



30-015-37700

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**XTO**

Eddy County  
Muy Wano 7 State  
#1H  
OH

Survey: MWD #1

## Pathfinder X & Y Survey Report

09 June, 2010

The logo for Pathfinder, with the word 'PATHFINDER' in a large, bold, sans-serif font. A thick, black, curved line starts under the 'P' and sweeps under the 'FINDER' portion of the word.



**Pathfinder**  
Pathfinder X & Y Survey Report



<b>Company:</b> XTO	<b>Local Co-ordinate Reference:</b> Well #1H
<b>Project:</b> Eddy County	<b>TVD Reference:</b> WELL @ 3200.60ft (18.6' KB Correction McVay #
<b>Site:</b> Muy Wano 7 State	<b>MD Reference:</b> WELL @ 3200.60ft (18.6' KB Correction McVay #
<b>Well:</b> #1H	<b>North Reference:</b> Grid
<b>Wellbore:</b> OH	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> OH	<b>Database:</b> Midland Database

<b>Project:</b> Eddy County	<b>System Datum:</b> Mean Sea Level
<b>Map System:</b> US State Plane 1927 (Exact solution)	
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)	
<b>Map Zone:</b> New Mexico East 3001	

<b>Site:</b> Muy Wano 7 State			
<b>Site Position:</b>	<b>Northing:</b> 418,904.500 ft	<b>Latitude:</b> 32° 9' 3.657 N	
<b>From:</b> Map	<b>Easting:</b> 627,390.500 ft	<b>Longitude:</b> 103° 55' 18.173 W	
<b>Position Uncertainty:</b> 0.00 ft	<b>Slot Radius:</b> "	<b>Grid Convergence:</b> 0.22 °	

<b>Well:</b> #1H			
<b>Well Position</b>	<b>+N/-S</b> 0.00 ft	<b>Northing:</b> 418,904.500 ft	<b>Latitude:</b> 32° 9' 3.657 N
	<b>+E/-W</b> 0.00 ft	<b>Easting:</b> 627,390.500 ft	<b>Longitude:</b> 103° 55' 18.173 W
<b>Position Uncertainty</b> 0.00 ft		<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> -3,182.00 ft

<b>Wellbore:</b> OH					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF200510	04/13/2010	(°) 7.87	(°) 60.10	(nT) 48,683

<b>Design:</b> OH				
<b>Audit Notes:</b>				
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 0.00		
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	179.75



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**Survey Calculation Method:** Minimum Curvature  
**Database:** Midland Database

Survey Program		Date				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description		
100.00	7,100.00	GYRO (OH)	Gyro	GYRO		
7,174.00	12,188.00	MWD #1 (OH)	MWD	MWD - Standard		

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
7,100.00	3.74	199.62	7,096.69	3,896.09	-62.63	-86.99	62.25	0.00	418,841.87	627,303.51
7,174.00	3.96	197.93	7,170.53	3,969.93	-67.34	-88.59	66.95	0.33	418,837.16	627,301.91
7,206.00	5.01	196.88	7,202.43	4,001.83	-69.72	-89.34	69.33	3.29	418,834.78	627,301.16
7,237.00	6.33	194.07	7,233.28	4,032.68	-72.68	-90.15	72.28	4.35	418,831.82	627,300.35
7,269.00	7.91	189.58	7,265.03	4,064.43	-76.56	-90.94	76.16	5.23	418,827.94	627,299.56
7,300.00	9.41	186.95	7,295.67	4,095.07	-81.18	-91.60	80.78	5.00	418,823.32	627,298.90
7,331.00	10.99	186.86	7,326.18	4,125.58	-86.63	-92.26	86.23	5.10	418,817.87	627,298.24
7,362.00	12.57	187.74	7,356.53	4,155.93	-92.91	-93.07	92.50	5.13	418,811.59	627,297.43
7,391.00	14.42	188.00	7,384.73	4,184.13	-99.61	-94.00	99.20	6.38	418,804.89	627,296.50
7,423.00	17.50	184.57	7,415.49	4,214.89	-108.35	-94.94	107.94	10.06	418,796.15	627,295.56
7,456.00	20.66	182.72	7,446.67	4,246.07	-119.12	-95.61	118.70	9.75	418,785.38	627,294.89
7,488.00	23.13	181.15	7,476.36	4,275.76	-131.04	-96.00	130.62	7.93	418,773.46	627,294.50
7,518.00	25.94	178.33	7,503.65	4,303.05	-143.49	-95.93	143.07	10.14	418,761.01	627,294.57
7,549.00	28.49	175.96	7,531.22	4,330.62	-157.65	-95.21	157.23	8.94	418,746.85	627,295.29
7,581.00	30.25	175.17	7,559.11	4,358.51	-173.30	-93.99	172.88	5.63	418,731.20	627,296.51
7,613.00	32.54	175.96	7,586.42	4,385.82	-189.91	-92.71	189.51	7.27	418,714.59	627,297.79
7,644.00	34.91	176.84	7,612.20	4,411.60	-207.09	-91.63	206.69	7.81	418,697.41	627,298.87
7,676.00	37.02	177.28	7,638.10	4,437.50	-225.86	-90.67	225.46	6.64	418,678.64	627,299.83
7,708.00	39.39	177.37	7,663.24	4,462.64	-245.63	-89.75	245.23	7.41	418,658.87	627,300.75
7,738.00	41.94	177.46	7,686.00	4,485.40	-265.15	-88.87	264.76	8.50	418,639.35	627,301.63
7,769.00	44.05	178.95	7,708.67	4,508.07	-286.28	-88.21	285.89	7.55	418,618.22	627,302.29



