

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

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

VETTING 24

ORIGINAL WELLBORE

09 March, 2016

Plan: PROPOSAL #2

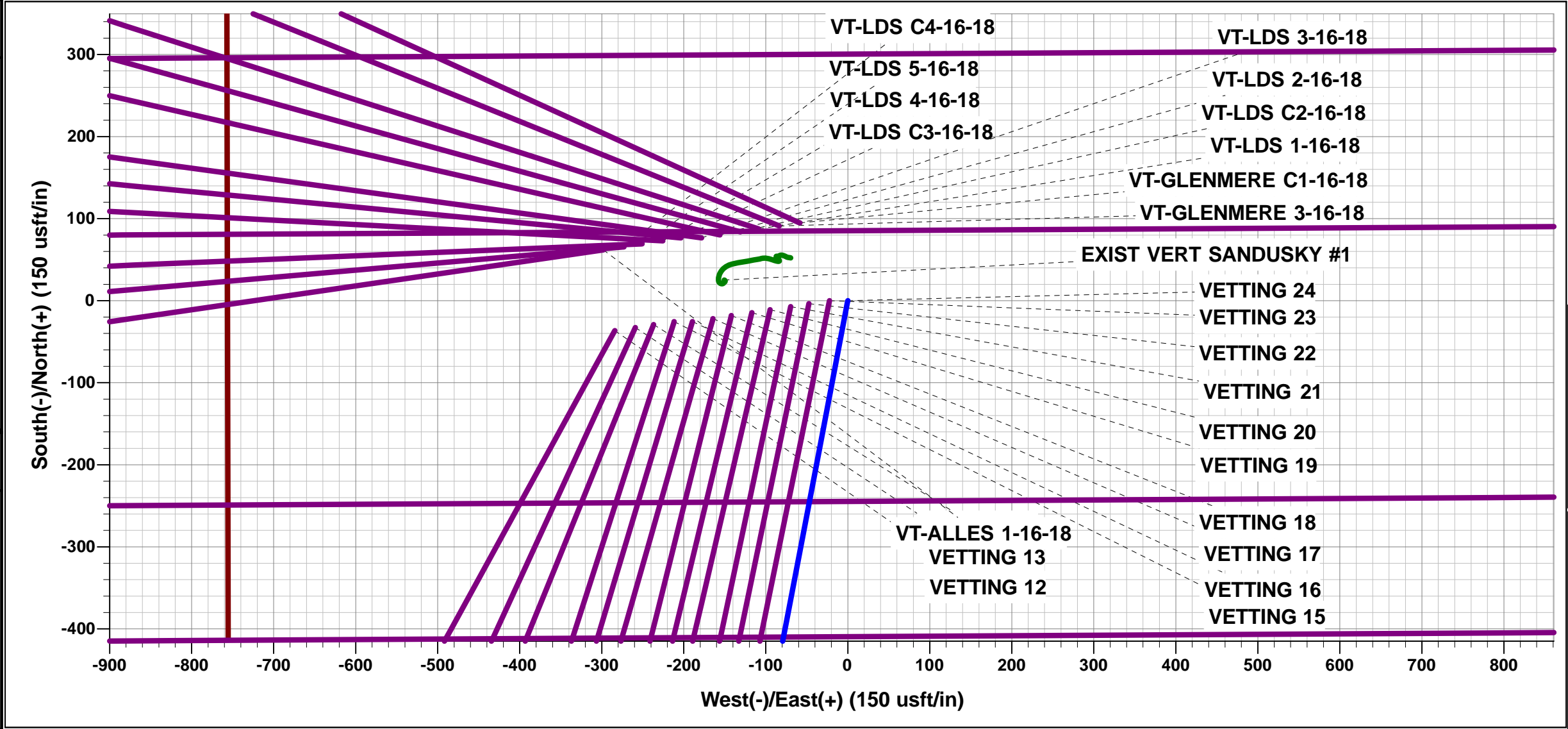




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 15 T5N R65W 6th P.M.
Well: VETTING 24
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation		
1300.0	1300.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)		
1600.0	1600.6	6.01	190.81	-15.5	-3.0	8.2	15.8	9 5/8" SURFACE CASING		
1664.7	1665.6	6.01	190.81	-22.2	-4.2	11.7	22.6	END OF TANGENT		
2870.1	3044.6	47.38	190.81	-617.6	-118.0	325.9	628.7	EOB TO 47.38° INC		
4856.6	5978.4	47.38	190.81	-2738.2	-523.0	1444.9	2787.7	END OF TANGENT		
6262.0	7557.8	0.00	190.81	-3344.0	-638.7	1764.5	3404.4	EOD TO VERTICAL		
6292.0	7587.8	0.00	0.00	-3344.0	-638.7	1764.5	3404.4	KOP (10°/100ft BUR)		
6865.0	8487.9	90.00	269.96	-3344.3	-1211.7	2301.7	3977.4	LANDING PNT - VETTING 24		
6865.0	16281.8	90.00	269.95	-3350.0	-9005.6	9608.5	11771.3	BHL - VETTING 24		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - VETTING 24	6292.0	-3344.0	-638.7	40.391901	-104.658453
LANDING PNT - VETTING 24	6865.0	-3344.3	-1211.7	40.391900	-104.660510
BHL - VETTING 24	6865.0	-3350.0	-9005.7	40.391880	-104.688490



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3583.0	4097.5	PARKMAN
4132.0	4908.3	SUSSEX
4823.0	5928.8	SHANNON
6703.0	8046.2	SHARON SPRINGS
6723.0	8075.7	NIOBRARA
6865.0	8487.9	NIO B TARGET

PROPOSED LOCAL COORDINATES		
SHL: 1969ft FNL & 758ft FWL of Sec 15		
LP: 0ft FSL & 460ft FEL of Sec 16		
BHL: 0ft FSL & 2348ft FWL of Sec 17		

