

# **EXTRACTION OIL & GAS**

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

**NW NW SEC. 36 T12N R62W 6th P.M.**

**SILVERBACK #1**

**ORIGINAL WELLBORE**

**02 October, 2015**

**Plan: PROPOSAL #4**



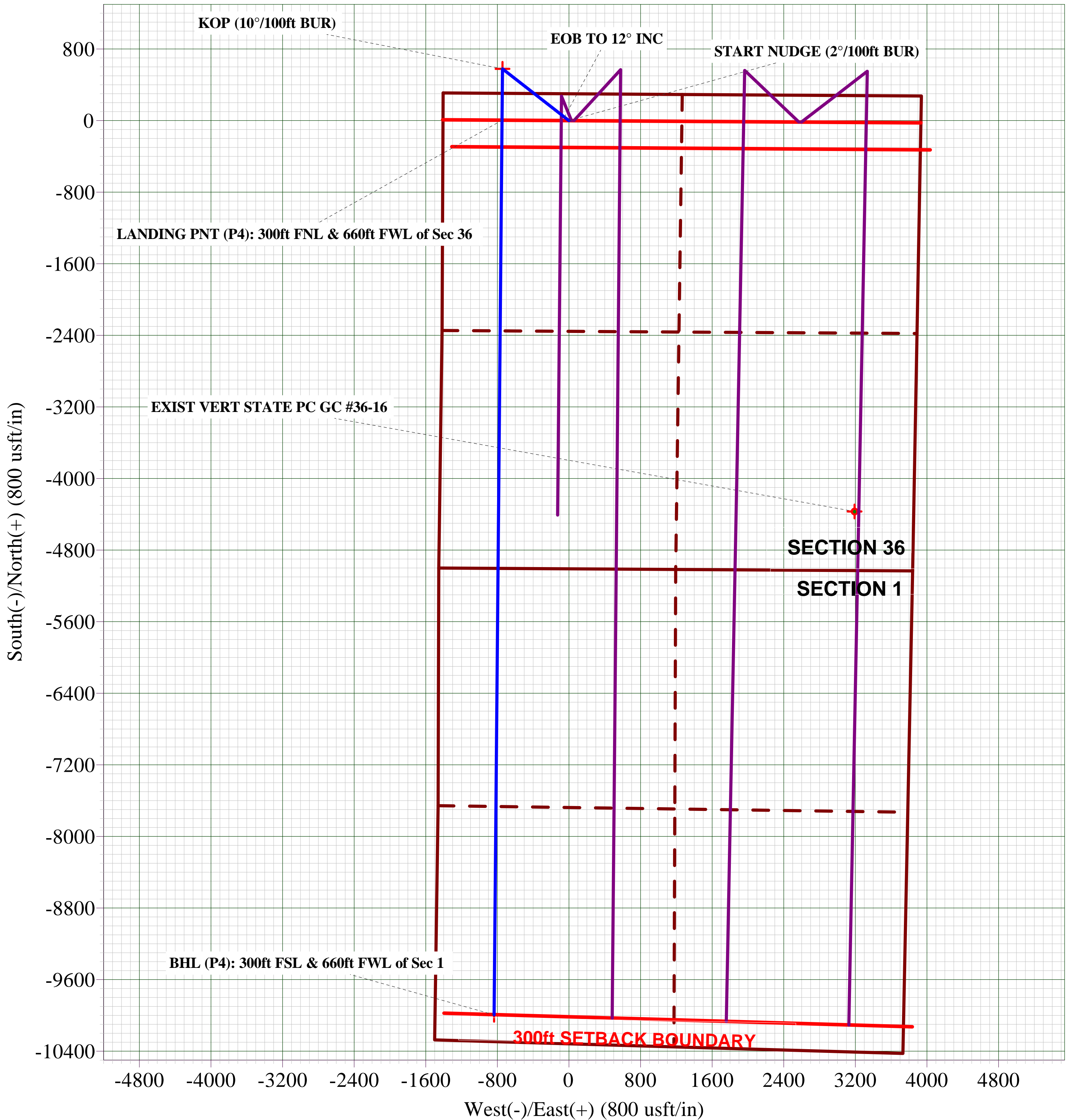
