

# **MALLARD EXPLORATION**

**WELD COUNTY, COLORADO (NAD 83)**

**SE SW SEC. 34 T8N R60W 6th P.M.**

**GREEN TEAL FED 34-27-9HN**

**ORIGINAL WELLBORE**

**06 September, 2017**

**Plan: PROPOSAL 1**



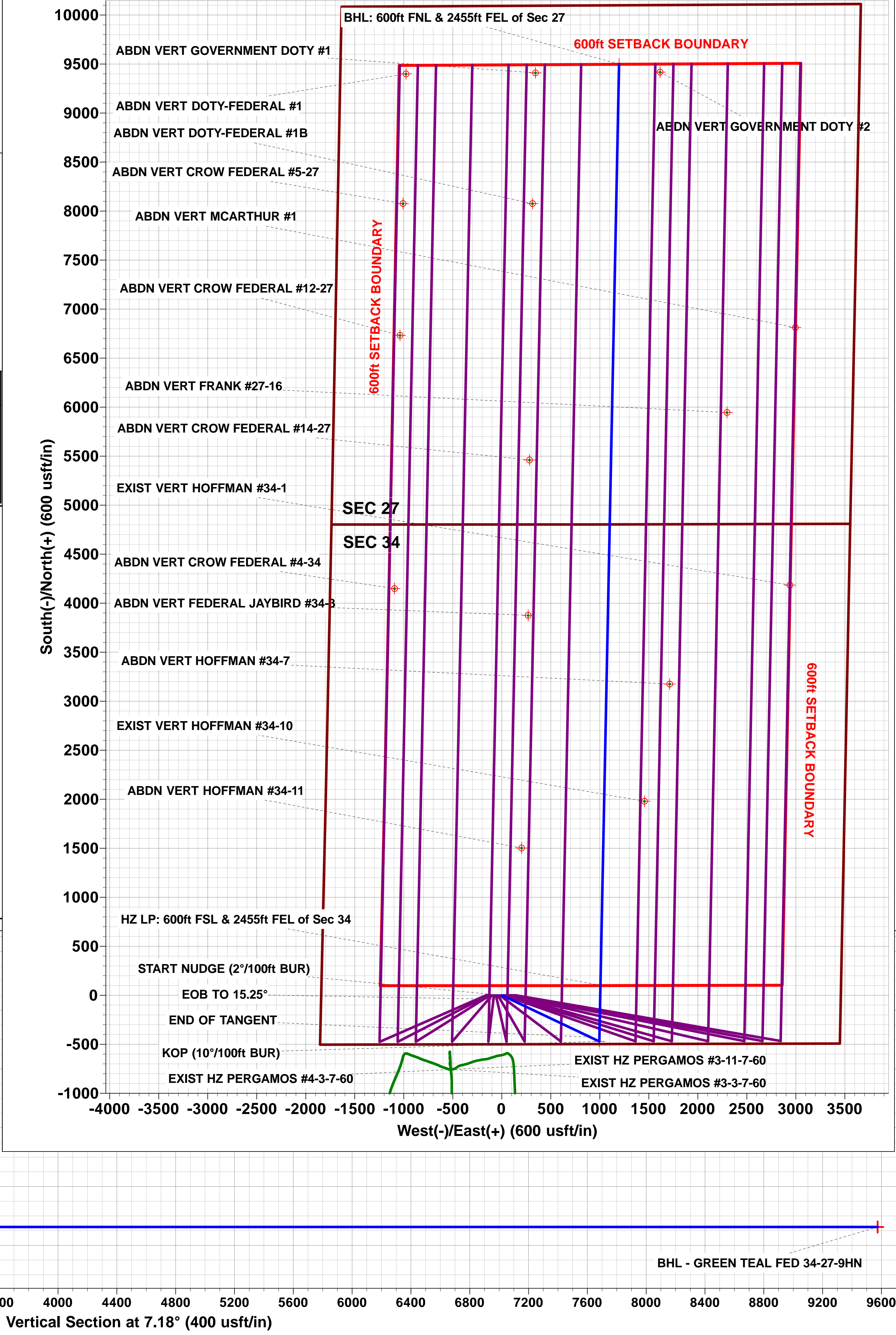
