



XTO

Eddy County
Nash Unit #42H
#42H
OH

Survey: MWD #1

Pathfinder X & Y Survey Report

09 December, 2009

PATHFINDER



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: XTO
Project: Eddy County
Site: Nash Unit #42H
Well: #42H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #42H
TVD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay)
MD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Project Eddy County

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Nash Unit #42H

Site Position:	Map	Northing:	475,520.800 ft	Latitude:	32° 18' 24.015 N
From:		Easting:	625,376.700 ft	Longitude:	103° 55' 39.110 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	0.22 °

Well #42H

Well Position	+N-S	0.00 ft	Northing:	475,520.800 ft	Latitude:	32° 18' 24.015 N
	+E-W	0.00 ft	Easting:	625,376.700 ft	Longitude:	103° 55' 39.110 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,017.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/12/2009	7.93	60.26	48,818

Design OH

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)
	0.00	0.00	0.00	90.00



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Survey Program		Date 12/09/2009			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	6,051.38	GYRO (OH)	Gyro	GYRO	
6,067.00	10,995.00	MWD #1 (OH)	MWD	MWD - Standard	

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLog (°/100ft)	Northing (ft)	Easting (ft)
6,051.38	1.14	200.66	6,048.20	3,012.60	-130.34	44.48	44.48	0.00	475,390.46	625,421.18
6,067.00	1.41	209.10	6,063.81	3,028.21	-130.65	44.33	44.33	2.10	475,390.15	625,421.03
6,098.00	1.41	180.06	6,094.80	3,059.20	-131.37	44.15	44.15	2.28	475,389.43	625,420.85
6,129.00	3.17	133.57	6,125.78	3,090.18	-132.34	44.77	44.77	7.82	475,388.46	625,421.47
6,159.00	6.16	117.36	6,155.68	3,120.08	-133.65	46.80	46.80	10.80	475,387.15	625,423.50
6,190.00	9.58	110.60	6,186.38	3,150.78	-135.33	50.69	50.69	11.41	475,385.47	625,427.39
6,221.00	12.75	110.88	6,216.79	3,181.19	-137.45	56.30	56.30	10.23	475,383.35	625,433.00
6,252.00	15.39	113.08	6,246.86	3,211.26	-140.29	63.29	63.29	8.69	475,380.51	625,439.99
6,282.00	17.59	111.60	6,275.62	3,240.02	-143.52	71.16	71.16	7.47	475,377.28	625,447.86
6,313.00	19.43	106.73	6,305.02	3,269.42	-146.72	80.46	80.46	7.75	475,374.08	625,457.16
6,344.00	21.54	99.49	6,334.06	3,298.46	-149.15	91.01	91.01	10.62	475,371.65	625,467.71
6,375.00	23.65	92.27	6,362.69	3,327.09	-150.33	102.84	102.84	11.23	475,370.47	625,479.54
6,406.00	26.38	85.98	6,390.78	3,355.18	-150.10	115.93	115.93	12.28	475,370.70	625,492.63
6,437.00	28.93	84.84	6,418.24	3,382.64	-148.94	130.27	130.27	8.40	475,371.86	625,506.97
6,468.00	31.22	84.73	6,445.06	3,409.46	-147.53	145.74	145.74	7.39	475,373.27	625,522.44
6,498.00	32.98	85.47	6,470.48	3,434.88	-146.17	161.62	161.62	6.01	475,374.63	625,538.32
6,529.00	34.91	86.14	6,496.19	3,460.59	-144.90	178.88	178.88	6.34	475,375.90	625,555.58
6,560.00	36.40	87.12	6,521.38	3,485.78	-143.84	196.92	196.92	5.15	475,376.96	625,573.62
6,591.00	37.99	87.51	6,546.07	3,510.47	-142.97	215.64	215.64	5.19	475,377.83	625,592.34
6,622.00	39.39	87.44	6,570.27	3,534.67	-142.11	235.00	235.00	4.52	475,378.69	625,611.70
6,653.00	40.71	86.76	6,594.00	3,558.40	-141.10	254.92	254.92	4.49	475,379.70	625,631.62



