



# **MALLARD EXPLORATION**

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

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

**GREEN TEAL FED 34-27-3HN**

**ORIGINAL WELLBORE**

**11 March, 2020**

**Plan: PROPOSAL #2**





Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SE SW SEC. 34 T8N R60W 6th P.M.  
Well: GREEN TEAL FED 34-27-3HN  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 500ft FSL & 1862ft FWL of Sec 34
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)
900.00	12.00	186.19	895.62	-62.24	-6.75	-62.32	62.60	EOB TO 12° INC
4036.65	12.00	186.19	3963.73	-710.58	-77.06	-711.58	714.75	END OF TANGENT
4636.65	0.00	0.00	4559.35	-772.82	-83.81	-773.90	777.35	EOD TO VERTICAL
5882.34	0.00	0.00	5805.04	-772.82	-83.81	-773.90	777.35	KOP (10°/100ft BUR)
6782.34	90.00	1.19	6378.00	-199.98	-71.91	-200.96	1350.31	HZ LP: 300ft FSL & 1795ft FWL of Sec 34
16777.95	90.00	1.18	6378.00	9793.48	135.16	9794.41	11345.92	BHL: 300ft FNL & 1795ft FWL of Sec 27

PROPOSED LOCAL COORDINATES:

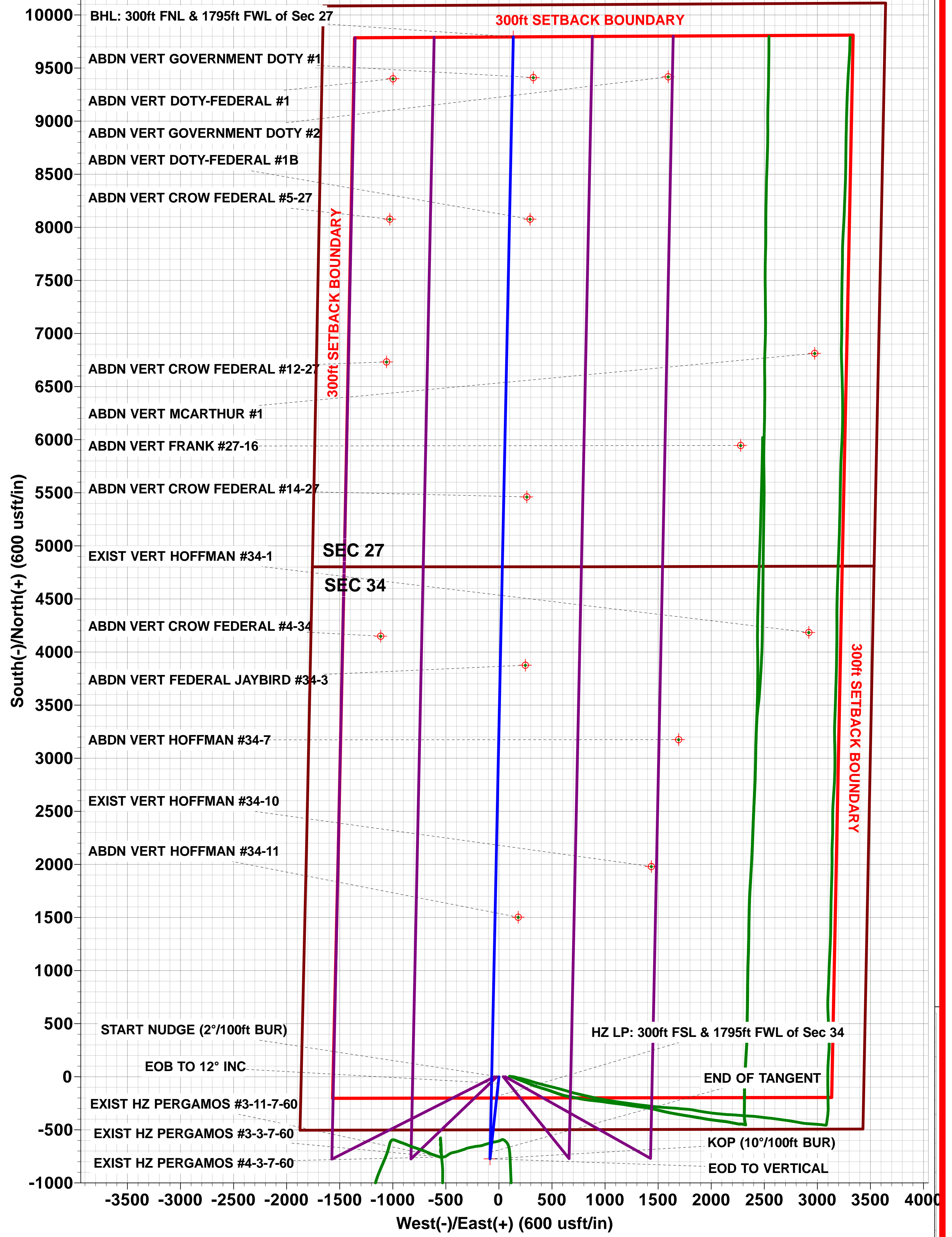
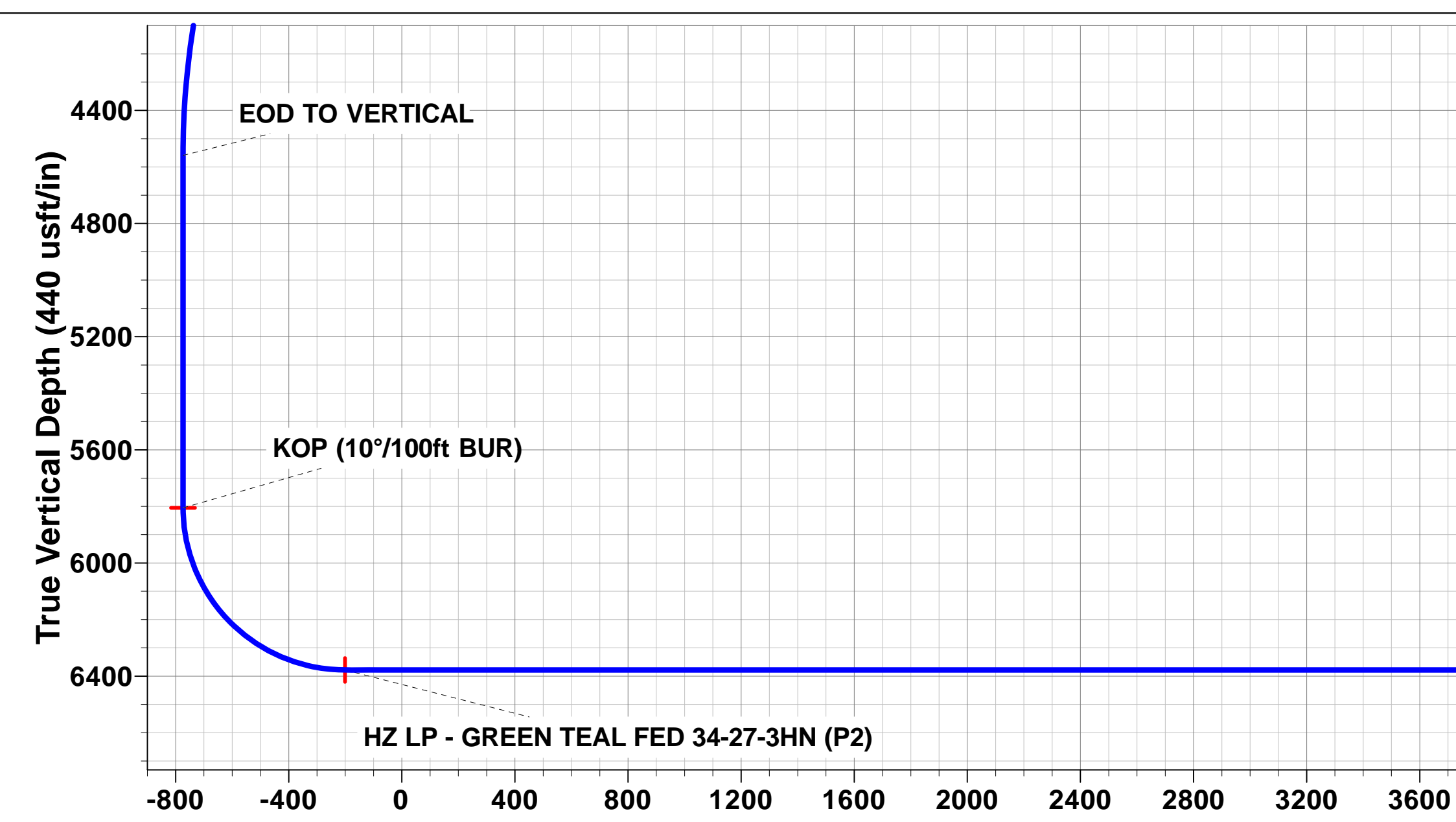
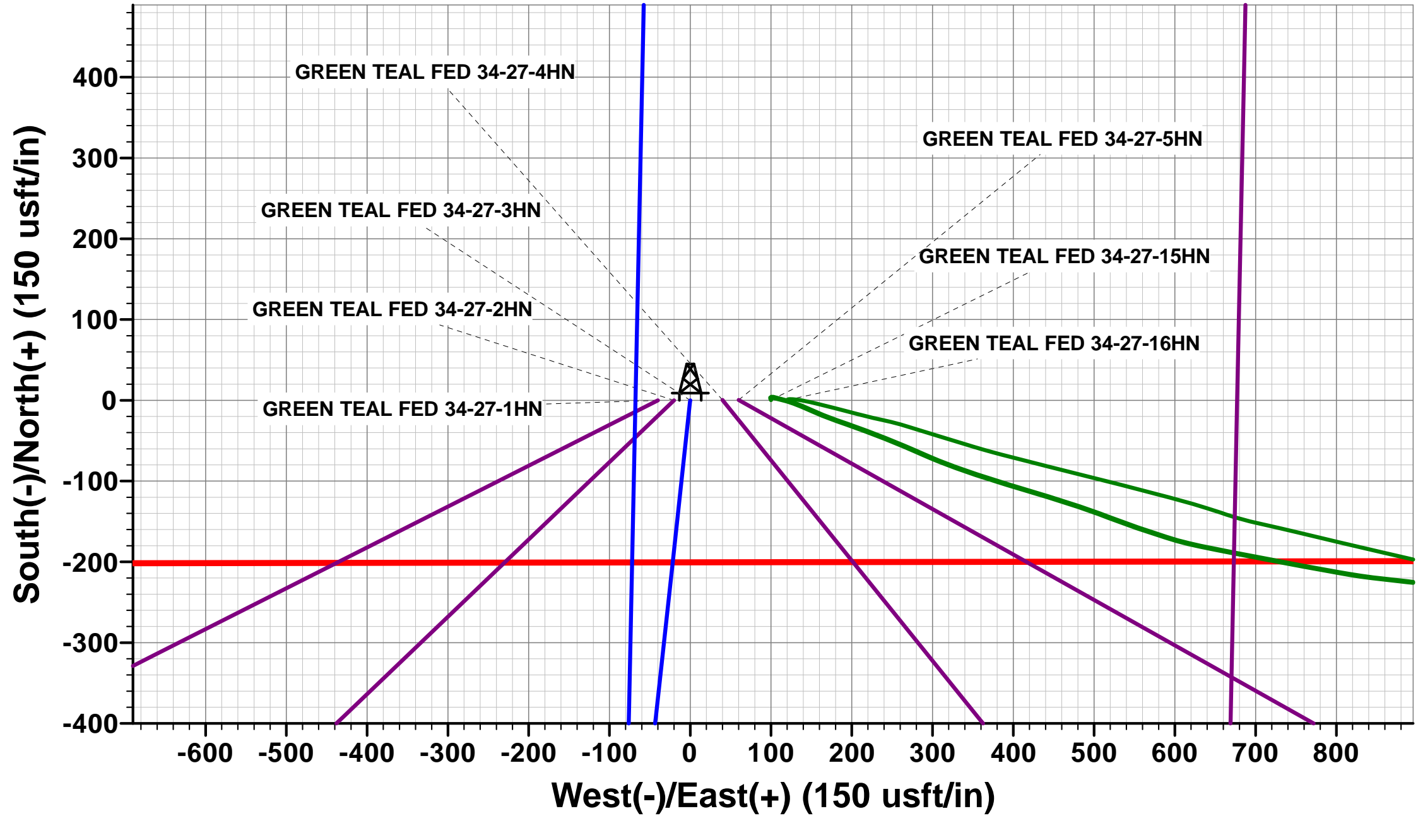
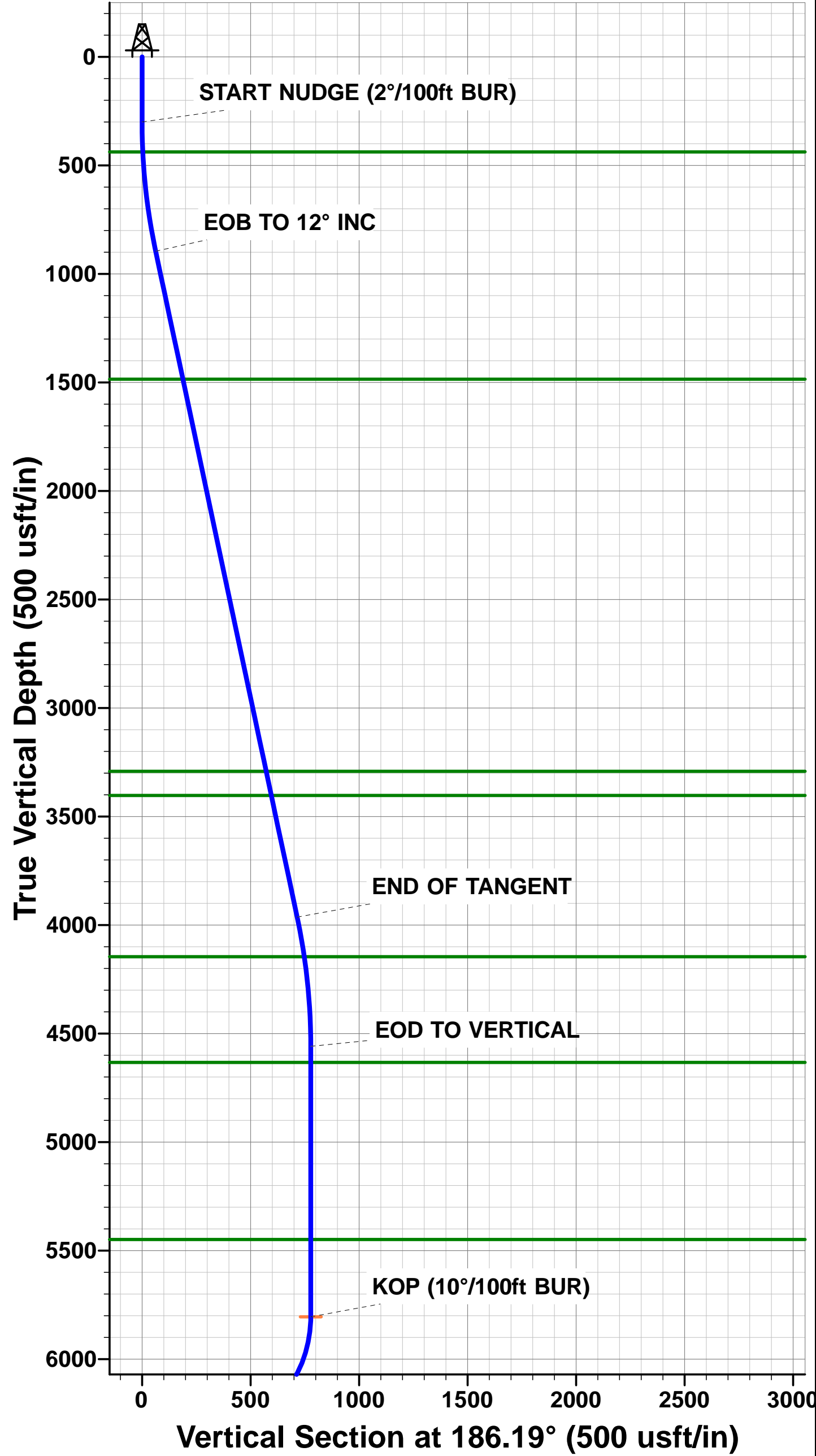
SHL: 500ft FSL & 1862ft FWL Sec 34

