

Database:	WellPlanner1	Local Co-ordinate Reference:	Well Air WXY#10H
Company:	Marathon Oil	TVD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Project:	Eddy County, NM	MD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Site:	Catapult-Airport Pad	North Reference:	Grid
Well:	Air WXY#10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan A		

Project	Eddy County, NM		
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	Catapult-Airport Pad			
Site Position:		Northing:	488,120.19 usft	Latitude: 32.3419
From:	Map	Easting:	528,313.43 usft	Longitude: -104.2417
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.05 °

Well	Air WXY#10H			
Well Position	+N/-S	0.00 usft	Northing:	488,120.19 usft
	+E/-W	60.00 usft	Easting:	528,373.43 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	Latitude: 32.3419
				Longitude: -104.2415
				Ground Level: 3,217.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	4/17/2018	7.37	60.07	48,010.30

Design	Prelim Plan A			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	0.03

Plan Survey Tool Program		Date 4/17/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,150.00 Prelim Plan A (OH)	MWD+IFR1 OWSG MWD + IFR1		
2	1,150.00	5,400.00 Prelim Plan A (OH)	MWD+IFR1 OWSG MWD + IFR1		
3	5,400.00	10,000.00 Prelim Plan A (OH)	MWD+IFR1 OWSG MWD + IFR1		
4	10,000.00	13,621.72 Prelim Plan A (OH)	MWD+IFR1 OWSG MWD + IFR1		

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Project:	Eddy County, NM	MD Reference:	Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))
Site:	Catapult-Airport Pad	North Reference:	Grid
Well:	Air WXY#10H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Prelim Plan A		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	10.00	104.66	1,697.47	-11.01	42.11	2.00	2.00	0.00	104.66	
7,252.41	10.00	104.66	7,165.52	-254.99	974.89	0.00	0.00	0.00	0.00	
7,752.41	0.00	0.00	7,662.99	-266.00	1,017.00	2.00	-2.00	0.00	180.00	
8,345.42	0.00	0.00	8,256.00	-266.00	1,017.00	0.00	0.00	0.00	0.00	[AirWXY#10H]KOP
9,238.42	89.30	358.10	8,828.92	299.65	998.24	10.00	10.00	0.00	358.10	
9,302.70	89.30	0.03	8,829.70	363.91	997.19	3.00	0.01	3.00	89.91	
13,576.72	89.30	0.03	8,881.67	4,637.61	999.31	0.00	0.00	0.00	0.00	[AirWXY#10H]LTP/BH
13,621.72	89.30	0.03	8,882.22	4,682.61	999.33	0.00	0.00	0.00	0.00	

Planned 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	
[AirWXY#10H]FTP										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	10.00	104.66	1,697.47	-11.01	42.11	-10.99	2.00	2.00	0.00	
7,252.41	10.00	104.66	7,165.52	-254.99	974.89	-254.48	0.00	0.00	0.00	
7,752.41	0.00	0.00	7,662.99	-266.00	1,017.00	-265.47	2.00	-2.00	0.00	
8,345.42	0.00	0.00	8,256.00	-266.00	1,017.00	-265.47	0.00	0.00	0.00	
[AirWXY#10H]KOP										
9,238.42	89.30	358.10	8,828.92	299.65	998.24	300.17	10.00	10.00	0.00	
9,302.70	89.30	0.03	8,829.70	363.91	997.19	364.43	3.00	0.01	3.00	
13,576.72	89.30	0.03	8,881.67	4,637.61	999.31	4,638.13	0.00	0.00	0.00	
[AirWXY#10H]LTP/BHL										
13,621.72	89.30	0.03	8,882.22	4,682.61	999.33	4,683.13	0.00	0.00	0.00	



Marathon Oil
Eddy County, NM
Catapult-Airport Pad
Air WXY#10H
Prelim Plan A
GL: 3217' + KB: 25' (Prec594)

US State Plane 1927 (Exact solution)
NAD 1927 (NADCON CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level

RKB Elevation: Well @ 3242.00usft (GL: 3217' + KB: 25' (Prec594))

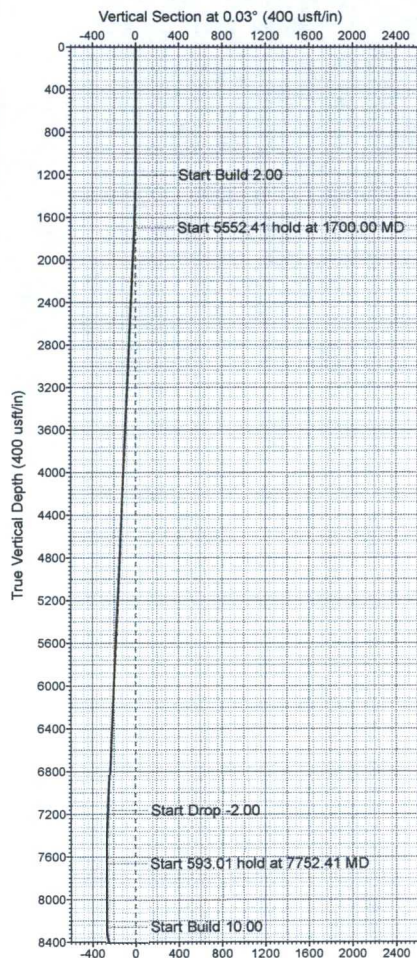
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	488120.19	528373.43	32.3419	-104.2415	