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Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
6,684.00	41.68	86.36	6,617.33	3,581.73	-139.88	275.30	275.30	3.24	475,380.92	625,652.00	
6,714.00	42.38	85.53	6,639.61	3,604.01	-138.46	295.34	295.34	2.98	475,382.34	625,672.04	
6,745.00	44.41	85.42	6,662.13	3,626.53	-136.77	316.57	316.57	6.55	475,384.03	625,693.27	
6,776.00	46.60	85.75	6,683.86	3,648.26	-135.07	338.61	338.61	7.11	475,385.73	625,715.31	
6,807.00	48.54	86.28	6,704.77	3,669.17	-133.49	361.44	361.44	6.38	475,387.31	625,738.14	
6,838.00	50.30	87.10	6,724.94	3,689.34	-132.13	384.94	384.94	6.02	475,388.67	625,761.64	
6,869.00	52.50	87.94	6,744.28	3,708.68	-131.08	409.14	409.14	7.41	475,389.72	625,785.84	
6,899.00	53.64	88.49	6,762.30	3,726.70	-130.34	433.11	433.11	4.07	475,390.46	625,809.81	
6,930.00	55.57	88.36	6,780.26	3,744.66	-129.64	458.37	458.37	6.24	475,391.16	625,835.07	
6,961.00	57.77	88.63	6,797.29	3,761.69	-128.96	484.26	484.26	7.13	475,391.84	625,860.96	
6,992.00	60.41	89.20	6,813.21	3,777.61	-128.46	510.85	510.85	8.66	475,392.34	625,887.55	
7,023.00	62.87	89.67	6,827.94	3,792.34	-128.19	538.13	538.13	8.05	475,392.61	625,914.83	
7,054.00	65.07	89.91	6,841.54	3,805.94	-128.09	565.98	565.98	7.13	475,392.71	625,942.68	
7,085.00	68.06	89.90	6,853.87	3,818.27	-128.04	594.42	594.42	9.65	475,392.76	625,971.12	
7,115.00	70.87	89.93	6,864.39	3,828.79	-128.00	622.51	622.51	9.37	475,392.80	625,999.21	
7,146.00	72.63	89.52	6,874.10	3,838.50	-127.86	651.95	651.95	5.81	475,392.94	626,028.65	
7,177.00	74.39	89.17	6,882.90	3,847.30	-127.52	681.67	681.67	5.78	475,393.28	626,058.37	
7,204.00	75.80	88.69	6,889.84	3,854.24	-127.03	707.76	707.76	5.50	475,393.77	626,084.46	
7,322.00	79.93	86.16	6,914.65	3,879.05	-121.83	822.97	822.97	4.08	475,398.97	626,199.67	
7,354.00	80.20	86.60	6,920.17	3,884.57	-119.84	854.43	854.43	1.60	475,400.96	626,231.13	
7,386.00	80.02	86.62	6,925.66	3,890.06	-117.98	885.90	885.90	0.57	475,402.82	626,262.60	
7,418.00	80.46	86.04	6,931.09	3,895.49	-115.96	917.37	917.37	2.25	475,404.84	626,294.07	
7,449.00	84.33	86.06	6,935.19	3,899.59	-113.84	948.02	948.02	12.48	475,406.96	626,324.72	
7,480.00	86.70	86.28	6,937.61	3,902.01	-111.78	978.85	978.85	7.68	475,409.02	626,355.55	
7,512.00	87.85	87.60	6,939.13	3,903.53	-110.07	1,010.77	1,010.77	5.47	475,410.73	626,387.47	
7,544.00	87.85	87.61	6,940.34	3,904.74	-108.74	1,042.72	1,042.72	0.03	475,412.06	626,419.42	
7,575.00	88.11	87.37	6,941.43	3,905.83	-107.38	1,073.67	1,073.67	1.14	475,413.42	626,450.37	