**Pathfinder**  
Pathfinder X & Y Survey Report



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**Well:** #1H  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well #1H  
**TVD Reference:** WELL @ 3200.60ft (18.6' KB Correction McVay #  
**MD Reference:** WELL @ 3200.60ft (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)		
7,800.00	45.73	179.04	7,730.63	4,530.03	-308.15	-87.83	307.77	5.42	418,596.35	627,302.67		
7,832.00	47.57	179.04	7,752.60	4,552.00	-331.42	-87.44	331.04	5.75	418,573.08	627,303.06		
7,863.00	49.95	179.04	7,773.03	4,572.43	-354.73	-87.04	354.34	7.68	418,549.77	627,303.46		
7,895.00	52.32	179.30	7,793.11	4,592.51	-379.64	-86.68	379.26	7.43	418,524.86	627,303.82		
7,927.00	54.69	179.04	7,812.14	4,611.54	-405.36	-86.31	404.98	7.43	418,499.14	627,304.19		
7,958.00	58.21	179.74	7,829.27	4,628.67	-431.19	-86.04	430.81	11.51	418,473.31	627,304.46		
7,990.00	61.73	180.44	7,845.28	4,644.68	-458.89	-86.09	458.51	11.16	418,445.61	627,304.41		
8,021.00	63.75	180.27	7,859.48	4,658.88	-486.44	-86.26	486.06	6.53	418,418.06	627,304.24		
8,052.00	65.60	179.74	7,872.74	4,672.14	-514.46	-86.26	514.08	6.16	418,390.04	627,304.24		
8,083.00	68.59	179.39	7,884.81	4,684.21	-543.01	-86.04	542.63	9.70	418,361.49	627,304.46		
8,113.00	71.05	179.92	7,895.15	4,694.55	-571.17	-85.87	570.79	8.37	418,333.33	627,304.63		
8,145.00	72.81	179.83	7,905.08	4,704.48	-601.59	-85.81	601.21	5.51	418,302.91	627,304.69		
8,177.00	75.18	179.83	7,913.90	4,713.30	-632.35	-85.71	631.97	7.41	418,272.15	627,304.79		
8,209.00	77.38	179.56	7,921.49	4,720.89	-663.43	-85.55	663.05	6.92	418,241.07	627,304.95		
8,241.00	79.05	180.27	7,928.03	4,727.43	-694.76	-85.50	694.38	5.65	418,209.74	627,305.00		
8,271.00	80.55	180.71	7,933.34	4,732.74	-724.28	-85.76	723.90	5.20	418,180.22	627,304.74		
8,301.00	82.31	181.41	7,937.81	4,737.21	-753.94	-86.30	753.55	6.30	418,150.56	627,304.20		
8,333.00	84.42	181.94	7,941.51	4,740.91	-785.71	-87.23	785.32	6.80	418,118.79	627,303.27		
8,365.00	85.91	181.76	7,944.20	4,743.60	-817.58	-88.26	817.18	4.69	418,086.92	627,302.24		
8,397.00	88.29	182.46	7,945.82	4,745.22	-849.51	-89.44	849.11	7.75	418,054.99	627,301.06		
8,463.00	90.57	183.52	7,946.48	4,745.88	-915.41	-92.88	915.00	3.81	417,989.09	627,297.62		
8,495.00	91.28	183.87	7,945.96	4,745.36	-947.34	-94.94	946.92	2.47	417,957.16	627,295.56		
8,526.00	89.43	183.26	7,945.77	4,745.17	-978.28	-96.87	977.85	6.28	417,926.22	627,293.63		
8,558.00	88.90	181.94	7,946.24	4,745.64	-1,010.24	-98.32	1,009.80	4.44	417,894.26	627,292.18		
8,589.00	89.08	181.23	7,946.78	4,746.18	-1,041.23	-99.18	1,040.78	2.36	417,863.27	627,291.32		
8,621.00	90.66	181.23	7,946.86	4,746.26	-1,073.22	-99.87	1,072.77	4.94	417,831.28	627,290.63		
8,652.00	91.71	180.35	7,946.21	4,745.61	-1,104.21	-100.29	1,103.76	4.42	417,800.29	627,290.21		



