15	3.98	
12,772.00	90.90	348.50	11,109.97	1,212.91	-1,301.52	1,454.80	8.09	1.79	7.89	
12,866.00	90.60	351.10	11,108.74	1,305.41	-1,318.17	1,548.75	2.78	-0.32	2.77	
12,914.00	89.94	351.00	11,108.52	1,352.82	-1,325.64	1,596.68	1.40	-1.38	-0.21	
Wellpath Crosses FTP										
12,916.42	89.90	350.99	11,108.52	1,355.21	-1,326.01	1,599.10	1.40	-1.38	-0.21	
Nash Unit 3H FTP										
12,960.00	89.30	350.90	11,108.82	1,398.25	-1,332.87	1,642.63	1.40	-1.38	-0.21	
13,056.00	90.20	356.20	11,109.24	1,493.60	-1,343.65	1,738.16	5.60	0.94	5.52	
13,150.00	88.80	358.20	11,110.06	1,587.48	-1,348.24	1,830.97	2.60	-1.49	2.13	
13,229.45	90.91	359.89	11,110.26	1,666.92	-1,349.57	1,908.98	3.41	2.66	2.13	
Nash Unit 3H On Azm p4										
13,244.00	91.30	0.20	11,109.98	1,681.46	-1,349.56	1,923.21	3.41	2.66	2.13	
13,339.00	90.10	359.10	11,108.82	1,776.45	-1,350.14	2,016.28	1.71	-1.26	-1.16	
13,433.00	91.10	358.10	11,107.83	1,870.41	-1,352.43	2,108.71	1.50	1.06	-1.06	
13,562.00	87.40	355.50	11,109.52	1,999.17	-1,359.63	2,236.19	3.51	-2.87	-2.02	
13,656.00	86.90	356.30	11,114.20	2,092.81	-1,366.34	2,329.21	1.00	-0.53	0.85	
13,750.00	90.90	357.20	11,116.00	2,186.62	-1,371.67	2,422.11	4.36	4.26	0.96	
13,843.00	88.10	355.10	11,116.81	2,279.39	-1,377.91	2,514.18	3.76	-3.01	-2.26	
13,937.00	90.80	357.00	11,117.72	2,373.15	-1,384.38	2,607.26	3.51	2.87	2.02	
14,032.00	91.00	0.00	11,116.22	2,468.10	-1,386.87	2,700.69	3.16	0.21	3.16	

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Nash Unit 3H - Slot NASH UNIT 3H
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Site:	Nash Unit 3H	MD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Well:	Nash Unit 3H	North Reference:	Grid
Wellbore:	Nash 3H L1 re	Survey Calculation Method:	Minimum Curvature
Design:	Nash 3H L1 re (AsDrilled)	Database:	TP_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,127.00	89.50	0.60	11,115.81	2,563.09	-1,386.37	2,793.55	1.70	-1.58	0.63
14,222.00	89.50	359.70	11,116.64	2,658.09	-1,386.13	2,886.46	0.95	0.00	-0.95
14,317.00	90.90	358.10	11,116.31	2,753.06	-1,387.95	2,979.78	2.24	1.47	-1.68
14,411.00	88.70	356.70	11,116.63	2,846.96	-1,392.21	3,072.54	2.77	-2.34	-1.49
14,505.00	90.50	359.30	11,117.29	2,940.89	-1,395.49	3,165.13	3.36	1.91	2.77
14,600.00	89.60	0.10	11,117.21	3,035.88	-1,395.99	3,258.20	1.27	-0.95	0.84
14,694.00	89.40	0.60	11,118.03	3,129.88	-1,395.42	3,350.06	0.57	-0.21	0.53
14,789.00	90.60	1.10	11,118.03	3,224.86	-1,394.01	3,442.72	1.37	1.26	0.53
14,881.00	90.60	0.30	11,117.06	3,316.85	-1,392.88	3,532.51	0.87	0.00	-0.87
14,975.00	91.40	0.40	11,115.42	3,410.84	-1,392.31	3,624.36	0.86	0.85	0.11
15,069.00	89.50	355.00	11,114.69	3,504.72	-1,396.08	3,717.01	6.09	-2.02	-5.74