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Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
7,607.00	88.64	87.72	6,942.34	3,906.74	-106.01	1,105.63	1,105.63	1.98	475,414.79	626,482.33	
7,639.00	87.58	88.26	6,943.39	3,907.79	-104.89	1,137.59	1,137.59	3.72	475,415.91	626,514.29	
7,670.00	86.88	87.87	6,944.89	3,909.29	-103.84	1,168.54	1,168.54	2.58	475,416.96	626,545.24	
7,702.00	86.88	87.42	6,946.63	3,911.03	-102.53	1,200.46	1,200.46	1.40	475,418.27	626,577.16	
7,733.00	87.05	87.74	6,948.27	3,912.67	-101.22	1,231.39	1,231.39	1.17	475,419.58	626,608.09	
7,765.00	87.76	87.95	6,949.72	3,914.12	-100.02	1,263.33	1,263.33	2.31	475,420.78	626,640.03	
7,795.00	88.11	88.52	6,950.80	3,915.20	-99.10	1,293.30	1,293.30	2.23	475,421.70	626,670.00	
7,827.00	87.93	88.17	6,951.91	3,916.31	-98.17	1,325.27	1,325.27	1.23	475,422.63	626,701.97	
7,859.00	87.58	86.66	6,953.16	3,917.56	-96.73	1,357.21	1,357.21	4.84	475,424.07	626,733.91	
7,890.00	87.14	87.86	6,954.59	3,918.99	-95.25	1,388.14	1,388.14	4.12	475,425.55	626,764.84	
7,922.00	87.32	89.05	6,956.14	3,920.54	-94.39	1,420.09	1,420.09	3.76	475,426.41	626,796.79	
7,954.00	86.97	90.34	6,957.73	3,922.13	-94.22	1,452.05	1,452.05	4.17	475,426.58	626,828.75	
7,986.00	87.23	90.60	6,959.35	3,923.75	-94.48	1,484.01	1,484.01	1.15	475,426.32	626,860.71	
8,017.00	87.14	90.06	6,960.87	3,925.27	-94.66	1,514.97	1,514.97	1.76	475,426.14	626,891.67	
8,049.00	87.23	89.95	6,962.44	3,926.84	-94.66	1,546.93	1,546.93	0.44	475,426.14	626,923.63	
8,080.00	87.67	90.01	6,963.82	3,928.22	-94.65	1,577.90	1,577.90	1.43	475,426.15	626,954.60	
8,112.00	88.02	90.27	6,965.02	3,929.42	-94.73	1,609.88	1,609.88	1.36	475,426.07	626,986.58	
8,144.00	87.58	90.07	6,966.25	3,930.65	-94.82	1,641.85	1,641.85	1.51	475,425.98	627,018.55	
8,176.00	88.37	91.44	6,967.38	3,931.78	-95.25	1,673.83	1,673.83	4.94	475,425.55	627,050.53	
8,207.00	88.90	91.88	6,968.12	3,932.52	-96.14	1,704.81	1,704.81	2.22	475,424.66	627,081.51	
8,239.00	89.43	92.40	6,968.59	3,932.99	-97.34	1,736.78	1,736.78	2.32	475,423.46	627,113.48	
8,270.00	90.31	93.21	6,968.66	3,933.06	-98.86	1,767.74	1,767.74	3.86	475,421.94	627,144.44	
8,302.00	90.31	93.10	6,968.49	3,932.89	-100.62	1,799.70	1,799.70	0.34	475,420.18	627,176.40	
8,333.00	89.16	90.71	6,968.63	3,933.03	-101.65	1,830.68	1,830.68	8.56	475,419.15	627,207.38	
8,365.00	89.16	90.07	6,969.10	3,933.50	-101.86	1,862.67	1,862.67	2.00	475,418.94	627,239.37	
8,396.00	87.85	89.13	6,969.91	3,934.31	-101.65	1,893.66	1,893.66	5.20	475,419.15	627,270.36	
8,428.00	87.49	88.90	6,971.21	3,935.61	-101.10	1,925.63	1,925.63	1.33	475,419.70	627,302.33	



