

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

SW NW SEC. 15 T5N R65W 6th P.M.

VETTING 19

ORIGINAL WELLBORE

09 March, 2016

Plan: PROPOSAL #2

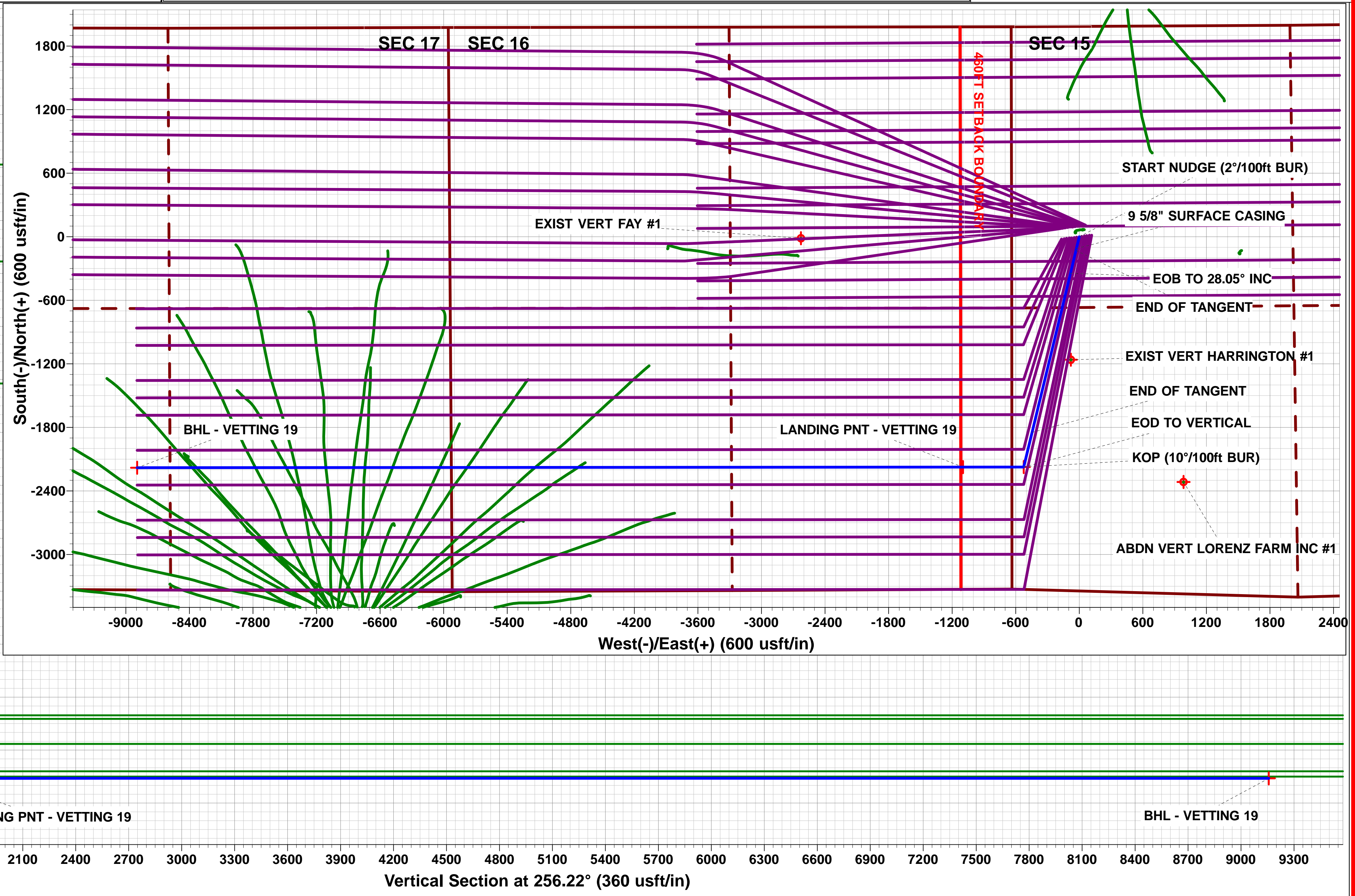
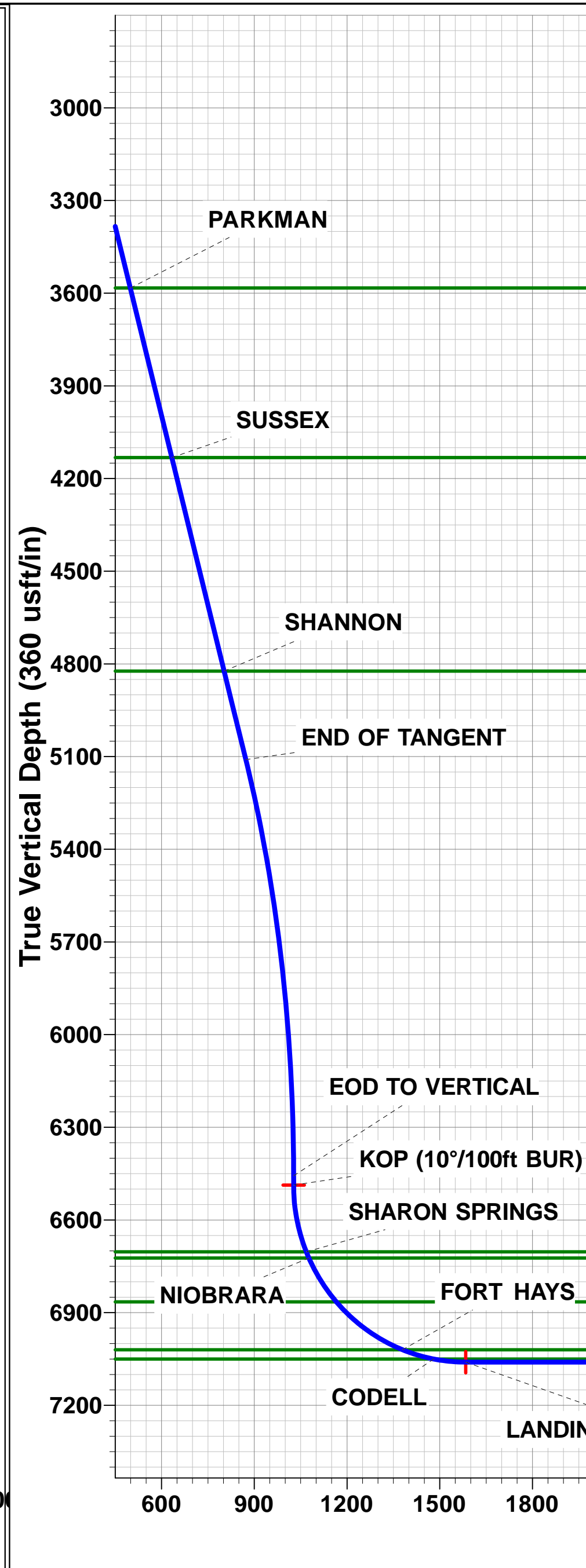
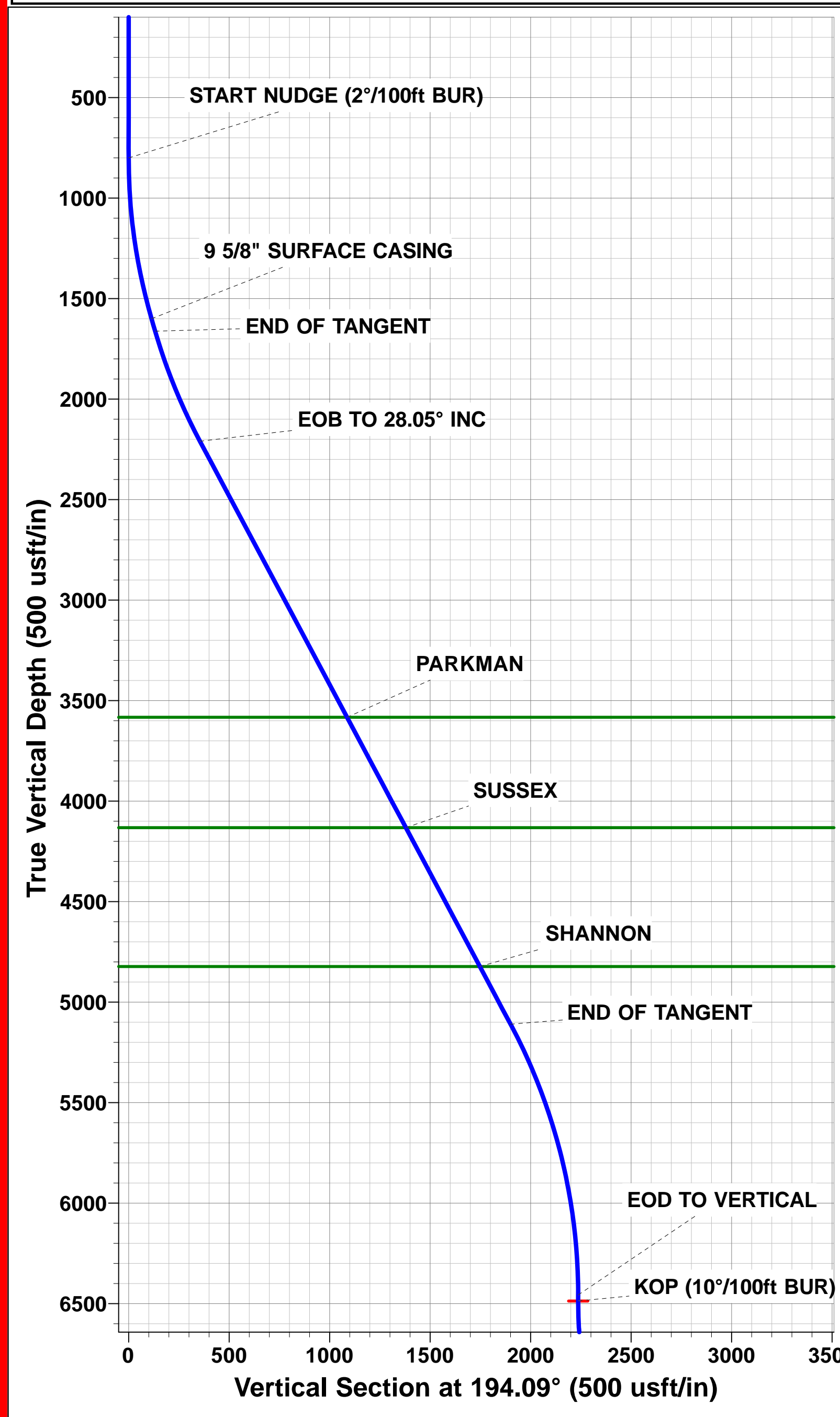
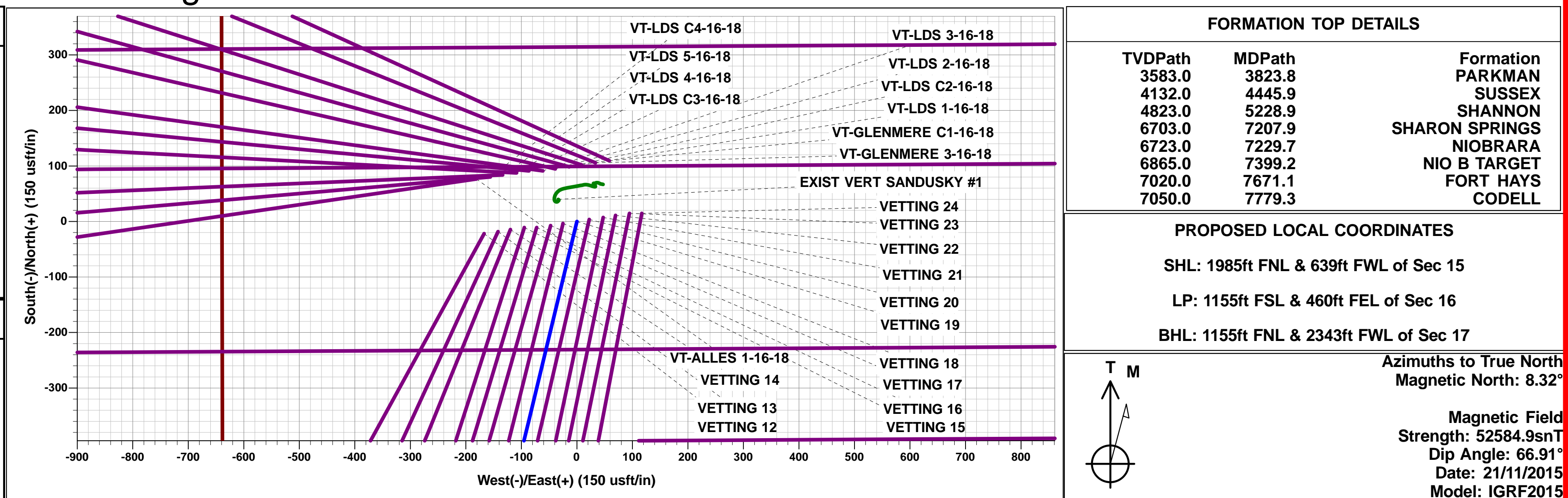