T M

Azimuths to True North

Magnetic North: 8.32°

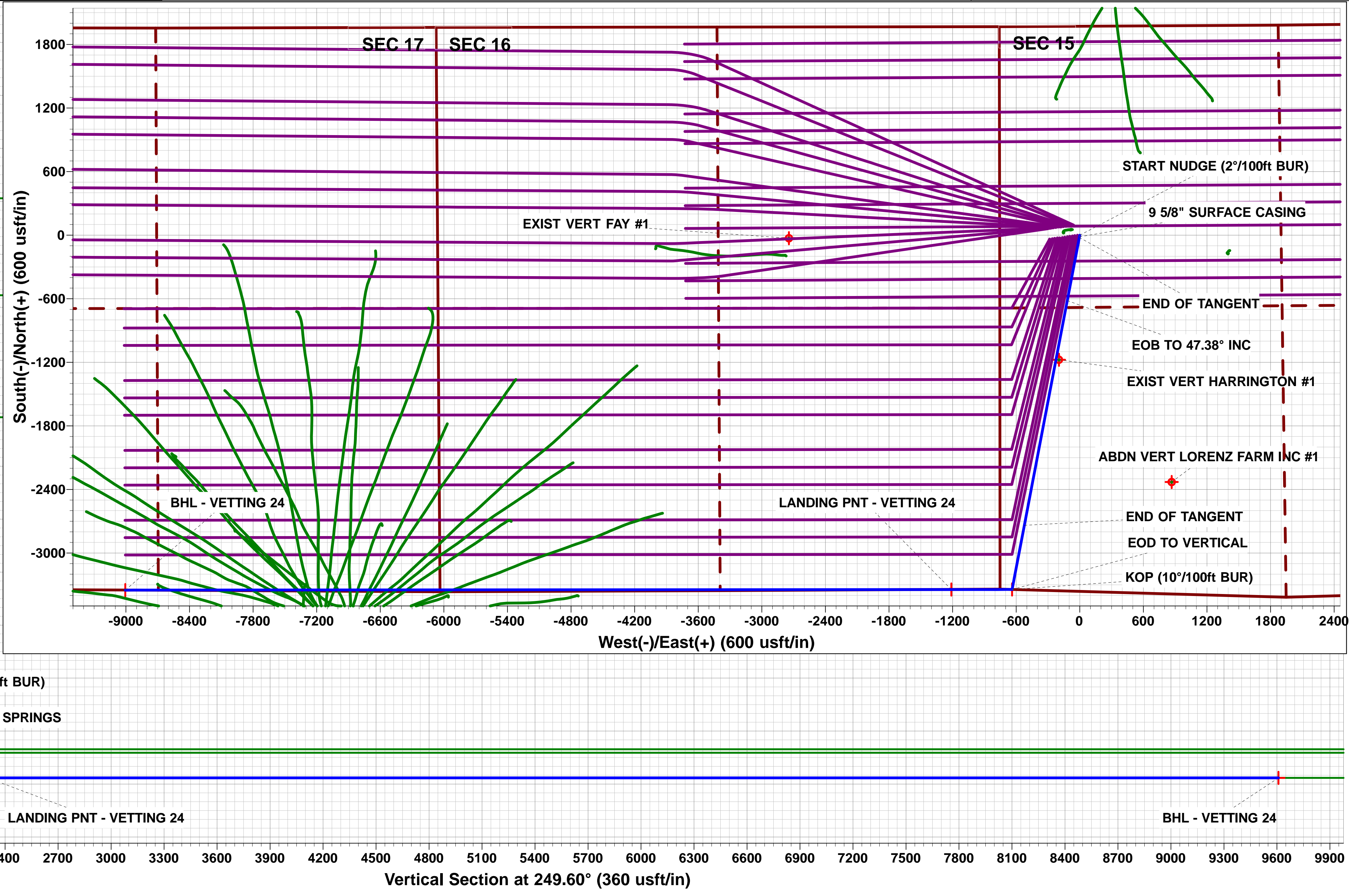
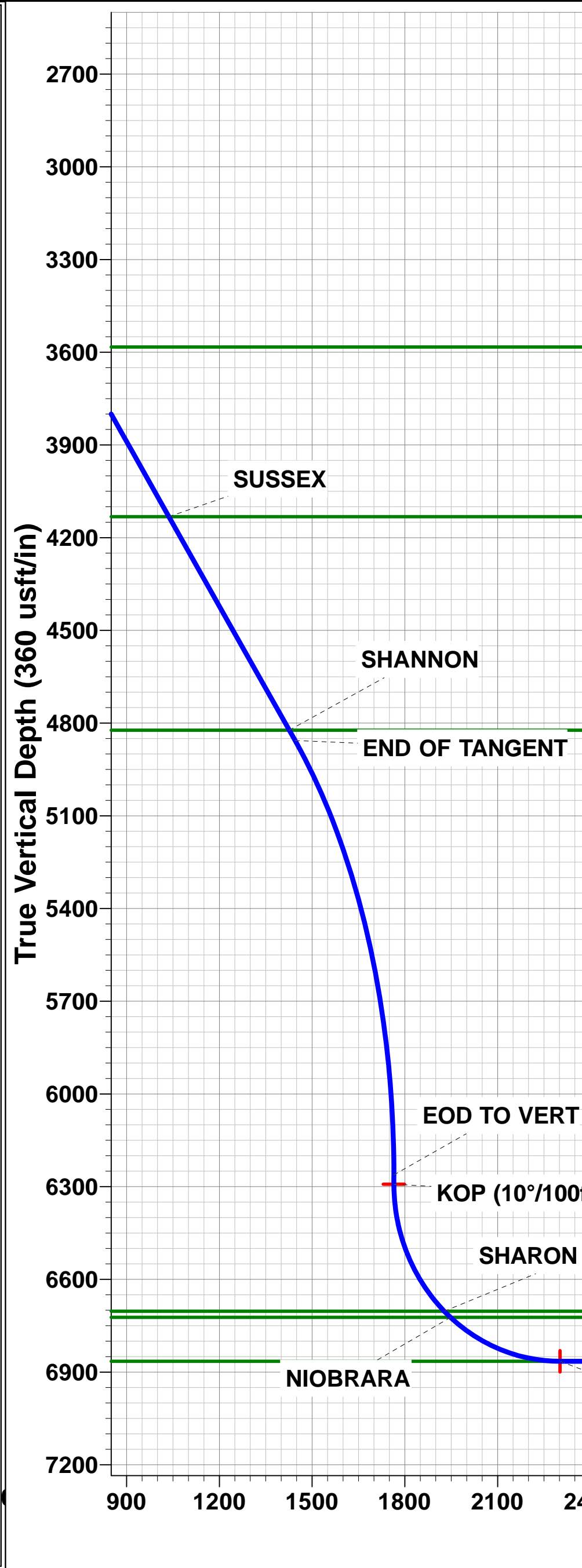