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8,460.00	87.49	89.00	6,972.61	3,937.01	-100.51	1,957.59	1,957.59	0.31	475,420.29	627,334.29
8,491.00	87.58	87.74	6,973.94	3,938.34	-99.63	1,988.55	1,988.55	4.07	475,421.17	627,365.25
8,523.00	87.32	86.44	6,975.37	3,939.77	-98.01	2,020.48	2,020.48	4.14	475,422.79	627,397.18
8,555.00	87.76	87.49	6,976.74	3,941.14	-96.32	2,052.40	2,052.40	3.55	475,424.48	627,429.10
8,586.00	88.90	88.44	6,977.64	3,942.04	-95.22	2,083.37	2,083.37	4.79	475,425.58	627,460.07
8,618.00	89.96	89.00	6,977.96	3,942.36	-94.50	2,115.36	2,115.36	3.75	475,426.30	627,492.06
8,649.00	89.34	87.79	6,978.15	3,942.55	-93.63	2,146.34	2,146.34	4.39	475,427.17	627,523.04
8,681.00	88.90	86.55	6,978.64	3,943.04	-92.05	2,178.30	2,178.30	4.11	475,428.75	627,555.00
8,712.00	89.25	86.99	6,979.14	3,943.54	-90.31	2,209.25	2,209.25	1.81	475,430.49	627,585.95
8,744.00	89.43	86.63	6,979.51	3,943.91	-88.53	2,241.20	2,241.20	1.26	475,432.27	627,617.90
8,775.00	89.43	86.73	6,979.82	3,944.22	-86.73	2,272.14	2,272.14	0.32	475,434.07	627,648.84
8,807.00	89.16	86.71	6,980.21	3,944.61	-84.90	2,304.09	2,304.09	0.85	475,435.90	627,680.79
8,838.00	88.81	85.42	6,980.76	3,945.16	-82.77	2,335.01	2,335.01	4.31	475,438.03	627,711.71
8,870.00	88.72	84.77	6,981.45	3,945.85	-80.04	2,366.88	2,366.88	2.05	475,440.76	627,743.58
8,902.00	88.81	85.38	6,982.14	3,946.54	-77.29	2,398.76	2,398.76	1.93	475,443.51	627,775.46
8,934.00	88.90	84.94	6,982.78	3,947.18	-74.59	2,430.64	2,430.64	1.40	475,446.21	627,807.34
8,965.00	88.81	84.94	6,983.40	3,947.80	-71.86	2,461.51	2,461.51	0.29	475,448.94	627,838.21
8,997.00	89.08	84.75	6,983.99	3,948.39	-68.98	2,493.38	2,493.38	1.03	475,451.82	627,870.08
9,029.00	89.25	84.77	6,984.46	3,948.86	-66.06	2,525.24	2,525.24	0.53	475,454.74	627,901.94
9,060.00	88.99	83.54	6,984.93	3,949.33	-62.91	2,556.07	2,556.07	4.05	475,457.89	627,932.77
9,092.00	89.43	83.68	6,985.37	3,949.77	-59.34	2,587.87	2,587.87	1.44	475,461.46	627,964.57
9,123.00	90.22	84.90	6,985.47	3,949.87	-56.26	2,618.72	2,618.72	4.69	475,464.54	627,995.42
9,155.00	91.36	85.60	6,985.03	3,949.43	-53.61	2,650.60	2,650.60	4.18	475,467.19	628,027.30
9,187.00	91.54	85.22	6,984.22	3,948.62	-51.05	2,682.49	2,682.49	1.31	475,469.75	628,059.19
9,218.00	91.80	85.64	6,983.31	3,947.71	-48.58	2,713.38	2,713.38	1.59	475,472.22	628,090.08
9,250.00	92.07	85.88	6,982.23	3,946.63	-46.22	2,745.27	2,745.27	1.13	475,474.58	628,121.97
9,281.00	91.98	86.17	6,981.14	3,945.54	-44.07	2,776.18	2,776.18	0.98	475,476.73	628,152.88