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 15 T5N R65W 6th P.M.
Well: VETTING 19
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation		
800.0	800.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)		
1600.0	1610.8	16.22	193.56	-110.8	-26.7	52.3	114.0	9 5/8" SURFACE CASING		
1662.4	1675.8	16.22	193.56	-128.4	-31.0	60.7	132.1	END OF TANGENT		
2209.7	2267.7	28.05	193.56	-344.9	-83.2	162.9	354.8	EOB TO 28.05° INC		
5109.6	5553.7	28.05	193.56	-1847.2	-445.5	872.6	1900.2	END OF TANGENT		
6457.0	6956.4	0.00	193.56	-2174.5	-524.4	1027.1	2236.8	EOD TO VERTICAL		
6487.0	6986.4	0.00	0.00	-2174.5	-524.4	1027.1	2236.8	KOP (10°/100ft BUR)		
7060.0	7886.6	90.00	269.96	-2174.9	-1097.5	1583.8	2809.9	LANDING PNT - VETTING 19		
7060.0	15682.9	90.00	269.96	-2180.6	-8893.8	9157.2	10606.2	BHL - VETTING 19		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - VETTING 19	6487.0	-2174.5	-524.4	40.395071	-104.658463
LANDING PNT - VETTING 19	7060.0	-2174.9	-1097.5	40.395070	-104.660520
BHL - VETTING 19	7060.0	-2180.6	-8893.8	40.395050	-104.688510



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 19
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	SW NW SEC. 15 T5N R65W 6th P.M.		
Site Position:		Northing:	1,390,032.91 usft
From:	Lat/Long	Easting:	3,234,727.17 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.400980
		Longitude:	-104.657180
		Grid Convergence:	0.54 °

Well	VETTING 19		
Well Position	+N-S	21.9 usft	Northing:
	+E-W	167.1 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	21/11/2015	8.32	66.91	52,585