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Design: OH

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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)
8,684.00	89.96	178.86	7,945.75	4,745.15	-1,136.20	-100.07	1,135.75	7.18	417,768.30	627,290.43
8,716.00	89.08	178.51	7,946.02	4,745.42	-1,168.19	-99.34	1,167.75	2.96	417,736.31	627,291.16
8,748.00	89.08	178.33	7,946.53	4,745.93	-1,200.17	-98.46	1,199.73	0.56	417,704.33	627,292.04
8,779.00	87.58	177.81	7,947.43	4,746.83	-1,231.14	-97.41	1,230.71	5.12	417,673.36	627,293.09
8,811.00	87.32	176.75	7,948.86	4,748.26	-1,263.08	-95.90	1,262.64	3.41	417,641.42	627,294.60
8,843.00	87.85	177.37	7,950.21	4,749.61	-1,295.00	-94.26	1,294.58	2.55	417,609.50	627,296.24
8,875.00	88.20	176.75	7,951.31	4,750.71	-1,326.94	-92.62	1,326.53	2.22	417,577.56	627,297.88
8,906.00	88.64	176.75	7,952.16	4,751.56	-1,357.88	-90.86	1,357.47	1.42	417,546.62	627,299.64
8,938.00	89.08	177.01	7,952.80	4,752.20	-1,389.83	-89.12	1,389.43	1.60	417,514.67	627,301.38
8,970.00	89.52	177.37	7,953.19	4,752.59	-1,421.79	-87.55	1,421.39	1.78	417,482.71	627,302.95
9,001.00	87.76	176.58	7,953.93	4,753.33	-1,452.73	-85.91	1,452.34	6.22	417,451.77	627,304.59
9,033.00	87.49	176.40	7,955.25	4,754.65	-1,484.65	-83.96	1,484.27	1.01	417,419.85	627,306.54
9,065.00	87.05	176.75	7,956.78	4,756.18	-1,516.55	-82.05	1,516.18	1.76	417,387.95	627,308.45
9,097.00	87.05	176.58	7,958.42	4,757.82	-1,548.46	-80.19	1,548.09	0.53	417,356.04	627,310.31
9,129.00	88.90	176.66	7,959.55	4,758.95	-1,580.38	-78.30	1,580.02	5.79	417,324.12	627,312.20
9,160.00	89.25	176.40	7,960.06	4,759.46	-1,611.32	-76.43	1,610.97	1.41	417,293.18	627,314.07
9,192.00	89.43	175.79	7,960.42	4,759.82	-1,643.24	-74.25	1,642.90	1.99	417,261.26	627,316.25
9,223.00	89.25	175.70	7,960.78	4,760.18	-1,674.15	-71.95	1,673.82	0.65	417,230.35	627,318.55
9,255.00	89.34	175.43	7,961.17	4,760.57	-1,706.06	-69.47	1,705.74	0.89	417,198.44	627,321.03
9,287.00	88.72	175.08	7,961.72	4,761.12	-1,737.94	-66.83	1,737.63	2.22	417,166.56	627,323.67
9,319.00	89.87	176.31	7,962.11	4,761.51	-1,769.85	-64.43	1,769.55	5.26	417,134.65	627,326.07
9,350.00	90.40	176.75	7,962.04	4,761.44	-1,800.79	-62.55	1,800.50	2.22	417,103.71	627,327.95
9,382.00	90.84	176.22	7,961.69	4,761.09	-1,832.73	-60.59	1,832.45	2.15	417,071.77	627,329.91
9,414.00	91.28	176.49	7,961.10	4,760.50	-1,864.66	-58.55	1,864.38	1.61	417,039.84	627,331.95
9,446.00	90.75	177.46	7,960.53	4,759.93	-1,896.61	-56.86	1,896.34	3.45	417,007.89	627,333.64
9,477.00	90.48	176.49	7,960.20	4,759.60	-1,927.56	-55.23	1,927.30	3.25	416,976.94	627,335.27
9,509.00	89.60	177.54	7,960.18	4,759.58	-1,959.52	-53.56	1,959.27	4.28	416,944.98	627,336.94