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9,313.00	90.48	87.52	6,980.45	3,944.85	-42.31	2,808.12	2,808.12	6.31	475,478.49	628,184.82
9,344.00	90.57	87.64	6,980.17	3,944.57	-41.00	2,839.09	2,839.09	0.48	475,479.80	628,215.79
9,376.00	90.13	86.97	6,979.97	3,944.37	-39.49	2,871.06	2,871.06	2.50	475,481.31	628,247.76
9,407.00	89.16	87.88	6,980.16	3,944.56	-38.10	2,902.02	2,902.02	4.29	475,482.70	628,278.72
9,439.00	88.72	88.75	6,980.76	3,945.16	-37.16	2,934.00	2,934.00	3.05	475,483.64	628,310.70
9,470.00	89.25	89.55	6,981.31	3,945.71	-36.70	2,964.99	2,964.99	3.10	475,484.10	628,341.69
9,502.00	88.55	89.55	6,981.92	3,946.32	-36.45	2,996.99	2,996.99	2.19	475,484.35	628,373.69
9,534.00	88.81	90.09	6,982.66	3,947.06	-36.35	3,028.98	3,028.98	1.87	475,484.45	628,405.68
9,565.00	88.20	90.08	6,983.47	3,947.87	-36.40	3,059.97	3,059.97	1.97	475,484.40	628,436.67
9,597.00	88.20	89.91	6,984.47	3,948.87	-36.39	3,091.95	3,091.95	0.53	475,484.41	628,468.65
9,628.00	88.55	89.89	6,985.35	3,949.75	-36.34	3,122.94	3,122.94	1.13	475,484.46	628,499.64
9,660.00	89.43	89.46	6,985.91	3,950.31	-36.16	3,154.93	3,154.93	3.06	475,484.64	628,531.63
9,692.00	89.87	89.73	6,986.11	3,950.51	-35.93	3,186.93	3,186.93	1.61	475,484.87	628,563.63
9,723.00	89.25	89.38	6,986.35	3,950.75	-35.69	3,217.93	3,217.93	2.30	475,485.11	628,594.63
9,755.00	87.76	89.01	6,987.18	3,951.58	-35.24	3,249.91	3,249.91	4.80	475,485.56	628,626.61
9,787.00	86.88	88.86	6,988.68	3,953.08	-34.65	3,281.87	3,281.87	2.79	475,486.15	628,658.57
9,819.00	87.14	88.59	6,990.35	3,954.75	-33.94	3,313.82	3,313.82	1.17	475,486.86	628,690.52
9,850.00	87.23	88.84	6,991.87	3,956.27	-33.24	3,344.78	3,344.78	0.86	475,487.56	628,721.48
9,882.00	87.41	89.32	6,993.37	3,957.77	-32.73	3,376.74	3,376.74	1.60	475,488.07	628,753.44
9,914.00	87.67	89.62	6,994.74	3,959.14	-32.43	3,408.71	3,408.71	1.24	475,488.37	628,785.41
9,945.00	87.76	89.72	6,995.98	3,960.38	-32.25	3,439.68	3,439.68	0.43	475,488.55	628,816.38
9,977.00	87.85	90.10	6,997.20	3,961.60	-32.20	3,471.66	3,471.66	1.22	475,488.60	628,848.36
10,008.00	87.32	89.94	6,998.51	3,962.91	-32.21	3,502.63	3,502.63	1.79	475,488.59	628,879.33
10,040.00	85.74	89.59	7,000.44	3,964.84	-32.08	3,534.57	3,534.57	5.06	475,488.72	628,911.27
10,072.00	85.82	89.36	7,002.80	3,967.20	-31.79	3,566.48	3,566.48	0.76	475,489.01	628,943.18
10,104.00	86.00	89.50	7,005.08	3,969.48	-31.47	3,598.40	3,598.40	0.71	475,489.33	628,975.10
10,135.00	86.79	90.27	7,007.03	3,971.43	-31.41	3,629.34	3,629.34	3.56	475,489.39	629,006.04