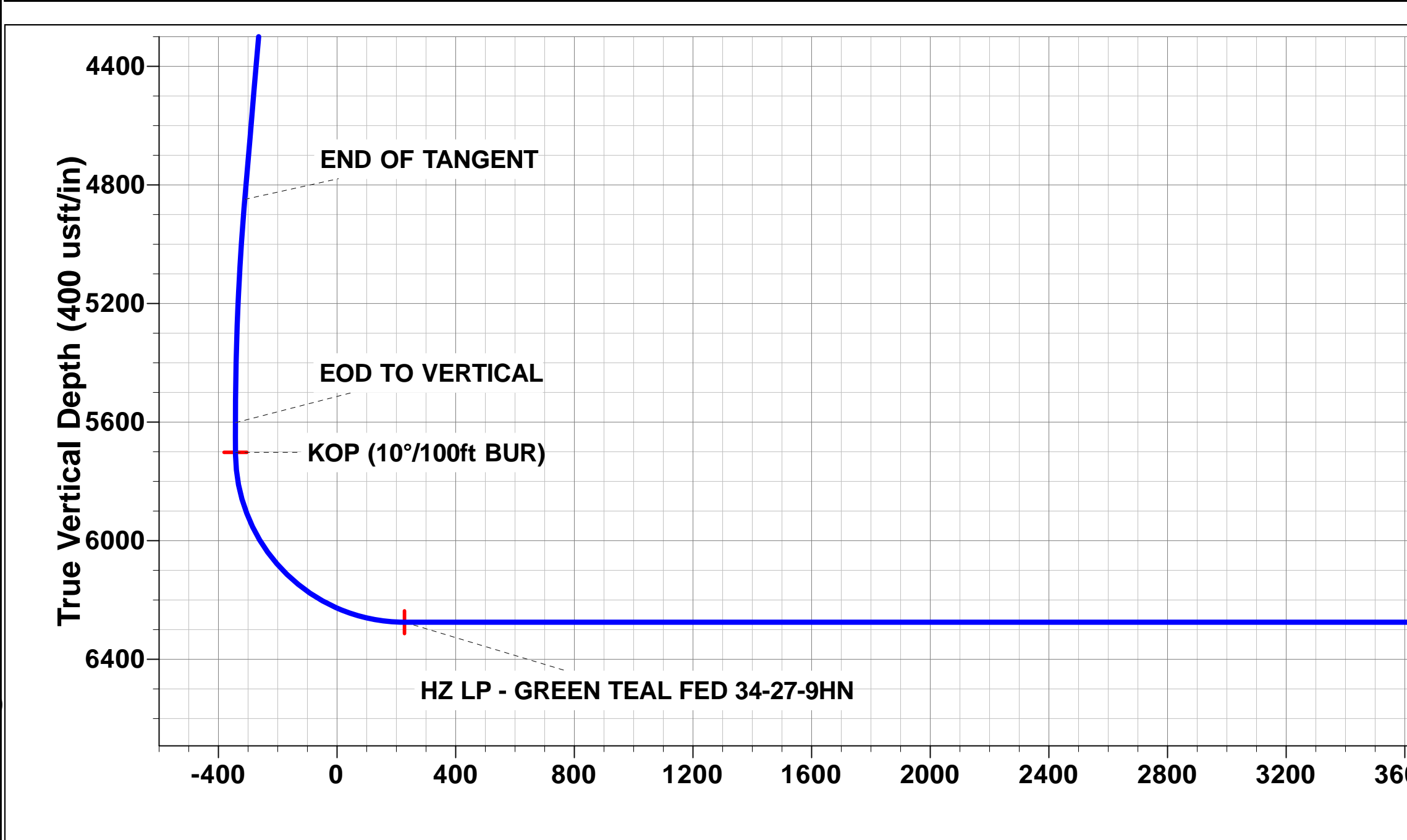
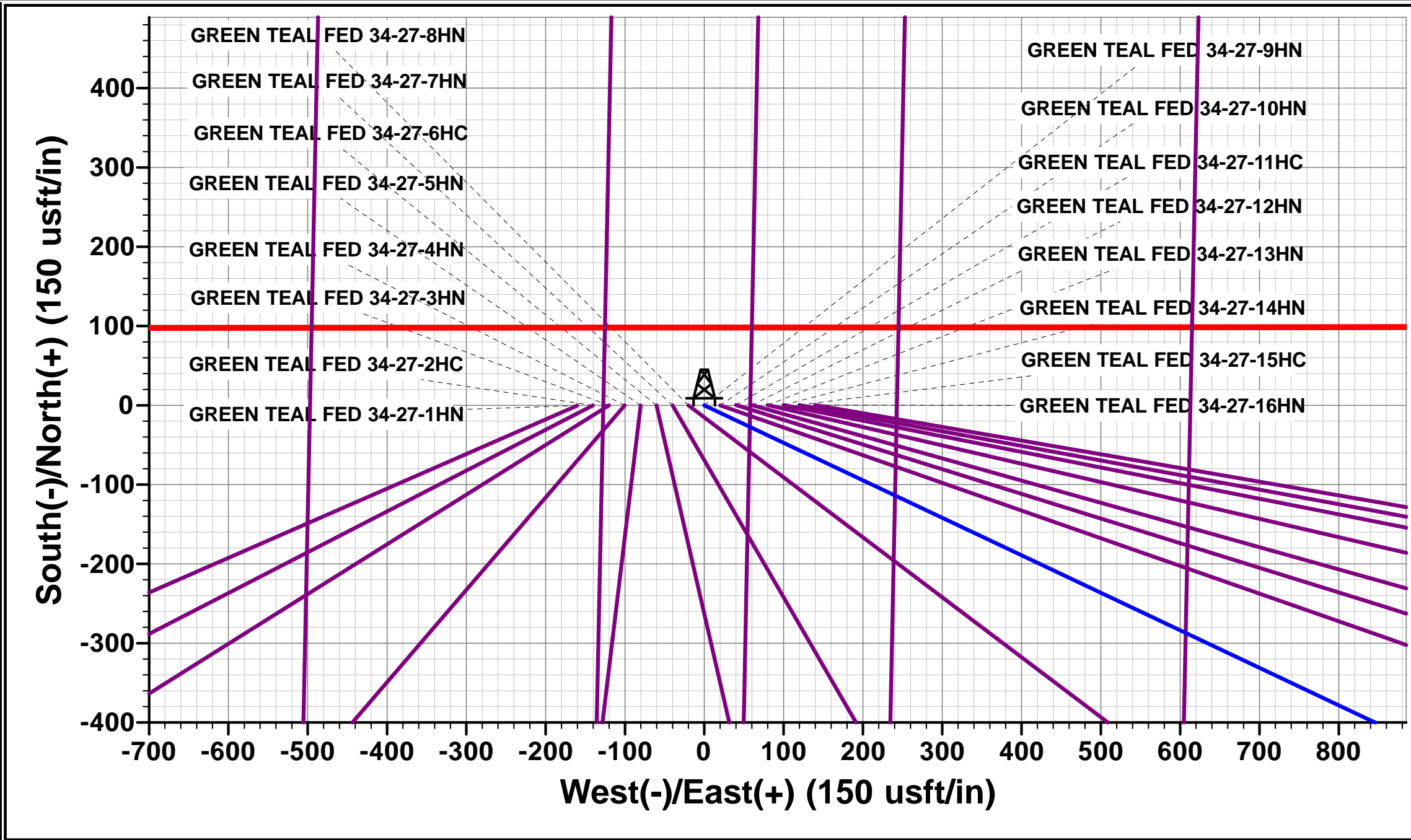
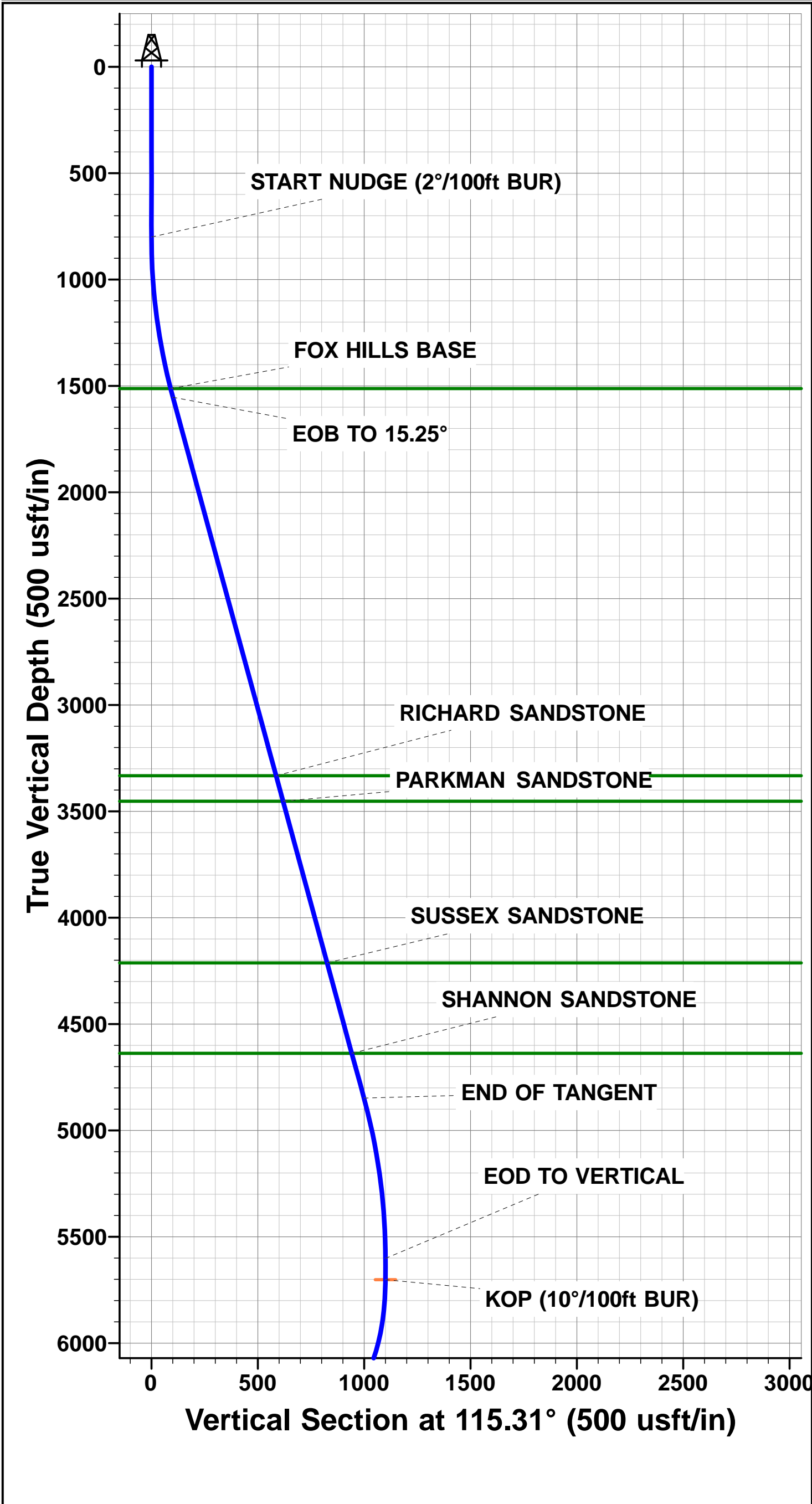


Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SE SW SEC. 34 T8N R60W 6th P.M.  
Well: GREEN TEAL FED 34-27-9HN  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL 1

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation		
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 500ft FSL & 1842ft FWL of Sec 34		
800.0	800.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2"/100ft BUR)		
1553.6	1562.6	15.25	115.31	-43.1	91.2	-31.4	100.9	EOB TO 15.25°		
4848.5	4977.7	15.25	115.31	-427.3	903.4	-311.1	999.3	END OF TANGENT		
5602.1	5740.3	0.00	0.00	-470.4	994.6	-342.5	1100.2	EOD TO VERTICAL		
5702.1	5840.3	0.00	0.00	-470.4	994.6	-342.5	1100.2	KOP (10°/100ft BUR)		
6275.0	6740.3	90.00	1.16	102.4	1006.2	227.3	1673.2	HZ LP: 600ft FSL & 2455ft FEL of Sec 34		
6275.0	16138.9	90.00	1.16	9499.1	1195.9	9574.1	11071.8	BHL: 600ft FNL & 2455ft FEL of Sec 27		

PROPOSED LOCAL COORDINATES:  
  
SHL: 500ft FSL & 1842ft FWL Sec 34  
HZ LP: 600ft FSL & 2455ft FEL Sec 34  
  
BHL: 600ft FNL & 2455ft FEL of Sec 27

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - GREEN TEAL FED 34-27-9HN	5702.1	-470.4	994.6	40.611585	-104.077748
HZ LP - GREEN TEAL FED 34-27-9HN	6275.0	102.4	1006.2	40.613157	-104.077706
BHL - GREEN TEAL FED 34-27-9HN	6275.0	9499.1	1195.9	40.638949	-104.077021



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

<b>Project</b>	WELD COUNTY, COLORADO (NAD 83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site		SE SW SEC. 34 T8N R60W 6th P.M.			
Site Position:		Northing:	1,469,260.15 usft	Latitude:	40.612875
From:	Lat/Long	Easting:	3,393,696.59 usft	Longitude:	-104.081907
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft	Grid Convergence:	0.92 °

Well	GREEN TEAL FED 34-27-9HN					
Well Position	+N/-S	0.3 usft	Northing:	1,469,263.06 usft	Latitude:	40.612876
	+E/-W	160.2 usft	Easting:	3,393,856.76 usft	Longitude:	-104.081330
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,923.0 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	06/09/2017	7.83	67.12	52,546

<b>Design</b>	PROPOSAL 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	7.18

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,939.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	-4,139.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,562.6	15.25	115.31	1,553.6	-3,385.4	-43.1	91.2	2.00	2.00	0.00	115.31	
4,977.7	15.25	115.31	4,848.5	-90.5	-427.3	903.4	0.00	0.00	0.00	0.00	
5,740.3	0.00	0.00	5,602.1	663.1	-470.4	994.6	2.00	-2.00	0.00	180.00	
5,840.3	0.00	0.00	5,702.1	763.1	-470.4	994.6	0.00	0.00	0.00	0.00	KOP - GREEN TEA
6,740.3	90.00	1.16	6,275.0	1,336.0	102.4	1,006.2	10.00	10.00	0.13	1.16	HZ LP - GREEN TE
16,138.9	90.00	1.16	6,275.0	1,336.0	9,499.1	1,195.9	0.00	0.00	0.00	-170.24	BHL - GREEN TEA

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>SHL: 500ft FSL &amp; 1842ft FWL of Sec 34</b>										
0.0	0.00	0.00	0.0	4,939.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,839.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,739.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,639.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,539.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,439.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,339.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,239.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
800.0	0.00	0.00	800.0	4,139.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	2.00	115.31	900.0	4,039.02	-0.7	1.6	-0.5	2.00	2.00	0.00
1,000.0	4.00	115.31	999.8	3,939.16	-3.0	6.3	-2.2	2.00	2.00	0.00
1,100.0	6.00	115.31	1,099.5	3,839.55	-6.7	14.2	-4.9	2.00	2.00	0.00
1,200.0	8.00	115.31	1,198.7	3,740.30	-11.9	25.2	-8.7	2.00	2.00	0.00
1,300.0	10.00	115.31	1,297.5	3,641.53	-18.6	39.3	-13.5	2.00	2.00	0.00
1,400.0	12.00	115.31	1,395.6	3,543.38	-26.8	56.6	-19.5	2.00	2.00	0.00
1,500.0	14.00	115.31	1,493.1	3,445.94	-36.4	76.9	-26.5	2.00	2.00	0.00
<b>FOX HILLS BASE</b>										
1,520.6	14.41	115.31	1,513.0	3,426.00	-38.5	81.5	-28.1	2.00	2.00	0.00
<b>EOB TO 15.25°</b>										
1,562.6	15.25	115.31	1,553.6	3,385.36	-43.1	91.2	-31.4	2.00	2.00	0.00
1,600.0	15.25	115.31	1,589.7	3,349.29	-47.3	100.1	-34.5	0.00	0.00	0.00
1,700.0	15.25	115.31	1,686.2	3,252.81	-58.6	123.9	-42.7	0.00	0.00	0.00
1,800.0	15.25	115.31	1,782.7	3,156.34	-69.8	147.7	-50.8	0.00	0.00	0.00
1,900.0	15.25	115.31	1,879.1	3,059.86	-81.1	171.5	-59.0	0.00	0.00	0.00
2,000.0	15.25	115.31	1,975.6	2,963.38	-92.3	195.2	-67.2	0.00	0.00	0.00
2,100.0	15.25	115.31	2,072.1	2,866.90	-103.6	219.0	-75.4	0.00	0.00	0.00
2,200.0	15.25	115.31	2,168.6	2,770.43	-114.8	242.8	-83.6	0.00	0.00	0.00
2,300.0	15.25	115.31	2,265.1	2,673.95	-126.1	266.6	-91.8	0.00	0.00	0.00
2,400.0	15.25	115.31	2,361.5	2,577.47	-137.3	290.4	-100.0	0.00	0.00	0.00
2,500.0	15.25	115.31	2,458.0	2,480.99	-148.6	314.1	-108.2	0.00	0.00	0.00
2,600.0	15.25	115.31	2,554.5	2,384.52	-159.8	337.9	-116.4	0.00	0.00	0.00
2,700.0	15.25	115.31	2,651.0	2,288.04	-171.1	361.7	-124.5	0.00	0.00	0.00
2,800.0	15.25	115.31	2,747.4	2,191.56	-182.3	385.5	-132.7	0.00	0.00	0.00
2,900.0	15.25	115.31	2,843.9	2,095.08	-193.6	409.3	-140.9	0.00	0.00	0.00
3,000.0	15.25	115.31	2,940.4	1,998.60	-204.8	433.0	-149.1	0.00	0.00	0.00
3,100.0	15.25	115.31	3,036.9	1,902.13	-216.1	456.8	-157.3	0.00	0.00	0.00
3,200.0	15.25	115.31	3,133.4	1,805.65	-227.3	480.6	-165.5	0.00	0.00	0.00
3,300.0	15.25	115.31	3,229.8	1,709.17	-238.6	504.4	-173.7	0.00	0.00	0.00
3,400.0	15.25	115.31	3,326.3	1,612.69	-249.8	528.2	-181.9	0.00	0.00	0.00
<b>RICHARD SANDSTONE</b>										
3,406.9	15.25	115.31	3,333.0	1,606.00	-250.6	529.8	-182.4	0.00	0.00	0.00
3,500.0	15.25	115.31	3,422.8	1,516.22	-261.1	552.0	-190.1	0.00	0.00	0.00
<b>PARKMAN SANDSTONE</b>										
3,531.3	15.25	115.31	3,453.0	1,486.00	-264.6	559.4	-192.6	0.00	0.00	0.00
3,600.0	15.25	115.31	3,519.3	1,419.74	-272.3	575.7	-198.2	0.00	0.00	0.00
3,700.0	15.25	115.31	3,615.7	1,323.26	-283.5	599.5	-206.4	0.00	0.00	0.00
3,800.0	15.25	115.31	3,712.2	1,226.78	-294.8	623.3	-214.6	0.00	0.00	0.00
3,900.0	15.25	115.31	3,808.7	1,130.31	-306.0	647.1	-222.8	0.00	0.00	0.00
4,000.0	15.25	115.31	3,905.2	1,033.83	-317.3	670.9	-231.0	0.00	0.00	0.00
4,100.0	15.25	115.31	4,001.6	937.35	-328.5	694.6	-239.2	0.00	0.00	0.00
4,200.0	15.25	115.31	4,098.1	840.87	-339.8	718.4	-247.4	0.00	0.00	0.00



