

# **MALLARD EXPLORATION**

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

**SE NW SEC. 21 T8N R60W 6th P.M.**

**GOLDENEYE FED 21-16-6HN**

**ORIGINAL WELLBORE**

**03 September, 2019**

**Plan: PROPOSAL #3**





Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SE NW SEC. 21 T8N R60W 6th P.M.  
Well: GOLDENEYE FED 21-16-6HN  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #3

ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 2365ft FNL & 2256ft FWL of Sec 21
200.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (4"/100ft BUR)
1111.02	1187.38	39.50	151.41	-287.17	156.51	-232.83	327.05	EOB TO 39.5° INC
4743.02	5894.00	39.50	151.41	-2915.60	1589.06	-2363.93	3320.52	END OF TANGENT
5654.04	6881.37	0.00	151.41	-3202.76	1745.57	-2596.76	3647.56	EOD TO VERTICAL
5754.04	6981.37	0.00	0.00	-3202.76	1745.57	-2596.76	3647.56	KOP (10"/100ft BUR)
6327.00	7881.38	90.00	2.56	-2630.37	1771.16	-2039.53	4220.52	HZ LP: 300ft FSL & 1220ft FEL of Sec 21
6327.00	13636.61	90.00	2.57	3119.10	2028.50	3557.74	9975.75	IP #1: 750ft FSL & 1075ft FEL of Sec 16
6327.00	13687.19	90.00	1.05	3169.66	2030.10	3606.77	10026.33	EOT TO 1.05° AZ
6327.00	17855.53	90.00	1.05	7337.30	2106.39	7633.66	14194.67	BHL: 300ft FNL & 1075ft FEL of Sec 16

PROPOSED LOCAL COORDINATES:

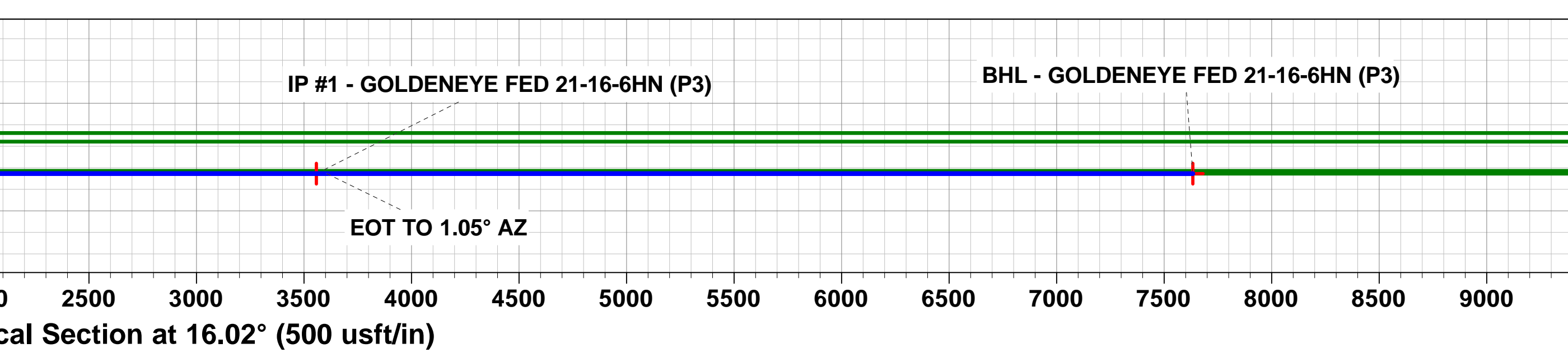
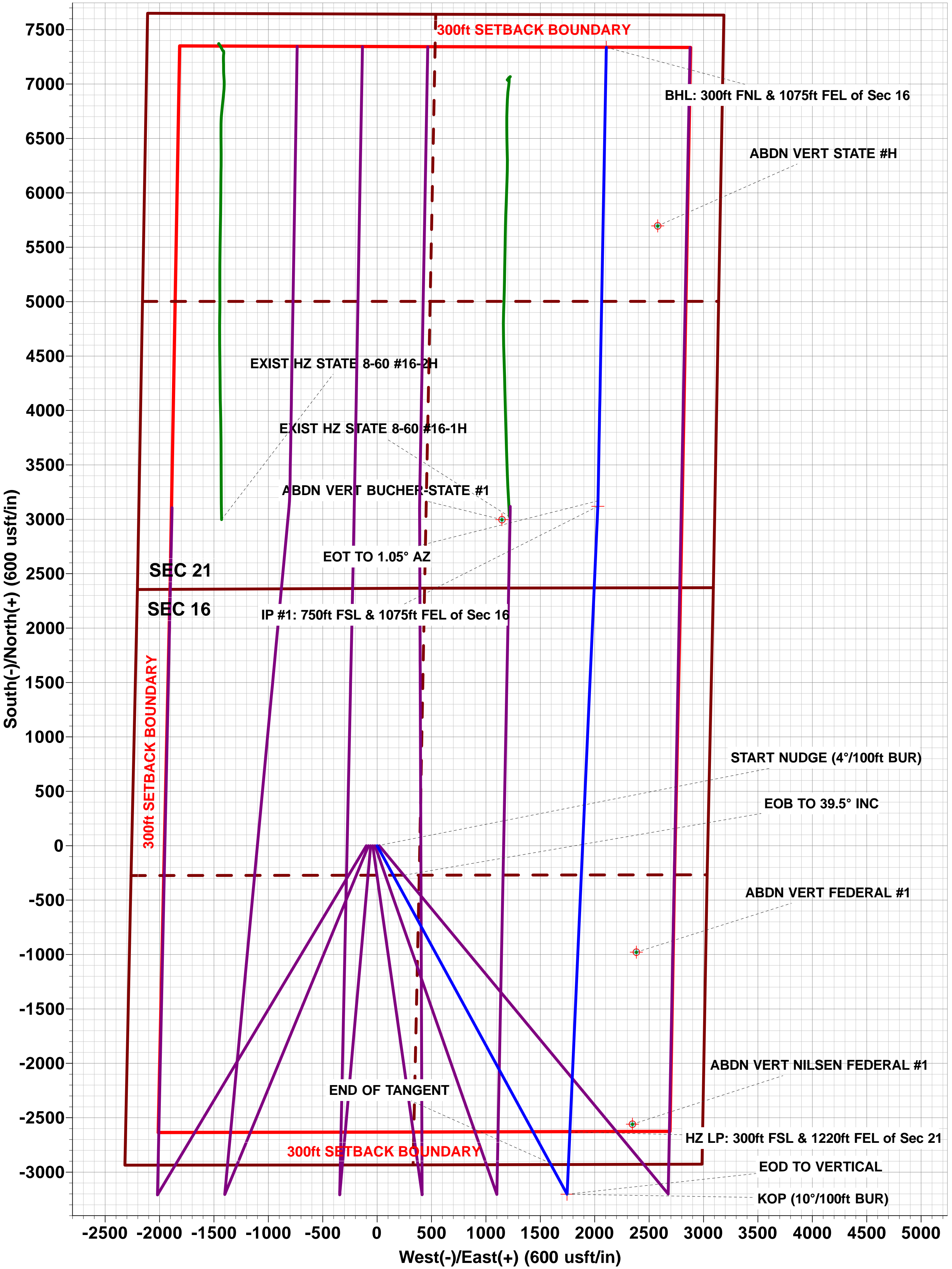
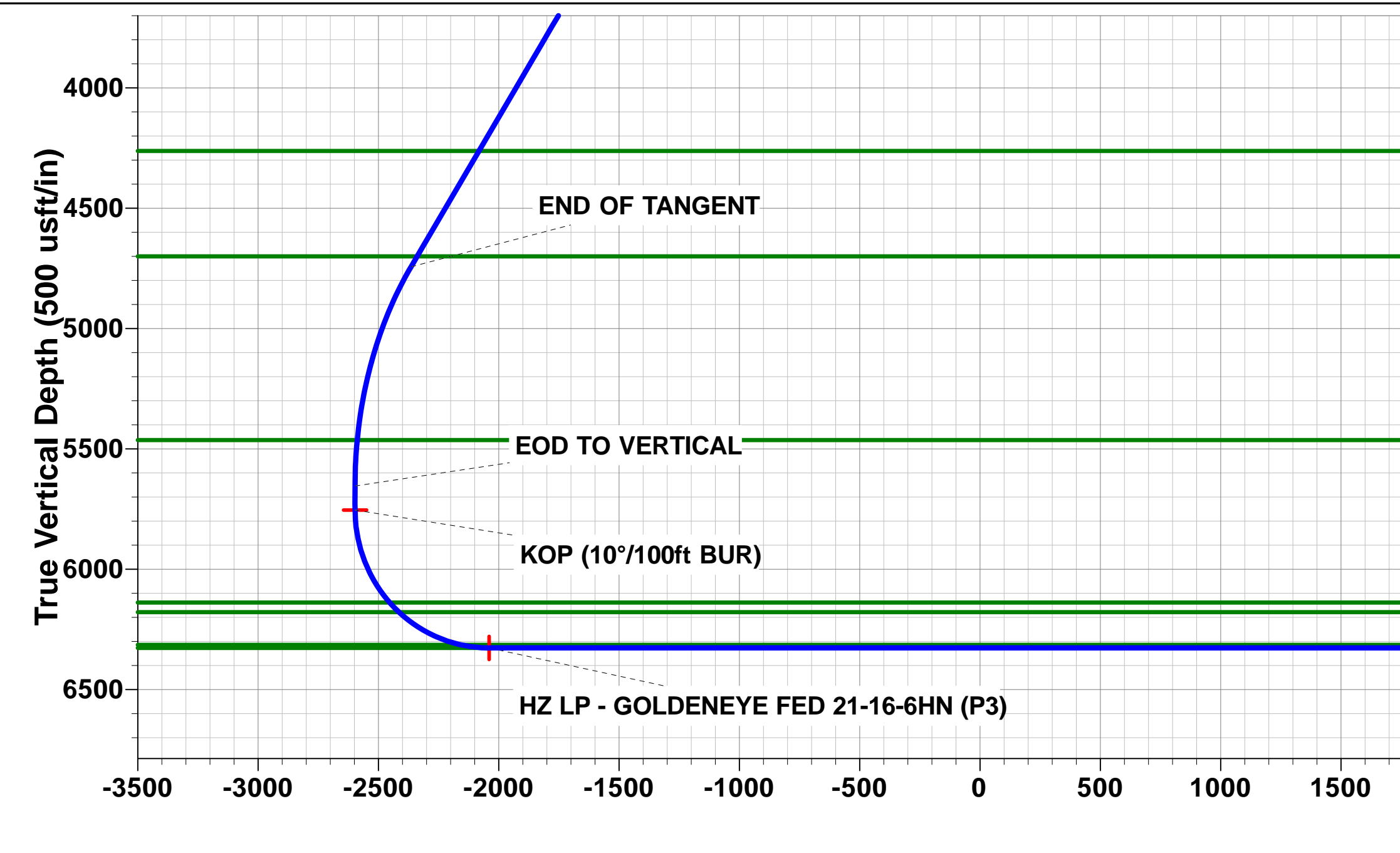