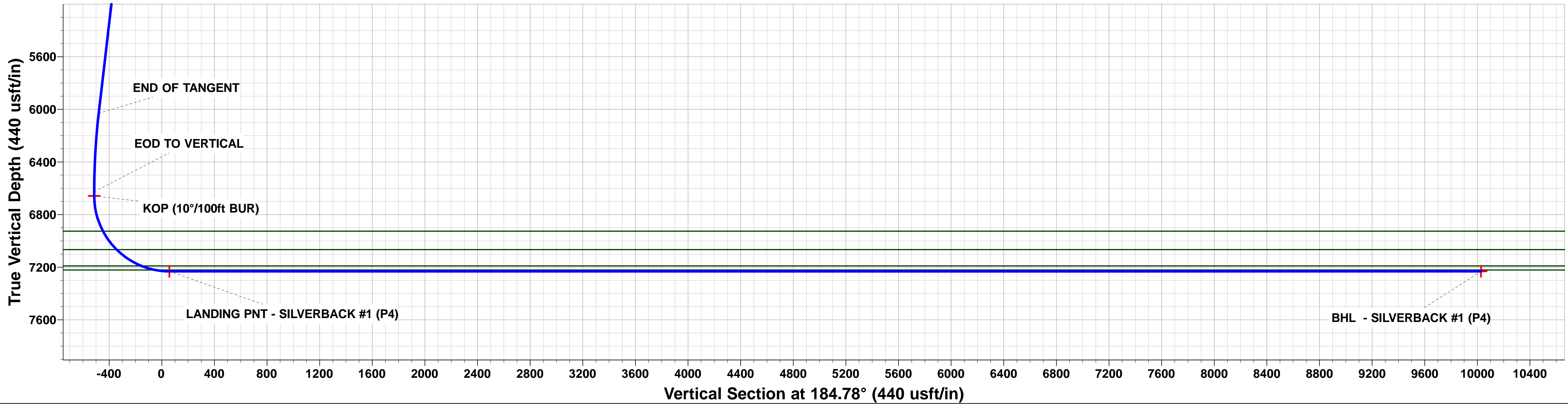
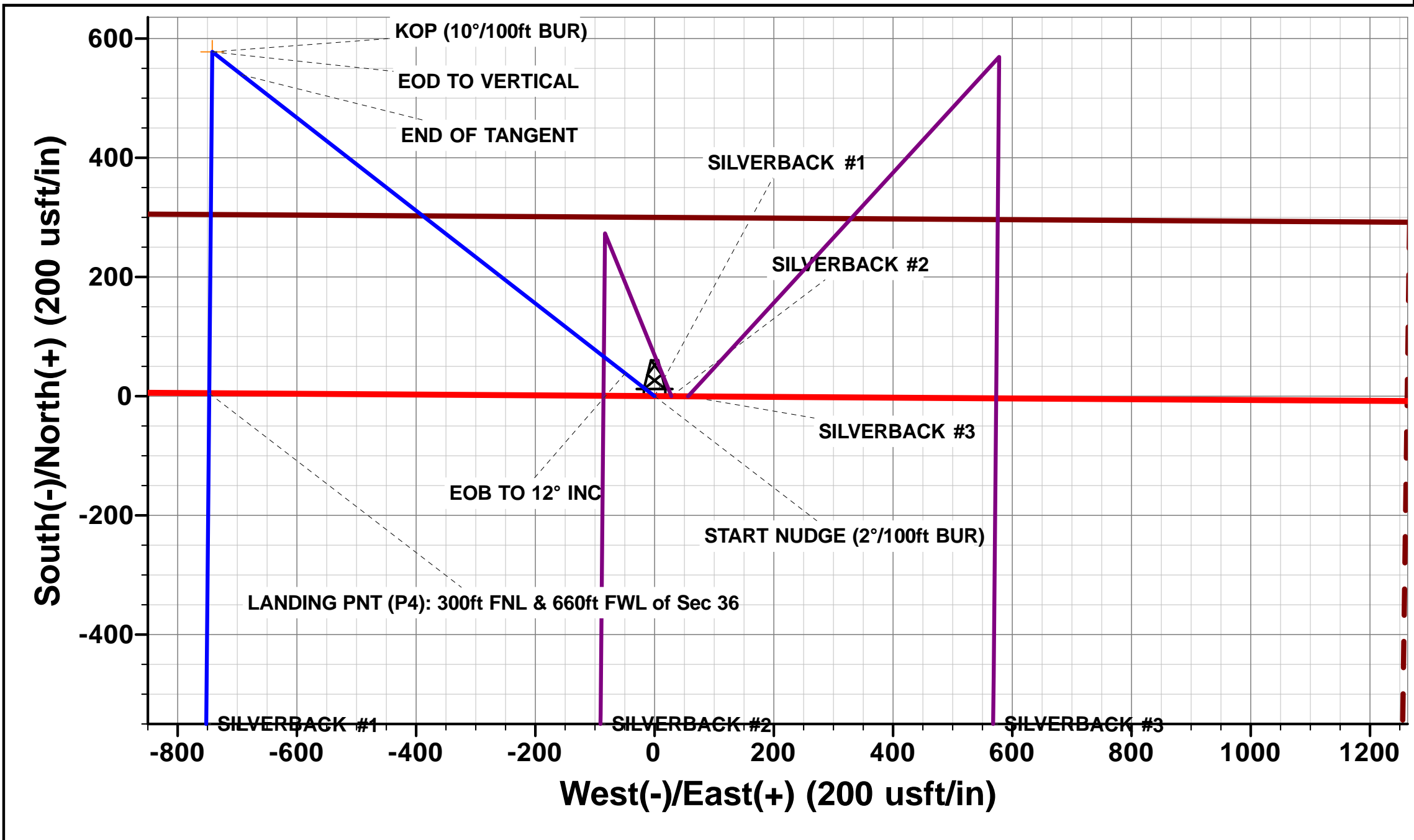
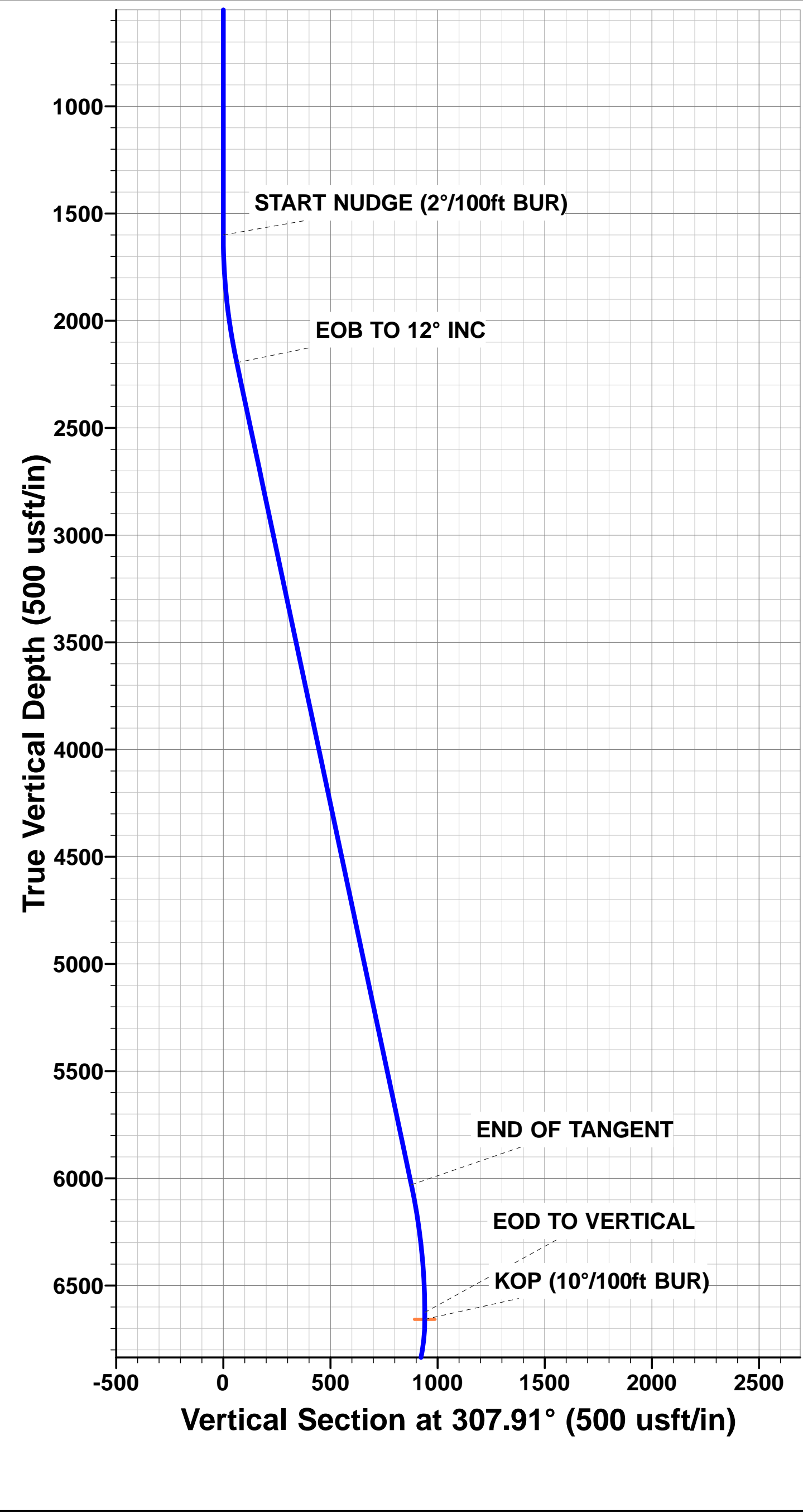