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	256.22

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	-4,664.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	-3,864.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,610.8	16.22	193.56	1,600.0	-3,064.0	-110.8	-26.7	2.00	2.00	0.00	193.56	
1,675.8	16.22	193.56	1,662.4	-3,001.6	-128.4	-31.0	0.00	0.00	0.00	0.00	
2,267.7	28.05	193.56	2,209.7	-2,454.3	-344.9	-83.2	2.00	2.00	0.00	0.00	
5,553.7	28.05	193.56	5,109.7	445.7	-1,847.2	-445.5	0.00	0.00	0.00	0.00	
6,956.4	0.00	0.00	6,457.0	1,793.0	-2,174.5	-524.4	2.00	-2.00	0.00	180.00	
6,986.4	0.00	0.00	6,487.0	1,823.0	-2,174.5	-524.4	0.00	0.00	0.00	0.00	KOP - VETTING 19
7,886.6	90.00	269.96	7,060.0	2,396.0	-2,174.9	-1,097.5	10.00	10.00	-10.00	269.96	LANDING PNT - VE
15,682.9	90.00	269.96	7,060.0	2,396.0	-2,180.6	-8,893.8	0.00	0.00	0.00	143.09	BHL - VETTING 19

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
0.0	0.00	0.00	0.0	4,664.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,564.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,464.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,364.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,264.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,164.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,064.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,964.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
800.0	0.00	0.00	800.0	3,864.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	2.00	193.56	900.0	3,764.02	-1.7	-0.4	0.8	2.00	2.00	0.00
1,000.0	4.00	193.56	999.8	3,664.16	-6.8	-1.6	3.2	2.00	2.00	0.00
1,100.0	6.00	193.56	1,099.5	3,564.55	-15.3	-3.7	7.2	2.00	2.00	0.00
1,200.0	8.00	193.56	1,198.7	3,465.30	-27.1	-6.5	12.8	2.00	2.00	0.00
1,300.0	10.00	193.56	1,297.5	3,366.53	-42.3	-10.2	20.0	2.00	2.00	0.00
1,400.0	12.00	193.56	1,395.6	3,268.38	-60.9	-14.7	28.7	2.00	2.00	0.00
1,500.0	14.00	193.56	1,493.1	3,170.94	-82.7	-20.0	39.1	2.00	2.00	0.00
1,600.0	16.00	193.56	1,589.6	3,074.36	-107.9	-26.0	51.0	2.00	2.00	0.00
9 5/8" SURFACE CASING										
1,610.8	16.22	193.56	1,600.0	3,063.98	-110.8	-26.7	52.3	2.00	2.00	0.00
END OF TANGENT										
1,675.8	16.22	193.56	1,662.4	3,001.57	-128.4	-31.0	60.7	0.00	0.00	0.00
1,700.0	16.70	193.56	1,685.6	2,978.36	-135.1	-32.6	63.8	2.00	2.00	0.00
1,800.0	18.70	193.56	1,780.9	2,883.10	-164.7	-39.7	77.8	2.00	2.00	0.00
1,900.0	20.70	193.56	1,875.0	2,788.96	-197.4	-47.6	93.3	2.00	2.00	0.00
2,000.0	22.70	193.56	1,968.0	2,696.05	-233.4	-56.3	110.2	2.00	2.00	0.00
2,100.0	24.70	193.56	2,059.5	2,604.48	-272.4	-65.7	128.7	2.00	2.00	0.00
2,200.0	26.70	193.56	2,149.6	2,514.38	-314.6	-75.9	148.6	2.00	2.00	0.00
EOB TO 28.05° INC										
2,267.7	28.05	193.56	2,209.7	2,454.27	-344.9	-83.2	162.9	2.00	2.00	0.00
2,300.0	28.05	193.56	2,238.2	2,425.76	-359.6	-86.7	169.9	0.00	0.00	0.00
2,400.0	28.05	193.56	2,326.5	2,337.51	-405.4	-97.8	191.5	0.00	0.00	0.00
2,500.0	28.05	193.56	2,414.7	2,249.26	-451.1	-108.8	213.1	0.00	0.00	0.00
2,600.0	28.05	193.56	2,503.0	2,161.01	-496.8	-119.8	234.7	0.00	0.00	0.00
2,700.0	28.05	193.56	2,591.2	2,072.76	-542.5	-130.8	256.3	0.00	0.00	0.00
2,800.0	28.05	193.56	2,679.5	1,984.51	-588.2	-141.9	277.9	0.00	0.00	0.00
2,900.0	28.05	193.56	2,767.7	1,896.26	-633.9	-152.9	299.5	0.00	0.00	0.00
3,000.0	28.05	193.56	2,856.0	1,808.01	-679.7	-163.9	321.1	0.00	0.00	0.00
3,100.0	28.05	193.56	2,944.2	1,719.76	-725.4	-174.9	342.6	0.00	0.00	0.00
3,200.0	28.05	193.56	3,032.5	1,631.51	-771.1	-186.0	364.2	0.00	0.00	0.00
3,300.0	28.05	193.56	3,120.7	1,543.26	-816.8	-197.0	385.8	0.00	0.00	0.00
3,400.0	28.05	193.56	3,209.0	1,455.01	-862.5	-208.0	407.4	0.00	0.00	0.00
3,500.0	28.05	193.56	3,297.2	1,366.76	-908.3	-219.0	429.0	0.00	0.00	0.00
3,600.0	28.05	193.56	3,385.5	1,278.51	-954.0	-230.1	450.6	0.00	0.00	0.00
3,700.0	28.05	193.56	3,473.7	1,190.26	-999.7	-241.1	472.2	0.00	0.00	0.00
3,800.0	28.05	193.56	3,562.0	1,102.01	-1,045.4	-252.1	493.8	0.00	0.00	0.00
PARKMAN										
3,823.8	28.05	193.56	3,583.0	1,081.00	-1,056.3	-254.8	499.0	0.00	0.00	0.00
3,900.0	28.05	193.56	3,650.2	1,013.76	-1,091.1	-263.2	515.4	0.00	0.00	0.00
4,000.0	28.05	193.56	3,738.5	925.51	-1,136.9	-274.2	537.0	0.00	0.00	0.00
4,100.0	28.05	193.56	3,826.7	837.26	-1,182.6	-285.2	558.6	0.00	0.00	0.00
4,200.0	28.05	193.56	3,915.0	749.01	-1,228.3	-296.2	580.2	0.00	0.00	0.00
4,300.0	28.05	193.56	4,003.2	660.76	-1,274.0	-307.3	601.8	0.00	0.00	0.00
4,400.0	28.05	193.56	4,091.5	572.50	-1,319.7	-318.3	623.4	0.00	0.00	0.00