SECTION DETAILS

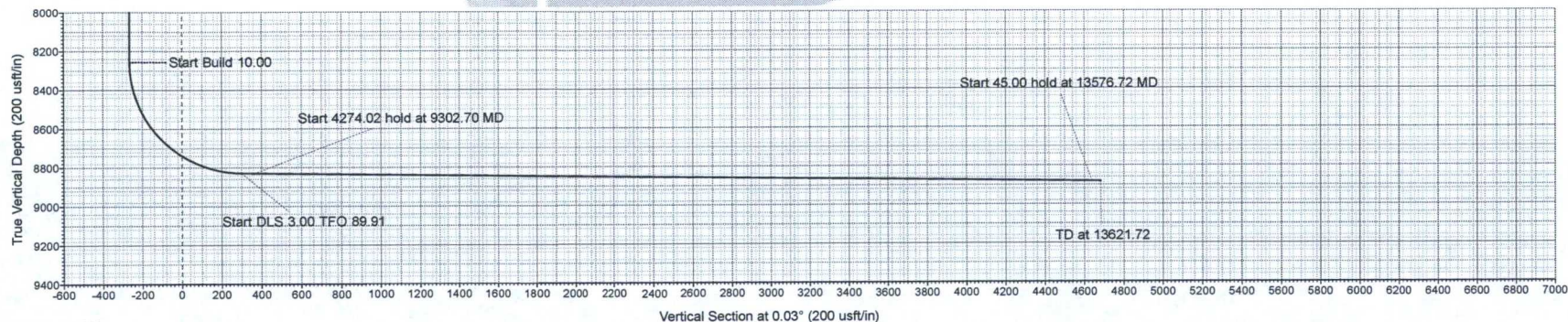
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	0.00
3	1700.00	10.00	104.66	1697.47	-11.01	42.11	2.00	-10.99
4	7252.41	10.00	104.66	7165.52	-254.99	974.89	0.00	-254.48
5	7752.41	0.00	0.00	7662.99	-266.00	1017.00	2.00	-265.47
6	8345.42	0.00	0.00	8256.00	-266.00	1017.00	0.00	-265.47
7	9238.42	89.30	358.10	8828.92	299.65	988.24	10.00	300.17
8	9302.70	89.30	0.03	8829.70	363.91	997.19	3.00	364.43
9	13576.72	89.30	0.03	8881.67	4637.61	999.31	0.00	4638.13
10	13621.72	89.30	0.03	8882.22	4682.61	999.33	0.00	4683.13

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

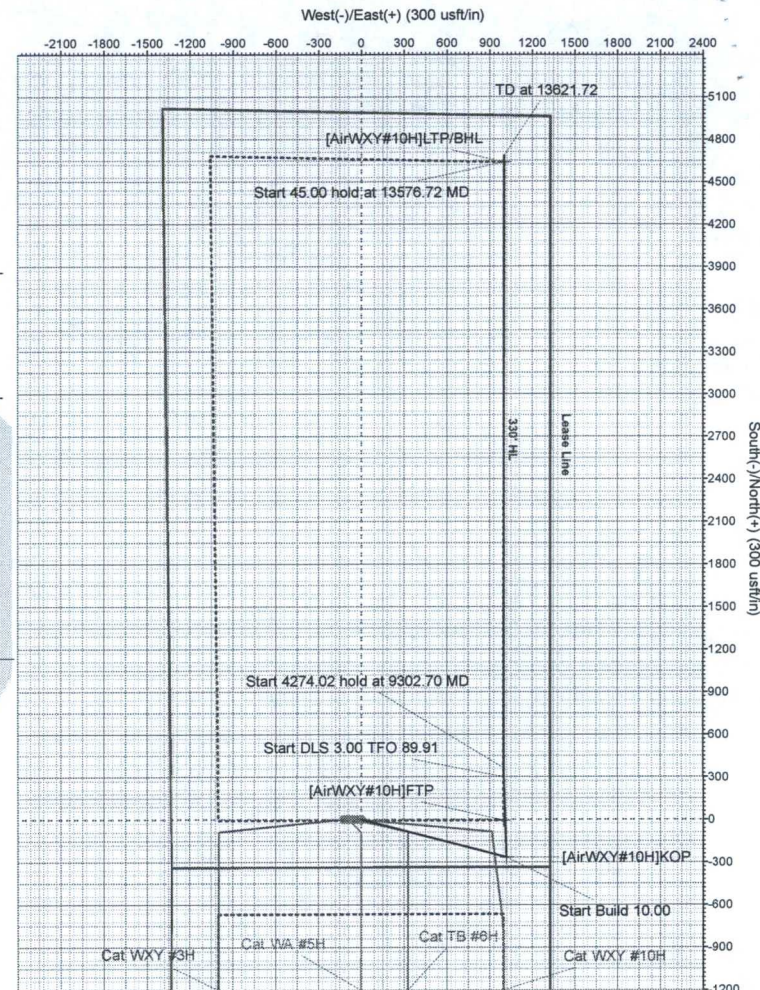
Name	TVD	+N/-S	+E/-W	Northing	Easting
[AirWXY#10H]FTP	0.00	-6.19	996.75	488114.00	528370.18
[AirWXY#10H]KOP	8256.00	-266.00	1017.00	487854.19	529390.43
[AirWXY#10H]LTP/BHL	8881.67	4637.61	999.31	492757.80	529372.74



Target Line: 8825' TVD @ 0' VS: 89.3° INC



36" x 48"



Azimuths to Grid North
True North: -0.05°
Magnetic North: 7.32°
Magnetic Field
Strength: 48010.3nT
Dip Angle: 60.07°
Date: 4/17/2018
Model: HDGM

Azimuth Corrections

Total Magnetic Corr. (M to G): 7.32°

Declination (M to T): 7.37° East