Project: WELD COUNTY, COLORADO (NAD 83)  
Site: NW NW SEC. 36 T12N R62W 6th P.M.  
Well: SILVERBACK #1  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #4

ANNOTATIONS								
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 300ft FNL & 1407ft FWL of Sec 36
1600.0	1600.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2195.6	2200.0	12.00	307.91	38.5	-49.4	-34.2	62.6	EOB TO 12° INC
6030.5	6120.5	12.00	307.91	539.2	-692.5	-479.6	877.7	END OF TANGENT
6626.0	6720.4	0.00	307.91	577.7	-741.8	-513.8	940.2	EOD TO VERTICAL
6658.0	6752.4	0.00	0.00	577.7	-741.8	-513.8	940.2	KOP (10°/100ft BUR)
7231.0	7652.4	89.99	180.51	4.8	-747.0	57.5	1513.2	LANDING PNT (P4): 300ft FNL & 660ft FWL of Sec 36
7231.0	17650.6	90.00	180.51	-9993.0	-836.2	10027.9	11511.4	BHL (P4): 300ft FSL & 660ft FWL of Sec 1

PROPOSED LOCAL COORDINATES:  
  
SHL: 300ft FNL & 1407ft FWL Sec 36  
LANDING PNT: 300ft FNL & 660ft FWL Sec 36  
  
BHL: 300ft FSL & 660ft FWL Sec 1

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - SILVERBACK #1 (P4)	6658.0	577.7	-741.8	40.974136	-104.274902
BHL - SILVERBACK #1 (P4)	7231.0	-9993.0	-836.2	40.945124	-104.275243
LANDING PNT - SILVERBACK #1 (P4)	7231.0	4.8	-747.0	40.972564	-104.274921



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

<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>	NW NW SEC. 36 T12N R62W 6th P.M.		
<b>Site Position:</b>		<b>Northing:</b>	1,599,502.46 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,338,951.29 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	1.10000 ft
		<b>Latitude:</b>	40.972554
		<b>Longitude:</b>	-104.272579
		<b>Grid Convergence:</b>	0.79 °

<b>Well</b>	SILVERBACK #1		
<b>Well Position</b>	<b>+N/-S</b>	-1.1 usft	<b>Northing:</b>
	<b>+E/-W</b>	100.2 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	40.972551
		<b>Longitude:</b>	-104.272216
		<b>Ground Level:</b>	5,282.0 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	12/08/2015	8.19	67.44	52,946

<b>Design</b>	PROPOSAL #4			
<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>
	7,231.0	0.0	0.0	184.78