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Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
SUSSEX										
4,445.9	28.05	193.56	4,132.0	532.00	-1,340.7	-323.3	633.3	0.00	0.00	0.00
4,500.0	28.05	193.56	4,179.7	484.25	-1,365.5	-329.3	645.0	0.00	0.00	0.00
4,600.0	28.05	193.56	4,268.0	396.00	-1,411.2	-340.3	666.6	0.00	0.00	0.00
4,700.0	28.05	193.56	4,356.2	307.75	-1,456.9	-351.4	688.2	0.00	0.00	0.00
4,800.0	28.05	193.56	4,444.5	219.50	-1,502.6	-362.4	709.8	0.00	0.00	0.00
4,900.0	28.05	193.56	4,532.7	131.25	-1,548.3	-373.4	731.4	0.00	0.00	0.00
5,000.0	28.05	193.56	4,621.0	43.00	-1,594.1	-384.4	753.0	0.00	0.00	0.00
5,100.0	28.05	193.56	4,709.2	-45.25	-1,639.8	-395.5	774.6	0.00	0.00	0.00
5,200.0	28.05	193.56	4,797.5	-133.50	-1,685.5	-406.5	796.2	0.00	0.00	0.00
SHANNON										
5,228.9	28.05	193.56	4,823.0	-159.00	-1,698.7	-409.7	802.4	0.00	0.00	0.00
5,300.0	28.05	193.56	4,885.7	-221.75	-1,731.2	-417.5	817.8	0.00	0.00	0.00
5,400.0	28.05	193.56	4,974.0	-310.00	-1,776.9	-428.5	839.4	0.00	0.00	0.00
5,500.0	28.05	193.56	5,062.2	-398.25	-1,822.7	-439.6	861.0	0.00	0.00	0.00
END OF TANGENT										
5,553.7	28.05	193.56	5,109.6	-445.64	-1,847.2	-445.5	872.6	0.00	0.00	0.00
5,600.0	27.13	193.56	5,150.7	-486.67	-1,868.1	-450.5	882.4	2.00	-2.00	0.00
5,700.0	25.13	193.56	5,240.4	-576.45	-1,910.9	-460.8	902.6	2.00	-2.00	0.00
5,800.0	23.13	193.56	5,331.7	-667.71	-1,950.6	-470.4	921.4	2.00	-2.00	0.00
5,900.0	21.13	193.56	5,424.3	-760.34	-1,987.2	-479.3	938.7	2.00	-2.00	0.00
6,000.0	19.13	193.56	5,518.2	-854.22	-2,020.7	-487.3	954.5	2.00	-2.00	0.00
6,100.0	17.13	193.56	5,613.3	-949.25	-2,050.9	-494.6	968.8	2.00	-2.00	0.00
6,200.0	15.13	193.56	5,709.3	-1,045.31	-2,077.9	-501.1	981.5	2.00	-2.00	0.00
6,300.0	13.13	193.56	5,806.3	-1,142.28	-2,101.7	-506.9	992.7	2.00	-2.00	0.00
6,400.0	11.13	193.56	5,904.0	-1,240.05	-2,122.1	-511.8	1,002.4	2.00	-2.00	0.00
6,500.0	9.13	193.56	6,002.5	-1,338.48	-2,139.2	-515.9	1,010.5	2.00	-2.00	0.00
6,600.0	7.13	193.56	6,101.5	-1,437.47	-2,152.9	-519.2	1,017.0	2.00	-2.00	0.00
6,700.0	5.13	193.56	6,200.9	-1,536.90	-2,163.3	-521.7	1,021.9	2.00	-2.00	0.00
6,800.0	3.13	193.56	6,300.6	-1,636.63	-2,170.3	-523.4	1,025.2	2.00	-2.00	0.00
6,900.0	1.13	193.56	6,400.6	-1,736.56	-2,173.9	-524.3	1,026.9	2.00	-2.00	0.00
EOD TO VERTICAL										
6,956.4	0.00	193.56	6,457.0	-1,792.95	-2,174.5	-524.4	1,027.1	2.00	-2.00	0.00
KOP (10°/100ft BUR)										
6,986.4	0.00	0.00	6,487.0	-1,822.95	-2,174.5	-524.4	1,027.1	0.00	0.00	0.00
7,000.0	1.36	269.96	6,500.6	-1,836.55	-2,174.5	-524.6	1,027.3	9.97	9.97	0.00
7,100.0	11.35	269.96	6,599.8	-1,935.81	-2,174.5	-535.6	1,038.0	10.00	10.00	0.00
7,200.0	21.35	269.96	6,695.6	-2,031.64	-2,174.5	-563.8	1,065.3	10.00	10.00	0.00
SHARON SPRINGS										
7,207.9	22.15	269.96	6,703.0	-2,039.00	-2,174.5	-566.7	1,068.2	10.00	10.00	0.00
NIOBRARA										
7,229.7	24.32	269.96	6,723.0	-2,059.00	-2,174.5	-575.3	1,076.5	10.00	10.00	0.00
7,300.0	31.35	269.96	6,785.1	-2,121.14	-2,174.5	-608.1	1,108.4	10.00	10.00	0.00
NIO B TARGET										
7,399.2	41.28	269.96	6,865.0	-2,201.00	-2,174.6	-666.8	1,165.4	10.00	10.00	0.00
7,400.0	41.35	269.96	6,865.6	-2,201.57	-2,174.6	-667.3	1,165.9	10.00	10.00	0.00
7,500.0	51.35	269.96	6,934.5	-2,270.51	-2,174.6	-739.6	1,236.1	10.00	10.00	0.00
7,600.0	61.35	269.96	6,989.8	-2,325.85	-2,174.7	-822.7	1,316.9	10.00	10.00	0.00
FORT HAYS										
7,671.1	68.46	269.96	7,020.0	-2,356.00	-2,174.7	-887.1	1,379.4	10.00	10.00	0.00
7,700.0	71.35	269.96	7,029.9	-2,365.91	-2,174.8	-914.2	1,405.8	10.00	10.00	0.00
CODELL										