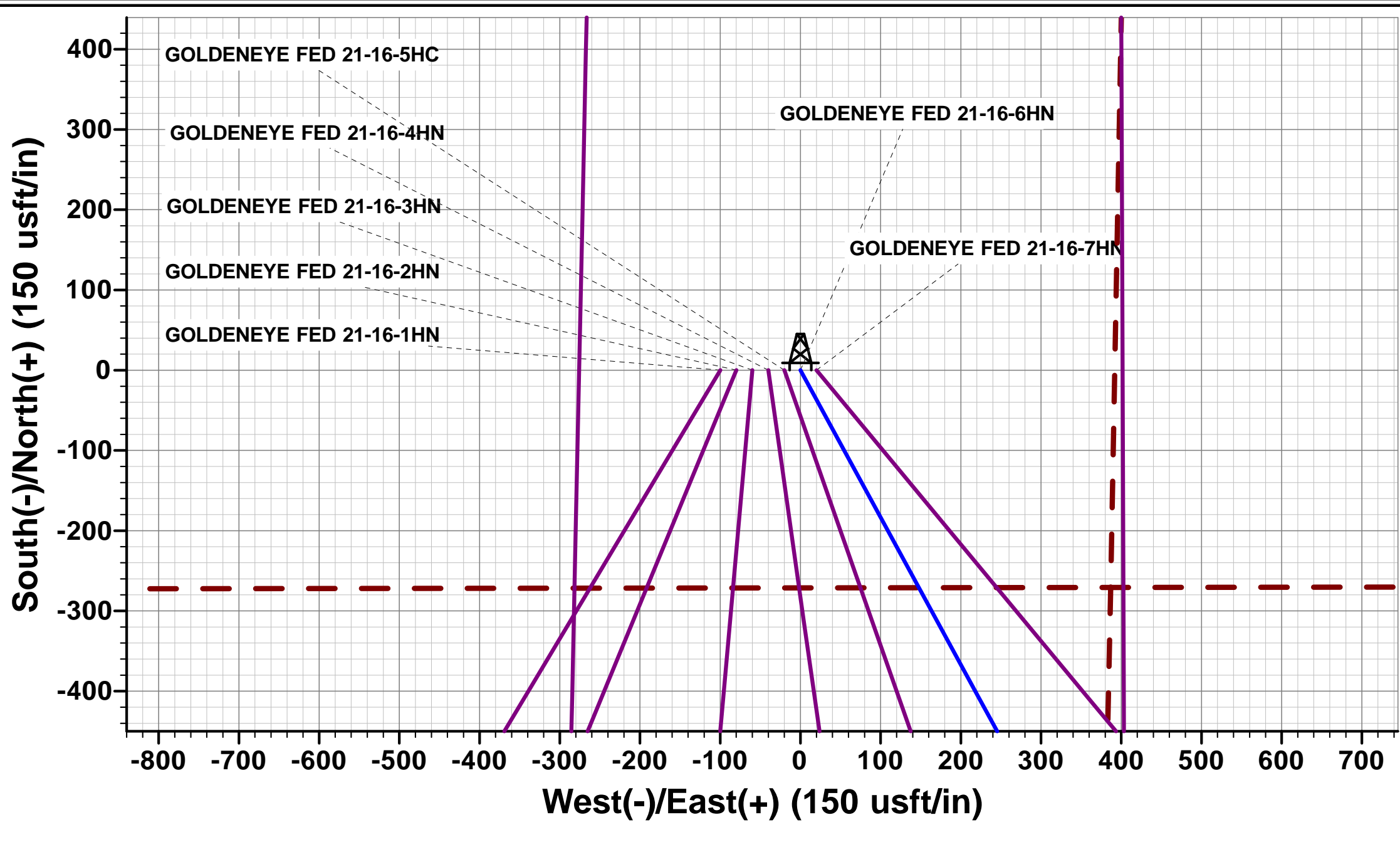
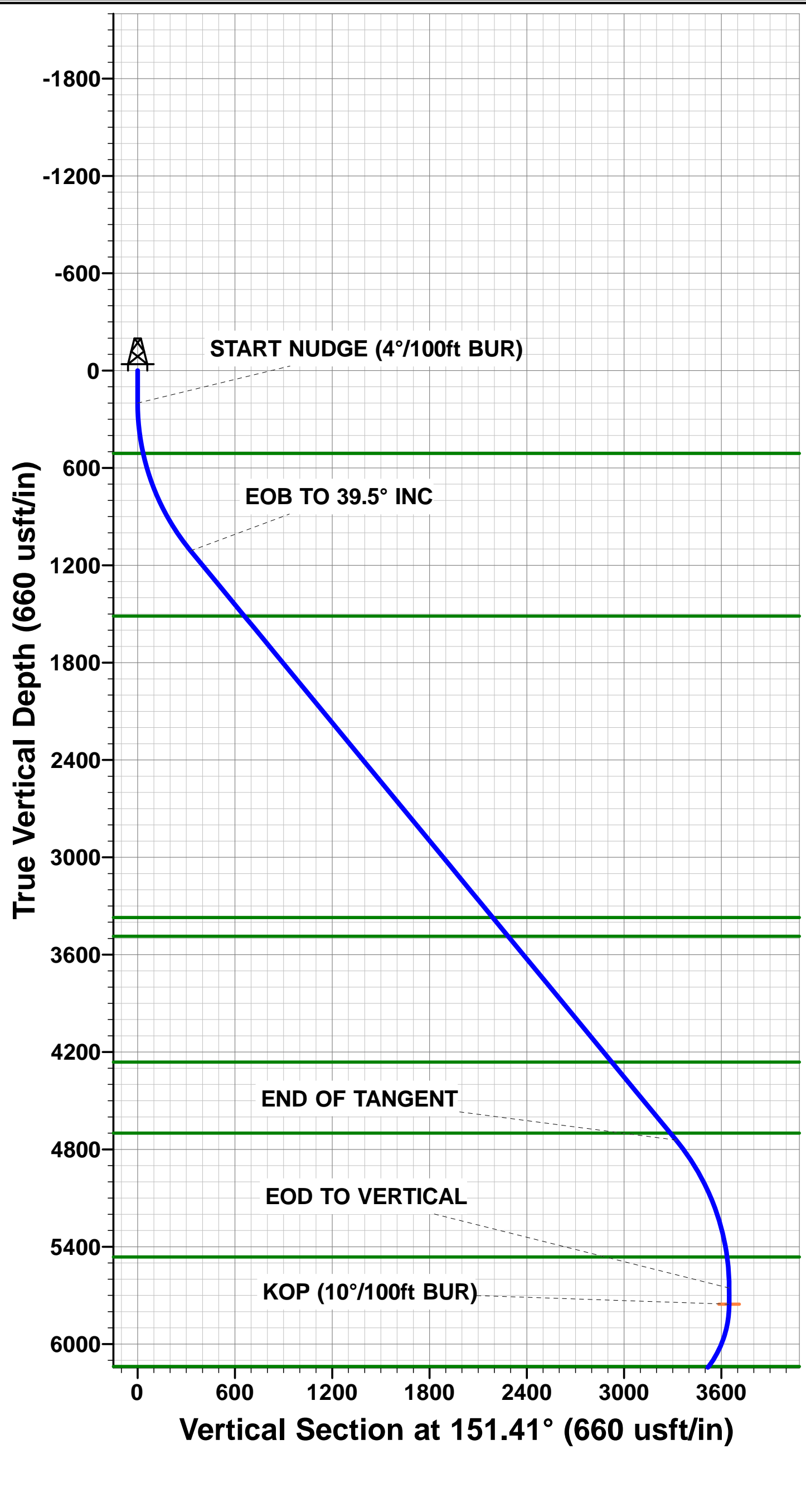
SHL: 2365ft FNL & 2256ft FWL Sec 21