HZ LP: 300ft FSL & 1795ft FWL Sec 34

BHL: 300ft FNL & 1795ft FWL of Sec 27

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - GREEN TEAL FED 34-27-3HN (P2)	5805.04	-772.82	-83.81	40.610755	-104.081560
HZ LP - GREEN TEAL FED 34-27-3HN (P2)	6378.00	-199.99	-71.91	40.612327	-104.081517
BHL - GREEN TEAL FED 34-27-3HN (P2)	6378.00	9793.48	135.16	40.639757	-104.080771



# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

<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

<b>Site</b>	SE SW SEC. 34 T8N R60W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,469,260.15 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,393,696.59 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	1.10 ft
		<b>Latitude:</b>	40.612875
		<b>Longitude:</b>	-104.081907
		<b>Grid Convergence:</b>	0.92 °

<b>Well</b>	GREEN TEAL FED 34-27-3HN		
<b>Well Position</b>	<b>+N/-S</b>	0.34 usft	<b>Northing:</b>
	<b>+E/-W</b>	180.19 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<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>
	IGRF2020	2020-03-11	7.63	66.97	52,266.42833279

<b>Design</b>	PROPOSAL #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	6,378.00	0.00	0.00	0.79

<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
0.00	0.00	0.00	0.00	-4,950.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	-4,650.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	12.00	186.19	895.62	-4,054.38	-62.24	-6.75	2.00	2.00	0.00	186.19	
4,036.65	12.00	186.19	3,963.73	-986.27	-710.58	-77.06	0.00	0.00	0.00	0.00	
4,636.65	0.00	0.00	4,559.35	-390.65	-772.82	-83.81	2.00	-2.00	0.00	180.00	
5,882.34	0.00	0.00	5,805.04	855.04	-772.82	-83.81	0.00	0.00	0.00	0.00	KOP - GREEN TEA
6,782.34	90.00	1.19	6,378.00	1,428.00	-199.99	-71.91	10.00	10.00	0.13	1.19	HZ LP - GREEN TE
16,777.95	90.00	1.18	6,378.00	1,428.00	9,793.48	135.16	0.00	0.00	0.00	-85.30	BHL - GREEN TEA

# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

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; 1862ft FWL of Sec 34</b>										
0.00	0.00	0.00	0.00	4,950.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,850.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	4,750.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
300.00	0.00	0.00	300.00	4,650.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	186.19	399.98	4,550.02	-1.73	-0.19	-1.74	2.00	2.00	0.00
<b>Fox Hills Base</b>										
438.05	2.76	186.19	438.00	4,512.00	-3.31	-0.36	-3.31	2.00	2.00	0.00
500.00	4.00	186.19	499.84	4,450.16	-6.94	-0.75	-6.95	2.00	2.00	0.00
600.00	6.00	186.19	599.45	4,350.55	-15.60	-1.69	-15.62	2.00	2.00	0.00
700.00	8.00	186.19	698.70	4,251.30	-27.72	-3.01	-27.76	2.00	2.00	0.00
800.00	10.00	186.19	797.47	4,152.53	-43.27	-4.69	-43.33	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
900.00	12.00	186.19	895.62	4,054.38	-62.24	-6.75	-62.32	2.00	2.00	0.00
1,000.00	12.00	186.19	993.44	3,956.56	-82.91	-8.99	-83.02	0.00	0.00	0.00
1,100.00	12.00	186.19	1,091.25	3,858.75	-103.58	-11.23	-103.72	0.00	0.00	0.00
1,200.00	12.00	186.19	1,189.07	3,760.93	-124.25	-13.47	-124.42	0.00	0.00	0.00
1,300.00	12.00	186.19	1,286.88	3,663.12	-144.92	-15.72	-145.12	0.00	0.00	0.00
1,400.00	12.00	186.19	1,384.70	3,565.30	-165.59	-17.96	-165.82	0.00	0.00	0.00
1,500.00	12.00	186.19	1,482.51	3,467.49	-186.26	-20.20	-186.52	0.00	0.00	0.00
<b>Pierre Shale Top</b>										
1,502.54	12.00	186.19	1,485.00	3,465.00	-186.78	-20.26	-187.05	0.00	0.00	0.00
1,600.00	12.00	186.19	1,580.33	3,369.67	-206.93	-22.44	-207.22	0.00	0.00	0.00
1,700.00	12.00	186.19	1,678.14	3,271.86	-227.60	-24.68	-227.92	0.00	0.00	0.00
1,800.00	12.00	186.19	1,775.96	3,174.04	-248.27	-26.92	-248.62	0.00	0.00	0.00
1,900.00	12.00	186.19	1,873.77	3,076.23	-268.94	-29.17	-269.31	0.00	0.00	0.00
2,000.00	12.00	186.19	1,971.59	2,978.41	-289.61	-31.41	-290.01	0.00	0.00	0.00
2,100.00	12.00	186.19	2,069.40	2,880.60	-310.28	-33.65	-310.71	0.00	0.00	0.00
2,200.00	12.00	186.19	2,167.22	2,782.78	-330.95	-35.89	-331.41	0.00	0.00	0.00
2,300.00	12.00	186.19	2,265.03	2,684.97	-351.62	-38.13	-352.11	0.00	0.00	0.00
2,400.00	12.00	186.19	2,362.84	2,587.16	-372.29	-40.37	-372.81	0.00	0.00	0.00
2,500.00	12.00	186.19	2,460.66	2,489.34	-392.96	-42.62	-393.51	0.00	0.00	0.00
2,600.00	12.00	186.19	2,558.47	2,391.53	-413.63	-44.86	-414.21	0.00	0.00	0.00
2,700.00	12.00	186.19	2,656.29	2,293.71	-434.30	-47.10	-434.91	0.00	0.00	0.00
2,800.00	12.00	186.19	2,754.10	2,195.90	-454.97	-49.34	-455.60	0.00	0.00	0.00
2,900.00	12.00	186.19	2,851.92	2,098.08	-475.64	-51.58	-476.30	0.00	0.00	0.00
3,000.00	12.00	186.19	2,949.73	2,000.27	-496.31	-53.82	-497.00	0.00	0.00	0.00
3,100.00	12.00	186.19	3,047.55	1,902.45	-516.98	-56.06	-517.70	0.00	0.00	0.00
3,200.00	12.00	186.19	3,145.36	1,804.64	-537.65	-58.31	-538.40	0.00	0.00	0.00
3,300.00	12.00	186.19	3,243.18	1,706.82	-558.32	-60.55	-559.10	0.00	0.00	0.00
<b>Richard Sandstone</b>										
3,349.91	12.00	186.19	3,292.00	1,658.00	-568.63	-61.67	-569.43	0.00	0.00	0.00
3,400.00	12.00	186.19	3,340.99	1,609.01	-578.99	-62.79	-579.80	0.00	0.00	0.00
<b>Parkman Sandstone</b>										
3,463.39	12.00	186.19	3,403.00	1,547.00	-592.09	-64.21	-592.92	0.00	0.00	0.00
3,500.00	12.00	186.19	3,438.81	1,511.19	-599.66	-65.03	-600.50	0.00	0.00	0.00
3,600.00	12.00	186.19	3,536.62	1,413.38	-620.33	-67.27	-621.20	0.00	0.00	0.00
3,700.00	12.00	186.19	3,634.44	1,315.56	-641.00	-69.51	-641.90	0.00	0.00	0.00
3,800.00	12.00	186.19	3,732.25	1,217.75	-661.67	-71.76	-662.59	0.00	0.00	0.00
3,900.00	12.00	186.19	3,830.07	1,119.93	-682.34	-74.00	-683.29	0.00	0.00	0.00
4,000.00	12.00	186.19	3,927.88	1,022.12	-703.01	-76.24	-703.99	0.00	0.00	0.00
<b>END OF TANGENT</b>										

# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

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>4,036.65</b>	<b>12.00</b>	<b>186.19</b>	<b>3,963.73</b>	<b>986.27</b>	<b>-710.58</b>	<b>-77.06</b>	<b>-711.58</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,100.00	10.73	186.19	4,025.84	924.16	-722.99	-78.41	-724.01	2.00	-2.00	0.00
4,200.00	8.73	186.19	4,124.39	825.61	-739.80	-80.23	-740.84	2.00	-2.00	0.00
<b>Sussex Sandstone</b>										
<b>4,221.85</b>	<b>8.30</b>	<b>186.19</b>	<b>4,146.00</b>	<b>804.00</b>	<b>-743.02</b>	<b>-80.58</b>	<b>-744.06</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
4,300.00	6.73	186.19	4,223.48	726.52	-753.18	-81.68	-754.23	2.00	-2.00	0.00
4,400.00	4.73	186.19	4,322.97	627.03	-763.11	-82.76	-764.18	2.00	-2.00	0.00
4,500.00	2.73	186.19	4,422.75	527.25	-769.58	-83.46	-770.66	2.00	-2.00	0.00
4,600.00	0.73	186.19	4,522.70	427.30	-772.59	-83.78	-773.67	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>4,636.65</b>	<b>0.00</b>	<b>0.00</b>	<b>4,559.35</b>	<b>390.65</b>	<b>-772.82</b>	<b>-83.81</b>	<b>-773.90</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
4,700.00	0.00	0.00	4,622.70	327.30	-772.82	-83.81	-773.90	0.00	0.00	0.00
<b>Shannon Sandstone</b>										
<b>4,710.30</b>	<b>0.00</b>	<b>0.00</b>	<b>4,633.00</b>	<b>317.00</b>	<b>-772.82</b>	<b>-83.81</b>	<b>-773.90</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,800.00	0.00	0.00	4,722.70	227.30	-772.82	-83.81	-773.90	0.00	0.00	0.00
4,900.00	0.00	0.00	4,822.70	127.30	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,000.00	0.00	0.00	4,922.70	27.30	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,100.00	0.00	0.00	5,022.70	-72.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,200.00	0.00	0.00	5,122.70	-172.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,300.00	0.00	0.00	5,222.70	-272.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,400.00	0.00	0.00	5,322.70	-372.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,500.00	0.00	0.00	5,422.70	-472.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
<b>TeePee Buttes</b>										
<b>5,526.30</b>	<b>0.00</b>	<b>0.00</b>	<b>5,449.00</b>	<b>-499.00</b>	<b>-772.82</b>	<b>-83.81</b>	<b>-773.90</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,600.00	0.00	0.00	5,522.70	-572.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,700.00	0.00	0.00	5,622.70	-672.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
5,800.00	0.00	0.00	5,722.70	-772.70	-772.82	-83.81	-773.90	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
<b>5,882.34</b>	<b>0.00</b>	<b>0.00</b>	<b>5,805.04</b>	<b>-855.04</b>	<b>-772.82</b>	<b>-83.81</b>	<b>-773.90</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,900.00	1.77	1.19	5,822.70	-872.70	-772.55	-83.80	-773.63	10.00	10.00	0.00
6,000.00	11.77	1.19	5,921.88	-971.88	-760.78	-83.56	-761.86	10.00	10.00	0.00
6,100.00	21.77	1.19	6,017.51	-1,067.51	-731.98	-82.96	-733.05	10.00	10.00	0.00
6,200.00	31.77	1.19	6,106.68	-1,156.68	-687.01	-82.03	-688.08	10.00	10.00	0.00
<b>Sharon Springs</b>										
<b>6,203.92</b>	<b>32.16</b>	<b>1.19</b>	<b>6,110.00</b>	<b>-1,160.00</b>	<b>-684.94</b>	<b>-81.98</b>	<b>-686.00</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>Niobrara Top</b>										
<b>6,246.28</b>	<b>36.39</b>	<b>1.19</b>	<b>6,145.00</b>	<b>-1,195.00</b>	<b>-661.09</b>	<b>-81.49</b>	<b>-662.15</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,300.00	41.77	1.19	6,186.68	-1,236.68	-627.25	-80.79	-628.30	10.00	10.00	0.00
6,400.00	51.77	1.19	6,255.09	-1,305.09	-554.50	-79.27	-555.54	10.00	10.00	0.00
<b>Niobrara B2 Chalk Top</b>										
<b>6,460.57</b>	<b>57.82</b>	<b>1.19</b>	<b>6,290.00</b>	<b>-1,340.00</b>	<b>-505.04</b>	<b>-78.25</b>	<b>-506.07</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,500.00	61.77	1.19	6,309.83	-1,359.83	-470.98	-77.54	-472.00	10.00	10.00	0.00
6,600.00	71.77	1.19	6,349.23	-1,399.23	-379.22	-75.63	-380.23	10.00	10.00	0.00
<b>Niobrara C Chalk Top</b>										
<b>6,602.48</b>	<b>72.01</b>	<b>1.19</b>	<b>6,350.00</b>	<b>-1,400.00</b>	<b>-376.87</b>	<b>-75.58</b>	<b>-377.88</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
<b>Niobrara C Chalk Target Top</b>										
<b>6,686.48</b>	<b>80.41</b>	<b>1.19</b>	<b>6,370.00</b>	<b>-1,420.00</b>	<b>-295.37</b>	<b>-73.89</b>	<b>-296.37</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,700.00	81.77	1.19	6,372.09	-1,422.09	-282.02	-73.61	-283.01	10.00	10.00	0.00
<b>HZ LP: 300ft FSL &amp; 1795ft FWL of Sec 34 - Niobrara C Chalk Landing Point</b>										
<b>6,782.34</b>	<b>90.00</b>	<b>1.19</b>	<b>6,378.00</b>	<b>-1,428.00</b>	<b>-199.99</b>	<b>-71.91</b>	<b>-200.96</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
6,800.00	90.00	1.19	6,378.00	-1,428.00	-182.33	-71.54	-183.30	0.00	0.00	0.00
6,900.00	90.00	1.19	6,378.00	-1,428.00	-82.35	-69.47	-83.30	0.00	0.00	0.00
7,000.00	90.00	1.19	6,378.00	-1,428.00	17.63	-67.39	16.70	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