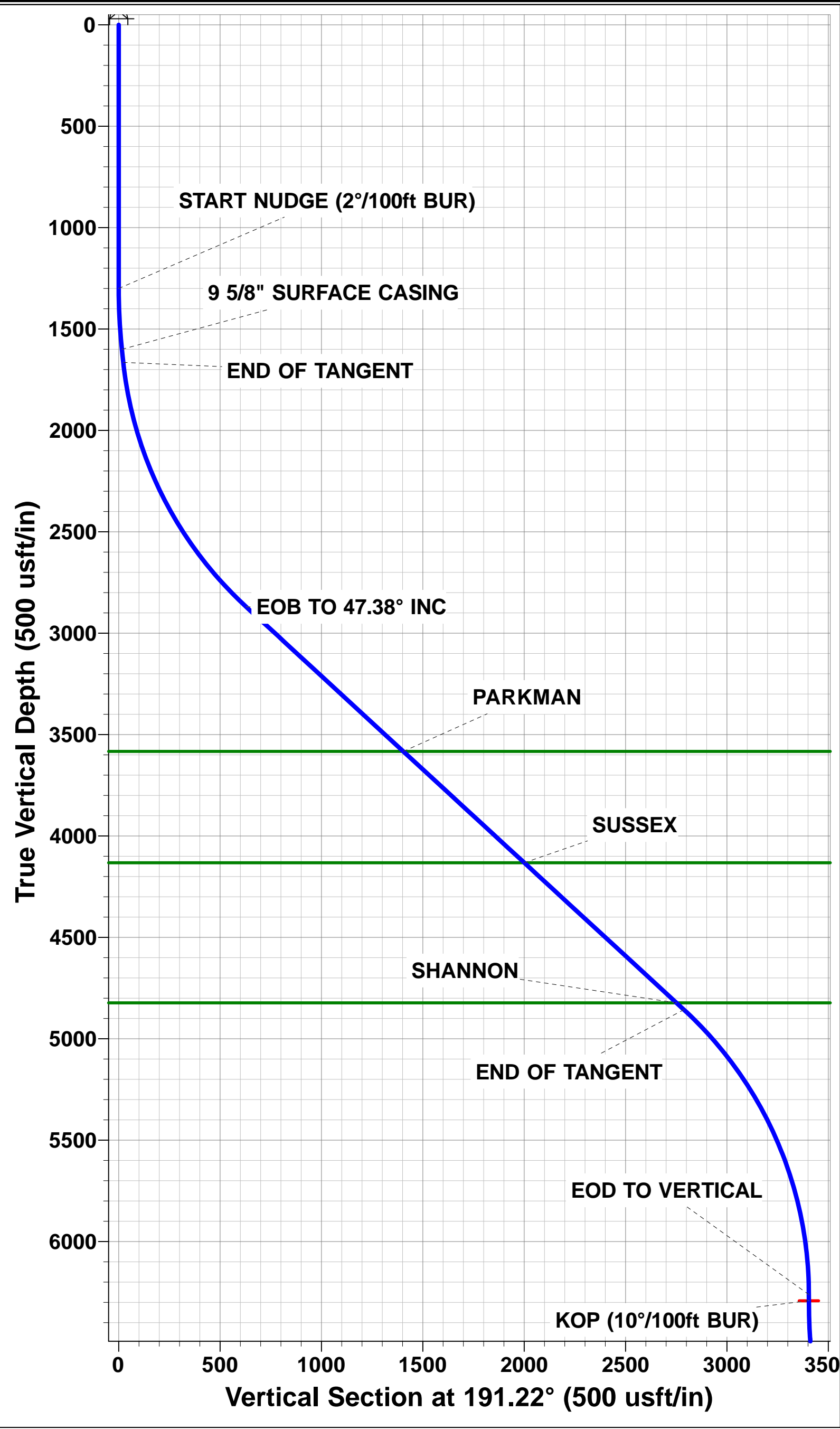
Magnetic Field