HZ LP: 300ft FSL & 1220ft FEL Sec 21

IP #1: 750ft FSL & 1075ft FEL of Sec 16

BHL: 300ft FNL & 1075ft FEL of Sec 16

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - GOLDENEYE FED 21-16-6HN (P3)	5754.04	-3202.76	1745.57	40.639799	-104.091687
HZ LP - GOLDENEYE FED 21-16-6HN (P3)	6327.00	-2630.37	1771.16	40.641370	-104.091595
IP #1 - GOLDENEYE FED 21-16-6HN (P3)	6327.00	3119.10	2028.50	40.657151	-104.090666
BHL - GOLDENEYE FED 21-16-6HN (P3)	6327.00	7337.30	2106.39	40.668729	-104.090384



# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

<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 NW SEC. 21 T8N R60W 6th P.M.				
Site Position:		Northing:	1,482,197.63 usft	Latitude:	40.648590
From:	Lat/Long	Easting:	3,388,929.95 usft	Longitude:	-104.098337
Position Uncertainty:	0.00 usft	Slot Radius:	1.10 ft	Grid Convergence:	0.91 °

Well		GOLDENEYE FED 21-16-6HN				
Well Position	+N/-S	-0.01 usft	Northing:	1,482,199.20 usft	Latitude:	40.648590
	+E/-W	99.90 usft	Easting:	3,389,029.84 usft	Longitude:	-104.097977
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,935.00 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	03/09/2019	7.63	67.09	52,334

<b>Design</b>	PROPOSAL #3			
<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>
	6,327.00	0.00	0.00	16.02

<b>Plan Sections</b>											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (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	-4,960.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	-4,760.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,187.38	39.50	151.41	1,111.02	-3,848.98	-287.16	156.51	4.00	4.00	0.00	151.41	
5,894.00	39.50	151.41	4,743.02	-216.98	-2,915.60	1,589.06	0.00	0.00	0.00	0.00	
6,881.37	0.00	0.00	5,654.04	694.04	-3,202.76	1,745.57	4.00	-4.00	0.00	180.00	
6,981.37	0.00	0.00	5,754.04	794.04	-3,202.76	1,745.57	0.00	0.00	0.00	0.00	KOP - GOLDENEYE
7,881.38	90.00	2.56	6,327.00	1,367.00	-2,630.37	1,771.16	10.00	10.00	0.28	2.56	HZ LP - GOLDENEYE
13,636.61	90.00	2.57	6,327.00	1,367.00	3,119.10	2,028.50	0.00	0.00	0.00	98.10	IP #1 - GOLDENEYE
13,687.19	90.00	1.05	6,327.00	1,367.00	3,169.65	2,030.10	3.00	0.00	-3.00	-89.98	
17,855.53	90.00	1.05	6,327.00	1,367.00	7,337.30	2,106.39	0.00	0.00	0.00	0.00	BHL - GOLDENEYE

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## 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: 2365ft FNL &amp; 2256ft FWL of Sec 21</b>										
0.00	0.00	0.00	0.00	4,960.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,860.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>START NUDGE (4°/100ft BUR)</b>										
200.00	0.00	0.00	200.00	4,760.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	4.00	151.41	299.92	4,660.08	-3.06	1.67	-2.48	4.00	4.00	0.00
400.00	8.00	151.41	399.35	4,560.65	-12.24	6.67	-9.92	4.00	4.00	0.00
500.00	12.00	151.41	497.81	4,462.19	-27.48	14.98	-22.28	4.00	4.00	0.00
<b>Fox Hills Base</b>										
512.47	12.50	151.41	510.00	4,450.00	-29.81	16.25	-24.17	4.00	4.00	0.00
600.00	16.00	151.41	594.82	4,365.18	-48.72	26.55	-39.50	4.00	4.00	0.00
700.00	20.00	151.41	689.91	4,270.09	-75.85	41.34	-61.50	4.00	4.00	0.00
800.00	24.00	151.41	782.61	4,177.39	-108.74	59.26	-88.16	4.00	4.00	0.00
900.00	28.00	151.41	872.47	4,087.53	-147.22	80.24	-119.36	4.00	4.00	0.00
1,000.00	32.00	151.41	959.05	4,000.95	-191.11	104.16	-154.95	4.00	4.00	0.00
1,100.00	36.00	151.41	1,041.94	3,918.06	-240.20	130.92	-194.75	4.00	4.00	0.00
<b>EOB TO 39.5° INC</b>										
1,187.38	39.50	151.41	1,111.02	3,848.98	-287.17	156.51	-232.83	4.00	4.00	0.00
1,200.00	39.50	151.41	1,120.76	3,839.24	-294.21	160.35	-238.54	0.00	0.00	0.00
1,300.00	39.50	151.41	1,197.93	3,762.07	-350.06	190.79	-283.82	0.00	0.00	0.00
1,400.00	39.50	151.41	1,275.10	3,684.90	-405.90	221.23	-329.10	0.00	0.00	0.00
1,500.00	39.50	151.41	1,352.26	3,607.74	-461.75	251.66	-374.38	0.00	0.00	0.00
1,600.00	39.50	151.41	1,429.43	3,530.57	-517.60	282.10	-419.66	0.00	0.00	0.00
1,700.00	39.50	151.41	1,506.60	3,453.40	-573.44	312.54	-464.94	0.00	0.00	0.00
<b>Pierre Shale Top</b>										
1,708.29	39.50	151.41	1,513.00	3,447.00	-578.07	315.06	-468.69	0.00	0.00	0.00
1,800.00	39.50	151.41	1,583.77	3,376.23	-629.29	342.97	-510.22	0.00	0.00	0.00
1,900.00	39.50	151.41	1,660.94	3,299.06	-685.13	373.41	-555.50	0.00	0.00	0.00
2,000.00	39.50	151.41	1,738.10	3,221.90	-740.98	403.85	-600.77	0.00	0.00	0.00
2,100.00	39.50	151.41	1,815.27	3,144.73	-796.82	434.28	-646.05	0.00	0.00	0.00
2,200.00	39.50	151.41	1,892.44	3,067.56	-852.67	464.72	-691.33	0.00	0.00	0.00
2,300.00	39.50	151.41	1,969.61	2,990.39	-908.51	495.16	-736.61	0.00	0.00	0.00
2,400.00	39.50	151.41	2,046.78	2,913.22	-964.36	525.60	-781.89	0.00	0.00	0.00
2,500.00	39.50	151.41	2,123.94	2,836.06	-1,020.20	556.03	-827.17	0.00	0.00	0.00
2,600.00	39.50	151.41	2,201.11	2,758.89	-1,076.05	586.47	-872.45	0.00	0.00	0.00
2,700.00	39.50	151.41	2,278.28	2,681.72	-1,131.89	616.91	-917.73	0.00	0.00	0.00
2,800.00	39.50	151.41	2,355.45	2,604.55	-1,187.74	647.34	-963.00	0.00	0.00	0.00
2,900.00	39.50	151.41	2,432.62	2,527.38	-1,243.59	677.78	-1,008.28	0.00	0.00	0.00
3,000.00	39.50	151.41	2,509.78	2,450.22	-1,299.43	708.22	-1,053.56	0.00	0.00	0.00
3,100.00	39.50	151.41	2,586.95	2,373.05	-1,355.28	738.65	-1,098.84	0.00	0.00	0.00
3,200.00	39.50	151.41	2,664.12	2,295.88	-1,411.12	769.09	-1,144.12	0.00	0.00	0.00
3,300.00	39.50	151.41	2,741.29	2,218.71	-1,466.97	799.53	-1,189.40	0.00	0.00	0.00
3,400.00	39.50	151.41	2,818.45	2,141.55	-1,522.81	829.96	-1,234.68	0.00	0.00	0.00
3,500.00	39.50	151.41	2,895.62	2,064.38	-1,578.66	860.40	-1,279.96	0.00	0.00	0.00
3,600.00	39.50	151.41	2,972.79	1,987.21	-1,634.50	890.84	-1,325.23	0.00	0.00	0.00
3,700.00	39.50	151.41	3,049.96	1,910.04	-1,690.35	921.27	-1,370.51	0.00	0.00	0.00
3,800.00	39.50	151.41	3,127.13	1,832.87	-1,746.19	951.71	-1,415.79	0.00	0.00	0.00
3,900.00	39.50	151.41	3,204.29	1,755.71	-1,802.04	982.15	-1,461.07	0.00	0.00	0.00
4,000.00	39.50	151.41	3,281.46	1,678.54	-1,857.89	1,012.59	-1,506.35	0.00	0.00	0.00
4,100.00	39.50	151.41	3,358.63	1,601.37	-1,913.73	1,043.02	-1,551.63	0.00	0.00	0.00
<b>Richard Sandstone</b>										
4,116.03	39.50	151.41	3,371.00	1,589.00	-1,922.68	1,047.90	-1,558.89	0.00	0.00	0.00
4,200.00	39.50	151.41	3,435.80	1,524.20	-1,969.58	1,073.46	-1,596.91	0.00	0.00	0.00



# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## 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>Parkman Sandstone</b>										
4,265.06	39.50	151.41	3,486.00	1,474.00	-2,005.91	1,093.26	-1,626.36	0.00	0.00	0.00
4,300.00	39.50	151.41	3,512.97	1,447.03	-2,025.42	1,103.90	-1,642.19	0.00	0.00	0.00
4,400.00	39.50	151.41	3,590.13	1,369.87	-2,081.27	1,134.33	-1,687.46	0.00	0.00	0.00
4,500.00	39.50	151.41	3,667.30	1,292.70	-2,137.11	1,164.77	-1,732.74	0.00	0.00	0.00
4,600.00	39.50	151.41	3,744.47	1,215.53	-2,192.96	1,195.21	-1,778.02	0.00	0.00	0.00
4,700.00	39.50	151.41	3,821.64	1,138.36	-2,248.80	1,225.64	-1,823.30	0.00	0.00	0.00
4,800.00	39.50	151.41	3,898.81	1,061.19	-2,304.65	1,256.08	-1,868.58	0.00	0.00	0.00
4,900.00	39.50	151.41	3,975.97	984.03	-2,360.49	1,286.52	-1,913.86	0.00	0.00	0.00
5,000.00	39.50	151.41	4,053.14	906.86	-2,416.34	1,316.95	-1,959.14	0.00	0.00	0.00
5,100.00	39.50	151.41	4,130.31	829.69	-2,472.18	1,347.39	-2,004.42	0.00	0.00	0.00
5,200.00	39.50	151.41	4,207.48	752.52	-2,528.03	1,377.83	-2,049.69	0.00	0.00	0.00
<b>Sussex Sandstone</b>										
5,270.66	39.50	151.41	4,262.00	698.00	-2,567.49	1,399.33	-2,081.69	0.00	0.00	0.00
5,300.00	39.50	151.41	4,284.64	675.36	-2,583.88	1,408.27	-2,094.97	0.00	0.00	0.00
5,400.00	39.50	151.41	4,361.81	598.19	-2,639.72	1,438.70	-2,140.25	0.00	0.00	0.00
5,500.00	39.50	151.41	4,438.98	521.02	-2,695.57	1,469.14	-2,185.53	0.00	0.00	0.00
5,600.00	39.50	151.41	4,516.15	443.85	-2,751.41	1,499.58	-2,230.81	0.00	0.00	0.00
5,700.00	39.50	151.41	4,593.32	366.68	-2,807.26	1,530.01	-2,276.09	0.00	0.00	0.00
5,800.00	39.50	151.41	4,670.48	289.52	-2,863.10	1,560.45	-2,321.37	0.00	0.00	0.00
<b>Shannon Sandstone</b>										
5,838.25	39.50	151.41	4,700.00	260.00	-2,884.46	1,572.09	-2,338.69	0.00	0.00	0.00
<b>END OF TANGENT</b>										
5,894.00	39.50	151.41	4,743.02	216.98	-2,915.60	1,589.06	-2,363.93	0.00	0.00	0.00
5,900.00	39.25	151.41	4,747.66	212.34	-2,918.94	1,590.88	-2,366.64	4.00	-4.00	0.00
6,000.00	35.25	151.41	4,827.24	132.76	-2,972.08	1,619.85	-2,409.73	4.00	-4.00	0.00
6,100.00	31.25	151.41	4,910.85	49.15	-3,020.22	1,646.08	-2,448.76	4.00	-4.00	0.00
6,200.00	27.25	151.41	4,998.07	-38.07	-3,063.12	1,669.47	-2,483.54	4.00	-4.00	0.00
6,300.00	23.25	151.41	5,088.50	-128.50	-3,100.58	1,689.88	-2,513.91	4.00	-4.00	0.00
6,400.00	19.25	151.41	5,181.68	-221.68	-3,132.40	1,707.22	-2,539.71	4.00	-4.00	0.00
6,500.00	15.25	151.41	5,277.16	-317.16	-3,158.44	1,721.42	-2,560.83	4.00	-4.00	0.00
6,600.00	11.25	151.41	5,374.47	-414.47	-3,178.57	1,732.39	-2,577.15	4.00	-4.00	0.00
<b>TeePee Buttes</b>										
6,689.76	7.66	151.41	5,463.00	-503.00	-3,191.52	1,739.45	-2,587.65	4.00	-4.00	0.00
6,700.00	7.25	151.41	5,473.15	-513.15	-3,192.69	1,740.08	-2,588.59	4.00	-4.00	0.00
6,800.00	3.25	151.41	5,572.71	-612.71	-3,200.73	1,744.46	-2,595.11	4.00	-4.00	0.00
<b>EOD TO VERTICAL</b>										
6,881.37	0.00	151.41	5,654.04	-694.04	-3,202.76	1,745.57	-2,596.76	4.00	-4.00	0.00
6,900.00	0.00	0.00	5,672.67	-712.67	-3,202.76	1,745.57	-2,596.76	0.00	0.00	0.00
<b>KOP (10°/100ft BUR)</b>										
6,981.37	0.00	0.00	5,754.04	-794.04	-3,202.76	1,745.57	-2,596.76	0.00	0.00	0.00
7,000.00	1.86	2.56	5,772.66	-812.66	-3,202.46	1,745.58	-2,596.46	10.00	10.00	0.00
7,100.00	11.86	2.56	5,871.82	-911.82	-3,190.54	1,746.12	-2,584.86	10.00	10.00	0.00
7,200.00	21.86	2.56	5,967.40	-1,007.40	-3,161.59	1,747.41	-2,556.68	10.00	10.00	0.00
7,300.00	31.86	2.56	6,056.50	-1,096.50	-3,116.51	1,749.43	-2,512.79	10.00	10.00	0.00
7,400.00	41.86	2.56	6,136.40	-1,176.40	-3,056.66	1,752.10	-2,454.52	10.00	10.00	0.00
<b>Sharon Springs</b>										
7,402.15	42.08	2.56	6,138.00	-1,178.00	-3,055.22	1,752.17	-2,453.13	10.00	10.00	0.00
<b>Niobrara Top</b>										
7,458.65	47.73	2.56	6,178.00	-1,218.00	-3,015.40	1,753.95	-2,414.36	10.00	10.00	0.00
7,500.00	51.86	2.56	6,204.69	-1,244.69	-2,983.85	1,755.36	-2,383.65	10.00	10.00	0.00
7,600.00	61.86	2.56	6,259.29	-1,299.29	-2,900.31	1,759.09	-2,302.31	10.00	10.00	0.00
7,700.00	71.86	2.56	6,298.53	-1,338.53	-2,808.56	1,763.19	-2,213.00	10.00	10.00	0.00

