

MALLARD EXPLORATION

WELD COUNTY, COLORADO (NAD 83)

SE SW SEC. 35 T8N R60W 6th P.M.

CINNAMON TEAL FED 35-7HN

ORIGINAL WELLBORE

18 September, 2017

Plan: PROPOSAL #1





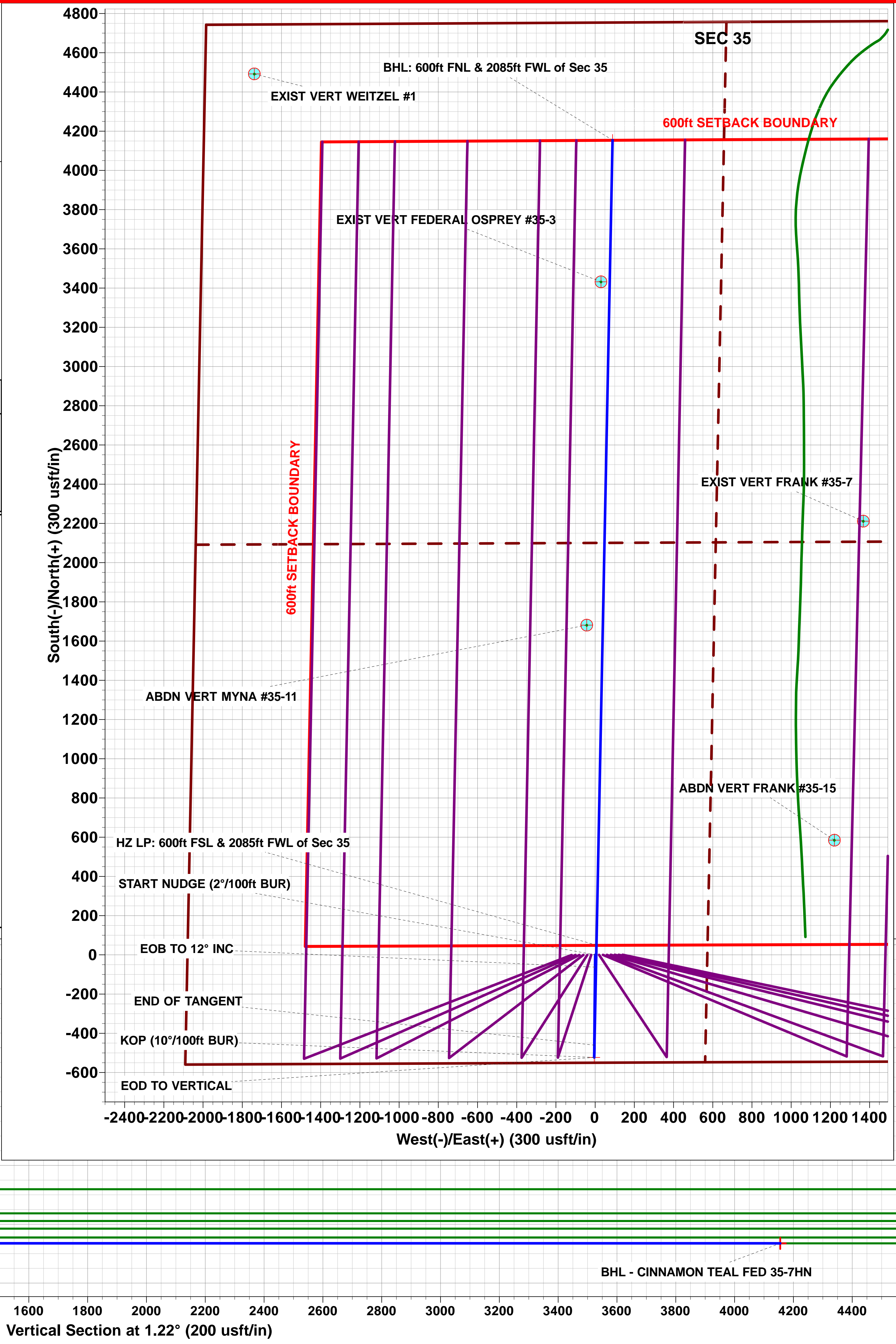
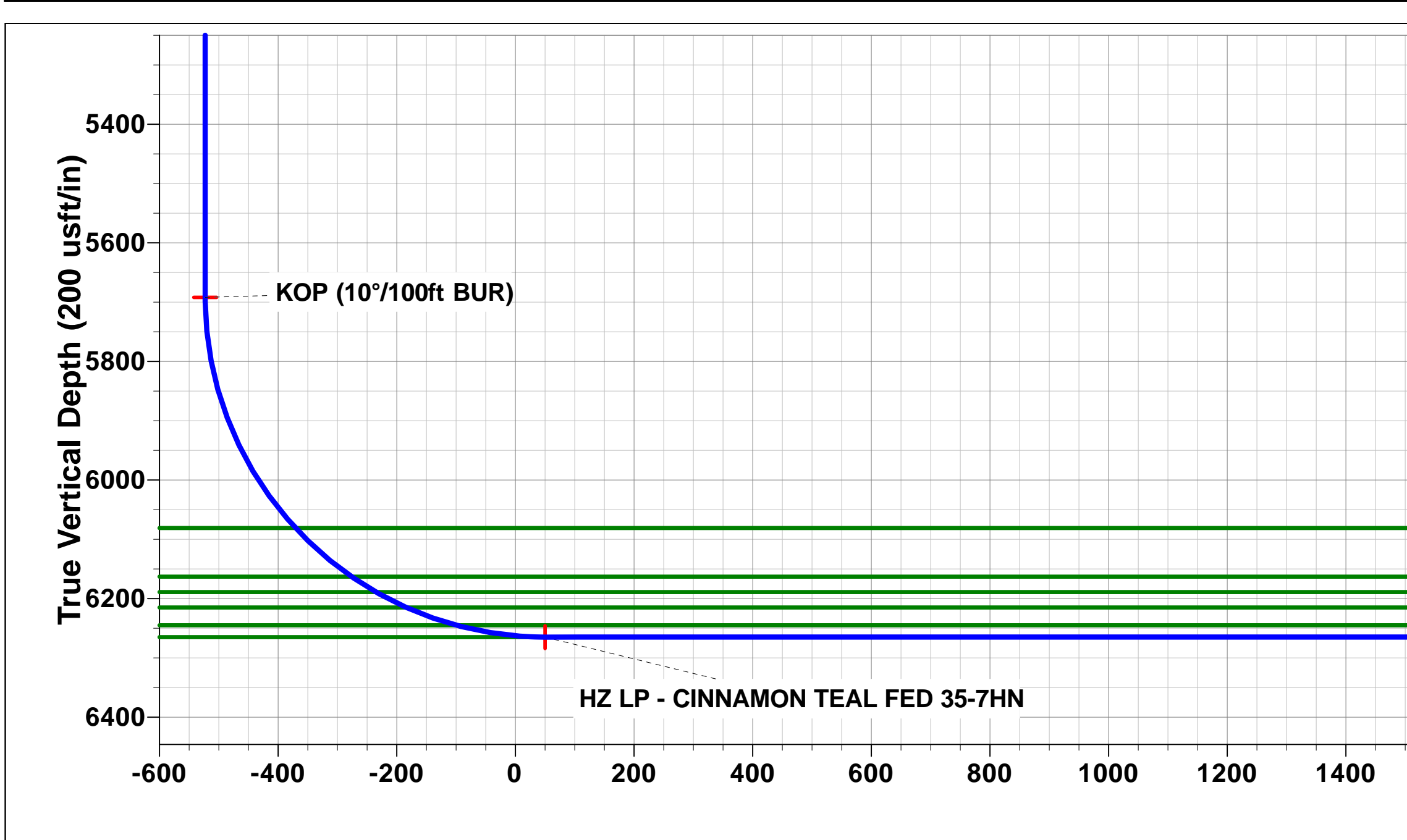
