

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

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

SILVERBACK #3

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 #3
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #4

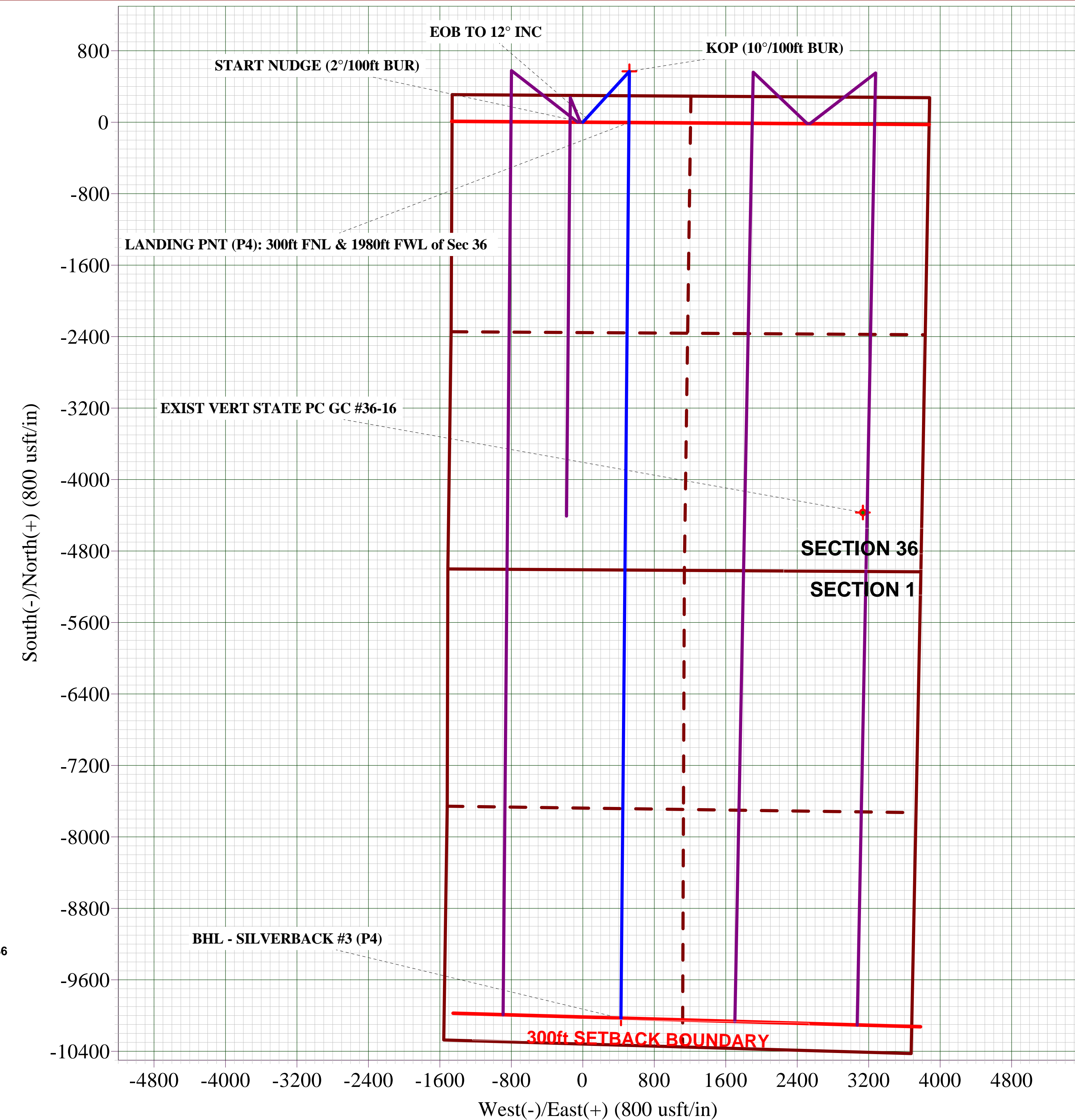
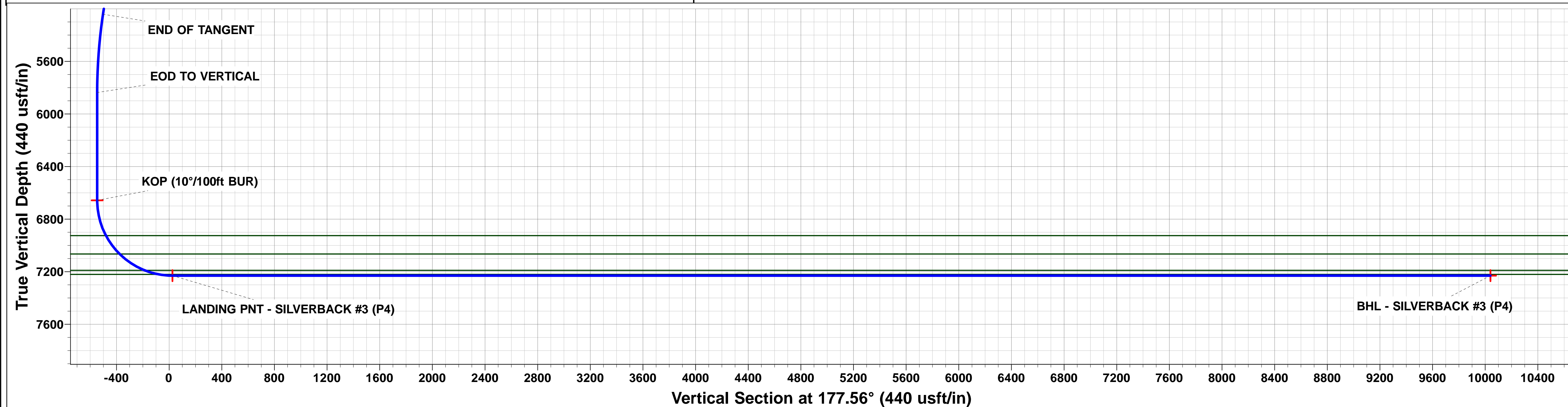
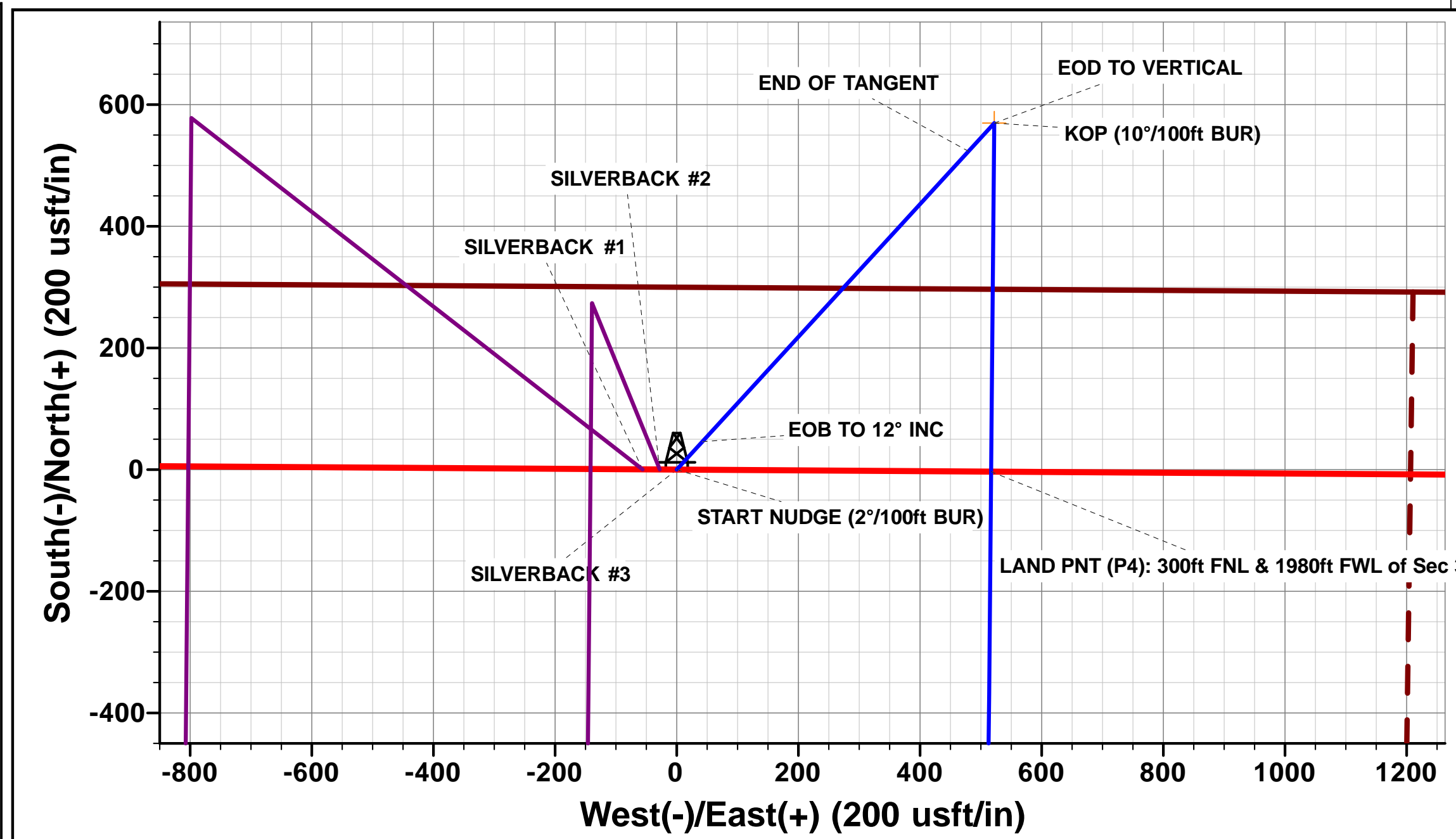
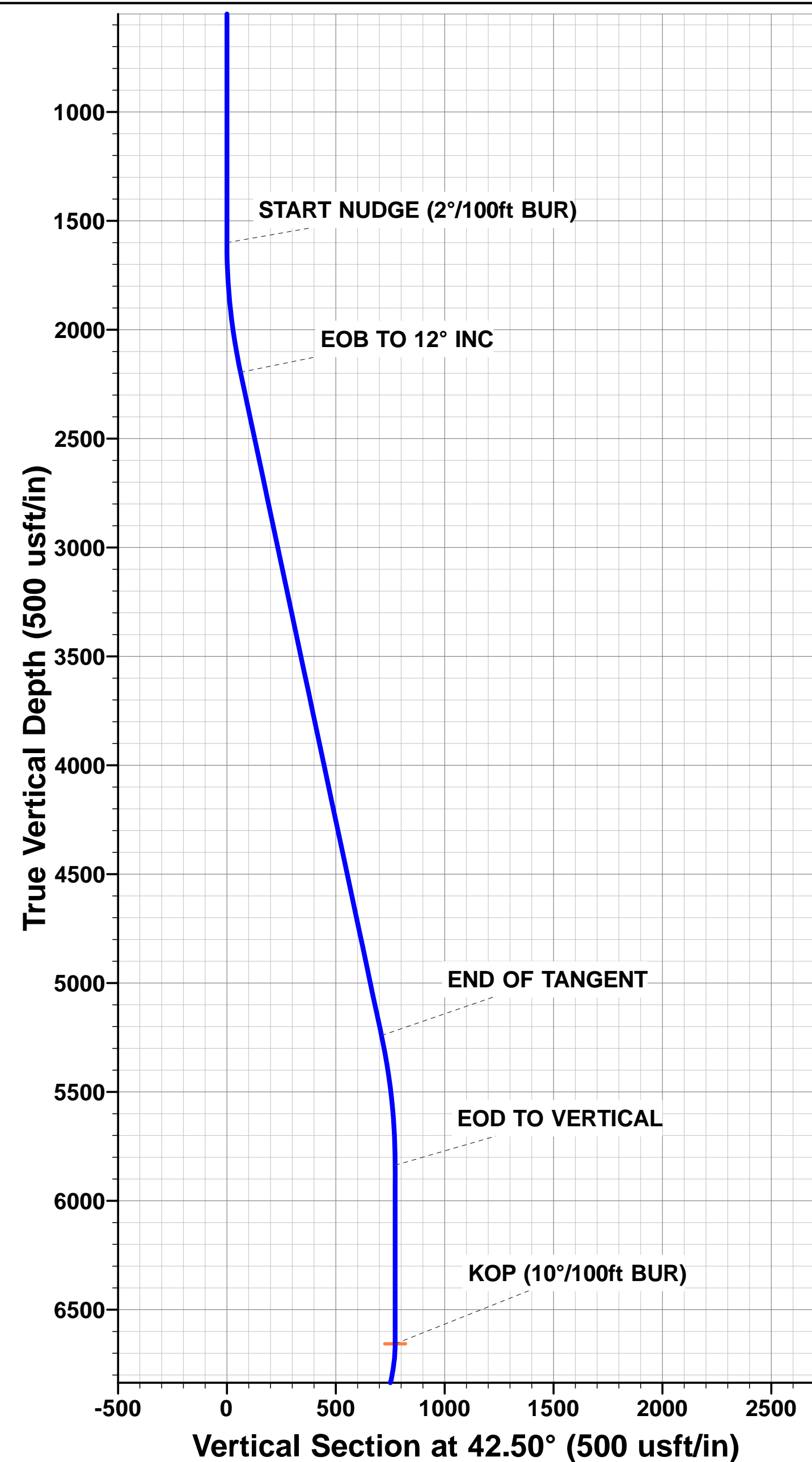
ANNOTATIONS