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)
7,100.00	90.00	1.19	6,378.00	-1,428.00	117.61	-65.31	116.69	0.00	0.00	0.00
7,200.00	90.00	1.19	6,378.00	-1,428.00	217.59	-63.24	216.69	0.00	0.00	0.00
7,300.00	90.00	1.19	6,378.00	-1,428.00	317.56	-61.16	316.69	0.00	0.00	0.00
7,400.00	90.00	1.19	6,378.00	-1,428.00	417.54	-59.08	416.69	0.00	0.00	0.00
7,500.00	90.00	1.19	6,378.00	-1,428.00	517.52	-57.01	516.69	0.00	0.00	0.00
7,600.00	90.00	1.19	6,378.00	-1,428.00	617.50	-54.93	616.68	0.00	0.00	0.00
7,700.00	90.00	1.19	6,378.00	-1,428.00	717.48	-52.86	716.68	0.00	0.00	0.00
7,800.00	90.00	1.19	6,378.00	-1,428.00	817.46	-50.78	816.68	0.00	0.00	0.00
7,900.00	90.00	1.19	6,378.00	-1,428.00	917.43	-48.70	916.68	0.00	0.00	0.00
8,000.00	90.00	1.19	6,378.00	-1,428.00	1,017.41	-46.63	1,016.67	0.00	0.00	0.00
8,100.00	90.00	1.19	6,378.01	-1,428.01	1,117.39	-44.55	1,116.67	0.00	0.00	0.00
8,200.00	90.00	1.19	6,378.01	-1,428.01	1,217.37	-42.48	1,216.67	0.00	0.00	0.00
8,300.00	90.00	1.19	6,378.01	-1,428.01	1,317.35	-40.40	1,316.67	0.00	0.00	0.00
8,400.00	90.00	1.19	6,378.01	-1,428.01	1,417.33	-38.33	1,416.66	0.00	0.00	0.00
8,500.00	90.00	1.19	6,378.01	-1,428.01	1,517.31	-36.25	1,516.66	0.00	0.00	0.00
8,600.00	90.00	1.19	6,378.01	-1,428.01	1,617.28	-34.18	1,616.66	0.00	0.00	0.00
8,700.00	90.00	1.19	6,378.01	-1,428.01	1,717.26	-32.10	1,716.66	0.00	0.00	0.00
8,800.00	90.00	1.19	6,378.01	-1,428.01	1,817.24	-30.03	1,816.65	0.00	0.00	0.00
8,900.00	90.00	1.19	6,378.01	-1,428.01	1,917.22	-27.95	1,916.65	0.00	0.00	0.00
9,000.00	90.00	1.19	6,378.01	-1,428.01	2,017.20	-25.88	2,016.65	0.00	0.00	0.00
9,100.00	90.00	1.19	6,378.01	-1,428.01	2,117.18	-23.80	2,116.65	0.00	0.00	0.00
9,200.00	90.00	1.19	6,378.01	-1,428.01	2,217.15	-21.73	2,216.64	0.00	0.00	0.00
9,300.00	90.00	1.19	6,378.01	-1,428.01	2,317.13	-19.65	2,316.64	0.00	0.00	0.00
9,400.00	90.00	1.19	6,378.01	-1,428.01	2,417.11	-17.58	2,416.64	0.00	0.00	0.00
9,500.00	90.00	1.19	6,378.01	-1,428.01	2,517.09	-15.50	2,516.64	0.00	0.00	0.00
9,600.00	90.00	1.19	6,378.01	-1,428.01	2,617.07	-13.43	2,616.63	0.00	0.00	0.00
9,700.00	90.00	1.19	6,378.01	-1,428.01	2,717.05	-11.36	2,716.63	0.00	0.00	0.00
9,800.00	90.00	1.19	6,378.01	-1,428.01	2,817.03	-9.28	2,816.63	0.00	0.00	0.00
9,900.00	90.00	1.19	6,378.01	-1,428.01	2,917.00	-7.21	2,916.63	0.00	0.00	0.00
10,000.00	90.00	1.19	6,378.01	-1,428.01	3,016.98	-5.14	3,016.62	0.00	0.00	0.00
10,100.00	90.00	1.19	6,378.01	-1,428.01	3,116.96	-3.06	3,116.62	0.00	0.00	0.00
10,200.00	90.00	1.19	6,378.01	-1,428.01	3,216.94	-0.99	3,216.62	0.00	0.00	0.00
10,300.00	90.00	1.19	6,378.01	-1,428.01	3,316.92	1.08	3,316.62	0.00	0.00	0.00
10,400.00	90.00	1.19	6,378.01	-1,428.01	3,416.90	3.16	3,416.62	0.00	0.00	0.00
10,500.00	90.00	1.19	6,378.01	-1,428.01	3,516.88	5.23	3,516.61	0.00	0.00	0.00
10,600.00	90.00	1.19	6,378.01	-1,428.01	3,616.85	7.30	3,616.61	0.00	0.00	0.00
10,700.00	90.00	1.19	6,378.01	-1,428.01	3,716.83	9.38	3,716.61	0.00	0.00	0.00
10,800.00	90.00	1.19	6,378.01	-1,428.01	3,816.81	11.45	3,816.61	0.00	0.00	0.00
10,900.00	90.00	1.19	6,378.01	-1,428.01	3,916.79	13.52	3,916.60	0.00	0.00	0.00
11,000.00	90.00	1.19	6,378.01	-1,428.01	4,016.77	15.59	4,016.60	0.00	0.00	0.00
11,100.00	90.00	1.19	6,378.01	-1,428.01	4,116.75	17.67	4,116.60	0.00	0.00	0.00
11,200.00	90.00	1.19	6,378.01	-1,428.01	4,216.73	19.74	4,216.60	0.00	0.00	0.00
11,300.00	90.00	1.19	6,378.01	-1,428.01	4,316.70	21.81	4,316.59	0.00	0.00	0.00
11,400.00	90.00	1.19	6,378.01	-1,428.01	4,416.68	23.88	4,416.59	0.00	0.00	0.00
11,500.00	90.00	1.19	6,378.01	-1,428.01	4,516.66	25.95	4,516.59	0.00	0.00	0.00
11,600.00	90.00	1.19	6,378.01	-1,428.01	4,616.64	28.03	4,616.59	0.00	0.00	0.00
11,700.00	90.00	1.19	6,378.01	-1,428.01	4,716.62	30.10	4,716.58	0.00	0.00	0.00
11,800.00	90.00	1.19	6,378.01	-1,428.01	4,816.60	32.17	4,816.58	0.00	0.00	0.00
11,900.00	90.00	1.19	6,378.01	-1,428.01	4,916.57	34.24	4,916.58	0.00	0.00	0.00
12,000.00	90.00	1.19	6,378.01	-1,428.01	5,016.55	36.31	5,016.58	0.00	0.00	0.00
12,100.00	90.00	1.19	6,378.01	-1,428.01	5,116.53	38.38	5,116.57	0.00	0.00	0.00
12,200.00	90.00	1.19	6,378.01	-1,428.01	5,216.51	40.45	5,216.57	0.00	0.00	0.00
12,300.00	90.00	1.19	6,378.01	-1,428.01	5,316.49	42.53	5,316.57	0.00	0.00	0.00
12,400.00	90.00	1.19	6,378.01	-1,428.01	5,416.47	44.60	5,416.57	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