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,300.0	15.25	115.31	4,194.6	744.40	-351.0	742.2	-255.6	0.00	0.00	0.00
<b>SUSSEX SANDSTONE</b>										
<b>4,319.1</b>	<b>15.25</b>	<b>115.31</b>	<b>4,213.0</b>	<b>726.00</b>	<b>-353.2</b>	<b>746.7</b>	<b>-257.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,400.0	15.25	115.31	4,291.1	647.92	-362.3	766.0	-263.8	0.00	0.00	0.00
4,500.0	15.25	115.31	4,387.6	551.44	-373.5	789.8	-271.9	0.00	0.00	0.00
4,600.0	15.25	115.31	4,484.0	454.96	-384.8	813.6	-280.1	0.00	0.00	0.00
4,700.0	15.25	115.31	4,580.5	358.48	-396.0	837.3	-288.3	0.00	0.00	0.00
<b>SHANNON SANDSTONE</b>										
<b>4,759.6</b>	<b>15.25</b>	<b>115.31</b>	<b>4,638.0</b>	<b>301.00</b>	<b>-402.7</b>	<b>851.5</b>	<b>-293.2</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,800.0	15.25	115.31	4,677.0	262.01	-407.3	861.1	-296.5	0.00	0.00	0.00
4,900.0	15.25	115.31	4,773.5	165.53	-418.5	884.9	-304.7	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>4,977.7</b>	<b>15.25</b>	<b>115.31</b>	<b>4,848.5</b>	<b>90.54</b>	<b>-427.3</b>	<b>903.4</b>	<b>-311.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,000.0	14.81	115.31	4,870.0	69.03	-429.7	908.6	-312.9	2.00	-2.00	0.00
5,100.0	12.81	115.31	4,967.1	-28.08	-439.9	930.2	-320.3	2.00	-2.00	0.00
5,200.0	10.81	115.31	5,065.0	-125.96	-448.7	948.7	-326.7	2.00	-2.00	0.00
5,300.0	8.81	115.31	5,163.5	-224.49	-456.0	964.1	-332.0	2.00	-2.00	0.00
5,400.0	6.81	115.31	5,262.6	-323.56	-461.8	976.3	-336.2	2.00	-2.00	0.00
5,500.0	4.81	115.31	5,362.0	-423.04	-466.1	985.5	-339.3	2.00	-2.00	0.00
5,600.0	2.81	115.31	5,461.8	-522.81	-468.9	991.5	-341.4	2.00	-2.00	0.00
5,700.0	0.81	115.31	5,561.8	-622.76	-470.3	994.3	-342.4	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>5,740.3</b>	<b>0.00</b>	<b>0.00</b>	<b>5,602.1</b>	<b>-663.10</b>	<b>-470.4</b>	<b>994.6</b>	<b>-342.5</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
5,800.0	0.00	0.00	5,661.8	-722.76	-470.4	994.6	-342.5	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
<b>5,840.3</b>	<b>0.00</b>	<b>0.00</b>	<b>5,702.1</b>	<b>-763.10</b>	<b>-470.4</b>	<b>994.6</b>	<b>-342.5</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,900.0	5.97	1.16	5,761.7	-822.65	-467.3	994.7	-339.4	10.00	10.00	0.00
6,000.0	15.97	1.16	5,859.7	-920.70	-448.3	995.0	-320.5	10.00	10.00	0.00
6,100.0	25.97	1.16	5,953.0	-1,013.96	-412.6	995.8	-285.0	10.00	10.00	0.00
6,200.0	35.97	1.16	6,038.6	-1,099.59	-361.2	996.8	-233.8	10.00	10.00	0.00
<b>SHARON SPRINGS</b>										
<b>6,281.6</b>	<b>44.13</b>	<b>1.16</b>	<b>6,101.0</b>	<b>-1,162.00</b>	<b>-308.7</b>	<b>997.9</b>	<b>-181.7</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,300.0	45.97	1.16	6,114.0	-1,175.00	-295.7	998.1	-168.7	10.00	10.00	0.00
<b>NIORARA A CHALK</b>										
<b>6,389.6</b>	<b>54.93</b>	<b>1.16</b>	<b>6,171.0</b>	<b>-1,232.00</b>	<b>-226.7</b>	<b>999.5</b>	<b>-100.1</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,400.0	55.97	1.16	6,176.9	-1,237.90	-218.1	999.7	-91.6	10.00	10.00	0.00
<b>NIORARA A CHALK BASE</b>										
<b>6,441.8</b>	<b>60.15</b>	<b>1.16</b>	<b>6,199.0</b>	<b>-1,260.00</b>	<b>-182.7</b>	<b>1,000.4</b>	<b>-56.3</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,500.0	65.97	1.16	6,225.4	-1,286.36	-130.8	1,001.5	-4.7	10.00	10.00	0.00