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

## 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>Niobrara B2 Chalk Target Top</b>										
7,759.09	77.77	2.56	6,314.00	-1,354.00	-2,751.61	1,765.74	-2,157.56	10.00	10.00	0.00
7,800.00	81.86	2.56	6,321.23	-1,361.23	-2,711.40	1,767.54	-2,118.41	10.00	10.00	0.00
<b>HZ LP: 300ft FSL &amp; 1220ft FEL of Sec 21 - Niobrara B2 Chalk Target Center</b>										
7,881.38	90.00	2.56	6,327.00	-1,367.00	-2,630.37	1,771.16	-2,039.53	10.00	10.00	0.00
7,900.00	90.00	2.56	6,327.00	-1,367.00	-2,611.77	1,771.99	-2,021.42	0.00	0.00	0.00
8,000.00	90.00	2.56	6,327.00	-1,367.00	-2,511.87	1,776.46	-1,924.16	0.00	0.00	0.00
8,100.00	90.00	2.56	6,327.00	-1,367.00	-2,411.97	1,780.92	-1,826.91	0.00	0.00	0.00
8,200.00	90.00	2.56	6,327.00	-1,367.00	-2,312.07	1,785.39	-1,729.66	0.00	0.00	0.00
8,300.00	90.00	2.56	6,327.00	-1,367.00	-2,212.17	1,789.86	-1,632.40	0.00	0.00	0.00
8,400.00	90.00	2.56	6,327.00	-1,367.00	-2,112.27	1,794.32	-1,535.15	0.00	0.00	0.00
8,500.00	90.00	2.56	6,327.00	-1,367.00	-2,012.37	1,798.79	-1,437.89	0.00	0.00	0.00
8,600.00	90.00	2.56	6,327.00	-1,367.00	-1,912.47	1,803.26	-1,340.64	0.00	0.00	0.00
8,700.00	90.00	2.56	6,326.99	-1,366.99	-1,812.57	1,807.72	-1,243.38	0.00	0.00	0.00
8,800.00	90.00	2.56	6,326.99	-1,366.99	-1,712.67	1,812.19	-1,146.13	0.00	0.00	0.00
8,900.00	90.00	2.56	6,326.99	-1,366.99	-1,612.77	1,816.66	-1,048.88	0.00	0.00	0.00
9,000.00	90.00	2.56	6,326.99	-1,366.99	-1,512.87	1,821.13	-951.62	0.00	0.00	0.00
9,100.00	90.00	2.56	6,326.99	-1,366.99	-1,412.97	1,825.60	-854.37	0.00	0.00	0.00
9,200.00	90.00	2.56	6,326.99	-1,366.99	-1,313.07	1,830.06	-757.11	0.00	0.00	0.00
9,300.00	90.00	2.56	6,326.99	-1,366.99	-1,213.17	1,834.53	-659.86	0.00	0.00	0.00
9,400.00	90.00	2.56	6,326.99	-1,366.99	-1,113.27	1,839.00	-562.60	0.00	0.00	0.00
9,500.00	90.00	2.56	6,326.99	-1,366.99	-1,013.37	1,843.47	-465.35	0.00	0.00	0.00
9,600.00	90.00	2.56	6,326.99	-1,366.99	-913.47	1,847.94	-368.09	0.00	0.00	0.00
9,700.00	90.00	2.56	6,326.99	-1,366.99	-813.57	1,852.41	-270.84	0.00	0.00	0.00
9,800.00	90.00	2.56	6,326.99	-1,366.99	-713.67	1,856.88	-173.58	0.00	0.00	0.00
9,900.00	90.00	2.56	6,326.99	-1,366.99	-613.77	1,861.35	-76.33	0.00	0.00	0.00
10,000.00	90.00	2.56	6,326.99	-1,366.99	-513.87	1,865.82	20.93	0.00	0.00	0.00
10,100.00	90.00	2.56	6,326.99	-1,366.99	-413.97	1,870.29	118.18	0.00	0.00	0.00
10,200.00	90.00	2.56	6,326.99	-1,366.99	-314.07	1,874.76	215.44	0.00	0.00	0.00
10,300.00	90.00	2.56	6,326.99	-1,366.99	-214.17	1,879.23	312.69	0.00	0.00	0.00
10,400.00	90.00	2.56	6,326.99	-1,366.99	-114.27	1,883.70	409.95	0.00	0.00	0.00
10,500.00	90.00	2.56	6,326.99	-1,366.99	-14.37	1,888.17	507.20	0.00	0.00	0.00
10,600.00	90.00	2.56	6,326.99	-1,366.99	85.53	1,892.64	604.46	0.00	0.00	0.00
10,700.00	90.00	2.56	6,326.99	-1,366.99	185.43	1,897.11	701.71	0.00	0.00	0.00
10,800.00	90.00	2.56	6,326.99	-1,366.99	285.33	1,901.58	798.97	0.00	0.00	0.00
10,900.00	90.00	2.56	6,326.99	-1,366.99	385.23	1,906.06	896.22	0.00	0.00	0.00
11,000.00	90.00	2.56	6,326.99	-1,366.99	485.13	1,910.53	993.48	0.00	0.00	0.00
11,100.00	90.00	2.56	6,326.99	-1,366.99	585.03	1,915.00	1,090.73	0.00	0.00	0.00
11,200.00	90.00	2.56	6,326.99	-1,366.99	684.93	1,919.47	1,187.99	0.00	0.00	0.00
11,300.00	90.00	2.56	6,326.99	-1,366.99	784.83	1,923.95	1,285.25	0.00	0.00	0.00
11,400.00	90.00	2.56	6,326.99	-1,366.99	884.73	1,928.42	1,382.50	0.00	0.00	0.00
11,500.00	90.00	2.56	6,326.99	-1,366.99	984.63	1,932.89	1,479.76	0.00	0.00	0.00
11,600.00	90.00	2.56	6,326.99	-1,366.99	1,084.53	1,937.36	1,577.01	0.00	0.00	0.00
11,700.00	90.00	2.56	6,326.99	-1,366.99	1,184.43	1,941.84	1,674.27	0.00	0.00	0.00
11,800.00	90.00	2.56	6,326.99	-1,366.99	1,284.33	1,946.31	1,771.52	0.00	0.00	0.00
11,900.00	90.00	2.56	6,326.99	-1,366.99	1,384.23	1,950.78	1,868.78	0.00	0.00	0.00
12,000.00	90.00	2.56	6,326.99	-1,366.99	1,484.13	1,955.26	1,966.04	0.00	0.00	0.00
12,100.00	90.00	2.56	6,326.99	-1,366.99	1,584.03	1,959.73	2,063.29	0.00	0.00	0.00
12,200.00	90.00	2.56	6,326.99	-1,366.99	1,683.93	1,964.21	2,160.55	0.00	0.00	0.00
12,300.00	90.00	2.56	6,326.99	-1,366.99	1,783.83	1,968.68	2,257.80	0.00	0.00	0.00
12,400.00	90.00	2.56	6,326.99	-1,366.99	1,883.73	1,973.15	2,355.06	0.00	0.00	0.00
12,500.00	90.00	2.56	6,326.99	-1,366.99	1,983.63	1,977.63	2,452.32	0.00	0.00	0.00
12,600.00	90.00	2.56	6,326.99	-1,366.99	2,083.53	1,982.10	2,549.57	0.00	0.00	0.00
12,700.00	90.00	2.56	6,326.99	-1,366.99	2,183.43	1,986.58	2,646.83	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