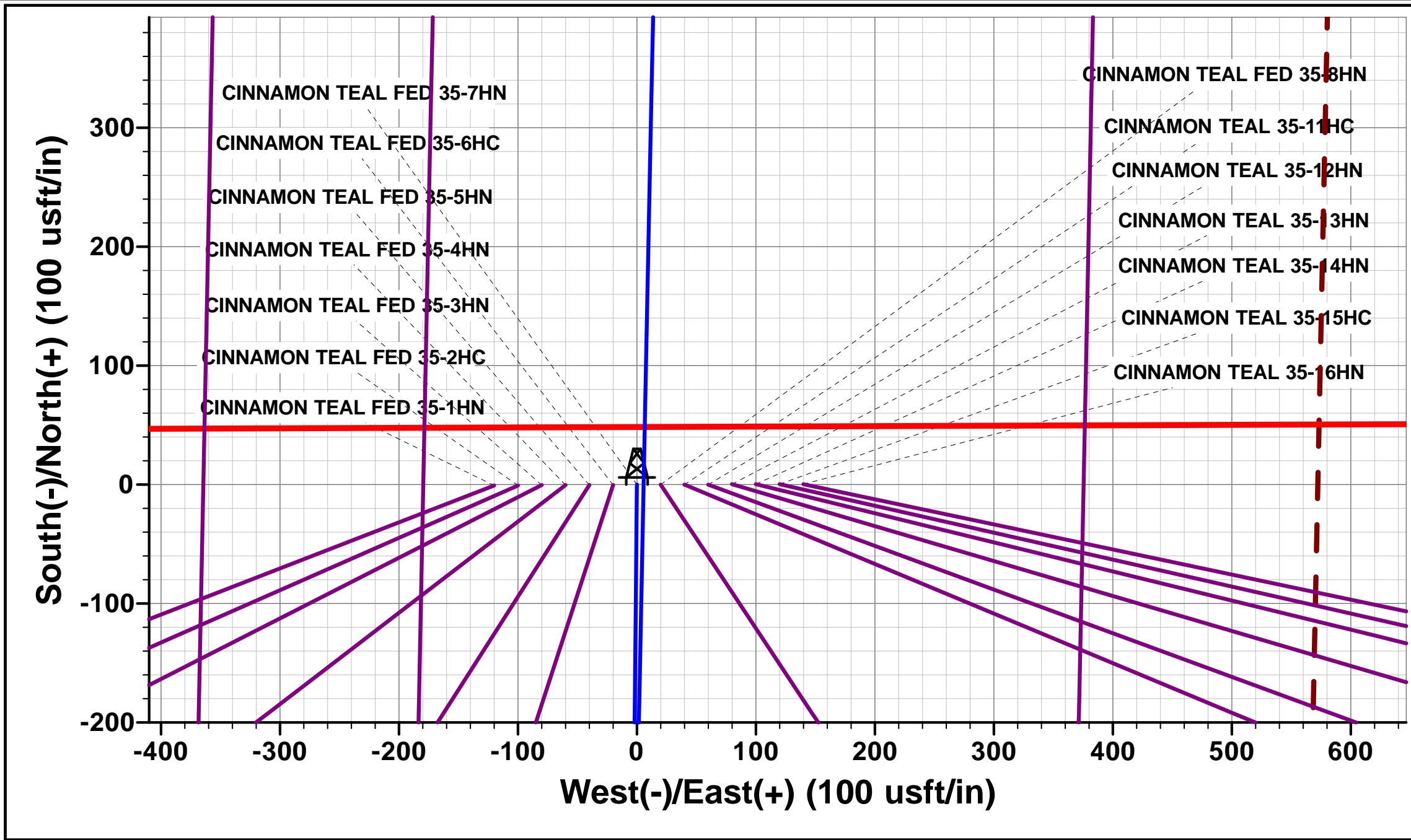
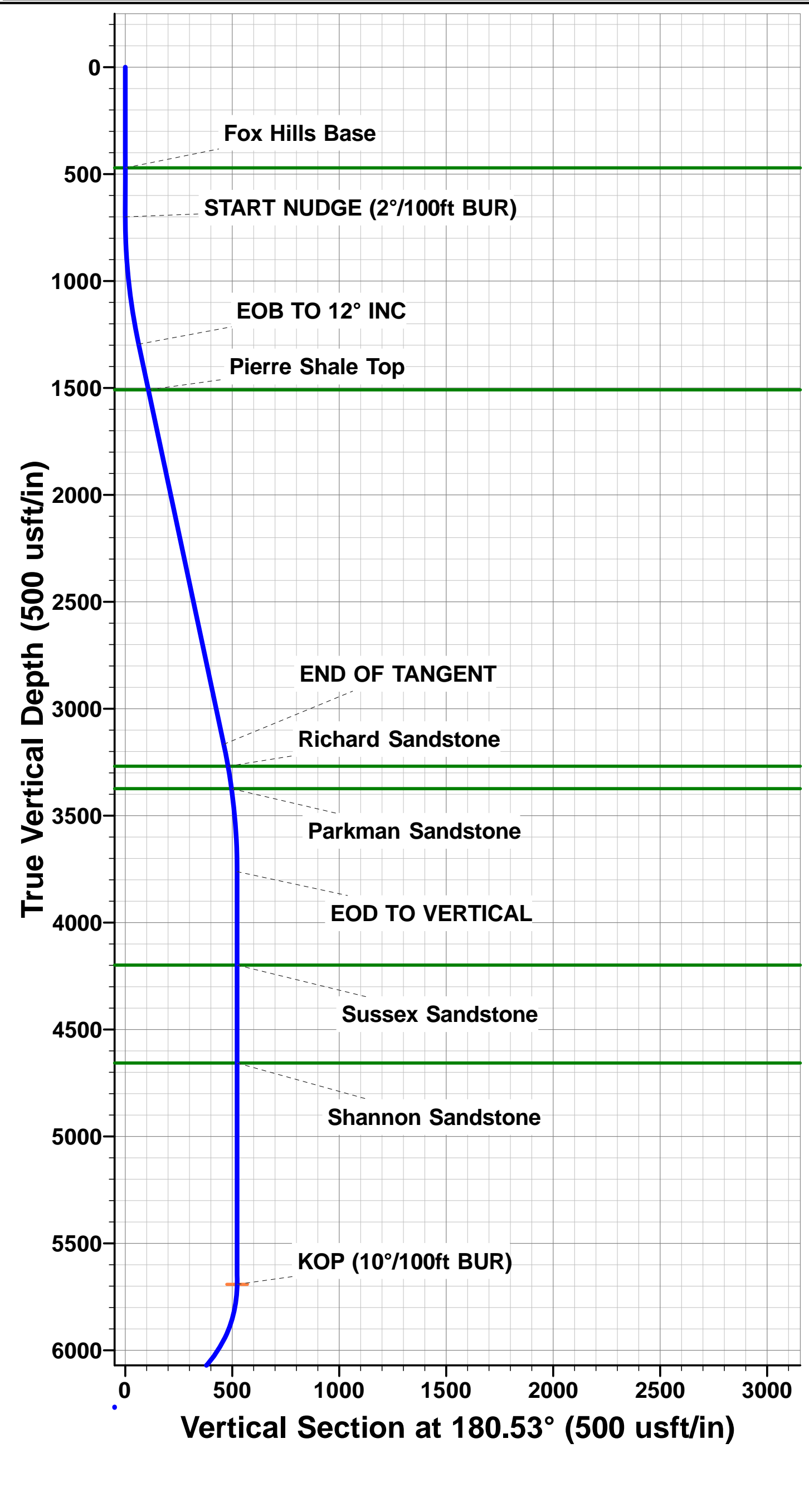
Project: WELD COUNTY, COLORADO (NAD 83)
Site: SE SW SEC. 35 T8N R60W 6th P.M.
Well: CINNAMON TEAL FED 35-7HN
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 550ft FSL & 2080ft FWL of Sec 35	
700.0	700.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
1295.6	1300.0	12.00	180.53	-62.6	-0.6	-62.6	62.6	EOB TO 12° INC	
3166.7	3212.9	12.00	180.53	-460.3	-4.2	-460.3	460.3	END OF TANGENT	
3762.4	3812.9	0.00	0.00	-522.9	-4.8	-522.9	522.9	EOD TO VERTICAL	
5692.1	5742.7	0.00	0.00	-522.9	-4.8	-522.9	522.9	KOP (10°/100ft BUR)	
6265.0	6642.6	90.00	1.15	49.9	6.7	50.1	1095.9	HZ LP: 600ft FSL & 2085ft FWL of Sec 35	
6265.0	10747.9	90.00	1.15	4154.4	88.8	4155.4	5201.2	BHL: 600ft FNL & 2085ft FWL of Sec 35	