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 & 1463ft 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)
2195.7	2200.1	12.00	42.50	46.2	42.3	-44.3	62.6	EOB TO 12° INC
5241.5	5313.9	12.00	42.50	523.5	479.8	-502.6	710.1	END OF TANGENT
5837.1	5913.9	0.00	42.50	569.7	522.1	-546.9	772.7	EOD TO VERTICAL
6657.1	6733.9	0.00	0.00	569.7	522.1	-546.9	772.7	KOP (10°/100ft BUR)
7230.0	7633.9	90.00	180.51	-3.3	516.9	25.3	1345.7	LANDING PNT (P4): 300ft FNL & 1980ft FWL of Sec 36
7230.0	17661.9	90.00	180.51	-10030.9	427.2	10040.0	11373.7	BHL (P4): 300ft FSL & 1980ft FWL of Sec 1

PROPOSED LOCAL COORDINATES:
 SHL: 300ft FNL & 1463ft FWL Sec 36
 LANDING PNT: 300ft FNL & 1980ft FWL Sec 36
 BHL: 300ft FSL & 1980ft FWL Sec 1

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - SILVERBACK #3 (P4)	6657.1	569.7	522.1	40.974113	-104.270122
BHL - SILVERBACK #3 (P4)	7230.0	-10030.9	427.2	40.945019	-104.270467
LANDING PNT - SILVERBACK #3 (P4)	7230.0	-3.3	516.9	40.972541	-104.270141





Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SILVERBACK #3
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 5297.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5297.0usft
Site:	NW NW SEC. 36 T12N R62W 6th P.M.	North Reference:	True
Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

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

Well	SILVERBACK #3					
Well Position	+N/-S	-1.4 usft	Northing:	1,599,503.17 usft	Latitude:	40.972550
	+E/-W	156.3 usft	Easting:	3,339,107.60 usft	Longitude:	-104.272013
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	5,281.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/08/2015	8.19	67.44	52,946