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)
12,800.00	90.00	2.57	6,326.99	-1,366.99	2,283.33	1,991.06	2,744.09	0.00	0.00	0.00
12,900.00	90.00	2.57	6,326.99	-1,366.99	2,383.23	1,995.53	2,841.34	0.00	0.00	0.00
13,000.00	90.00	2.57	6,327.00	-1,367.00	2,483.13	2,000.01	2,938.60	0.00	0.00	0.00
13,100.00	90.00	2.57	6,327.00	-1,367.00	2,583.03	2,004.48	3,035.85	0.00	0.00	0.00
13,200.00	90.00	2.57	6,327.00	-1,367.00	2,682.93	2,008.96	3,133.11	0.00	0.00	0.00
13,300.00	90.00	2.57	6,327.00	-1,367.00	2,782.83	2,013.44	3,230.37	0.00	0.00	0.00
13,400.00	90.00	2.57	6,327.00	-1,367.00	2,882.73	2,017.91	3,327.62	0.00	0.00	0.00
13,500.00	90.00	2.57	6,327.00	-1,367.00	2,982.63	2,022.39	3,424.88	0.00	0.00	0.00
13,600.00	90.00	2.57	6,327.00	-1,367.00	3,082.53	2,026.87	3,522.14	0.00	0.00	0.00
IP #1: 750ft FSL & 1075ft FEL of Sec 16										
13,636.61	90.00	2.57	6,327.00	-1,367.00	3,119.10	2,028.50	3,557.74	0.00	0.00	0.00
EOT TO 1.05° AZ										
13,687.19	90.00	1.05	6,327.00	-1,367.00	3,169.66	2,030.10	3,606.77	3.00	0.00	-3.00
13,700.00	90.00	1.05	6,327.00	-1,367.00	3,182.47	2,030.33	3,619.15	0.00	0.00	0.00
13,800.00	90.00	1.05	6,327.00	-1,367.00	3,282.45	2,032.16	3,715.76	0.00	0.00	0.00
13,900.00	90.00	1.05	6,327.00	-1,367.00	3,382.43	2,033.99	3,812.36	0.00	0.00	0.00
14,000.00	90.00	1.05	6,327.00	-1,367.00	3,482.42	2,035.82	3,908.97	0.00	0.00	0.00
14,100.00	90.00	1.05	6,327.00	-1,367.00	3,582.40	2,037.65	4,005.58	0.00	0.00	0.00
14,200.00	90.00	1.05	6,327.00	-1,367.00	3,682.38	2,039.48	4,102.18	0.00	0.00	0.00
14,300.00	90.00	1.05	6,327.00	-1,367.00	3,782.36	2,041.31	4,198.79	0.00	0.00	0.00
14,400.00	90.00	1.05	6,327.00	-1,367.00	3,882.35	2,043.14	4,295.39	0.00	0.00	0.00
14,500.00	90.00	1.05	6,327.00	-1,367.00	3,982.33	2,044.98	4,392.00	0.00	0.00	0.00
14,600.00	90.00	1.05	6,327.00	-1,367.00	4,082.31	2,046.81	4,488.61	0.00	0.00	0.00
14,700.00	90.00	1.05	6,327.00	-1,367.00	4,182.30	2,048.64	4,585.21	0.00	0.00	0.00
14,800.00	90.00	1.05	6,327.00	-1,367.00	4,282.28	2,050.47	4,681.82	0.00	0.00	0.00
14,900.00	90.00	1.05	6,327.00	-1,367.00	4,382.26	2,052.30	4,778.43	0.00	0.00	0.00
15,000.00	90.00	1.05	6,327.00	-1,367.00	4,482.25	2,054.13	4,875.03	0.00	0.00	0.00
15,100.00	90.00	1.05	6,327.00	-1,367.00	4,582.23	2,055.96	4,971.64	0.00	0.00	0.00
15,200.00	90.00	1.05	6,327.00	-1,367.00	4,682.21	2,057.79	5,068.25	0.00	0.00	0.00
15,300.00	90.00	1.05	6,327.00	-1,367.00	4,782.20	2,059.62	5,164.85	0.00	0.00	0.00
15,400.00	90.00	1.05	6,327.00	-1,367.00	4,882.18	2,061.45	5,261.46	0.00	0.00	0.00
15,500.00	90.00	1.05	6,327.00	-1,367.00	4,982.16	2,063.28	5,358.07	0.00	0.00	0.00
15,600.00	90.00	1.05	6,327.00	-1,367.00	5,082.15	2,065.11	5,454.67	0.00	0.00	0.00
15,700.00	90.00	1.05	6,327.00	-1,367.00	5,182.13	2,066.94	5,551.28	0.00	0.00	0.00
15,800.00	90.00	1.05	6,327.00	-1,367.00	5,282.11	2,068.77	5,647.89	0.00	0.00	0.00
15,900.00	90.00	1.05	6,327.00	-1,367.00	5,382.10	2,070.60	5,744.49	0.00	0.00	0.00
16,000.00	90.00	1.05	6,327.00	-1,367.00	5,482.08	2,072.43	5,841.10	0.00	0.00	0.00
16,100.00	90.00	1.05	6,327.00	-1,367.00	5,582.06	2,074.26	5,937.71	0.00	0.00	0.00
16,200.00	90.00	1.05	6,327.00	-1,367.00	5,682.05	2,076.09	6,034.31	0.00	0.00	0.00
16,300.00	90.00	1.05	6,327.00	-1,367.00	5,782.03	2,077.92	6,130.92	0.00	0.00	0.00
16,400.00	90.00	1.05	6,327.00	-1,367.00	5,882.01	2,079.75	6,227.53	0.00	0.00	0.00
16,500.00	90.00	1.05	6,327.00	-1,367.00	5,982.00	2,081.58	6,324.13	0.00	0.00	0.00
16,600.00	90.00	1.05	6,327.00	-1,367.00	6,081.98	2,083.41	6,420.74	0.00	0.00	0.00
16,700.00	90.00	1.05	6,327.00	-1,367.00	6,181.96	2,085.24	6,517.35	0.00	0.00	0.00
16,800.00	90.00	1.05	6,327.00	-1,367.00	6,281.95	2,087.07	6,613.95	0.00	0.00	0.00
16,900.00	90.00	1.05	6,327.00	-1,367.00	6,381.93	2,088.90	6,710.56	0.00	0.00	0.00
17,000.00	90.00	1.05	6,327.00	-1,367.00	6,481.91	2,090.73	6,807.17	0.00	0.00	0.00
17,100.00	90.00	1.05	6,327.00	-1,367.00	6,581.90	2,092.56	6,903.77	0.00	0.00	0.00
17,200.00	90.00	1.05	6,327.00	-1,367.00	6,681.88	2,094.39	7,000.38	0.00	0.00	0.00
17,300.00	90.00	1.05	6,327.00	-1,367.00	6,781.86	2,096.22	7,096.99	0.00	0.00	0.00
17,400.00	90.00	1.05	6,327.00	-1,367.00	6,881.85	2,098.05	7,193.59	0.00	0.00	0.00
17,500.00	90.00	1.05	6,327.00	-1,367.00	6,981.83	2,099.88	7,290.20	0.00	0.00	0.00
17,600.00	90.00	1.05	6,327.00	-1,367.00	7,081.81	2,101.71	7,386.81	0.00	0.00	0.00
17,700.00	90.00	1.05	6,327.00	-1,367.00	7,181.80	2,103.54	7,483.41	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	Database 1	<b>Local Co-ordinate Reference:</b>	Well GOLDENEYE FED 21-16-6HN
<b>Company:</b>	MALLARD EXPLORATION	<b>TVD Reference:</b>	KB 25' @ 4960.00usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB 25' @ 4960.00usft
<b>Site:</b>	SE NW SEC. 21 T8N R60W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	GOLDENEYE FED 21-16-6HN	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #3		