PROPOSED LOCAL COORDINATES:

SHL: 550ft FSL & 2080ft FWL Sec 35
HZ LP: 600ft FSL & 2085ft FWL Sec 35
BHL: 600ft FNL & 2085ft FWL of Sec 35

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - CINNAMON TEAL FED 35-7HN	5692.1	-522.9	-4.8	40.611625	-104.061394
HZ LP - CINNAMON TEAL FED 35-7HN	6265.0	49.9	6.7	40.613197	-104.061353
BHL - CINNAMON TEAL FED 35-7HN	6265.0	4154.4	88.8	40.624463	-104.061057



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CINNAMON TEAL FED 35-7HN
Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Site:	SE SW SEC. 35 T8N R60W 6th P.M.	North Reference:	True
Well:	CINNAMON TEAL FED 35-7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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

Site	SE SW SEC. 35 T8N R60W 6th P.M.		
Site Position:		Northing:	1,469,416.68 usft
From:	Lat/Long	Easting:	3,399,274.71 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.613058
		Longitude:	-104.061809
		Grid Convergence:	0.93 °

Well	CINNAMON TEAL FED 35-7HN		
Well Position	+N/-S	0.7 usft	Northing:
	+E/-W	119.9 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	18/09/2017	7.82	67.12	52,544

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	6,265.0	0.0	0.0	1.22

Plan Sections											
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	-4,940.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	-4,240.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,300.0	12.00	180.53	1,295.6	-3,644.4	-62.6	-0.6	2.00	2.00	0.00	180.53	
3,212.9	12.00	180.53	3,166.7	-1,773.3	-460.3	-4.2	0.00	0.00	0.00	0.00	
3,812.9	0.00	0.00	3,762.4	-1,177.6	-522.9	-4.8	2.00	-2.00	0.00	180.00	
5,742.7	0.00	0.00	5,692.1	752.1	-522.9	-4.8	0.00	0.00	0.00	0.00	KOP - CINNAMON
6,642.6	90.00	1.15	6,265.0	1,325.0	49.9	6.7	10.00	10.00	0.13	1.15	HZ LP - CINNAMOI
10,747.9	90.00	1.15	6,265.0	1,325.0	4,154.4	88.8	0.00	0.00	0.00	173.87	BHL - CINNAMON

Planning Report



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Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Site:	SE SW SEC. 35 T8N R60W 6th P.M.	North Reference:	True
Well:	CINNAMON TEAL FED 35-7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
SHL: 550ft FSL & 2080ft FWL of Sec 35										
0.0	0.00	0.00	0.0	4,940.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,840.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,740.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,640.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,540.00	0.0	0.0	0.0	0.00	0.00	0.00
Fox Hills Base										
471.0	0.00	0.00	471.0	4,469.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,440.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,340.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