<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
0.0	0.00	0.00	0.0	-5,298.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	-3,698.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,200.0	12.00	307.91	2,195.6	-3,102.4	38.5	-49.4	2.00	2.00	0.00	307.91	
6,120.5	12.00	307.91	6,030.4	732.4	539.2	-692.5	0.00	0.00	0.00	0.00	
6,720.4	0.00	0.00	6,626.0	1,328.0	577.7	-741.8	2.00	-2.00	0.00	180.00	
6,752.4	0.00	0.00	6,658.0	1,360.0	577.7	-741.8	0.00	0.00	0.00	0.00	KOP - SILVERBAC
7,652.4	90.00	180.51	7,231.0	1,933.0	4.8	-747.0	10.00	10.00	-19.94	180.51	LANDING PNT - SI
17,650.6	90.00	180.51	7,231.0	1,933.0	-9,993.0	-836.2	0.00	0.00	0.00	-29.75	BHL - SILVERBAC

## Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

## 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: 300ft FNL &amp; 1407ft FWL of Sec 36</b>										
0.0	0.00	0.00	0.0	5,298.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	5,198.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	5,098.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,998.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,898.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,798.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,698.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,598.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,498.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	4,398.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	4,298.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	4,198.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	4,098.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,998.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,898.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,798.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
1,600.0	0.00	0.00	1,600.0	3,698.00	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	2.00	307.91	1,700.0	3,598.02	1.1	-1.4	-1.0	2.00	2.00	0.00
1,800.0	4.00	307.91	1,799.8	3,498.16	4.3	-5.5	-3.8	2.00	2.00	0.00
1,900.0	6.00	307.91	1,899.5	3,398.55	9.6	-12.4	-8.6	2.00	2.00	0.00
2,000.0	8.00	307.91	1,998.7	3,299.30	17.1	-22.0	-15.2	2.00	2.00	0.00
2,100.0	10.00	307.91	2,097.5	3,200.53	26.7	-34.3	-23.8	2.00	2.00	0.00
<b>EOB TO 12° INC</b>										
2,200.0	12.00	307.91	2,195.6	3,102.38	38.5	-49.4	-34.2	2.00	2.00	0.00
2,300.0	12.00	307.91	2,293.4	3,004.56	51.2	-65.8	-45.6	0.00	0.00	0.00
2,400.0	12.00	307.91	2,391.3	2,906.75	64.0	-82.2	-56.9	0.00	0.00	0.00
2,500.0	12.00	307.91	2,489.1	2,808.93	76.8	-98.6	-68.3	0.00	0.00	0.00
2,600.0	12.00	307.91	2,586.9	2,711.12	89.6	-115.0	-79.7	0.00	0.00	0.00
2,700.0	12.00	307.91	2,684.7	2,613.30	102.3	-131.4	-91.0	0.00	0.00	0.00
2,800.0	12.00	307.91	2,782.5	2,515.49	115.1	-147.8	-102.4	0.00	0.00	0.00
2,900.0	12.00	307.91	2,880.3	2,417.67	127.9	-164.2	-113.7	0.00	0.00	0.00
3,000.0	12.00	307.91	2,978.1	2,319.86	140.6	-180.6	-125.1	0.00	0.00	0.00
3,100.0	12.00	307.91	3,076.0	2,222.04	153.4	-197.0	-136.5	0.00	0.00	0.00
3,200.0	12.00	307.91	3,173.8	2,124.23	166.2	-213.4	-147.8	0.00	0.00	0.00
3,300.0	12.00	307.91	3,271.6	2,026.41	179.0	-229.8	-159.2	0.00	0.00	0.00
3,400.0	12.00	307.91	3,369.4	1,928.60	191.7	-246.2	-170.5	0.00	0.00	0.00
3,500.0	12.00	307.91	3,467.2	1,830.78	204.5	-262.6	-181.9	0.00	0.00	0.00
<b>PARKMAN</b>										
3,562.1	12.00	307.91	3,528.0	1,770.00	212.5	-272.8	-189.0	0.00	0.00	0.00
3,600.0	12.00	307.91	3,565.0	1,732.97	217.3	-279.0	-193.3	0.00	0.00	0.00
3,700.0	12.00	307.91	3,662.8	1,635.15	230.1	-295.4	-204.6	0.00	0.00	0.00
3,800.0	12.00	307.91	3,760.7	1,537.34	242.8	-311.8	-216.0	0.00	0.00	0.00
3,900.0	12.00	307.91	3,858.5	1,439.52	255.6	-328.2	-227.3	0.00	0.00	0.00
4,000.0	12.00	307.91	3,956.3	1,341.71	268.4	-344.6	-238.7	0.00	0.00	0.00
4,100.0	12.00	307.91	4,054.1	1,243.89	281.2	-361.0	-250.1	0.00	0.00	0.00
4,200.0	12.00	307.91	4,151.9	1,146.07	293.9	-377.4	-261.4	0.00	0.00	0.00
4,300.0	12.00	307.91	4,249.7	1,048.26	306.7	-393.8	-272.8	0.00	0.00	0.00
<b>SUSSEX</b>										
4,305.4	12.00	307.91	4,255.0	1,043.00	307.4	-394.7	-273.4	0.00	0.00	0.00
4,400.0	12.00	307.91	4,347.6	950.44	319.5	-410.3	-284.2	0.00	0.00	0.00
4,500.0	12.00	307.91	4,445.4	852.63	332.2	-426.7	-295.5	0.00	0.00	0.00
4,600.0	12.00	307.91	4,543.2	754.81	345.0	-443.1	-306.9	0.00	0.00	0.00

## Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

## 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)
4,700.0	12.00	307.91	4,641.0	657.00	357.8	-459.5	-318.2	0.00	0.00	0.00
<b>SHANNON</b>										
<b>4,707.2</b>	<b>12.00</b>	<b>307.91</b>	<b>4,648.0</b>	<b>650.00</b>	<b>358.7</b>	<b>-460.6</b>	<b>-319.0</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
4,800.0	12.00	307.91	4,738.8	559.18	370.6	-475.9	-329.6	0.00	0.00	0.00
4,900.0	12.00	307.91	4,836.6	461.37	383.3	-492.3	-341.0	0.00	0.00	0.00
5,000.0	12.00	307.91	4,934.4	363.55	396.1	-508.7	-352.3	0.00	0.00	0.00
5,100.0	12.00	307.91	5,032.3	265.74	408.9	-525.1	-363.7	0.00	0.00	0.00
5,200.0	12.00	307.91	5,130.1	167.92	421.7	-541.5	-375.0	0.00	0.00	0.00
5,300.0	12.00	307.91	5,227.9	70.11	434.4	-557.9	-386.4	0.00	0.00	0.00
5,400.0	12.00	307.91	5,325.7	-27.71	447.2	-574.3	-397.8	0.00	0.00	0.00
5,500.0	12.00	307.91	5,423.5	-125.52	460.0	-590.7	-409.1	0.00	0.00	0.00
5,600.0	12.00	307.91	5,521.3	-223.34	472.8	-607.1	-420.5	0.00	0.00	0.00
5,700.0	12.00	307.91	5,619.2	-321.15	485.5	-623.5	-431.8	0.00	0.00	0.00
5,800.0	12.00	307.91	5,717.0	-418.97	498.3	-639.9	-443.2	0.00	0.00	0.00
5,900.0	12.00	307.91	5,814.8	-516.78	511.1	-656.3	-454.6	0.00	0.00	0.00
6,000.0	12.00	307.91	5,912.6	-614.60	523.8	-672.7	-465.9	0.00	0.00	0.00
6,100.0	12.00	307.91	6,010.4	-712.41	536.6	-689.1	-477.3	0.00	0.00	0.00
<b>END OF TANGENT</b>										
<b>6,120.5</b>	<b>12.00</b>	<b>307.91</b>	<b>6,030.5</b>	<b>-732.46</b>	<b>539.2</b>	<b>-692.5</b>	<b>-479.6</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,200.0	10.41	307.91	6,108.4	-810.45	548.7	-704.6	-488.1	2.00	-2.00	0.00
6,300.0	8.41	307.91	6,207.1	-909.10	558.8	-717.5	-497.0	2.00	-2.00	0.00
6,400.0	6.41	307.91	6,306.3	-1,008.26	566.7	-727.7	-504.0	2.00	-2.00	0.00
6,500.0	4.41	307.91	6,405.8	-1,107.81	572.5	-735.2	-509.2	2.00	-2.00	0.00
6,600.0	2.41	307.91	6,505.6	-1,207.62	576.1	-739.8	-512.4	2.00	-2.00	0.00
6,700.0	0.41	307.91	6,605.6	-1,307.59	577.6	-741.8	-513.8	2.00	-2.00	0.00
<b>EOD TO VERTICAL</b>										
<b>6,720.4</b>	<b>0.00</b>	<b>307.91</b>	<b>6,626.0</b>	<b>-1,327.99</b>	<b>577.7</b>	<b>-741.8</b>	<b>-513.8</b>	<b>2.00</b>	<b>-2.00</b>	<b>0.00</b>
<b>KOP (10°/100ft BUR)</b>										
<b>6,752.4</b>	<b>0.00</b>	<b>0.00</b>	<b>6,658.0</b>	<b>-1,359.99</b>	<b>577.7</b>	<b>-741.8</b>	<b>-513.8</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,800.0	4.76	180.51	6,705.5	-1,407.53	575.7	-741.9	-511.8	10.00	10.00	0.00
6,900.0	14.76	180.51	6,804.0	-1,505.96	558.8	-742.0	-495.0	10.00	10.00	0.00
7,000.0	24.76	180.51	6,898.0	-1,599.96	525.0	-742.3	-461.3	10.00	10.00	0.00
<b>NIOBRARA</b>										
<b>7,031.3</b>	<b>27.89</b>	<b>180.51</b>	<b>6,926.0</b>	<b>-1,628.00</b>	<b>511.2</b>	<b>-742.4</b>	<b>-447.5</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,100.0	34.76	180.51	6,984.7	-1,686.66	475.5	-742.8	-411.9	10.00	10.00	0.00
7,200.0	44.76	180.51	7,061.4	-1,763.44	411.6	-743.3	-348.2	10.00	10.00	0.00
<b>NIOBRARA B</b>										
<b>7,206.5</b>	<b>45.40</b>	<b>180.51</b>	<b>7,066.0</b>	<b>-1,768.00</b>	<b>407.0</b>	<b>-743.4</b>	<b>-343.6</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,300.0	54.75	180.51	7,126.0	-1,827.96	335.4	-744.0	-272.2	10.00	10.00	0.00
7,400.0	64.75	180.51	7,176.3	-1,878.27	249.1	-744.8	-186.1	10.00	10.00	0.00
<b>FORT HAYS</b>										
<b>7,434.4</b>	<b>68.19</b>	<b>180.51</b>	<b>7,190.0</b>	<b>-1,892.00</b>	<b>217.6</b>	<b>-745.1</b>	<b>-154.7</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,500.0	74.75	180.51	7,210.8	-1,912.83	155.4	-745.6	-92.7	10.00	10.00	0.00
<b>CODELL</b>										
<b>7,545.3</b>	<b>79.28</b>	<b>180.51</b>	<b>7,221.0</b>	<b>-1,923.00</b>	<b>111.3</b>	<b>-746.0</b>	<b>-48.7</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,600.0	84.75	180.51	7,228.6	-1,930.60	57.1	-746.5	5.3	10.00	10.00	0.00
<b>LANDING PNT (P4): 300ft FNL &amp; 660ft FWL of Sec 36</b>										
<b>7,652.4</b>	<b>89.99</b>	<b>180.51</b>	<b>7,231.0</b>	<b>-1,933.00</b>	<b>4.8</b>	<b>-747.0</b>	<b>57.5</b>	<b>10.00</b>	<b>10.00</b>	<b>0.00</b>
7,700.0	90.00	180.51	7,231.0	-1,933.00	-42.8	-747.4	105.0	0.01	0.01	0.00
7,800.0	90.00	180.51	7,231.0	-1,933.01	-142.8	-748.3	204.7	0.00	0.00	0.00
7,900.0	90.00	180.51	7,231.0	-1,933.02	-242.8	-749.2	304.4	0.00	0.00	0.00
8,000.0	90.00	180.51	7,231.0	-1,933.03	-342.8	-750.1	404.2	0.00	0.00	0.00
8,100.0	90.00	180.51	7,231.0	-1,933.03	-442.8	-751.0	503.9	0.00	0.00	0.00