Design	PROPOSAL #4			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	7,230.0	0.0	0.0	177.56

Plan Sections											
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	-5,297.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	-3,697.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,200.1	12.00	42.50	2,195.7	-3,101.3	46.2	42.3	2.00	2.00	0.00	42.50	
5,313.9	12.00	42.50	5,241.4	-55.6	523.5	479.8	0.00	0.00	0.00	0.00	
5,913.9	0.00	0.00	5,837.1	540.1	569.7	522.1	2.00	-2.00	0.00	180.00	
6,733.9	0.00	0.00	6,657.1	1,360.1	569.7	522.1	0.00	0.00	0.00	0.00	KOP - SILVERBAC
7,633.9	90.00	180.51	7,230.0	1,933.0	-3.3	516.9	10.00	10.00	-19.94	180.51	LANDING PNT - SI
17,661.9	90.00	180.51	7,230.0	1,933.0	-10,030.9	427.2	0.00	0.00	0.00	160.41	BHL - SILVERBACI

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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5297.0usft
Site:	NW NW SEC. 36 T12N R62W 6th P.M.	North Reference:	True
Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
SHL: 300ft FNL & 1463ft FWL of Sec 36										
0.0	0.00	0.00	0.0	5,297.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	5,197.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	5,097.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,997.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,897.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,797.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,697.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,597.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,497.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	4,397.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	4,297.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	4,197.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	4,097.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,997.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,897.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,797.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,600.0	0.00	0.00	1,600.0	3,697.00	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	2.00	42.50	1,700.0	3,597.02	1.3	1.2	-1.2	2.00	2.00	0.00
1,800.0	4.00	42.50	1,799.8	3,497.16	5.1	4.7	-4.9	2.00	2.00	0.00
1,900.0	6.00	42.50	1,899.5	3,397.55	11.6	10.6	-11.1	2.00	2.00	0.00
2,000.0	8.00	42.50	1,998.7	3,298.30	20.6	18.8	-19.7	2.00	2.00	0.00
2,100.0	10.00	42.50	2,097.5	3,199.53	32.1	29.4	-30.8	2.00	2.00	0.00
2,200.0	12.00	42.50	2,195.6	3,101.38	46.2	42.3	-44.3	2.00	2.00	0.00
EOB TO 12° INC										
2,200.1	12.00	42.50	2,195.7	3,101.28	46.2	42.3	-44.3	1.28	1.28	0.00
2,300.0	12.00	42.50	2,293.4	3,003.56	61.5	56.3	-59.0	0.00	0.00	0.00
2,400.0	12.00	42.50	2,391.3	2,905.75	76.8	70.4	-73.7	0.00	0.00	0.00
2,500.0	12.00	42.50	2,489.1	2,807.93	92.1	84.4	-88.5	0.00	0.00	0.00
2,600.0	12.00	42.50	2,586.9	2,710.12	107.5	98.5	-103.2	0.00	0.00	0.00
2,700.0	12.00	42.50	2,684.7	2,612.31	122.8	112.5	-117.9	0.00	0.00	0.00
2,800.0	12.00	42.50	2,782.5	2,514.49	138.1	126.6	-132.6	0.00	0.00	0.00
2,900.0	12.00	42.50	2,880.3	2,416.68	153.5	140.6	-147.3	0.00	0.00	0.00
3,000.0	12.00	42.50	2,978.1	2,318.86	168.8	154.7	-162.1	0.00	0.00	0.00
3,100.0	12.00	42.50	3,076.0	2,221.05	184.1	168.7	-176.8	0.00	0.00	0.00
3,200.0	12.00	42.50	3,173.8	2,123.23	199.4	182.8	-191.5	0.00	0.00	0.00
3,300.0	12.00	42.50	3,271.6	2,025.42	214.8	196.8	-206.2	0.00	0.00	0.00
3,400.0	12.00	42.50	3,369.4	1,927.61	230.1	210.9	-220.9	0.00	0.00	0.00
3,500.0	12.00	42.50	3,467.2	1,829.79	245.4	224.9	-235.6	0.00	0.00	0.00
PARKMAN										
3,561.5	12.00	42.50	3,527.4	1,769.60	254.9	233.6	-244.7	0.00	0.00	0.00
3,600.0	12.00	42.50	3,565.0	1,731.98	260.8	239.0	-250.4	0.00	0.00	0.00
3,700.0	12.00	42.50	3,662.8	1,634.16	276.1	253.0	-265.1	0.00	0.00	0.00
3,800.0	12.00	42.50	3,760.7	1,536.35	291.4	267.1	-279.8	0.00	0.00	0.00
3,900.0	12.00	42.50	3,858.5	1,438.53	306.8	281.1	-294.5	0.00	0.00	0.00
4,000.0	12.00	42.50	3,956.3	1,340.72	322.1	295.2	-309.2	0.00	0.00	0.00
4,100.0	12.00	42.50	4,054.1	1,242.91	337.4	309.2	-324.0	0.00	0.00	0.00
4,200.0	12.00	42.50	4,151.9	1,145.09	352.7	323.3	-338.7	0.00	0.00	0.00
4,300.0	12.00	42.50	4,249.7	1,047.28	368.1	337.3	-353.4	0.00	0.00	0.00
SUSSEX										
4,304.8	12.00	42.50	4,254.4	1,042.60	368.8	338.0	-354.1	0.00	0.00	0.00
4,400.0	12.00	42.50	4,347.5	949.46	383.4	351.4	-368.1	0.00	0.00	0.00
4,500.0	12.00	42.50	4,445.4	851.65	398.7	365.4	-382.8	0.00	0.00	0.00