<b>NIORARA B1 CHALK TOP</b>										
<b>6,501.6</b>	<b>66.13</b>	<b>1.16</b>	<b>6,226.0</b>	<b>-1,287.00</b>	<b>-129.4</b>	<b>1,001.5</b>	<b>-3.3</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>NIORARA B1 CHALK BASE</b>										
<b>6,581.0</b>	<b>74.07</b>	<b>1.16</b>	<b>6,253.0</b>	<b>-1,314.00</b>	<b>-54.8</b>	<b>1,003.0</b>	<b>70.9</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,600.0	75.97	1.16	6,257.9	-1,318.92	-36.4	1,003.4	89.2	10.00	10.00	0.00
6,700.0	85.97	1.16	6,273.6	-1,334.59	62.2	1,005.4	187.3	10.00	10.00	0.00
<b>NIORARA B2 CHALK TOP</b>										
<b>6,740.2</b>	<b>90.00</b>	<b>1.16</b>	<b>6,275.0</b>	<b>-1,336.00</b>	<b>102.4</b>	<b>1,006.2</b>	<b>227.2</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>HZ LP: 600ft FSL &amp; 2455ft FEL of Sec 34</b>										
<b>6,740.3</b>	<b>90.00</b>	<b>1.16</b>	<b>6,275.0</b>	<b>-1,336.00</b>	<b>102.4</b>	<b>1,006.2</b>	<b>227.3</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,800.0	90.00	1.16	6,275.0	-1,336.00	162.1	1,007.4	286.7	0.00	0.00	0.00
6,900.0	90.00	1.16	6,275.0	-1,335.99	262.1	1,009.4	386.1	0.00	0.00	0.00
7,000.0	90.00	1.16	6,275.0	-1,335.99	362.1	1,011.4	485.6	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,100.0	90.00	1.16	6,275.0	-1,335.98	462.1	1,013.4	585.0	0.00	0.00	0.00
7,200.0	90.00	1.16	6,275.0	-1,335.97	562.0	1,015.5	684.5	0.00	0.00	0.00
7,300.0	90.00	1.16	6,275.0	-1,335.97	662.0	1,017.5	783.9	0.00	0.00	0.00
7,400.0	90.00	1.16	6,275.0	-1,335.96	762.0	1,019.5	883.4	0.00	0.00	0.00
7,500.0	90.00	1.16	6,275.0	-1,335.96	862.0	1,021.5	982.8	0.00	0.00	0.00
7,600.0	90.00	1.16	6,275.0	-1,335.96	962.0	1,023.5	1,082.3	0.00	0.00	0.00
7,700.0	90.00	1.16	6,275.0	-1,335.95	1,061.9	1,025.6	1,181.7	0.00	0.00	0.00
7,800.0	90.00	1.16	6,274.9	-1,335.95	1,161.9	1,027.6	1,281.2	0.00	0.00	0.00
7,900.0	90.00	1.16	6,274.9	-1,335.94	1,261.9	1,029.6	1,380.6	0.00	0.00	0.00
8,000.0	90.00	1.16	6,274.9	-1,335.94	1,361.9	1,031.6	1,480.1	0.00	0.00	0.00
8,100.0	90.00	1.16	6,274.9	-1,335.93	1,461.9	1,033.6	1,579.5	0.00	0.00	0.00
8,200.0	90.00	1.16	6,274.9	-1,335.93	1,561.8	1,035.7	1,679.0	0.00	0.00	0.00
8,300.0	90.00	1.16	6,274.9	-1,335.93	1,661.8	1,037.7	1,778.4	0.00	0.00	0.00
8,400.0	90.00	1.16	6,274.9	-1,335.92	1,761.8	1,039.7	1,877.9	0.00	0.00	0.00
8,500.0	90.00	1.16	6,274.9	-1,335.92	1,861.8	1,041.7	1,977.3	0.00	0.00	0.00
8,600.0	90.00	1.16	6,274.9	-1,335.91	1,961.8	1,043.7	2,076.8	0.00	0.00	0.00
8,700.0	90.00	1.16	6,274.9	-1,335.91	2,061.7	1,045.7	2,176.2	0.00	0.00	0.00
8,800.0	90.00	1.16	6,274.9	-1,335.91	2,161.7	1,047.8	2,275.7	0.00	0.00	0.00
8,900.0	90.00	1.16	6,274.9	-1,335.90	2,261.7	1,049.8	2,375.1	0.00	0.00	0.00
9,000.0	90.00	1.16	6,274.9	-1,335.90	2,361.7	1,051.8	2,474.6	0.00	0.00	0.00
9,100.0	90.00	1.16	6,274.9	-1,335.90	2,461.7	1,053.8	2,574.0	0.00	0.00	0.00
9,200.0	90.00	1.16	6,274.9	-1,335.90	2,561.6	1,055.8	2,673.5	0.00	0.00	0.00
9,300.0	90.00	1.16	6,274.9	-1,335.89	2,661.6	1,057.9	2,772.9	0.00	0.00	0.00
9,400.0	90.00	1.16	6,274.9	-1,335.89	2,761.6	1,059.9	2,872.4	0.00	0.00	0.00
9,500.0	90.00	1.16	6,274.9	-1,335.89	2,861.6	1,061.9	2,971.8	0.00	0.00	0.00