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: XTO
Project: Eddy County
Site: Nash Unit #42H
Well: #42H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #42H
TVD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay;
MD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay;
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
10,167.00	88.37	92.12	7,008.38	3,972.78	-32.08	3,661.30	3,661.30	7.60	475,488.72	629,038.00	
10,199.00	89.08	92.47	7,009.09	3,973.49	-33.36	3,693.27	3,693.27	2.47	475,487.44	629,069.97	
10,230.00	87.76	90.43	7,009.95	3,974.35	-34.14	3,724.24	3,724.24	7.84	475,486.66	629,100.94	
10,261.00	87.23	89.56	7,011.30	3,975.70	-34.14	3,755.21	3,755.21	3.28	475,486.66	629,131.91	
10,293.00	86.17	88.36	7,013.15	3,977.55	-33.56	3,787.15	3,787.15	5.00	475,487.24	629,163.85	
10,325.00	85.65	87.97	7,015.43	3,979.83	-32.54	3,819.05	3,819.05	2.03	475,488.26	629,195.75	
10,356.00	85.47	87.90	7,017.83	3,982.23	-31.43	3,849.94	3,849.94	0.62	475,489.37	629,226.64	
10,388.00	86.00	88.33	7,020.21	3,984.61	-30.38	3,881.84	3,881.84	2.13	475,490.42	629,258.54	
10,420.00	85.21	87.72	7,022.66	3,987.06	-29.28	3,913.72	3,913.72	3.12	475,491.52	629,290.42	
10,451.00	85.74	88.13	7,025.11	3,989.51	-28.16	3,944.60	3,944.60	2.16	475,492.64	629,321.30	
10,483.00	85.56	87.48	7,027.53	3,991.93	-26.94	3,976.49	3,976.49	2.10	475,493.86	629,353.19	
10,515.00	85.82	87.46	7,029.94	3,994.34	-25.53	4,008.37	4,008.37	0.81	475,495.27	629,385.07	
10,546.00	86.79	86.98	7,031.94	3,996.34	-24.03	4,039.27	4,039.27	3.49	475,496.77	629,415.97	
10,578.00	86.44	87.00	7,033.83	3,998.23	-22.35	4,071.17	4,071.17	1.10	475,498.45	629,447.87	
10,609.00	86.97	86.92	7,035.61	4,000.01	-20.71	4,102.07	4,102.07	1.73	475,500.09	629,478.77	
10,641.00	87.49	87.16	7,037.15	4,001.55	-19.06	4,133.99	4,133.99	1.79	475,501.74	629,510.69	
10,673.00	87.49	87.25	7,038.56	4,002.96	-17.50	4,165.92	4,165.92	0.28	475,503.30	629,542.62	
10,704.00	87.23	87.66	7,039.98	4,004.38	-16.12	4,196.86	4,196.86	1.56	475,504.68	629,573.56	
10,736.00	87.67	87.64	7,041.41	4,005.81	-14.81	4,228.80	4,228.80	1.38	475,505.99	629,605.50	
10,768.00	87.23	87.89	7,042.83	4,007.23	-13.57	4,260.74	4,260.74	1.58	475,507.23	629,637.44	
10,799.00	87.67	88.38	7,044.21	4,008.61	-12.56	4,291.70	4,291.70	2.12	475,508.24	629,668.40	
10,831.00	88.37	88.40	7,045.32	4,009.72	-11.66	4,323.66	4,323.66	2.19	475,509.14	629,700.36	
10,863.00	88.72	88.60	7,046.13	4,010.53	-10.82	4,355.64	4,355.64	1.26	475,509.98	629,732.34	
10,894.00	89.08	88.27	7,046.72	4,011.12	-9.98	4,386.63	4,386.63	1.58	475,510.82	629,763.33	
10,926.00	89.25	88.81	7,047.19	4,011.59	-9.16	4,418.61	4,418.61	1.77	475,511.64	629,795.31	
10,995.00	89.25	88.81	7,048.09	4,012.49	-7.73	4,487.59	4,487.59	0.00	475,513.07	629,864.29	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: XTO	Local Co-ordinate Reference: Well #42H
Project: Eddy County	TVD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay
Site: Nash Unit #42H	MD Reference: WELL1 @ 3035.60ft (18.6' KB Correction-McVay
Well: #42H	North Reference: Grid
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: OH	Database: Midland Database

Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude
EXP		0.00	0.00	6,600.00	0.00	500.00	475,520.800	625,876.700	32° 18' 23.996 N 103° 55' 33.284 W
- survey misses by 214.66ft at 6854.35ft MD (6735.25 TVD, -131.54 N, 397.61 E)									
- Point									
PBHL (Nash #42)		0.00	0.00	7,051.29	4.10	4,492.00	475,524.900	629,868.700	32° 18' 23.884 N 103° 54' 46.770 W
- survey misses by 13.02ft at 10995.00ft MD (7048.09 TVD, -7.73 N, 4487.59 E)									
- Point									

Checked By: _____	Approved By: _____	Date: _____
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Azimuths to Grid North
True North: -0.22°
Magnetic North: 7.72°