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)
12,500.00	90.00	1.19	6,378.01	-1,428.01	5,516.45	46.67	5,516.56	0.00	0.00	0.00
12,600.00	90.00	1.19	6,378.01	-1,428.01	5,616.42	48.74	5,616.56	0.00	0.00	0.00
12,700.00	90.00	1.19	6,378.01	-1,428.01	5,716.40	50.81	5,716.56	0.00	0.00	0.00
12,800.00	90.00	1.19	6,378.01	-1,428.01	5,816.38	52.88	5,816.56	0.00	0.00	0.00
12,900.00	90.00	1.19	6,378.01	-1,428.01	5,916.36	54.95	5,916.56	0.00	0.00	0.00
13,000.00	90.00	1.19	6,378.01	-1,428.01	6,016.34	57.02	6,016.55	0.00	0.00	0.00
13,100.00	90.00	1.19	6,378.01	-1,428.01	6,116.32	59.09	6,116.55	0.00	0.00	0.00
13,200.00	90.00	1.19	6,378.01	-1,428.01	6,216.30	61.16	6,216.55	0.00	0.00	0.00
13,300.00	90.00	1.19	6,378.01	-1,428.01	6,316.27	63.23	6,316.55	0.00	0.00	0.00
13,400.00	90.00	1.19	6,378.01	-1,428.01	6,416.25	65.30	6,416.54	0.00	0.00	0.00
13,500.00	90.00	1.19	6,378.01	-1,428.01	6,516.23	67.37	6,516.54	0.00	0.00	0.00
13,600.00	90.00	1.19	6,378.01	-1,428.01	6,616.21	69.44	6,616.54	0.00	0.00	0.00
13,700.00	90.00	1.19	6,378.01	-1,428.01	6,716.19	71.51	6,716.54	0.00	0.00	0.00
13,800.00	90.00	1.19	6,378.01	-1,428.01	6,816.17	73.58	6,816.53	0.00	0.00	0.00
13,900.00	90.00	1.19	6,378.01	-1,428.01	6,916.15	75.65	6,916.53	0.00	0.00	0.00
14,000.00	90.00	1.19	6,378.01	-1,428.01	7,016.12	77.72	7,016.53	0.00	0.00	0.00
14,100.00	90.00	1.19	6,378.01	-1,428.01	7,116.10	79.79	7,116.53	0.00	0.00	0.00
14,200.00	90.00	1.19	6,378.01	-1,428.01	7,216.08	81.86	7,216.52	0.00	0.00	0.00
14,300.00	90.00	1.19	6,378.01	-1,428.01	7,316.06	83.93	7,316.52	0.00	0.00	0.00
14,400.00	90.00	1.19	6,378.01	-1,428.01	7,416.04	85.99	7,416.52	0.00	0.00	0.00
14,500.00	90.00	1.19	6,378.01	-1,428.01	7,516.02	88.06	7,516.52	0.00	0.00	0.00
14,600.00	90.00	1.19	6,378.01	-1,428.01	7,616.00	90.13	7,616.51	0.00	0.00	0.00
14,700.00	90.00	1.19	6,378.01	-1,428.01	7,715.97	92.20	7,716.51	0.00	0.00	0.00
14,800.00	90.00	1.19	6,378.01	-1,428.01	7,815.95	94.27	7,816.51	0.00	0.00	0.00
14,900.00	90.00	1.19	6,378.01	-1,428.01	7,915.93	96.34	7,916.51	0.00	0.00	0.00
15,000.00	90.00	1.19	6,378.01	-1,428.01	8,015.91	98.40	8,016.51	0.00	0.00	0.00
15,100.00	90.00	1.18	6,378.01	-1,428.01	8,115.89	100.47	8,116.50	0.00	0.00	0.00
15,200.00	90.00	1.18	6,378.01	-1,428.01	8,215.87	102.54	8,216.50	0.00	0.00	0.00
15,300.00	90.00	1.18	6,378.01	-1,428.01	8,315.85	104.61	8,316.50	0.00	0.00	0.00
15,400.00	90.00	1.18	6,378.01	-1,428.01	8,415.83	106.68	8,416.50	0.00	0.00	0.00
15,500.00	90.00	1.18	6,378.00	-1,428.00	8,515.80	108.74	8,516.49	0.00	0.00	0.00
15,600.00	90.00	1.18	6,378.00	-1,428.00	8,615.78	110.81	8,616.49	0.00	0.00	0.00
15,700.00	90.00	1.18	6,378.00	-1,428.00	8,715.76	112.88	8,716.49	0.00	0.00	0.00
15,800.00	90.00	1.18	6,378.00	-1,428.00	8,815.74	114.95	8,816.49	0.00	0.00	0.00
15,900.00	90.00	1.18	6,378.00	-1,428.00	8,915.72	117.01	8,916.48	0.00	0.00	0.00
16,000.00	90.00	1.18	6,378.00	-1,428.00	9,015.70	119.08	9,016.48	0.00	0.00	0.00
16,100.00	90.00	1.18	6,378.00	-1,428.00	9,115.68	121.15	9,116.48	0.00	0.00	0.00
16,200.00	90.00	1.18	6,378.00	-1,428.00	9,215.65	123.21	9,216.48	0.00	0.00	0.00
16,300.00	90.00	1.18	6,378.00	-1,428.00	9,315.63	125.28	9,316.47	0.00	0.00	0.00
16,400.00	90.00	1.18	6,378.00	-1,428.00	9,415.61	127.35	9,416.47	0.00	0.00	0.00
16,500.00	90.00	1.18	6,378.00	-1,428.00	9,515.59	129.41	9,516.47	0.00	0.00	0.00
16,600.00	90.00	1.18	6,378.00	-1,428.00	9,615.57	131.48	9,616.47	0.00	0.00	0.00
16,700.00	90.00	1.18	6,378.00	-1,428.00	9,715.55	133.55	9,716.47	0.00	0.00	0.00
<b>BHL: 300ft FNL &amp; 1795ft FWL of Sec 27</b>										
<b>16,777.95</b>	<b>90.00</b>	<b>1.18</b>	<b>6,378.00</b>	<b>-1,428.00</b>	<b>9,793.48</b>	<b>135.16</b>	<b>9,794.41</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