**Pathfinder**  
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9,541.00	89.52	177.72	7,960.42	4,759.82	-1,991.49	-52.24	1,991.24	0.62	416,913.01	627,338.26	
9,573.00	90.66	178.60	7,960.37	4,759.77	-2,023.47	-51.21	2,023.23	4.50	416,881.03	627,339.29	
9,604.00	90.84	179.21	7,959.97	4,759.37	-2,054.46	-50.62	2,054.22	2.05	416,850.04	627,339.88	
9,636.00	90.66	179.30	7,959.55	4,758.95	-2,086.46	-50.20	2,086.22	0.63	416,818.04	627,340.30	
9,668.00	90.92	179.56	7,959.11	4,758.51	-2,118.45	-49.89	2,118.22	1.15	416,786.05	627,340.61	
9,700.00	91.71	179.92	7,958.37	4,757.77	-2,150.44	-49.74	2,150.21	2.71	416,754.06	627,340.76	
9,732.00	90.31	179.21	7,957.81	4,757.21	-2,182.44	-49.50	2,182.20	4.91	416,722.06	627,341.00	
9,763.00	88.46	178.25	7,958.14	4,757.54	-2,213.43	-48.81	2,213.19	6.72	416,691.07	627,341.69	
9,795.00	87.93	178.07	7,959.15	4,758.55	-2,245.39	-47.78	2,245.16	1.75	416,659.11	627,342.72	
9,827.00	87.76	177.81	7,960.35	4,759.75	-2,277.35	-46.63	2,277.13	0.97	416,627.15	627,343.87	
9,859.00	87.85	177.81	7,961.58	4,760.98	-2,309.30	-45.41	2,309.08	0.28	416,595.20	627,345.09	
9,891.00	88.29	177.81	7,962.66	4,762.06	-2,341.26	-44.19	2,341.05	1.37	416,563.24	627,346.31	
9,922.00	88.20	176.84	7,963.60	4,763.00	-2,372.21	-42.74	2,372.00	3.14	416,532.29	627,347.76	
9,954.00	88.20	176.66	7,964.61	4,764.01	-2,404.15	-40.93	2,403.94	0.56	416,500.35	627,349.57	
9,986.00	88.29	176.14	7,965.59	4,764.99	-2,436.07	-38.92	2,435.87	1.65	416,468.43	627,351.58	
10,018.00	89.43	176.75	7,966.23	4,765.63	-2,468.00	-36.94	2,467.81	4.04	416,436.50	627,353.56	
10,050.00	89.78	176.75	7,966.45	4,765.85	-2,499.95	-35.12	2,499.77	1.09	416,404.55	627,355.38	
10,082.00	90.13	177.10	7,966.47	4,765.87	-2,531.90	-33.41	2,531.73	1.55	416,372.60	627,357.09	
10,113.00	90.48	176.84	7,966.31	4,765.71	-2,562.86	-31.77	2,562.69	1.41	416,341.64	627,358.73	
10,145.00	90.75	177.10	7,965.96	4,765.36	-2,594.81	-30.08	2,594.65	1.17	416,309.69	627,360.42	
10,177.00	89.96	177.72	7,965.77	4,765.17	-2,626.78	-28.63	2,626.63	3.14	416,277.72	627,361.87	
10,209.00	91.01	177.89	7,965.49	4,764.89	-2,658.75	-27.41	2,658.61	3.32	416,245.75	627,363.09	
10,240.00	92.59	179.04	7,964.52	4,763.92	-2,689.72	-26.58	2,689.58	6.30	416,214.78	627,363.92	
10,272.00	93.74	179.56	7,962.75	4,762.15	-2,721.67	-26.19	2,721.53	3.94	416,182.83	627,364.31	
10,304.00	92.86	179.65	7,960.91	4,760.31	-2,753.62	-25.97	2,753.48	2.76	416,150.88	627,364.53	
10,336.00	91.63	179.83	7,959.66	4,759.06	-2,785.59	-25.82	2,785.45	3.88	416,118.91	627,364.68	
10,368.00	92.24	179.56	7,958.58	4,757.98	-2,817.57	-25.65	2,817.43	2.08	416,086.93	627,364.85	