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Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
4,600.0	12.00	42.50	4,543.2	753.83	414.1	379.5	-397.5	0.00	0.00	0.00
4,700.0	12.00	42.50	4,641.0	656.02	429.4	393.5	-412.3	0.00	0.00	0.00
SHANNON										
4,706.6	12.00	42.50	4,647.4	649.60	430.4	394.4	-413.2	0.00	0.00	0.00
4,800.0	12.00	42.50	4,738.8	558.21	444.7	407.6	-427.0	0.00	0.00	0.00
4,900.0	12.00	42.50	4,836.6	460.39	460.1	421.6	-441.7	0.00	0.00	0.00
5,000.0	12.00	42.50	4,934.4	362.58	475.4	435.7	-456.4	0.00	0.00	0.00
5,100.0	12.00	42.50	5,032.2	264.76	490.7	449.7	-471.1	0.00	0.00	0.00
5,200.0	12.00	42.50	5,130.1	166.95	506.0	463.8	-485.8	0.00	0.00	0.00
5,300.0	12.00	42.50	5,227.9	69.13	521.4	477.8	-500.6	0.00	0.00	0.00
END OF TANGENT										
5,313.9	12.00	42.50	5,241.5	55.54	523.5	479.8	-502.6	0.00	0.00	0.00
5,400.0	10.28	42.50	5,325.9	-28.94	535.8	491.0	-514.4	2.00	-2.00	0.00
5,500.0	8.28	42.50	5,424.6	-127.62	547.6	501.9	-525.8	2.00	-2.00	0.00
5,600.0	6.28	42.50	5,523.8	-226.81	557.0	510.5	-534.8	2.00	-2.00	0.00
5,700.0	4.28	42.50	5,623.4	-326.38	563.8	516.7	-541.3	2.00	-2.00	0.00
5,800.0	2.28	42.50	5,723.2	-426.22	568.0	520.5	-545.3	2.00	-2.00	0.00
5,900.0	0.28	42.50	5,823.2	-526.19	569.6	522.0	-546.9	2.00	-2.00	0.00
EOD TO VERTICAL										
5,913.9	0.00	42.50	5,837.1	-540.09	569.7	522.1	-546.9	2.00	-2.00	0.00
6,000.0	0.00	0.00	5,923.2	-626.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,100.0	0.00	0.00	6,023.2	-726.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,200.0	0.00	0.00	6,123.2	-826.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,300.0	0.00	0.00	6,223.2	-926.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,323.2	-1,026.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,500.0	0.00	0.00	6,423.2	-1,126.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,523.2	-1,226.19	569.7	522.1	-546.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,623.2	-1,326.19	569.7	522.1	-546.9	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,733.9	0.00	0.00	6,657.1	-1,360.09	569.7	522.1	-546.9	0.00	0.00	0.00
6,800.0	6.61	180.51	6,723.0	-1,426.04	565.8	522.0	-543.1	10.00	10.00	0.00
6,900.0	16.61	180.51	6,820.9	-1,523.87	545.7	521.8	-523.0	10.00	10.00	0.00
7,000.0	26.61	180.51	6,913.7	-1,616.72	509.0	521.5	-486.3	10.00	10.00	0.00
NIOBRARA										
7,013.1	27.93	180.51	6,925.4	-1,628.40	502.9	521.5	-480.3	10.00	10.00	0.00
7,100.0	36.61	180.51	6,998.8	-1,701.78	456.6	521.1	-434.0	10.00	10.00	0.00
NIOBRARA B										
7,188.4	45.45	180.51	7,065.4	-1,768.40	398.6	520.5	-376.1	10.00	10.00	0.00
7,200.0	46.61	180.51	7,073.4	-1,776.45	390.3	520.5	-367.8	10.00	10.00	0.00
7,300.0	56.61	180.51	7,135.5	-1,838.46	312.0	519.8	-289.6	10.00	10.00	0.00
7,400.0	66.62	180.51	7,182.9	-1,885.94	224.2	519.0	-201.9	10.00	10.00	0.00
FORT HAYS										
7,416.8	68.30	180.51	7,189.4	-1,892.40	208.6	518.8	-186.3	10.00	10.00	0.00
7,500.0	76.62	180.51	7,214.4	-1,917.44	129.4	518.1	-107.2	10.00	10.00	0.00
CODELL										
7,528.8	79.50	180.51	7,220.4	-1,923.40	101.2	517.9	-79.1	10.00	10.00	0.00
7,600.0	86.62	180.51	7,229.0	-1,932.00	30.6	517.3	-8.5	10.00	10.00	0.00
LANDING PNT (P4): 300ft FNL & 1980ft FWL of Sec 36										