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)
17,800.00	90.00	1.05	6,327.00	-1,367.00	7,281.78	2,105.37	7,580.02	0.00	0.00	0.00
<b>BHL: 300ft FNL &amp; 1075ft FEL of Sec 16</b>										
<b>17,855.53</b>	<b>90.00</b>	<b>1.05</b>	<b>6,327.00</b>	<b>-1,367.00</b>	<b>7,337.30</b>	<b>2,106.39</b>	<b>7,633.66</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
512.47	510.00	Fox Hills Base				
1,708.29	1,513.00	Pierre Shale Top				
4,116.03	3,371.00	Richard Sandstone				
4,265.06	3,486.00	Parkman Sandstone				
5,270.66	4,262.00	Sussex Sandstone				
5,838.25	4,700.00	Shannon Sandstone				
6,689.76	5,463.00	TeePee Buttes				
7,402.15	6,138.00	Sharon Springs				
7,458.65	6,178.00	Niobrara Top				
7,759.09	6,314.00	Niobrara B2 Chalk Target Top				
7,881.38	6,327.00	Niobrara B2 Chalk Target Center				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 2365ft FNL & 2256ft FWL of Sec 21
200.00	200.00	0.00	0.00	START NUDGE (4°/100ft BUR)
1,187.38	1,111.02	-287.17	156.51	EOB TO 39.5° INC
5,894.00	4,743.02	-2,915.60	1,589.06	END OF TANGENT
6,881.37	5,654.04	-3,202.76	1,745.57	EOD TO VERTICAL
6,981.37	5,754.04	-3,202.76	1,745.57	KOP (10°/100ft BUR)
7,881.38	6,327.00	-2,630.37	1,771.16	HZ LP: 300ft FSL & 1220ft FEL of Sec 21
13,636.61	6,327.00	3,119.10	2,028.50	IP #1: 750ft FSL & 1075ft FEL of Sec 16
13,687.19	6,327.00	3,169.66	2,030.10	EOT TO 1.05° AZ
17,855.53	6,327.00	7,337.30	2,106.39	BHL: 300ft FNL & 1075ft FEL of Sec 16