700.0	0.00	0.00	700.0	4,240.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	2.00	180.53	800.0	4,140.02	-1.7	0.0	-1.7	2.00	2.00	0.00
900.0	4.00	180.53	899.8	4,040.16	-7.0	-0.1	-7.0	2.00	2.00	0.00
1,000.0	6.00	180.53	999.5	3,940.55	-15.7	-0.1	-15.7	2.00	2.00	0.00
1,100.0	8.00	180.53	1,098.7	3,841.30	-27.9	-0.3	-27.9	2.00	2.00	0.00
1,200.0	10.00	180.53	1,197.5	3,742.53	-43.5	-0.4	-43.5	2.00	2.00	0.00
EOB TO 12° INC										
1,300.0	12.00	180.53	1,295.6	3,644.38	-62.6	-0.6	-62.6	2.00	2.00	0.00
1,400.0	12.00	180.53	1,393.4	3,546.56	-83.4	-0.8	-83.4	0.00	0.00	0.00
1,500.0	12.00	180.53	1,491.3	3,448.75	-104.2	-1.0	-104.2	0.00	0.00	0.00
Pierre Shale Top										
1,518.1	12.00	180.53	1,509.0	3,431.00	-108.0	-1.0	-107.9	0.00	0.00	0.00
1,600.0	12.00	180.53	1,589.1	3,350.93	-125.0	-1.1	-125.0	0.00	0.00	0.00
1,700.0	12.00	180.53	1,686.9	3,253.12	-145.8	-1.3	-145.8	0.00	0.00	0.00
1,800.0	12.00	180.53	1,784.7	3,155.30	-166.6	-1.5	-166.5	0.00	0.00	0.00
1,900.0	12.00	180.53	1,882.5	3,057.49	-187.3	-1.7	-187.3	0.00	0.00	0.00
2,000.0	12.00	180.53	1,980.3	2,959.67	-208.1	-1.9	-208.1	0.00	0.00	0.00
2,100.0	12.00	180.53	2,078.1	2,861.86	-228.9	-2.1	-228.9	0.00	0.00	0.00
2,200.0	12.00	180.53	2,176.0	2,764.04	-249.7	-2.3	-249.7	0.00	0.00	0.00
2,300.0	12.00	180.53	2,273.8	2,666.23	-270.5	-2.5	-270.5	0.00	0.00	0.00
2,400.0	12.00	180.53	2,371.6	2,568.41	-291.3	-2.7	-291.3	0.00	0.00	0.00
2,500.0	12.00	180.53	2,469.4	2,470.60	-312.1	-2.9	-312.1	0.00	0.00	0.00
2,600.0	12.00	180.53	2,567.2	2,372.78	-332.9	-3.1	-332.9	0.00	0.00	0.00
2,700.0	12.00	180.53	2,665.0	2,274.97	-353.7	-3.2	-353.7	0.00	0.00	0.00
2,800.0	12.00	180.53	2,762.8	2,177.16	-374.5	-3.4	-374.4	0.00	0.00	0.00
2,900.0	12.00	180.53	2,860.7	2,079.34	-395.2	-3.6	-395.2	0.00	0.00	0.00
3,000.0	12.00	180.53	2,958.5	1,981.53	-416.0	-3.8	-416.0	0.00	0.00	0.00
3,100.0	12.00	180.53	3,056.3	1,883.71	-436.8	-4.0	-436.8	0.00	0.00	0.00
3,200.0	12.00	180.53	3,154.1	1,785.90	-457.6	-4.2	-457.6	0.00	0.00	0.00
END OF TANGENT										
3,212.9	12.00	180.53	3,166.7	1,773.27	-460.3	-4.2	-460.3	0.00	0.00	0.00
3,300.0	10.26	180.53	3,252.2	1,687.82	-477.1	-4.4	-477.1	2.00	-2.00	0.00
Richard Sandstone										
3,317.1	9.92	180.53	3,269.0	1,671.00	-480.1	-4.4	-480.1	2.00	-2.00	0.00
3,400.0	8.26	180.53	3,350.9	1,589.13	-493.2	-4.5	-493.2	2.00	-2.00	0.00
Parkman Sandstone										
3,423.4	7.79	180.53	3,374.0	1,566.00	-496.5	-4.6	-496.4	2.00	-2.00	0.00
3,500.0	6.26	180.53	3,450.1	1,489.93	-505.8	-4.6	-505.8	2.00	-2.00	0.00
3,600.0	4.26	180.53	3,549.6	1,390.36	-515.0	-4.7	-515.0	2.00	-2.00	0.00
3,700.0	2.26	180.53	3,649.5	1,290.53	-520.7	-4.8	-520.7	2.00	-2.00	0.00
3,800.0	0.26	180.53	3,749.4	1,190.56	-522.9	-4.8	-522.9	2.00	-2.00	0.00
EOD TO VERTICAL										