# Planning Report

<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GREEN TEAL FED 34-27-3HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 27' @ 4950.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 27' @ 4950.00usft
<b>Site:</b>	SE SW SEC. 34 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GREEN TEAL FED 34-27-3HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
438.05	438.00	Fox Hills Base				
1,502.54	1,485.00	Pierre Shale Top				
3,349.91	3,292.00	Richard Sandstone				
3,463.39	3,403.00	Parkman Sandstone				
4,221.85	4,146.00	Sussex Sandstone				
4,710.30	4,633.00	Shannon Sandstone				
5,526.30	5,449.00	TeePee Buttes				
6,203.92	6,110.00	Sharon Springs				
6,246.28	6,145.00	Niobrara Top				
6,460.57	6,290.00	Niobrara B2 Chalk Top				
6,602.48	6,350.00	Niobrara C Chalk Top				
6,686.48	6,370.00	Niobrara C Chalk Target Top				
6,782.34	6,378.00	Niobrara C Chalk Landing Point				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 500ft FSL & 1862ft FWL of Sec 34
300.00	300.00	0.00	0.00	START NUDGE (2°/100ft BUR)
900.00	895.62	-62.24	-6.75	EOB TO 12° INC
4,036.65	3,963.73	-710.58	-77.06	END OF TANGENT
4,636.65	4,559.35	-772.82	-83.81	EOD TO VERTICAL
5,882.34	5,805.04	-772.82	-83.81	KOP (10°/100ft BUR)
6,782.34	6,378.00	-199.98	-71.91	HZ LP: 300ft FSL & 1795ft FWL of Sec 34
16,777.95	6,378.00	9,793.48	135.16	BHL: 300ft FNL & 1795ft FWL of Sec 27