7,633.9	90.00	180.51	7,230.0	-1,933.00	-3.3	516.9	25.3	9.99	9.99	0.00
7,700.0	90.00	180.51	7,230.0	-1,933.00	-69.4	516.4	91.3	0.00	0.00	0.00
7,800.0	90.00	180.51	7,230.0	-1,932.99	-169.4	515.5	191.2	0.00	0.00	0.00
7,900.0	90.00	180.51	7,230.0	-1,932.98	-269.4	514.6	291.0	0.00	0.00	0.00
8,000.0	90.00	180.51	7,230.0	-1,932.97	-369.4	513.7	390.9	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SILVERBACK #3
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 5297.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5297.0usft
Site:	NW NW SEC. 36 T12N R62W 6th P.M.	North Reference:	True
Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
8,100.0	90.00	180.51	7,230.0	-1,932.97	-469.4	512.8	490.8	0.00	0.00	0.00
8,200.0	90.00	180.51	7,230.0	-1,932.96	-569.4	511.9	590.6	0.00	0.00	0.00
8,300.0	90.00	180.51	7,230.0	-1,932.95	-669.4	511.0	690.5	0.00	0.00	0.00
8,400.0	90.00	180.51	7,229.9	-1,932.95	-769.4	510.1	790.4	0.00	0.00	0.00
8,500.0	90.00	180.51	7,229.9	-1,932.94	-869.4	509.2	890.2	0.00	0.00	0.00
8,600.0	90.00	180.51	7,229.9	-1,932.93	-969.4	508.3	990.1	0.00	0.00	0.00
8,700.0	90.00	180.51	7,229.9	-1,932.93	-1,069.4	507.4	1,090.0	0.00	0.00	0.00
8,800.0	90.00	180.51	7,229.9	-1,932.92	-1,169.4	506.5	1,189.8	0.00	0.00	0.00
8,900.0	90.00	180.51	7,229.9	-1,932.92	-1,269.3	505.6	1,289.7	0.00	0.00	0.00
9,000.0	90.00	180.51	7,229.9	-1,932.91	-1,369.3	504.8	1,389.6	0.00	0.00	0.00
9,100.0	90.00	180.51	7,229.9	-1,932.91	-1,469.3	503.9	1,489.4	0.00	0.00	0.00
9,200.0	90.00	180.51	7,229.9	-1,932.90	-1,569.3	503.0	1,589.3	0.00	0.00	0.00
9,300.0	90.00	180.51	7,229.9	-1,932.90	-1,669.3	502.1	1,689.2	0.00	0.00	0.00
9,400.0	90.00	180.51	7,229.9	-1,932.89	-1,769.3	501.2	1,789.1	0.00	0.00	0.00
9,500.0	90.00	180.51	7,229.9	-1,932.89	-1,869.3	500.3	1,888.9	0.00	0.00	0.00
9,600.0	90.00	180.51	7,229.9	-1,932.88	-1,969.3	499.4	1,988.8	0.00	0.00	0.00
9,700.0	90.00	180.51	7,229.9	-1,932.88	-2,069.3	498.5	2,088.7	0.00	0.00	0.00
9,800.0	90.00	180.51	7,229.9	-1,932.87	-2,169.3	497.6	2,188.5	0.00	0.00	0.00
9,900.0	90.00	180.51	7,229.9	-1,932.87	-2,269.3	496.7	2,288.4	0.00	0.00	0.00
10,000.0	90.00	180.51	7,229.9	-1,932.86	-2,369.3	495.8	2,388.3	0.00	0.00	0.00
10,100.0	90.00	180.51	7,229.9	-1,932.86	-2,469.3	494.9	2,488.1	0.00	0.00	0.00
10,200.0	90.00	180.51	7,229.9	-1,932.86	-2,569.3	494.0	2,588.0	0.00	0.00	0.00
10,300.0	90.00	180.51	7,229.9	-1,932.85	-2,669.3	493.1	2,687.9	0.00	0.00	0.00
10,400.0	90.00	180.51	7,229.8	-1,932.85	-2,769.3	492.3	2,787.7	0.00	0.00	0.00
10,500.0	90.00	180.51	7,229.8	-1,932.85	-2,869.3	491.4	2,887.6	0.00	0.00	0.00
10,600.0	90.00	180.51	7,229.8	-1,932.84	-2,969.3	490.5	2,987.5	0.00	0.00	0.00
10,700.0	90.00	180.51	7,229.8	-1,932.84	-3,069.3	489.6	3,087.3	0.00	0.00	0.00
10,800.0	90.00	180.51	7,229.8	-1,932.84	-3,169.3	488.7	3,187.2	0.00	0.00	0.00
10,900.0	90.00	180.51	7,229.8	-1,932.84	-3,269.3	487.8	3,287.1	0.00	0.00	0.00
11,000.0	90.00	180.51	7,229.8	-1,932.83	-3,369.3	486.9	3,386.9	0.00	0.00	0.00
11,100.0	90.00	180.51	7,229.8	-1,932.83	-3,469.3	486.0	3,486.8	0.00	0.00	0.00
11,200.0	90.00	180.51	7,229.8	-1,932.83	-3,569.3	485.1	3,586.7	0.00	0.00	0.00
11,300.0	90.00	180.51	7,229.8	-1,932.83	-3,669.3	484.2	3,686.5	0.00	0.00	0.00