Strength: 52585.0nT

Dip Angle: 66.91°

Date: 21/11/2015

Model: IGRF2015



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 24
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 24	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 24		
Well Position	+N/-S	36.4 usft	Northing:
	+E/-W	284.1 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40.401080
		Longitude:	-104.656160
		Ground Level:	4,648.0 usft

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	249.60

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	
1,300.0	0.00	0.00	1,300.0	-3,364.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,600.6	6.01	190.81	1,600.0	-3,064.0	-15.5	-3.0	2.00	2.00	0.00	190.81	
1,665.6	6.01	190.81	1,664.6	-2,999.4	-22.2	-4.2	0.00	0.00	0.00	0.00	
3,044.6	47.38	190.81	2,870.1	-1,793.9	-617.6	-118.0	3.00	3.00	0.00	0.00	
5,978.4	47.38	190.81	4,856.5	192.5	-2,738.2	-523.0	0.00	0.00	0.00	0.00	
7,557.8	0.00	0.00	6,262.0	1,598.0	-3,344.0	-638.7	3.00	-3.00	0.00	180.00	
7,587.8	0.00	0.00	6,292.0	1,628.0	-3,344.0	-638.7	0.00	0.00	0.00	0.00	KOP - VETTING 24
8,487.9	90.00	269.96	6,865.0	2,201.0	-3,344.3	-1,211.7	10.00	10.00	-10.00	269.96	LANDING PNT - VE
16,281.8	90.00	269.95	6,865.0	2,201.0	-3,350.0	-9,005.7	0.00	0.00	0.00	-65.23	BHL - VETTING 24

Planning Report



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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 24	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
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	0.00	0.00	900.0	3,764.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,664.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,564.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,464.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,300.0	0.00	0.00	1,300.0	3,364.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	2.00	190.81	1,400.0	3,264.02	-1.7	-0.3	0.9	2.00	2.00	0.00
1,500.0	4.00	190.81	1,499.8	3,164.16	-6.9	-1.3	3.6	2.00	2.00	0.00
1,600.0	6.00	190.81	1,599.5	3,064.55	-15.4	-2.9	8.1	2.00	2.00	0.00
9 5/8" SURFACE CASING										
1,600.6	6.01	190.81	1,600.0	3,063.95	-15.5	-3.0	8.2	1.84	1.84	0.00
END OF TANGENT										
1,665.6	6.01	190.81	1,664.7	2,999.31	-22.2	-4.2	11.7	0.00	0.00	0.01
1,700.0	7.04	190.81	1,698.9	2,965.13	-26.0	-5.0	13.7	3.00	3.00	0.00
1,800.0	10.04	190.81	1,797.7	2,866.25	-40.6	-7.8	21.4	3.00	3.00	0.00
1,900.0	13.04	190.81	1,895.7	2,768.29	-60.3	-11.5	31.8	3.00	3.00	0.00
2,000.0	16.04	190.81	1,992.5	2,671.50	-84.9	-16.2	44.8	3.00	3.00	0.00
2,100.0	19.04	190.81	2,087.8	2,576.17	-114.5	-21.9	60.4	3.00	3.00	0.00
2,200.0	22.04	190.81	2,181.5	2,482.54	-149.0	-28.5	78.6	3.00	3.00	0.00
2,300.0	25.04	190.81	2,273.1	2,390.87	-188.2	-36.0	99.3	3.00	3.00	0.00
2,400.0	28.04	190.81	2,362.6	2,301.42	-232.1	-44.3	122.5	3.00	3.00	0.00
2,500.0	31.04	190.81	2,449.6	2,214.44	-280.5	-53.6	148.0	3.00	3.00	0.00
2,600.0	34.04	190.81	2,533.9	2,130.15	-333.4	-63.7	175.9	3.00	3.00	0.00
2,700.0	37.04	190.81	2,615.2	2,048.79	-390.5	-74.6	206.0	3.00	3.00	0.00
2,800.0	40.04	190.81	2,693.4	1,970.59	-451.7	-86.3	238.3	3.00	3.00	0.00
2,900.0	43.04	190.81	2,768.2	1,895.75	-516.8	-98.7	272.7	3.00	3.00	0.00
3,000.0	46.04	190.81	2,839.5	1,824.49	-585.7	-111.9	309.1	3.00	3.00	0.00
EOB TO 47.38° INC										
3,044.6	47.38	190.81	2,870.1	1,793.91	-617.6	-118.0	325.9	3.00	3.00	0.00
3,100.0	47.38	190.81	2,907.6	1,756.40	-657.6	-125.6	347.0	0.00	0.00	0.00
3,200.0	47.38	190.81	2,975.3	1,688.69	-729.9	-139.4	385.2	0.00	0.00	0.00
3,300.0	47.38	190.81	3,043.0	1,620.98	-802.2	-153.2	423.3	0.00	0.00	0.00
3,400.0	47.38	190.81	3,110.7	1,553.27	-874.5	-167.0	461.4	0.00	0.00	0.00
3,500.0	47.38	190.81	3,178.4	1,485.56	-946.8	-180.8	499.6	0.00	0.00	0.00
3,600.0	47.38	190.81	3,246.1	1,417.85	-1,019.0	-194.6	537.7	0.00	0.00	0.00
3,700.0	47.38	190.81	3,313.9	1,350.14	-1,091.3	-208.5	575.9	0.00	0.00	0.00
3,800.0	47.38	190.81	3,381.6	1,282.43	-1,163.6	-222.3	614.0	0.00	0.00	0.00
3,900.0	47.38	190.81	3,449.3	1,214.72	-1,235.9	-236.1	652.1	0.00	0.00	0.00
4,000.0	47.38	190.81	3,517.0	1,147.01	-1,308.2	-249.9	690.3	0.00	0.00	0.00
PARKMAN										
4,097.5	47.38	190.81	3,583.0	1,081.00	-1,378.6	-263.3	727.5	0.00	0.00	0.00
4,100.0	47.38	190.81	3,584.7	1,079.30	-1,380.5	-263.7	728.4	0.00	0.00	0.00
4,200.0	47.38	190.81	3,652.4	1,011.59	-1,452.7	-277.5	766.6	0.00	0.00	0.00
4,300.0	47.38	190.81	3,720.1	943.89	-1,525.0	-291.3	804.7	0.00	0.00	0.00
4,400.0	47.38	190.81	3,787.8	876.18	-1,597.3	-305.1	842.9	0.00	0.00	0.00