9,600.0	90.00	1.16	6,274.9	-1,335.89	2,961.5	1,063.9	3,071.2	0.00	0.00	0.00
9,700.0	90.00	1.16	6,274.9	-1,335.88	3,061.5	1,065.9	3,170.7	0.00	0.00	0.00
9,800.0	90.00	1.16	6,274.9	-1,335.88	3,161.5	1,068.0	3,270.1	0.00	0.00	0.00
9,900.0	90.00	1.16	6,274.9	-1,335.88	3,261.5	1,070.0	3,369.6	0.00	0.00	0.00
10,000.0	90.00	1.16	6,274.9	-1,335.88	3,361.5	1,072.0	3,469.0	0.00	0.00	0.00
10,100.0	90.00	1.16	6,274.9	-1,335.88	3,461.4	1,074.0	3,568.5	0.00	0.00	0.00
10,200.0	90.00	1.16	6,274.9	-1,335.87	3,561.4	1,076.0	3,667.9	0.00	0.00	0.00
10,300.0	90.00	1.16	6,274.9	-1,335.87	3,661.4	1,078.1	3,767.4	0.00	0.00	0.00
10,400.0	90.00	1.16	6,274.9	-1,335.87	3,761.4	1,080.1	3,866.8	0.00	0.00	0.00
10,500.0	90.00	1.16	6,274.9	-1,335.87	3,861.4	1,082.1	3,966.3	0.00	0.00	0.00
10,600.0	90.00	1.16	6,274.9	-1,335.87	3,961.3	1,084.1	4,065.7	0.00	0.00	0.00
10,700.0	90.00	1.16	6,274.9	-1,335.87	4,061.3	1,086.1	4,165.2	0.00	0.00	0.00
10,800.0	90.00	1.16	6,274.9	-1,335.87	4,161.3	1,088.1	4,264.6	0.00	0.00	0.00
10,900.0	90.00	1.16	6,274.9	-1,335.87	4,261.3	1,090.2	4,364.1	0.00	0.00	0.00
11,000.0	90.00	1.16	6,274.9	-1,335.87	4,361.3	1,092.2	4,463.5	0.00	0.00	0.00
11,100.0	90.00	1.16	6,274.9	-1,335.87	4,461.2	1,094.2	4,563.0	0.00	0.00	0.00
11,200.0	90.00	1.16	6,274.9	-1,335.87	4,561.2	1,096.2	4,662.4	0.00	0.00	0.00
11,300.0	90.00	1.16	6,274.9	-1,335.87	4,661.2	1,098.2	4,761.9	0.00	0.00	0.00
11,400.0	90.00	1.16	6,274.9	-1,335.87	4,761.2	1,100.3	4,861.3	0.00	0.00	0.00
11,500.0	90.00	1.16	6,274.9	-1,335.87	4,861.2	1,102.3	4,960.8	0.00	0.00	0.00
11,600.0	90.00	1.16	6,274.9	-1,335.87	4,961.1	1,104.3	5,060.2	0.00	0.00	0.00
11,700.0	90.00	1.16	6,274.9	-1,335.87	5,061.1	1,106.3	5,159.7	0.00	0.00	0.00
11,800.0	90.00	1.16	6,274.9	-1,335.87	5,161.1	1,108.3	5,259.1	0.00	0.00	0.00
11,900.0	90.00	1.16	6,274.9	-1,335.87	5,261.1	1,110.4	5,358.6	0.00	0.00	0.00
12,000.0	90.00	1.16	6,274.9	-1,335.87	5,361.1	1,112.4	5,458.0	0.00	0.00	0.00
12,100.0	90.00	1.16	6,274.9	-1,335.87	5,461.0	1,114.4	5,557.5	0.00	0.00	0.00
12,200.0	90.00	1.16	6,274.9	-1,335.87	5,561.0	1,116.4	5,656.9	0.00	0.00	0.00
12,300.0	90.00	1.16	6,274.9	-1,335.87	5,661.0	1,118.4	5,756.4	0.00	0.00	0.00
12,400.0	90.00	1.16	6,274.9	-1,335.87	5,761.0	1,120.4	5,855.8	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,500.0	90.00	1.16	6,274.9	-1,335.87	5,861.0	1,122.5	5,955.3	0.00	0.00	0.00
12,600.0	90.00	1.16	6,274.9	-1,335.87	5,960.9	1,124.5	6,054.7	0.00	0.00	0.00
12,700.0	90.00	1.16	6,274.9	-1,335.88	6,060.9	1,126.5	6,154.2	0.00	0.00	0.00
12,800.0	90.00	1.16	6,274.9	-1,335.88	6,160.9	1,128.5	6,253.6	0.00	0.00	0.00
12,900.0	90.00	1.16	6,274.9	-1,335.88	6,260.9	1,130.5	6,353.1	0.00	0.00	0.00
13,000.0	90.00	1.16	6,274.9	-1,335.88	6,360.9	1,132.6	6,452.5	0.00	0.00	0.00
13,100.0	90.00	1.16	6,274.9	-1,335.88	6,460.8	1,134.6	6,552.0	0.00	0.00	0.00
13,200.0	90.00	1.16	6,274.9	-1,335.88	6,560.8	1,136.6	6,651.4	0.00	0.00	0.00
13,300.0	90.00	1.16	6,274.9	-1,335.89	6,660.8	1,138.6	6,750.9	0.00	0.00	0.00
13,400.0	90.00	1.16	6,274.9	-1,335.89	6,760.8	1,140.6	6,850.3	0.00	0.00	0.00
13,500.0	90.00	1.16	6,274.9	-1,335.89	6,860.8	1,142.6	6,949.7	0.00	0.00	0.00
13,600.0	90.00	1.16	6,274.9	-1,335.89	6,960.7	1,144.7	7,049.2	0.00	0.00	0.00