Planning Report



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Site:	SE SW SEC. 35 T8N R60W 6th P.M.	North Reference:	True
Well:	CINNAMON TEAL FED 35-7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
3,812.9	0.00	0.00	3,762.4	1,177.64	-522.9	-4.8	-522.9	2.00	-2.00	0.00
3,900.0	0.00	0.00	3,849.4	1,090.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,000.0	0.00	0.00	3,949.4	990.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,100.0	0.00	0.00	4,049.4	890.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,200.0	0.00	0.00	4,149.4	790.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
Sussex Sandstone										
4,249.6	0.00	0.00	4,199.0	741.00	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,300.0	0.00	0.00	4,249.4	690.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,400.0	0.00	0.00	4,349.4	590.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,500.0	0.00	0.00	4,449.4	490.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,600.0	0.00	0.00	4,549.4	390.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,700.0	0.00	0.00	4,649.4	290.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
Shannon Sandstone										
4,707.6	0.00	0.00	4,657.0	283.00	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,800.0	0.00	0.00	4,749.4	190.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
4,900.0	0.00	0.00	4,849.4	90.56	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,000.0	0.00	0.00	4,949.4	-9.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,100.0	0.00	0.00	5,049.4	-109.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,200.0	0.00	0.00	5,149.4	-209.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,300.0	0.00	0.00	5,249.4	-309.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,400.0	0.00	0.00	5,349.4	-409.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,500.0	0.00	0.00	5,449.4	-509.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,600.0	0.00	0.00	5,549.4	-609.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,700.0	0.00	0.00	5,649.4	-709.44	-522.9	-4.8	-522.9	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,742.7	0.00	0.00	5,692.1	-752.10	-522.9	-4.8	-522.9	0.00	0.00	0.00
5,800.0	5.74	1.15	5,749.3	-809.35	-520.0	-4.7	-520.0	10.00	10.00	0.00
5,900.0	15.74	1.15	5,847.5	-907.47	-501.4	-4.4	-501.4	10.00	10.00	0.00
6,000.0	25.74	1.15	5,940.9	-1,000.88	-466.1	-3.7	-466.0	10.00	10.00	0.00
6,100.0	35.74	1.15	6,026.7	-1,086.72	-415.0	-2.6	-415.0	10.00	10.00	0.00
Sharon Springs										
6,170.1	42.75	1.15	6,081.0	-1,141.00	-370.7	-1.8	-370.7	10.00	10.00	0.00
6,200.0	45.74	1.15	6,102.4	-1,162.39	-349.9	-1.3	-349.8	10.00	10.00	0.00
Niobrara A Chalk										
6,295.4	55.28	1.15	6,163.0	-1,223.00	-276.3	0.1	-276.3	10.00	10.00	0.00
6,300.0	55.74	1.15	6,165.6	-1,225.60	-272.6	0.2	-272.5	10.00	10.00	0.00
Niobrara A Chalk Base										
6,344.1	60.15	1.15	6,189.0	-1,249.00	-235.2	1.0	-235.1	10.00	10.00	0.00
6,400.0	65.74	1.15	6,214.4	-1,274.41	-185.4	2.0	-185.4	10.00	10.00	0.00
Niobrara B1 Chalk Top										
6,401.4	65.88	1.15	6,215.0	-1,275.00	-184.1	2.0	-184.1	10.00	10.00	0.00
Niobrara B1 Chalk Base										
6,490.7	74.82	1.15	6,245.0	-1,305.00	-100.1	3.7	-100.0	10.00	10.00	0.00
6,500.0	75.74	1.15	6,247.4	-1,307.35	-91.2	3.8	-91.1	10.00	10.00	0.00
6,600.0	85.74	1.15	6,263.4	-1,323.42	7.4	5.8	7.5	10.00	10.00	0.00
HZ LP: 600ft FSL & 2085ft FWL of Sec 35 - Niobrara B2 Chalk Top (Target)										
6,642.6	90.00	1.15	6,265.0	-1,325.00	49.9	6.7	50.1	10.00	10.00	0.00
6,700.0	90.00	1.15	6,265.0	-1,325.00	107.3	7.8	107.5	0.00	0.00	0.00
6,800.0	90.00	1.15	6,265.0	-1,324.99	207.3	9.8	207.5	0.00	0.00	0.00
6,900.0	90.00	1.15	6,265.0	-1,324.99	307.3	11.8	307.5	0.00	0.00	0.00
7,000.0	90.00	1.15	6,265.0	-1,324.98	407.2	13.8	407.5	0.00	0.00	0.00
7,100.0	90.00	1.15	6,265.0	-1,324.98	507.2	15.8	507.5	0.00	0.00	0.00
7,200.0	90.00	1.15	6,265.0	-1,324.97	607.2	17.8	607.5	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CINNAMON TEAL FED 35-7HN
Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Site:	SE SW SEC. 35 T8N R60W 6th P.M.	North Reference:	True