**Pathfinder**  
Pathfinder X & Y Survey Report



Company: XTO  
Project: Eddy County  
Site: Muy Wano 7 State  
Well: #1H  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well #1H  
TVD Reference: WELL @ 3200.60ft (18.6' KB Correction McVay #  
MD Reference: WELL @ 3200.60ft (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)	
10,399.00	93.21	178.77	7,957.10	4,756.50	-2,848.53	-25.20	2,848.40	4.03	416,055.97	627,365.30	
10,431.00	92.07	179.48	7,955.63	4,755.03	-2,880.50	-24.71	2,880.36	4.20	416,024.00	627,365.79	
10,463.00	92.42	178.95	7,954.38	4,753.78	-2,912.47	-24.27	2,912.33	1.98	415,992.03	627,366.23	
10,495.00	90.22	178.33	7,953.64	4,753.04	-2,944.45	-23.51	2,944.32	7.14	415,960.05	627,366.99	
10,526.00	90.04	178.16	7,953.57	4,752.97	-2,975.43	-22.56	2,975.31	0.80	415,929.07	627,367.94	
10,557.00	90.48	178.60	7,953.43	4,752.83	-3,006.42	-21.69	3,006.30	2.01	415,898.08	627,368.81	
10,589.00	90.40	178.42	7,953.18	4,752.58	-3,038.41	-20.86	3,038.29	0.62	415,866.09	627,369.64	
10,621.00	89.16	178.42	7,953.31	4,752.71	-3,070.40	-19.97	3,070.28	3.87	415,834.10	627,370.53	
10,652.00	89.08	177.72	7,953.78	4,753.18	-3,101.37	-18.93	3,101.26	2.27	415,803.13	627,371.57	
10,684.00	89.16	177.63	7,954.27	4,753.67	-3,133.34	-17.63	3,133.24	0.38	415,771.16	627,372.87	
10,716.00	89.96	178.42	7,954.52	4,753.92	-3,165.32	-16.53	3,165.22	3.51	415,739.18	627,373.97	
10,747.00	90.92	178.60	7,954.28	4,753.68	-3,196.31	-15.72	3,196.21	3.15	415,708.19	627,374.78	
10,779.00	91.28	178.51	7,953.67	4,753.07	-3,228.30	-14.92	3,228.20	1.16	415,676.20	627,375.58	
10,811.00	88.72	177.89	7,953.67	4,753.07	-3,260.28	-13.91	3,260.19	8.23	415,644.22	627,376.59	
10,842.00	88.11	177.89	7,954.52	4,753.92	-3,291.24	-12.77	3,291.16	1.97	415,613.26	627,377.73	
10,874.00	89.08	177.28	7,955.31	4,754.71	-3,323.21	-11.42	3,323.12	3.58	415,581.29	627,379.08	
10,905.00	90.40	177.54	7,955.45	4,754.85	-3,354.17	-10.02	3,354.10	4.34	415,550.33	627,380.48	
10,937.00	90.48	177.63	7,955.20	4,754.60	-3,386.14	-8.67	3,386.07	0.38	415,518.36	627,381.83	
10,968.00	90.04	178.68	7,955.06	4,754.46	-3,417.13	-7.67	3,417.06	3.67	415,487.37	627,382.83	
11,000.00	88.90	178.95	7,955.36	4,754.76	-3,449.12	-7.01	3,449.05	3.66	415,455.38	627,383.49	
11,032.00	89.34	178.77	7,955.85	4,755.25	-3,481.11	-6.38	3,481.05	1.49	415,423.39	627,384.12	
11,064.00	89.96	178.60	7,956.05	4,755.45	-3,513.10	-5.64	3,513.04	2.01	415,391.40	627,384.86	
11,095.00	90.22	178.60	7,956.00	4,755.40	-3,544.09	-4.88	3,544.03	0.84	415,360.41	627,385.62	
11,126.00	90.92	178.68	7,955.69	4,755.09	-3,575.08	-4.15	3,575.03	2.27	415,329.42	627,386.35	
11,158.00	91.36	178.25	7,955.05	4,754.45	-3,607.06	-3.29	3,607.01	1.92	415,297.44	627,387.21	
11,189.00	91.54	178.42	7,954.27	4,753.67	-3,638.04	-2.39	3,637.99	0.80	415,266.46	627,388.11	
11,221.00	91.98	178.51	7,953.29	4,752.69	-3,670.01	-1.53	3,669.97	1.40	415,234.49	627,388.97	