Planning Report



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Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 24	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)
4,500.0	47.38	190.81	3,855.5	808.47	-1,669.6	-318.9	881.0	0.00	0.00	0.00
4,600.0	47.38	190.81	3,923.2	740.76	-1,741.9	-332.7	919.1	0.00	0.00	0.00
4,700.0	47.38	190.81	3,991.0	673.05	-1,814.2	-346.5	957.3	0.00	0.00	0.00
4,800.0	47.38	190.81	4,058.7	605.34	-1,886.4	-360.3	995.4	0.00	0.00	0.00
4,900.0	47.38	190.81	4,126.4	537.63	-1,958.7	-374.1	1,033.6	0.00	0.00	0.00
SUSSEX										
4,908.3	47.38	190.81	4,132.0	532.00	-1,964.7	-375.3	1,036.7	0.00	0.00	0.00
5,000.0	47.38	190.81	4,194.1	469.92	-2,031.0	-387.9	1,071.7	0.00	0.00	0.00
5,100.0	47.38	190.81	4,261.8	402.21	-2,103.3	-401.7	1,109.8	0.00	0.00	0.00
5,200.0	47.38	190.81	4,329.5	334.50	-2,175.6	-415.6	1,148.0	0.00	0.00	0.00
5,300.0	47.38	190.81	4,397.2	266.79	-2,247.8	-429.4	1,186.1	0.00	0.00	0.00
5,400.0	47.38	190.81	4,464.9	199.08	-2,320.1	-443.2	1,224.3	0.00	0.00	0.00
5,500.0	47.38	190.81	4,532.6	131.37	-2,392.4	-457.0	1,262.4	0.00	0.00	0.00
5,600.0	47.38	190.81	4,600.3	63.66	-2,464.7	-470.8	1,300.6	0.00	0.00	0.00
5,700.0	47.38	190.81	4,668.0	-4.05	-2,537.0	-484.6	1,338.7	0.00	0.00	0.00
5,800.0	47.38	190.81	4,735.8	-71.76	-2,609.3	-498.4	1,376.8	0.00	0.00	0.00
5,900.0	47.38	190.81	4,803.5	-139.47	-2,681.5	-512.2	1,415.0	0.00	0.00	0.00
SHANNON										
5,928.8	47.38	190.81	4,823.0	-159.00	-2,702.4	-516.2	1,426.0	0.00	0.00	0.00
END OF TANGENT										
5,978.4	47.38	190.81	4,856.6	-192.55	-2,738.2	-523.0	1,444.9	0.00	0.00	0.00
6,000.0	46.73	190.81	4,871.3	-207.27	-2,753.7	-526.0	1,453.1	3.00	-3.00	0.00
6,100.0	43.73	190.81	4,941.7	-277.68	-2,823.5	-539.3	1,489.9	3.00	-3.00	0.00
6,200.0	40.73	190.81	5,015.7	-351.71	-2,889.5	-551.9	1,524.7	3.00	-3.00	0.00
6,300.0	37.73	190.81	5,093.2	-429.16	-2,951.6	-563.8	1,557.5	3.00	-3.00	0.00
6,400.0	34.73	190.81	5,173.8	-509.81	-3,009.7	-574.9	1,588.1	3.00	-3.00	0.00
6,500.0	31.73	190.81	5,257.4	-593.44	-3,063.5	-585.2	1,616.5	3.00	-3.00	0.00
6,600.0	28.73	190.81	5,343.8	-679.83	-3,112.9	-594.6	1,642.6	3.00	-3.00	0.00