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 19
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	SW NW SEC. 15 T5N R6W 6th P.M.	North Reference:	True
Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
7,779.3	79.28	269.96	7,050.0	-2,386.00	-2,174.8	-990.8	1,480.2	10.00	10.00	0.00
7,800.0	81.35	269.96	7,053.5	-2,389.48	-2,174.8	-1,011.2	1,500.0	10.00	10.00	0.00
LANDING PNT - VETTING 19										
7,886.6	90.00	269.96	7,060.0	-2,396.00	-2,174.9	-1,097.5	1,583.8	9.99	9.99	0.00
7,900.0	90.00	269.96	7,060.0	-2,396.00	-2,174.9	-1,110.9	1,596.9	0.00	0.00	0.00
8,000.0	90.00	269.96	7,060.0	-2,395.99	-2,175.0	-1,210.9	1,694.0	0.00	0.00	0.00
8,100.0	90.00	269.96	7,060.0	-2,395.99	-2,175.1	-1,310.9	1,791.1	0.00	0.00	0.00
8,200.0	90.00	269.96	7,060.0	-2,395.98	-2,175.1	-1,410.9	1,888.3	0.00	0.00	0.00
8,300.0	90.00	269.96	7,060.0	-2,395.97	-2,175.2	-1,510.9	1,985.4	0.00	0.00	0.00
8,400.0	90.00	269.96	7,060.0	-2,395.97	-2,175.3	-1,610.9	2,082.6	0.00	0.00	0.00
8,500.0	90.00	269.96	7,060.0	-2,395.96	-2,175.4	-1,710.9	2,179.7	0.00	0.00	0.00
8,600.0	90.00	269.96	7,060.0	-2,395.96	-2,175.5	-1,810.9	2,276.9	0.00	0.00	0.00
8,700.0	90.00	269.96	7,060.0	-2,395.95	-2,175.5	-1,910.9	2,374.0	0.00	0.00	0.00
8,800.0	90.00	269.96	7,059.9	-2,395.95	-2,175.6	-2,010.9	2,471.1	0.00	0.00	0.00
8,900.0	90.00	269.96	7,059.9	-2,395.94	-2,175.7	-2,110.9	2,568.3	0.00	0.00	0.00
9,000.0	90.00	269.96	7,059.9	-2,395.94	-2,175.8	-2,210.9	2,665.4	0.00	0.00	0.00
9,100.0	90.00	269.96	7,059.9	-2,395.93	-2,175.8	-2,310.9	2,762.6	0.00	0.00	0.00
9,200.0	90.00	269.96	7,059.9	-2,395.93	-2,175.9	-2,410.9	2,859.7	0.00	0.00	0.00
9,300.0	90.00	269.96	7,059.9	-2,395.92	-2,176.0	-2,510.9	2,956.8	0.00	0.00	0.00
9,400.0	90.00	269.96	7,059.9	-2,395.92	-2,176.1	-2,610.9	3,054.0	0.00	0.00	0.00
9,500.0	90.00	269.96	7,059.9	-2,395.92	-2,176.2	-2,710.9	3,151.1	0.00	0.00	0.00
9,600.0	90.00	269.96	7,059.9	-2,395.91	-2,176.2	-2,810.9	3,248.3	0.00	0.00	0.00
9,700.0	90.00	269.96	7,059.9	-2,395.91	-2,176.3	-2,910.9	3,345.4	0.00	0.00	0.00
9,800.0	90.00	269.96	7,059.9	-2,395.90	-2,176.4	-3,010.9	3,442.5	0.00	0.00	0.00
9,900.0	90.00	269.96	7,059.9	-2,395.90	-2,176.5	-3,110.9	3,539.7	0.00	0.00	0.00
10,000.0	90.00	269.96	7,059.9	-2,395.90	-2,176.5	-3,210.9	3,636.8	0.00	0.00	0.00
10,100.0	90.00	269.96	7,059.9	-2,395.90	-2,176.6	-3,310.9	3,734.0	0.00	0.00	0.00
10,200.0	90.00	269.96	7,059.9	-2,395.89	-2,176.7	-3,410.9	3,831.1	0.00	0.00	0.00
10,300.0	90.00	269.96	7,059.9	-2,395.89	-2,176.8	-3,510.9	3,928.3	0.00	0.00	0.00
10,400.0	90.00	269.96	7,059.9	-2,395.89	-2,176.8	-3,610.9	4,025.4	0.00	0.00	0.00
10,500.0	90.00	269.96	7,059.9	-2,395.89	-2,176.9	-3,710.9	4,122.5	0.00	0.00	0.00