Well:	CINNAMON TEAL FED 35-7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
7,300.0	90.00	1.15	6,265.0	-1,324.97	707.2	19.8	707.5	0.00	0.00	0.00
7,400.0	90.00	1.15	6,265.0	-1,324.96	807.2	21.8	807.5	0.00	0.00	0.00
7,500.0	90.00	1.15	6,265.0	-1,324.96	907.1	23.8	907.5	0.00	0.00	0.00
7,600.0	90.00	1.15	6,265.0	-1,324.95	1,007.1	25.8	1,007.5	0.00	0.00	0.00
7,700.0	90.00	1.15	6,265.0	-1,324.95	1,107.1	27.8	1,107.5	0.00	0.00	0.00
7,800.0	90.00	1.15	6,264.9	-1,324.95	1,207.1	29.8	1,207.5	0.00	0.00	0.00
7,900.0	90.00	1.15	6,264.9	-1,324.95	1,307.1	31.8	1,307.5	0.00	0.00	0.00
8,000.0	90.00	1.15	6,264.9	-1,324.94	1,407.0	33.8	1,407.5	0.00	0.00	0.00
8,100.0	90.00	1.15	6,264.9	-1,324.94	1,507.0	35.8	1,507.5	0.00	0.00	0.00
8,200.0	90.00	1.15	6,264.9	-1,324.94	1,607.0	37.8	1,607.5	0.00	0.00	0.00
8,300.0	90.00	1.15	6,264.9	-1,324.94	1,707.0	39.8	1,707.5	0.00	0.00	0.00
8,400.0	90.00	1.15	6,264.9	-1,324.94	1,807.0	41.8	1,807.4	0.00	0.00	0.00
8,500.0	90.00	1.15	6,264.9	-1,324.94	1,906.9	43.8	1,907.4	0.00	0.00	0.00
8,600.0	90.00	1.15	6,264.9	-1,324.94	2,006.9	45.8	2,007.4	0.00	0.00	0.00
8,700.0	90.00	1.15	6,264.9	-1,324.94	2,106.9	47.8	2,107.4	0.00	0.00	0.00
8,800.0	90.00	1.15	6,264.9	-1,324.94	2,206.9	49.8	2,207.4	0.00	0.00	0.00
8,900.0	90.00	1.15	6,264.9	-1,324.94	2,306.9	51.8	2,307.4	0.00	0.00	0.00
9,000.0	90.00	1.15	6,264.9	-1,324.94	2,406.8	53.8	2,407.4	0.00	0.00	0.00
9,100.0	90.00	1.15	6,264.9	-1,324.94	2,506.8	55.8	2,507.4	0.00	0.00	0.00
9,200.0	90.00	1.15	6,264.9	-1,324.94	2,606.8	57.8	2,607.4	0.00	0.00	0.00
9,300.0	90.00	1.15	6,264.9	-1,324.94	2,706.8	59.8	2,707.4	0.00	0.00	0.00
9,400.0	90.00	1.15	6,264.9	-1,324.94	2,806.8	61.8	2,807.4	0.00	0.00	0.00
9,500.0	90.00	1.15	6,264.9	-1,324.95	2,906.7	63.8	2,907.4	0.00	0.00	0.00
9,600.0	90.00	1.15	6,264.9	-1,324.95	3,006.7	65.8	3,007.4	0.00	0.00	0.00
9,700.0	90.00	1.15	6,265.0	-1,324.95	3,106.7	67.9	3,107.4	0.00	0.00	0.00
9,800.0	90.00	1.15	6,265.0	-1,324.96	3,206.7	69.9	3,207.4	0.00	0.00	0.00
9,900.0	90.00	1.15	6,265.0	-1,324.96	3,306.7	71.9	3,307.4	0.00	0.00	0.00
10,000.0	90.00	1.15	6,265.0	-1,324.96	3,406.6	73.9	3,407.4	0.00	0.00	0.00
10,100.0	90.00	1.15	6,265.0	-1,324.97	3,506.6	75.9	3,507.4	0.00	0.00	0.00
10,200.0	90.00	1.15	6,265.0	-1,324.97	3,606.6	77.9	3,607.4	0.00	0.00	0.00
10,300.0	90.00	1.15	6,265.0	-1,324.98	3,706.6	79.9	3,707.4	0.00	0.00	0.00
10,400.0	90.00	1.15	6,265.0	-1,324.98	3,806.6	81.9	3,807.4	0.00	0.00	0.00
10,500.0	90.00	1.15	6,265.0	-1,324.99	3,906.5	83.9	3,907.4	0.00	0.00	0.00
10,600.0	90.00	1.15	6,265.0	-1,324.99	4,006.5	85.9	4,007.4	0.00	0.00	0.00
10,700.0	90.00	1.15	6,265.0	-1,325.00	4,106.5	87.9	4,107.4	0.00	0.00	0.00
BHL: 600ft FNL & 2085ft FWL of Sec 35										
10,747.9	90.00	1.15	6,265.0	-1,325.00	4,154.4	88.8	4,155.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well CINNAMON TEAL FED 35-7HN
Company:	MALLARD EXPLORATION	TVD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4940.0usft (Original Well Elev)
Site:	SE SW SEC. 35 T8N R60W 6th P.M.	North Reference:	True
Well:	CINNAMON TEAL FED 35-7HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Formations					
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
471.0	471.0	Fox Hills Base			
1,518.1	1,509.0	Pierre Shale Top			
3,317.1	3,269.0	Richard Sandstone			
3,423.4	3,374.0	Parkman Sandstone			
4,249.6	4,199.0	Sussex Sandstone			
4,707.6	4,657.0	Shannon Sandstone			
6,170.1	6,081.0	Sharon Springs			
6,295.4	6,163.0	Niobrara A Chalk			
6,344.1	6,189.0	Niobrara A Chalk Base			
6,401.4	6,215.0	Niobrara B1 Chalk Top			
6,490.7	6,245.0	Niobrara B1 Chalk Base			
6,642.6	6,265.0	Niobrara B2 Chalk Top (Target)			

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 550ft FSL & 2080ft FWL of Sec 35
700.0	700.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,300.0	1,295.6	-62.6	-0.6	EOB TO 12° INC
3,212.9	3,166.7	-460.3	-4.2	END OF TANGENT
3,812.9	3,762.4	-522.9	-4.8	EOD TO VERTICAL
5,742.7	5,692.1	-522.9	-4.8	KOP (10°/100ft BUR)
6,642.6	6,265.0	49.9	6.7	HZ LP: 600ft FSL & 2085ft FWL of Sec 35
10,747.9	6,265.0	4,154.4	88.8	BHL: 600ft FNL & 2085ft FWL of Sec 35