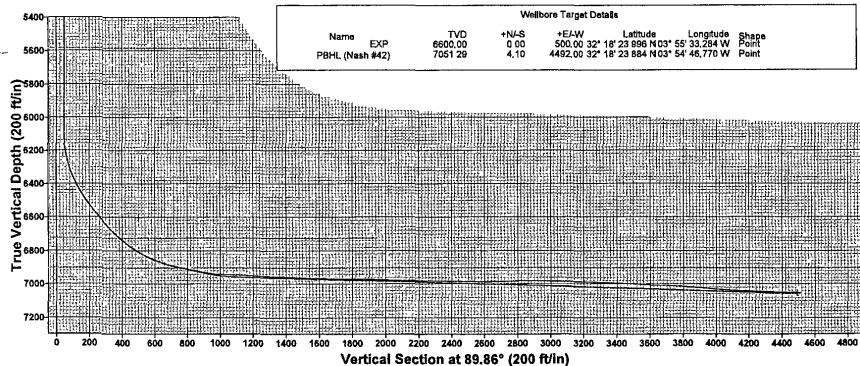
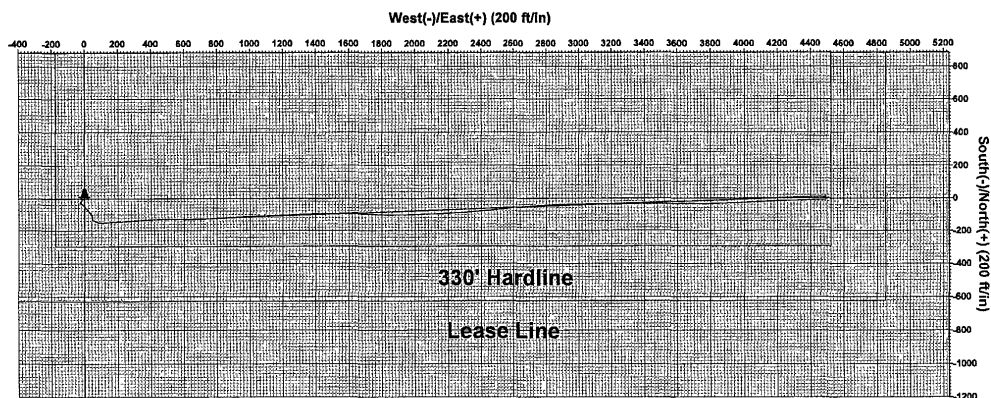
Magnetic Field
Strength: 48817.7snT
Dip Angle: 60.25°
Date: 11/12/2009
Model: IGRF200510

PATHFINDER

SECTION DETAILS									
Sec	MD	Inc	Asl	TVD	+N-S	+E-W	DLag	TFace	VSec Target
1	7273.00	78.21	87.20	8808.38	-124.82	774.84	0.00	0.00	774.84
2	7428.00	78.21	87.20	8937.22	-117.16	927.47	0.00	0.00	927.19
3	7573.51	88.30	87.98	8954.17	-111.12	1076.67	7.00	4.32	1070.40
4	10958.50	88.30	87.98	7055.78	10.74	4491.98	0.00	0.00	4492.00 PBHL (Nash #42)

Formation Top Details

TVDPATH	MDPATH	FORMATION
327.00	327.02	Russler
3213.00	3214.54	Base Castle
3257.00	3258.60	Bell Canyon
4120.00	4122.53	Cherry Canyon
5584.00	5587.06	Brushy Canyon
6724.00	6836.53	Base Brushy Canyon
6902.00	7209.95	Brushy Canyon ES Zone



Wellbore Target Details						
Name	EXP	TVD	+N-S	+E-W	Latitude	Longitude
PBHL (Nash #42)		6500.00	0.00	500.00	32° 18' 23.896 N 03° 55' 33.294 W	Point
		7051.29	4.10	4492.00	32° 18' 23.884 N 03° 54' 46.770 W	Point

WELL DETAILS: #42H					
Ground Elevation: 3017.00					
RKB Elevation: WELL 1 @ 3035.80ft (18.6' KB Correction-McVay #7)					
Rig Name: 18.6' KB Correction-McVay #7					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	475520.800	625078.700	32° 18' 54.016 N	103° 55' 35.110 W

Project: Eddy County
Site: Nash Unit #42H
Well: #42H
Wellbore: OH
Plan: Plan #3 (#42H/OH)

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Plan: Plan #3 (#42H/OH)	
Created By: Nate Hingham	Date: 8/28, December 09 2009
Checked: _____	Date: _____