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

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)
8,200.0	90.00	180.51	7,231.0	-1,933.04	-542.8	-751.9	603.6	0.00	0.00	0.00
8,300.0	90.00	180.51	7,231.0	-1,933.05	-642.8	-752.8	703.3	0.00	0.00	0.00
8,400.0	90.00	180.51	7,231.1	-1,933.05	-742.8	-753.7	803.0	0.00	0.00	0.00
8,500.0	90.00	180.51	7,231.1	-1,933.06	-842.8	-754.6	902.8	0.00	0.00	0.00
8,600.0	90.00	180.51	7,231.1	-1,933.07	-942.8	-755.5	1,002.5	0.00	0.00	0.00
8,700.0	90.00	180.51	7,231.1	-1,933.07	-1,042.8	-756.4	1,102.2	0.00	0.00	0.00
8,800.0	90.00	180.51	7,231.1	-1,933.08	-1,142.8	-757.3	1,201.9	0.00	0.00	0.00
8,900.0	90.00	180.51	7,231.1	-1,933.09	-1,242.8	-758.2	1,301.7	0.00	0.00	0.00
9,000.0	90.00	180.51	7,231.1	-1,933.09	-1,342.8	-759.1	1,401.4	0.00	0.00	0.00
9,100.0	90.00	180.51	7,231.1	-1,933.10	-1,442.8	-760.0	1,501.1	0.00	0.00	0.00
9,200.0	90.00	180.51	7,231.1	-1,933.10	-1,542.7	-760.9	1,600.8	0.00	0.00	0.00
9,300.0	90.00	180.51	7,231.1	-1,933.11	-1,642.7	-761.8	1,700.5	0.00	0.00	0.00
9,400.0	90.00	180.51	7,231.1	-1,933.11	-1,742.7	-762.6	1,800.3	0.00	0.00	0.00
9,500.0	90.00	180.51	7,231.1	-1,933.12	-1,842.7	-763.5	1,900.0	0.00	0.00	0.00
9,600.0	90.00	180.51	7,231.1	-1,933.12	-1,942.7	-764.4	1,999.7	0.00	0.00	0.00
9,700.0	90.00	180.51	7,231.1	-1,933.13	-2,042.7	-765.3	2,099.4	0.00	0.00	0.00
9,800.0	90.00	180.51	7,231.1	-1,933.13	-2,142.7	-766.2	2,199.2	0.00	0.00	0.00
9,900.0	90.00	180.51	7,231.1	-1,933.14	-2,242.7	-767.1	2,298.9	0.00	0.00	0.00
10,000.0	90.00	180.51	7,231.1	-1,933.14	-2,342.7	-768.0	2,398.6	0.00	0.00	0.00
10,100.0	90.00	180.51	7,231.1	-1,933.14	-2,442.7	-768.9	2,498.3	0.00	0.00	0.00
10,200.0	90.00	180.51	7,231.1	-1,933.15	-2,542.7	-769.8	2,598.0	0.00	0.00	0.00
10,300.0	90.00	180.51	7,231.2	-1,933.15	-2,642.7	-770.7	2,697.8	0.00	0.00	0.00
10,400.0	90.00	180.51	7,231.2	-1,933.16	-2,742.7	-771.6	2,797.5	0.00	0.00	0.00
10,500.0	90.00	180.51	7,231.2	-1,933.16	-2,842.7	-772.5	2,897.2	0.00	0.00	0.00
10,600.0	90.00	180.51	7,231.2	-1,933.16	-2,942.7	-773.4	2,996.9	0.00	0.00	0.00
10,700.0	90.00	180.51	7,231.2	-1,933.17	-3,042.7	-774.3	3,096.7	0.00	0.00	0.00
10,800.0	90.00	180.51	7,231.2	-1,933.17	-3,142.7	-775.2	3,196.4	0.00	0.00	0.00
10,900.0	90.00	180.51	7,231.2	-1,933.17	-3,242.7	-776.1	3,296.1	0.00	0.00	0.00
11,000.0	90.00	180.51	7,231.2	-1,933.17	-3,342.7	-777.0	3,395.8	0.00	0.00	0.00
11,100.0	90.00	180.51	7,231.2	-1,933.18	-3,442.7	-777.9	3,495.5	0.00	0.00	0.00
11,200.0	90.00	180.51	7,231.2	-1,933.18	-3,542.7	-778.8	3,595.3	0.00	0.00	0.00
11,300.0	90.00	180.51	7,231.2	-1,933.18	-3,642.7	-779.6	3,695.0	0.00	0.00	0.00
11,400.0	90.00	180.51	7,231.2	-1,933.18	-3,742.7	-780.5	3,794.7	0.00	0.00	0.00
11,500.0	90.00	180.51	7,231.2	-1,933.19	-3,842.7	-781.4	3,894.4	0.00	0.00	0.00
11,600.0	90.00	180.51	7,231.2	-1,933.19	-3,942.7	-782.3	3,994.2	0.00	0.00	0.00
11,700.0	90.00	180.51	7,231.2	-1,933.19	-4,042.6	-783.2	4,093.9	0.00	0.00	0.00
11,800.0	90.00	180.51	7,231.2	-1,933.19	-4,142.6	-784.1	4,193.6	0.00	0.00	0.00
11,900.0	90.00	180.51	7,231.2	-1,933.19	-4,242.6	-785.0	4,293.3	0.00	0.00	0.00
12,000.0	90.00	180.51	7,231.2	-1,933.19	-4,342.6	-785.9	4,393.0	0.00	0.00	0.00
12,100.0	90.00	180.51	7,231.2	-1,933.19	-4,442.6	-786.8	4,492.8	0.00	0.00	0.00
12,200.0	90.00	180.51	7,231.2	-1,933.19	-4,542.6	-787.7	4,592.5	0.00	0.00	0.00
12,300.0	90.00	180.51	7,231.2	-1,933.19	-4,642.6	-788.6	4,692.2	0.00	0.00	0.00
12,400.0	90.00	180.51	7,231.2	-1,933.20	-4,742.6	-789.5	4,791.9	0.00	0.00	0.00
12,500.0	90.00	180.51	7,231.2	-1,933.20	-4,842.6	-790.4	4,891.7	0.00	0.00	0.00
12,600.0	90.00	180.51	7,231.2	-1,933.20	-4,942.6	-791.3	4,991.4	0.00	0.00	0.00
12,700.0	90.00	180.51	7,231.2	-1,933.20	-5,042.6	-792.2	5,091.1	0.00	0.00	0.00
12,800.0	90.00	180.51	7,231.2	-1,933.20	-5,142.6	-793.0	5,190.8	0.00	0.00	0.00
12,900.0	90.00	180.51	7,231.2	-1,933.20	-5,242.6	-793.9	5,290.5	0.00	0.00	0.00
13,000.0	90.00	180.51	7,231.2	-1,933.19	-5,342.6	-794.8	5,390.3	0.00	0.00	0.00
13,100.0	90.00	180.51	7,231.2	-1,933.19	-5,442.6	-795.7	5,490.0	0.00	0.00	0.00
13,200.0	90.00	180.51	7,231.2	-1,933.19	-5,542.6	-796.6	5,589.7	0.00	0.00	0.00
13,300.0	90.00	180.51	7,231.2	-1,933.19	-5,642.6	-797.5	5,689.4	0.00	0.00	0.00
13,400.0	90.00	180.51	7,231.2	-1,933.19	-5,742.6	-798.4	5,789.2	0.00	0.00	0.00
13,500.0	90.00	180.51	7,231.2	-1,933.19	-5,842.6	-799.3	5,888.9	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