**Pathfinder**  
Pathfinder X & Y Survey Report



Company: XTO  
Project: Eddy County  
Site: Muy Wano 7 State  
Well: #1H  
Wellbore: OH  
Design: OH

Local Co-ordinate Reference: Well #1H  
TVD Reference: WELL @ 3200.60ft (18.6' KB Correction McVay #  
MD Reference: WELL @ 3200.60ft (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)
12,107.00	91.63	176.93	7,954.98	4,754.38	-4,555.57	19.27	4,555.61	2.61	414,348.93	627,409.77
12,139.00	92.08	176.58	7,953.94	4,753.34	-4,587.50	21.08	4,587.55	1.78	414,317.00	627,411.58
12,188.00	92.08	176.58	7,952.16	4,751.56	-4,636.39	24.00	4,636.45	0.00	414,268.11	627,414.50

BHL-12188.00°MD,92.08°INC,176.58°AZI, 7952.16°TVD, 4636.45°VS, -4636.39°N, 24.00°E - PBHL(MW&#1)

**Targets**

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL(MW&#1)		0.00	0.00	7,980.00	-4,651.00	20.80	414,253.500	627,411.300	32° 8' 17.629 N	103° 55' 18.138 W
	-									
	-									
	-									

- survey misses target center by 31.60ft at 12188.00ft MD (7952.16 TVD, -4636.39 N, 24.00 E)  
- Point

**Survey Annotations**

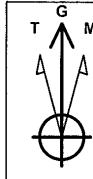
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,188.00	7,952.16	-4,636.39	24.00	BHL-12188.00°MD,92.08°INC,176.58°AZI, 7952.16°TVD, 4636.45°VS, -

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_





PROJECT DETAILS: Eddy County  
 Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1886  
 Zone: New Mexico East 3001  
 System Datum: Mean Sea Level  
 Local North: Grid