15,163.00	89.80	351.80	11,115.26	3,598.08	-1,406.88	3,810.60	3.42	0.32	-3.40
15,257.00	89.70	350.00	11,115.67	3,690.89	-1,421.75	3,904.49	1.92	-0.11	-1.91
15,351.00	88.30	353.40	11,117.31	3,783.88	-1,435.31	3,998.27	3.91	-1.49	3.62
15,446.00	91.90	355.20	11,117.14	3,878.39	-1,444.75	4,092.70	4.24	3.79	1.89
15,540.00	91.80	354.60	11,114.11	3,971.97	-1,453.10	4,186.00	0.65	-0.11	-0.64
15,633.00	91.80	356.50	11,111.19	4,064.64	-1,460.31	4,278.17	2.04	0.00	2.04
15,729.00	93.00	356.10	11,107.17	4,160.35	-1,466.50	4,373.10	1.32	1.25	-0.42
15,823.00	92.20	353.60	11,102.90	4,253.87	-1,474.93	4,466.35	2.79	-0.85	-2.66
15,918.00	90.80	356.90	11,100.42	4,348.49	-1,482.79	4,560.57	3.77	-1.47	3.47
16,011.00	88.80	355.70	11,100.74	4,441.29	-1,488.79	4,652.62	2.51	-2.15	-1.29
16,105.00	91.40	356.40	11,100.58	4,535.06	-1,495.27	4,745.71	2.86	2.77	0.74
16,199.00	93.80	358.70	11,096.31	4,628.86	-1,499.28	4,838.33	3.53	2.55	2.45
16,294.00	94.00	358.50	11,089.85	4,723.62	-1,501.60	4,931.53	0.30	0.21	-0.21
16,390.00	92.90	0.20	11,084.07	4,819.43	-1,502.68	5,025.52	2.11	-1.15	1.77
16,512.00	91.60	0.70	11,079.28	4,941.33	-1,501.73	5,144.61	1.14	-1.07	0.41
16,606.00	89.70	0.50	11,078.22	5,035.31	-1,500.74	5,236.38	2.03	-2.02	-0.21
16,700.00	89.20	0.60	11,079.12	5,129.31	-1,499.84	5,328.18	0.54	-0.53	0.11
16,795.00	90.00	1.10	11,079.78	5,224.29	-1,498.43	5,420.84	0.99	0.84	0.53
16,887.00	90.10	1.80	11,079.70	5,316.26	-1,496.10	5,510.36	0.77	0.11	0.76
16,982.00	88.80	359.60	11,080.62	5,411.24	-1,494.94	5,603.07	2.69	-1.37	-2.32
17,076.00	89.00	358.20	11,082.42	5,505.20	-1,496.75	5,695.39	1.50	0.21	-1.49
17,171.00	89.80	358.70	11,083.41	5,600.16	-1,499.32	5,788.85	0.99	0.84	0.53
17,266.00	86.20	356.40	11,086.73	5,695.00	-1,503.37	5,882.49	4.50	-3.79	-2.42
17,360.00	87.40	355.90	11,091.98	5,788.64	-1,509.67	5,975.42	1.38	1.28	-0.53
17,455.00	91.50	355.80	11,092.89	5,883.36	-1,516.55	6,069.53	4.32	4.32	-0.11
17,549.00	90.40	355.70	11,091.33	5,977.09	-1,523.51	6,162.69	1.18	-1.17	-0.11
17,644.00	92.00	356.40	11,089.34	6,071.84	-1,530.05	6,256.75	1.84	1.68	0.74
17,738.00	88.20	358.00	11,089.18	6,165.71	-1,534.64	6,349.56	4.39	-4.04	1.70
17,834.00	86.50	357.30	11,093.62	6,261.52	-1,538.58	6,444.13	1.91	-1.77	-0.73
17,928.00	89.70	357.80	11,096.73	6,355.37	-1,542.59	6,536.79	3.45	3.40	0.53
18,022.00	91.80	358.90	11,095.50	6,449.32	-1,545.30	6,629.29	2.52	2.23	1.17
18,117.00	90.50	358.20	11,093.59	6,544.26	-1,547.70	6,722.70	1.55	-1.37	-0.74

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Nash Unit 3H - Slot NASH UNIT 3H
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Site:	Nash Unit 3H	MD Reference:	2982+24 @ 3006.00usft (Hercules 3H)
Well:	Nash Unit 3H	North Reference:	Grid