6,700.0	25.73	190.81	5,432.7	-768.73	-3,157.9	-603.2	1,666.3	3.00	-3.00	0.00
6,800.0	22.73	190.81	5,523.9	-859.91	-3,198.2	-610.9	1,687.6	3.00	-3.00	0.00
6,900.0	19.73	190.81	5,617.1	-953.11	-3,233.8	-617.7	1,706.4	3.00	-3.00	0.00
7,000.0	16.73	190.81	5,712.1	-1,048.08	-3,264.5	-623.6	1,722.6	3.00	-3.00	0.00
7,100.0	13.73	190.81	5,808.6	-1,144.55	-3,290.3	-628.5	1,736.2	3.00	-3.00	0.00
7,200.0	10.73	190.81	5,906.3	-1,242.27	-3,311.1	-632.5	1,747.2	3.00	-3.00	0.00
7,300.0	7.73	190.81	6,005.0	-1,340.96	-3,326.9	-635.5	1,755.5	3.00	-3.00	0.00
7,400.0	4.73	190.81	6,104.4	-1,440.36	-3,337.6	-637.5	1,761.1	3.00	-3.00	0.00
7,500.0	1.73	190.81	6,204.2	-1,540.19	-3,343.1	-638.6	1,764.1	3.00	-3.00	0.00
EOD TO VERTICAL										
7,557.8	0.00	190.81	6,262.0	-1,597.98	-3,344.0	-638.7	1,764.5	3.00	-3.00	0.00
KOP (10°/100ft BUR)										
7,587.8	0.00	0.00	6,292.0	-1,627.98	-3,344.0	-638.7	1,764.5	0.00	0.00	0.00
7,600.0	1.22	269.96	6,304.2	-1,640.18	-3,344.0	-638.9	1,764.6	9.98	9.98	0.00
7,700.0	11.22	269.96	6,403.5	-1,739.47	-3,344.0	-649.7	1,774.8	10.00	10.00	0.00
7,800.0	21.22	269.96	6,499.4	-1,835.36	-3,344.0	-677.6	1,800.9	10.00	10.00	0.00
7,900.0	31.22	269.96	6,589.0	-1,924.96	-3,344.0	-721.7	1,842.3	10.00	10.00	0.00
8,000.0	41.22	269.96	6,669.5	-2,005.54	-3,344.1	-780.7	1,897.6	10.00	10.00	0.00
SHARON SPRINGS										
8,046.2	45.83	269.96	6,703.0	-2,039.00	-3,344.1	-812.5	1,927.4	10.00	10.00	0.00
NIORARA										
8,075.7	48.78	269.96	6,723.0	-2,059.00	-3,344.1	-834.1	1,947.7	10.00	10.00	0.00
8,100.0	51.21	269.96	6,738.7	-2,074.65	-3,344.1	-852.8	1,965.2	10.00	10.00	0.00
8,200.0	61.21	269.96	6,794.2	-2,130.19	-3,344.2	-935.8	2,043.0	10.00	10.00	0.00
8,300.0	71.21	269.96	6,834.5	-2,170.47	-3,344.2	-1,027.2	2,128.7	10.00	10.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 24
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 24	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)
8,400.0	81.21	269.96	6,858.3	-2,194.27	-3,344.3	-1,124.2	2,219.6	10.00	10.00	0.00
LANDING PNT - VETTING 24 - NIO B TARGET										
8,487.9	90.00	269.96	6,865.0	-2,201.00	-3,344.3	-1,211.7	2,301.7	10.00	10.00	0.00