11,400.0	90.00	180.51	7,229.8	-1,932.82	-3,769.2	483.3	3,786.4	0.00	0.00	0.00
11,500.0	90.00	180.51	7,229.8	-1,932.82	-3,869.2	482.4	3,886.3	0.00	0.00	0.00
11,600.0	90.00	180.51	7,229.8	-1,932.82	-3,969.2	481.5	3,986.1	0.00	0.00	0.00
11,700.0	90.00	180.51	7,229.8	-1,932.82	-4,069.2	480.6	4,086.0	0.00	0.00	0.00
11,800.0	90.00	180.51	7,229.8	-1,932.82	-4,169.2	479.7	4,185.9	0.00	0.00	0.00
11,900.0	90.00	180.51	7,229.8	-1,932.82	-4,269.2	478.8	4,285.7	0.00	0.00	0.00
12,000.0	90.00	180.51	7,229.8	-1,932.82	-4,369.2	477.9	4,385.6	0.00	0.00	0.00
12,100.0	90.00	180.51	7,229.8	-1,932.81	-4,469.2	477.1	4,485.5	0.00	0.00	0.00
12,200.0	90.00	180.51	7,229.8	-1,932.81	-4,569.2	476.2	4,585.3	0.00	0.00	0.00
12,300.0	90.00	180.51	7,229.8	-1,932.81	-4,669.2	475.3	4,685.2	0.00	0.00	0.00
12,400.0	90.00	180.51	7,229.8	-1,932.81	-4,769.2	474.4	4,785.1	0.00	0.00	0.00
12,500.0	90.00	180.51	7,229.8	-1,932.81	-4,869.2	473.5	4,884.9	0.00	0.00	0.00
12,600.0	90.00	180.51	7,229.8	-1,932.81	-4,969.2	472.6	4,984.8	0.00	0.00	0.00
12,700.0	90.00	180.51	7,229.8	-1,932.81	-5,069.2	471.7	5,084.7	0.00	0.00	0.00
12,800.0	90.00	180.51	7,229.8	-1,932.81	-5,169.2	470.8	5,184.5	0.00	0.00	0.00
12,900.0	90.00	180.51	7,229.8	-1,932.81	-5,269.2	469.9	5,284.4	0.00	0.00	0.00
13,000.0	90.00	180.51	7,229.8	-1,932.81	-5,369.2	469.0	5,384.3	0.00	0.00	0.00
13,100.0	90.00	180.51	7,229.8	-1,932.81	-5,469.2	468.1	5,484.1	0.00	0.00	0.00
13,200.0	90.00	180.51	7,229.8	-1,932.81	-5,569.2	467.2	5,584.0	0.00	0.00	0.00
13,300.0	90.00	180.51	7,229.8	-1,932.82	-5,669.2	466.3	5,683.9	0.00	0.00	0.00
13,400.0	90.00	180.51	7,229.8	-1,932.82	-5,769.2	465.4	5,783.7	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SILVERBACK #3
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 5297.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5297.0usft
Site:	NW NW SEC. 36 T12N R62W 6th P.M.	North Reference:	True
Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
13,500.0	90.00	180.51	7,229.8	-1,932.82	-5,869.2	464.5	5,883.6	0.00	0.00	0.00
13,600.0	90.00	180.51	7,229.8	-1,932.82	-5,969.2	463.6	5,983.5	0.00	0.00	0.00
13,700.0	90.00	180.51	7,229.8	-1,932.82	-6,069.2	462.7	6,083.3	0.00	0.00	0.00
13,800.0	90.00	180.51	7,229.8	-1,932.82	-6,169.2	461.8	6,183.2	0.00	0.00	0.00
13,900.0	90.00	180.51	7,229.8	-1,932.82	-6,269.1	460.9	6,283.1	0.00	0.00	0.00
14,000.0	90.00	180.51	7,229.8	-1,932.83	-6,369.1	460.0	6,383.0	0.00	0.00	0.00
14,100.0	90.00	180.51	7,229.8	-1,932.83	-6,469.1	459.2	6,482.8	0.00	0.00	0.00
14,200.0	90.00	180.51	7,229.8	-1,932.83	-6,569.1	458.3	6,582.7	0.00	0.00	0.00
14,300.0	90.00	180.51	7,229.8	-1,932.83	-6,669.1	457.4	6,682.6	0.00	0.00	0.00
14,400.0	90.00	180.51	7,229.8	-1,932.84	-6,769.1	456.5	6,782.4	0.00	0.00	0.00
14,500.0	90.00	180.51	7,229.8	-1,932.84	-6,869.1	455.6	6,882.3	0.00	0.00	0.00
14,600.0	90.00	180.51	7,229.8	-1,932.84	-6,969.1	454.7	6,982.2	0.00	0.00	0.00
14,700.0	90.00	180.51	7,229.8	-1,932.84	-7,069.1	453.8	7,082.0	0.00	0.00	0.00
14,800.0	90.00	180.51	7,229.8	-1,932.85	-7,169.1	452.9	7,181.9	0.00	0.00	0.00
14,900.0	90.00	180.51	7,229.9	-1,932.85	-7,269.1	452.0	7,281.8	0.00	0.00	0.00
15,000.0	90.00	180.51	7,229.9	-1,932.85	-7,369.1	451.1	7,381.6	0.00	0.00	0.00