13,700.0	90.00	1.16	6,274.9	-1,335.90	7,060.7	1,146.7	7,148.6	0.00	0.00	0.00
13,800.0	90.00	1.16	6,274.9	-1,335.90	7,160.7	1,148.7	7,248.1	0.00	0.00	0.00
13,900.0	90.00	1.16	6,274.9	-1,335.90	7,260.7	1,150.7	7,347.5	0.00	0.00	0.00
14,000.0	90.00	1.16	6,274.9	-1,335.91	7,360.7	1,152.7	7,447.0	0.00	0.00	0.00
14,100.0	90.00	1.16	6,274.9	-1,335.91	7,460.6	1,154.8	7,546.4	0.00	0.00	0.00
14,200.0	90.00	1.16	6,274.9	-1,335.91	7,560.6	1,156.8	7,645.9	0.00	0.00	0.00
14,300.0	90.00	1.16	6,274.9	-1,335.92	7,660.6	1,158.8	7,745.3	0.00	0.00	0.00
14,400.0	90.00	1.16	6,274.9	-1,335.92	7,760.6	1,160.8	7,844.8	0.00	0.00	0.00
14,500.0	90.00	1.16	6,274.9	-1,335.92	7,860.6	1,162.8	7,944.2	0.00	0.00	0.00
14,600.0	90.00	1.16	6,274.9	-1,335.93	7,960.5	1,164.8	8,043.7	0.00	0.00	0.00
14,700.0	90.00	1.16	6,274.9	-1,335.93	8,060.5	1,166.9	8,143.1	0.00	0.00	0.00
14,800.0	90.00	1.16	6,274.9	-1,335.93	8,160.5	1,168.9	8,242.6	0.00	0.00	0.00
14,900.0	90.00	1.16	6,274.9	-1,335.94	8,260.5	1,170.9	8,342.0	0.00	0.00	0.00
15,000.0	90.00	1.16	6,274.9	-1,335.94	8,360.4	1,172.9	8,441.5	0.00	0.00	0.00
15,100.0	90.00	1.16	6,274.9	-1,335.95	8,460.4	1,174.9	8,540.9	0.00	0.00	0.00
15,200.0	90.00	1.16	6,275.0	-1,335.95	8,560.4	1,177.0	8,640.4	0.00	0.00	0.00
15,300.0	90.00	1.16	6,275.0	-1,335.96	8,660.4	1,179.0	8,739.8	0.00	0.00	0.00
15,400.0	90.00	1.16	6,275.0	-1,335.96	8,760.4	1,181.0	8,839.3	0.00	0.00	0.00
15,500.0	90.00	1.16	6,275.0	-1,335.97	8,860.3	1,183.0	8,938.7	0.00	0.00	0.00
15,600.0	90.00	1.16	6,275.0	-1,335.97	8,960.3	1,185.0	9,038.2	0.00	0.00	0.00
15,700.0	90.00	1.16	6,275.0	-1,335.98	9,060.3	1,187.0	9,137.6	0.00	0.00	0.00
15,800.0	90.00	1.16	6,275.0	-1,335.98	9,160.3	1,189.1	9,237.1	0.00	0.00	0.00
15,900.0	90.00	1.16	6,275.0	-1,335.99	9,260.3	1,191.1	9,336.5	0.00	0.00	0.00
16,000.0	90.00	1.16	6,275.0	-1,335.99	9,360.2	1,193.1	9,436.0	0.00	0.00	0.00
16,100.0	90.00	1.16	6,275.0	-1,336.00	9,460.2	1,195.1	9,535.4	0.00	0.00	0.00
<b>BHL: 600ft FNL &amp; 2455ft FEL of Sec 27</b>										
<b>16,138.9</b>	<b>90.00</b>	<b>1.16</b>	<b>6,275.0</b>	<b>-1,336.00</b>	<b>9,499.1</b>	<b>1,195.9</b>	<b>9,574.1</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-9HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4939.0usft (Original Well Elev)
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-9HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,520.6	1,513.0	FOX HILLS BASE			
3,406.9	3,333.0	RICHARD SANDSTONE			
3,531.3	3,453.0	PARKMAN SANDSTONE			
4,319.1	4,213.0	SUSSEX SANDSTONE			
4,759.6	4,638.0	SHANNON SANDSTONE			
6,281.6	6,101.0	SHARON SPRINGS			
6,389.6	6,171.0	NIOBRARA A CHALK			
6,441.8	6,199.0	NIOBRARA A CHALK BASE			
6,501.6	6,226.0	NIOBRARA B1 CHALK TOP			
6,581.0	6,253.0	NIOBRARA B1 CHALK BASE			
6,740.2	6,275.0	NIOBRARA B2 CHALK TOP			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 500ft FSL & 1842ft FWL of Sec 34
800.0	800.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,562.6	1,553.6	-43.1	91.2	EOB TO 15.25°
4,977.7	4,848.5	-427.3	903.4	END OF TANGENT
5,740.3	5,602.1	-470.4	994.6	EOD TO VERTICAL
5,840.3	5,702.1	-470.4	994.6	KOP (10°/100ft BUR)
6,740.3	6,275.0	102.4	1,006.2	HZ LP: 600ft FSL & 2455ft FEL of Sec 34
16,138.9	6,275.0	9,499.1	1,195.9	BHL: 600ft FNL & 2455ft FEL of Sec 27