## 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)
13,600.0	90.00	180.51	7,231.2	-1,933.19	-5,942.6	-800.2	5,988.6	0.00	0.00	0.00
13,700.0	90.00	180.51	7,231.2	-1,933.19	-6,042.6	-801.1	6,088.3	0.00	0.00	0.00
13,800.0	90.00	180.51	7,231.2	-1,933.19	-6,142.6	-802.0	6,188.0	0.00	0.00	0.00
13,900.0	90.00	180.51	7,231.2	-1,933.18	-6,242.6	-802.9	6,287.8	0.00	0.00	0.00
14,000.0	90.00	180.51	7,231.2	-1,933.18	-6,342.6	-803.8	6,387.5	0.00	0.00	0.00
14,100.0	90.00	180.51	7,231.2	-1,933.18	-6,442.6	-804.6	6,487.2	0.00	0.00	0.00
14,200.0	90.00	180.51	7,231.2	-1,933.18	-6,542.5	-805.5	6,586.9	0.00	0.00	0.00
14,300.0	90.00	180.51	7,231.2	-1,933.17	-6,642.5	-806.4	6,686.7	0.00	0.00	0.00
14,400.0	90.00	180.51	7,231.2	-1,933.17	-6,742.5	-807.3	6,786.4	0.00	0.00	0.00
14,500.0	90.00	180.51	7,231.2	-1,933.17	-6,842.5	-808.2	6,886.1	0.00	0.00	0.00
14,600.0	90.00	180.51	7,231.2	-1,933.17	-6,942.5	-809.1	6,985.8	0.00	0.00	0.00
14,700.0	90.00	180.51	7,231.2	-1,933.16	-7,042.5	-810.0	7,085.5	0.00	0.00	0.00
14,800.0	90.00	180.51	7,231.2	-1,933.16	-7,142.5	-810.9	7,185.3	0.00	0.00	0.00
14,900.0	90.00	180.51	7,231.2	-1,933.16	-7,242.5	-811.8	7,285.0	0.00	0.00	0.00
15,000.0	90.00	180.51	7,231.2	-1,933.15	-7,342.5	-812.7	7,384.7	0.00	0.00	0.00
15,100.0	90.00	180.51	7,231.1	-1,933.15	-7,442.5	-813.6	7,484.4	0.00	0.00	0.00
15,200.0	90.00	180.51	7,231.1	-1,933.14	-7,542.5	-814.4	7,584.2	0.00	0.00	0.00
15,300.0	90.00	180.51	7,231.1	-1,933.14	-7,642.5	-815.3	7,683.9	0.00	0.00	0.00
15,400.0	90.00	180.51	7,231.1	-1,933.14	-7,742.5	-816.2	7,783.6	0.00	0.00	0.00
15,500.0	90.00	180.51	7,231.1	-1,933.13	-7,842.5	-817.1	7,883.3	0.00	0.00	0.00
15,600.0	90.00	180.51	7,231.1	-1,933.13	-7,942.5	-818.0	7,983.0	0.00	0.00	0.00
15,700.0	90.00	180.51	7,231.1	-1,933.12	-8,042.5	-818.9	8,082.8	0.00	0.00	0.00
15,800.0	90.00	180.51	7,231.1	-1,933.12	-8,142.5	-819.8	8,182.5	0.00	0.00	0.00
15,900.0	90.00	180.51	7,231.1	-1,933.11	-8,242.5	-820.7	8,282.2	0.00	0.00	0.00
16,000.0	90.00	180.51	7,231.1	-1,933.11	-8,342.5	-821.6	8,381.9	0.00	0.00	0.00
16,100.0	90.00	180.51	7,231.1	-1,933.10	-8,442.5	-822.5	8,481.7	0.00	0.00	0.00
16,200.0	90.00	180.51	7,231.1	-1,933.10	-8,542.5	-823.3	8,581.4	0.00	0.00	0.00
16,300.0	90.00	180.51	7,231.1	-1,933.09	-8,642.5	-824.2	8,681.1	0.00	0.00	0.00
16,400.0	90.00	180.51	7,231.1	-1,933.09	-8,742.5	-825.1	8,780.8	0.00	0.00	0.00
16,500.0	90.00	180.51	7,231.1	-1,933.08	-8,842.5	-826.0	8,880.5	0.00	0.00	0.00
16,600.0	90.00	180.51	7,231.1	-1,933.07	-8,942.5	-826.9	8,980.3	0.00	0.00	0.00
16,700.0	90.00	180.51	7,231.1	-1,933.07	-9,042.4	-827.8	9,080.0	0.00	0.00	0.00
16,800.0	90.00	180.51	7,231.1	-1,933.06	-9,142.4	-828.7	9,179.7	0.00	0.00	0.00
16,900.0	90.00	180.51	7,231.1	-1,933.05	-9,242.4	-829.6	9,279.4	0.00	0.00	0.00
17,000.0	90.00	180.51	7,231.0	-1,933.05	-9,342.4	-830.5	9,379.1	0.00	0.00	0.00
17,100.0	90.00	180.51	7,231.0	-1,933.04	-9,442.4	-831.3	9,478.9	0.00	0.00	0.00
17,200.0	90.00	180.51	7,231.0	-1,933.03	-9,542.4	-832.2	9,578.6	0.00	0.00	0.00
17,300.0	90.00	180.51	7,231.0	-1,933.03	-9,642.4	-833.1	9,678.3	0.00	0.00	0.00
17,400.0	90.00	180.51	7,231.0	-1,933.02	-9,742.4	-834.0	9,778.0	0.00	0.00	0.00
17,500.0	90.00	180.51	7,231.0	-1,933.01	-9,842.4	-834.9	9,877.8	0.00	0.00	0.00
17,600.0	90.00	180.51	7,231.0	-1,933.00	-9,942.4	-835.8	9,977.5	0.00	0.00	0.00
<b>BHL (P4): 300ft FSL &amp; 660ft FWL of Sec 1</b>										
<b>17,650.6</b>	<b>90.00</b>	<b>180.51</b>	<b>7,231.0</b>	<b>-1,933.00</b>	<b>-9,993.0</b>	<b>-836.2</b>	<b>10,027.9</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well SILVERBACK #1
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 5298.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 5298.0usft
<b>Site:</b>	NW NW SEC. 36 T12N R62W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	SILVERBACK #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #4		

## Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,562.1	3,528.0	PARKMAN		0.00	
4,305.4	4,255.0	SUSSEX		0.00	
4,707.2	4,648.0	SHANNON		0.00	
7,031.3	6,926.0	NIOBRARA		0.00	
7,206.5	7,066.0	NIOBRARA B		0.00	
7,434.4	7,190.0	FORT HAYS		0.00	
7,545.3	7,221.0	CODELL		0.00	

## Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 300ft FNL & 1407ft FWL of Sec 36
1,600.0	1,600.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,200.0	2,195.6	38.5	-49.4	EOB TO 12° INC
6,120.5	6,030.5	539.2	-692.5	END OF TANGENT
6,720.4	6,626.0	577.7	-741.8	EOD TO VERTICAL
6,752.4	6,658.0	577.7	-741.8	KOP (10°/100ft BUR)
7,652.4	7,231.0	4.8	-747.0	LANDING PNT (P4): 300ft FNL & 660ft FWL of Sec 36
17,650.6	7,231.0	-9,993.0	-836.2	BHL (P4): 300ft FSL & 660ft FWL of Sec 1