10,600.0	90.00	269.96	7,059.9	-2,395.88	-2,177.0	-3,810.9	4,219.7	0.00	0.00	0.00
10,700.0	90.00	269.96	7,059.9	-2,395.88	-2,177.1	-3,910.9	4,316.8	0.00	0.00	0.00
10,800.0	90.00	269.96	7,059.9	-2,395.88	-2,177.1	-4,010.9	4,414.0	0.00	0.00	0.00
10,900.0	90.00	269.96	7,059.9	-2,395.88	-2,177.2	-4,110.9	4,511.1	0.00	0.00	0.00
11,000.0	90.00	269.96	7,059.9	-2,395.88	-2,177.3	-4,210.9	4,608.2	0.00	0.00	0.00
11,100.0	90.00	269.96	7,059.9	-2,395.88	-2,177.4	-4,310.9	4,705.4	0.00	0.00	0.00
11,200.0	90.00	269.96	7,059.9	-2,395.87	-2,177.4	-4,410.9	4,802.5	0.00	0.00	0.00
11,300.0	90.00	269.96	7,059.9	-2,395.87	-2,177.5	-4,510.9	4,899.7	0.00	0.00	0.00
11,400.0	90.00	269.96	7,059.9	-2,395.87	-2,177.6	-4,610.9	4,996.8	0.00	0.00	0.00
11,500.0	90.00	269.96	7,059.9	-2,395.87	-2,177.6	-4,710.9	5,093.9	0.00	0.00	0.00
11,600.0	90.00	269.96	7,059.9	-2,395.87	-2,177.7	-4,810.9	5,191.1	0.00	0.00	0.00
11,700.0	90.00	269.96	7,059.9	-2,395.87	-2,177.8	-4,910.9	5,288.2	0.00	0.00	0.00
11,800.0	90.00	269.96	7,059.9	-2,395.87	-2,177.9	-5,010.9	5,385.4	0.00	0.00	0.00
11,900.0	90.00	269.96	7,059.9	-2,395.87	-2,177.9	-5,110.9	5,482.5	0.00	0.00	0.00
12,000.0	90.00	269.96	7,059.9	-2,395.87	-2,178.0	-5,210.9	5,579.7	0.00	0.00	0.00
12,100.0	90.00	269.96	7,059.9	-2,395.87	-2,178.1	-5,310.9	5,676.8	0.00	0.00	0.00
12,200.0	90.00	269.96	7,059.9	-2,395.87	-2,178.2	-5,410.9	5,773.9	0.00	0.00	0.00
12,300.0	90.00	269.96	7,059.9	-2,395.87	-2,178.2	-5,510.9	5,871.1	0.00	0.00	0.00
12,400.0	90.00	269.96	7,059.9	-2,395.87	-2,178.3	-5,610.9	5,968.2	0.00	0.00	0.00
12,500.0	90.00	269.96	7,059.9	-2,395.88	-2,178.4	-5,710.9	6,065.4	0.00	0.00	0.00
12,600.0	90.00	269.96	7,059.9	-2,395.88	-2,178.4	-5,810.9	6,162.5	0.00	0.00	0.00
12,700.0	90.00	269.96	7,059.9	-2,395.88	-2,178.5	-5,910.9	6,259.6	0.00	0.00	0.00
12,800.0	90.00	269.96	7,059.9	-2,395.88	-2,178.6	-6,010.9	6,356.8	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 19
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	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)
12,900.0	90.00	269.96	7,059.9	-2,395.88	-2,178.7	-6,110.9	6,453.9	0.00	0.00	0.00
13,000.0	90.00	269.96	7,059.9	-2,395.88	-2,178.7	-6,210.9	6,551.1	0.00	0.00	0.00
13,100.0	90.00	269.96	7,059.9	-2,395.89	-2,178.8	-6,310.9	6,648.2	0.00	0.00	0.00
13,200.0	90.00	269.96	7,059.9	-2,395.89	-2,178.9	-6,410.9	6,745.3	0.00	0.00	0.00
13,300.0	90.00	269.96	7,059.9	-2,395.89	-2,179.0	-6,510.9	6,842.5	0.00	0.00	0.00
13,400.0	90.00	269.96	7,059.9	-2,395.89	-2,179.0	-6,610.9	6,939.6	0.00	0.00	0.00
13,500.0	90.00	269.96	7,059.9	-2,395.90	-2,179.1	-6,710.9	7,036.8	0.00	0.00	0.00
13,600.0	90.00	269.96	7,059.9	-2,395.90	-2,179.2	-6,810.9	7,133.9	0.00	0.00	0.00