Wellbore:	Nash 3H L1 re	Survey Calculation Method:	Minimum Curvature
Design:	Nash 3H L1 re (AsDrilled)	Database:	TP_EDM

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
18,211.00	93.00	358.30	11,090.72	6,638.17	-1,550.57	6,815.18	2.66	2.66	0.11
18,306.00	91.40	355.60	11,087.08	6,732.95	-1,555.62	6,908.98	3.30	-1.68	-2.84
18,400.00	93.10	354.50	11,083.39	6,826.53	-1,563.73	7,002.21	2.15	1.81	-1.17
18,494.00	89.80	354.00	11,081.01	6,920.01	-1,573.14	7,095.63	3.55	-3.51	-0.53
18,590.00	91.30	353.20	11,080.09	7,015.40	-1,583.84	7,191.19	1.77	1.56	-0.83
18,684.00	90.50	351.80	11,078.61	7,108.58	-1,596.11	7,284.90	1.72	-0.85	-1.49
18,779.00	91.50	353.80	11,076.95	7,202.81	-1,608.01	7,379.56	2.35	1.05	2.11
18,873.00	92.60	353.50	11,073.59	7,296.18	-1,618.40	7,473.06	1.21	1.17	-0.32
18,968.00	91.30	355.20	11,070.36	7,390.65	-1,627.75	7,567.44	2.25	-1.37	1.79
19,062.00	92.80	355.90	11,066.99	7,484.31	-1,635.04	7,660.59	1.76	1.60	0.74
19,157.00	88.90	356.70	11,065.58	7,579.08	-1,641.16	7,754.60	4.19	-4.11	0.84
19,251.00	86.20	355.80	11,069.60	7,672.78	-1,647.31	7,847.56	3.03	-2.87	-0.96
19,345.00	86.70	355.80	11,075.42	7,766.35	-1,654.18	7,940.54	0.53	0.53	0.00
19,498.00	86.70	355.80	11,084.23	7,918.69	-1,665.36	8,091.91	0.00	0.00	0.00
Nash Unit 3H PBHL p2 (200FNL/380FWL) - Nash Unit 3H LTP (330FNL/385.3FWL)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Nash Unit 3H SHL	0.00	0.00	0.00	0.00	0.00	479,526.30	621,534.30	32.3177208	-103.9399192
- hit/miss target									
- Shape									
- actual wellpath hits target center									
- Point									
Nash Unit 3H PBHL p2 (	0.00	0.01	11,069.07	8,427.10	-1,651.60	487,953.40	619,882.70	32.3409025	-103.9451666
- actual wellpath misses target center by 508.82usft at 19498.00usft MD (11084.23 TVD, 7918.69 N, -1665.36 E)									
- Rectangle (sides W100.00 H7,081.00 D0.00)									
Nash Unit 3H BHL	0.00	0.01	11,084.23	7,918.69	-1,665.36	487,444.99	619,868.94	32.3395051	-103.9452171
- actual wellpath hits target center									
- Point									
Nash Unit 3H LTP (330F	0.00	0.01	11,129.00	8,297.20	-1,645.90	487,823.50	619,888.40	32.3405454	-103.9451496
- actual wellpath misses target center by 381.65usft at 19498.00usft MD (11084.23 TVD, 7918.69 N, -1665.36 E)									
- Point									
Nash Unit 3H FTP	0.00	0.01	11,129.00	1,353.10	-1,338.40	480,879.40	620,195.90	32.3214538	-103.9442357
- actual wellpath misses target center by 24.03usft at 12916.30usft MD (11108.52 TVD, 1355.09 N, -1326.00 E)									
- Point									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,914.00	11,108.52	1,352.82	-1,325.64	Wellpath Crosses FTP

Checked By: _____	Approved By: _____	Date: _____
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