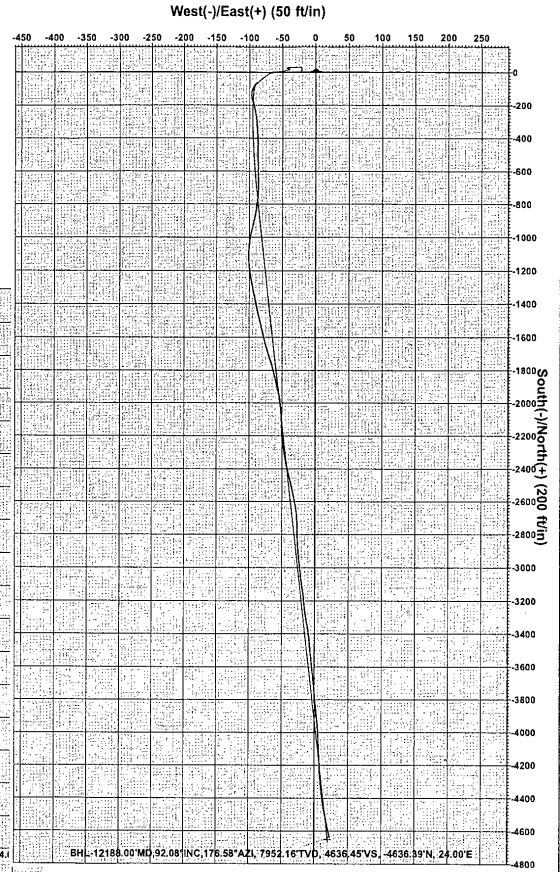
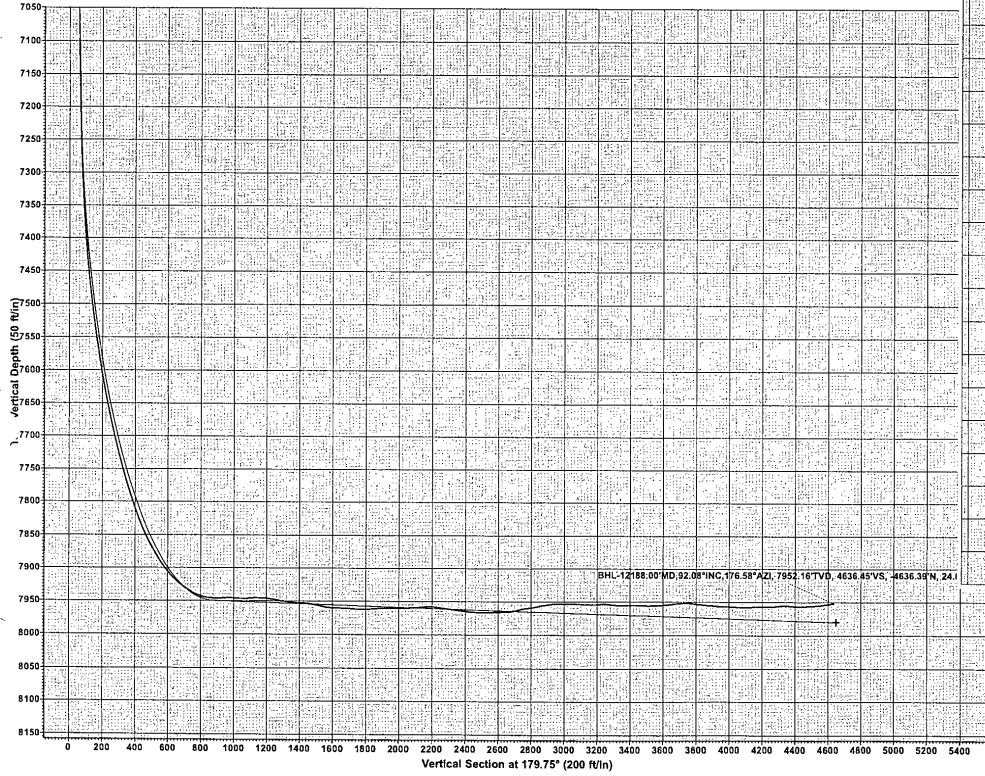
Azimuths to Grid North  
 True North: -0.22°  
 Magnetic North: 7.65°

Magnetic Field  
 Strength: 48683.1snT  
 Dip Angle: 60.10°  
 Date: 04/13/2010  
 Model: IGRF200510



Sec	MD	INC	Adj	TVD	+N/S	+E/W	Dlog	TFace	VSec	Target
1	7183.00	3.59	200.25	7179.52	-67.62	-88.60	0.00	0.00	67.23	
2	8414.15	89.54	176.41	7950.00	-876.13	-84.16	7.00	-21.89	877.75	
3	12188.63	89.54	176.41	7950.30	-4651.00	29.57	0.00	0.00	4651.05	PBHL(MWLE#1)

WELL DETAILS: #1H					
Ground Elevation: 3182.00					
RKB Elevation: WELL @ 3200.60ft (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	41894.500	627390.500	32° 9' 3.657" N	103° 55' 18.173" W



Project: Eddy County  
 Site: Muy Wano 7 State  
 Well: #1H  
 Wellbore: OH  
 Plan: Plan #3 (#1H/OH)

Plan: Plan #3 (#1H/OH)	
Created By: Nate Bingham	Date: 6:44, June 09 2010
Checked: _____	Date: _____