13,700.0	90.00	269.96	7,059.9	-2,395.90	-2,179.2	-6,910.9	7,231.0	0.00	0.00	0.00
13,800.0	90.00	269.96	7,059.9	-2,395.91	-2,179.3	-7,010.9	7,328.2	0.00	0.00	0.00
13,900.0	90.00	269.96	7,059.9	-2,395.91	-2,179.4	-7,110.9	7,425.3	0.00	0.00	0.00
14,000.0	90.00	269.96	7,059.9	-2,395.91	-2,179.4	-7,210.9	7,522.5	0.00	0.00	0.00
14,100.0	90.00	269.96	7,059.9	-2,395.92	-2,179.5	-7,310.9	7,619.6	0.00	0.00	0.00
14,200.0	90.00	269.96	7,059.9	-2,395.92	-2,179.6	-7,410.9	7,716.7	0.00	0.00	0.00
14,300.0	90.00	269.96	7,059.9	-2,395.93	-2,179.7	-7,510.9	7,813.9	0.00	0.00	0.00
14,400.0	90.00	269.96	7,059.9	-2,395.93	-2,179.7	-7,610.9	7,911.0	0.00	0.00	0.00
14,500.0	90.00	269.96	7,059.9	-2,395.93	-2,179.8	-7,710.9	8,008.2	0.00	0.00	0.00
14,600.0	90.00	269.96	7,059.9	-2,395.94	-2,179.9	-7,810.9	8,105.3	0.00	0.00	0.00
14,700.0	90.00	269.96	7,059.9	-2,395.94	-2,179.9	-7,910.9	8,202.4	0.00	0.00	0.00
14,800.0	90.00	269.96	7,059.9	-2,395.95	-2,180.0	-8,010.9	8,299.6	0.00	0.00	0.00
14,900.0	90.00	269.96	7,060.0	-2,395.95	-2,180.1	-8,110.9	8,396.7	0.00	0.00	0.00
15,000.0	90.00	269.96	7,060.0	-2,395.96	-2,180.1	-8,210.9	8,493.9	0.00	0.00	0.00
15,100.0	90.00	269.96	7,060.0	-2,395.96	-2,180.2	-8,310.9	8,591.0	0.00	0.00	0.00
15,200.0	90.00	269.96	7,060.0	-2,395.97	-2,180.3	-8,410.9	8,688.1	0.00	0.00	0.00
15,300.0	90.00	269.96	7,060.0	-2,395.98	-2,180.4	-8,510.9	8,785.3	0.00	0.00	0.00
15,400.0	90.00	269.96	7,060.0	-2,395.98	-2,180.4	-8,610.9	8,882.4	0.00	0.00	0.00
15,500.0	90.00	269.96	7,060.0	-2,395.99	-2,180.5	-8,710.9	8,979.6	0.00	0.00	0.00
15,600.0	90.00	269.96	7,060.0	-2,395.99	-2,180.6	-8,810.9	9,076.7	0.00	0.00	0.00
BHL - VETTING 19										
15,682.9	90.00	269.96	7,060.0	-2,396.00	-2,180.6	-8,893.8	9,157.2	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,823.8	3,583.0	PARKMAN			
4,445.9	4,132.0	SUSSEX			
5,228.9	4,823.0	SHANNON			
7,207.9	6,703.0	SHARON SPRINGS			
7,229.7	6,723.0	NIOBRARA			
7,399.2	6,865.0	NIO B TARGET			
7,671.1	7,020.0	FORT HAYS			
7,779.3	7,050.0	CODELL			

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 19
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4664.0usft (Original Well Elev)
Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 19	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
800.0	800.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,610.8	1,600.0	-110.8	-26.7	9 5/8" SURFACE CASING
1,675.8	1,662.4	-128.4	-31.0	END OF TANGENT
2,267.7	2,209.7	-344.9	-83.2	EOB TO 28.05° INC
5,553.7	5,109.6	-1,847.2	-445.5	END OF TANGENT
6,956.4	6,457.0	-2,174.5	-524.4	EOD TO VERTICAL
6,986.4	6,487.0	-2,174.5	-524.4	KOP (10°/100ft BUR)
7,886.6	7,060.0	-2,174.9	-1,097.5	LANDING PNT - VETTING 19
15,682.9	7,060.0	-2,180.6	-8,893.8	BHL - VETTING 19