15,100.0	90.00	180.51	7,229.9	-1,932.86	-7,469.1	450.2	7,481.5	0.00	0.00	0.00
15,200.0	90.00	180.51	7,229.9	-1,932.86	-7,569.1	449.3	7,581.4	0.00	0.00	0.00
15,300.0	90.00	180.51	7,229.9	-1,932.86	-7,669.1	448.4	7,681.2	0.00	0.00	0.00
15,400.0	90.00	180.51	7,229.9	-1,932.87	-7,769.1	447.5	7,781.1	0.00	0.00	0.00
15,500.0	90.00	180.51	7,229.9	-1,932.87	-7,869.1	446.6	7,881.0	0.00	0.00	0.00
15,600.0	90.00	180.51	7,229.9	-1,932.88	-7,969.1	445.7	7,980.8	0.00	0.00	0.00
15,700.0	90.00	180.51	7,229.9	-1,932.88	-8,069.1	444.8	8,080.7	0.00	0.00	0.00
15,800.0	90.00	180.51	7,229.9	-1,932.89	-8,169.1	443.9	8,180.6	0.00	0.00	0.00
15,900.0	90.00	180.51	7,229.9	-1,932.89	-8,269.1	443.0	8,280.4	0.00	0.00	0.00
16,000.0	90.00	180.51	7,229.9	-1,932.90	-8,369.1	442.1	8,380.3	0.00	0.00	0.00
16,100.0	90.00	180.51	7,229.9	-1,932.90	-8,469.1	441.2	8,480.2	0.00	0.00	0.00
16,200.0	90.00	180.51	7,229.9	-1,932.91	-8,569.1	440.3	8,580.0	0.00	0.00	0.00
16,300.0	90.00	180.51	7,229.9	-1,932.91	-8,669.1	439.4	8,679.9	0.00	0.00	0.00
16,400.0	90.00	180.51	7,229.9	-1,932.92	-8,769.0	438.5	8,779.8	0.00	0.00	0.00
16,500.0	90.00	180.51	7,229.9	-1,932.92	-8,869.0	437.6	8,879.6	0.00	0.00	0.00
16,600.0	90.00	180.51	7,229.9	-1,932.93	-8,969.0	436.7	8,979.5	0.00	0.00	0.00
16,700.0	90.00	180.51	7,229.9	-1,932.93	-9,069.0	435.8	9,079.4	0.00	0.00	0.00
16,800.0	90.00	180.51	7,229.9	-1,932.94	-9,169.0	435.0	9,179.2	0.00	0.00	0.00
16,900.0	90.00	180.51	7,229.9	-1,932.95	-9,269.0	434.1	9,279.1	0.00	0.00	0.00
17,000.0	90.00	180.51	7,230.0	-1,932.95	-9,369.0	433.2	9,379.0	0.00	0.00	0.00
17,100.0	90.00	180.51	7,230.0	-1,932.96	-9,469.0	432.3	9,478.8	0.00	0.00	0.00
17,200.0	90.00	180.51	7,230.0	-1,932.97	-9,569.0	431.4	9,578.7	0.00	0.00	0.00
17,300.0	90.00	180.51	7,230.0	-1,932.97	-9,669.0	430.5	9,678.6	0.00	0.00	0.00
17,400.0	90.00	180.51	7,230.0	-1,932.98	-9,769.0	429.6	9,778.4	0.00	0.00	0.00
17,500.0	90.00	180.51	7,230.0	-1,932.99	-9,869.0	428.7	9,878.3	0.00	0.00	0.00
17,600.0	90.00	180.51	7,230.0	-1,933.00	-9,969.0	427.8	9,978.2	0.00	0.00	0.00
BHL (P4): 300ft FSL & 1980ft FWL of Sec 1										
17,661.9	90.00	180.51	7,230.0	-1,933.00	-10,030.9	427.2	10,040.0	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SILVERBACK #3
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 5297.0usft
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 5297.0usft
Site:	NW NW SEC. 36 T12N R62W 6th P.M.	North Reference:	True
Well:	SILVERBACK #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,561.5	3,527.4	PARKMAN		0.00		
4,304.8	4,254.4	SUSSEX		0.00		
4,706.6	4,647.4	SHANNON		0.00		
7,013.1	6,925.4	NIOBRARA		0.00		
7,188.4	7,065.4	NIOBRARA B		0.00		
7,416.8	7,189.4	FORT HAYS		0.00		
7,528.8	7,220.4	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 & 1463ft FWL of Sec 36	
1,600.0	1,600.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
2,200.1	2,195.7	46.2	42.3	EOB TO 12° INC	
5,313.9	5,241.5	523.5	479.8	END OF TANGENT	
5,913.9	5,837.1	569.7	522.1	EOD TO VERTICAL	
6,733.9	6,657.1	569.7	522.1	KOP (10°/100ft BUR)	
7,633.9	7,230.0	-3.3	516.9	LANDING PNT (P4): 300ft FNL & 1980ft FWL of Sec 36	
17,661.9	7,230.0	-10,030.9	427.2	BHL (P4): 300ft FSL & 1980ft FWL of Sec 1	