8,500.0	90.00	269.96	6,865.0	-2,201.00	-3,344.3	-1,223.8	2,313.1	0.00	0.00	0.00
8,600.0	90.00	269.96	6,865.0	-2,201.00	-3,344.4	-1,323.8	2,406.8	0.00	0.00	0.00
8,700.0	90.00	269.96	6,865.0	-2,201.01	-3,344.5	-1,423.8	2,500.5	0.00	0.00	0.00
8,800.0	90.00	269.96	6,865.0	-2,201.01	-3,344.5	-1,523.8	2,594.3	0.00	0.00	0.00
8,900.0	90.00	269.96	6,865.0	-2,201.01	-3,344.6	-1,623.8	2,688.0	0.00	0.00	0.00
9,000.0	90.00	269.96	6,865.0	-2,201.01	-3,344.7	-1,723.8	2,781.8	0.00	0.00	0.00
9,100.0	90.00	269.96	6,865.0	-2,201.02	-3,344.7	-1,823.8	2,875.5	0.00	0.00	0.00
9,200.0	90.00	269.96	6,865.0	-2,201.02	-3,344.8	-1,923.8	2,969.3	0.00	0.00	0.00
9,300.0	90.00	269.96	6,865.0	-2,201.02	-3,344.9	-2,023.8	3,063.0	0.00	0.00	0.00
9,400.0	90.00	269.96	6,865.0	-2,201.02	-3,345.0	-2,123.8	3,156.8	0.00	0.00	0.00
9,500.0	90.00	269.96	6,865.0	-2,201.03	-3,345.0	-2,223.8	3,250.5	0.00	0.00	0.00
9,600.0	90.00	269.96	6,865.0	-2,201.03	-3,345.1	-2,323.8	3,344.3	0.00	0.00	0.00
9,700.0	90.00	269.96	6,865.0	-2,201.03	-3,345.2	-2,423.8	3,438.0	0.00	0.00	0.00
9,800.0	90.00	269.96	6,865.0	-2,201.03	-3,345.2	-2,523.8	3,531.8	0.00	0.00	0.00
9,900.0	90.00	269.96	6,865.0	-2,201.03	-3,345.3	-2,623.8	3,625.5	0.00	0.00	0.00
10,000.0	90.00	269.96	6,865.0	-2,201.04	-3,345.4	-2,723.8	3,719.3	0.00	0.00	0.00
10,100.0	90.00	269.96	6,865.0	-2,201.04	-3,345.4	-2,823.8	3,813.0	0.00	0.00	0.00
10,200.0	90.00	269.96	6,865.0	-2,201.04	-3,345.5	-2,923.8	3,906.8	0.00	0.00	0.00
10,300.0	90.00	269.96	6,865.0	-2,201.04	-3,345.6	-3,023.8	4,000.5	0.00	0.00	0.00
10,400.0	90.00	269.96	6,865.0	-2,201.04	-3,345.6	-3,123.8	4,094.3	0.00	0.00	0.00
10,500.0	90.00	269.96	6,865.0	-2,201.04	-3,345.7	-3,223.8	4,188.0	0.00	0.00	0.00
10,600.0	90.00	269.96	6,865.0	-2,201.05	-3,345.8	-3,323.8	4,281.8	0.00	0.00	0.00
10,700.0	90.00	269.96	6,865.0	-2,201.05	-3,345.8	-3,423.8	4,375.5	0.00	0.00	0.00
10,800.0	90.00	269.96	6,865.0	-2,201.05	-3,345.9	-3,523.8	4,469.3	0.00	0.00	0.00
10,900.0	90.00	269.96	6,865.0	-2,201.05	-3,346.0	-3,623.8	4,563.0	0.00	0.00	0.00
11,000.0	90.00	269.96	6,865.1	-2,201.05	-3,346.1	-3,723.8	4,656.8	0.00	0.00	0.00
11,100.0	90.00	269.96	6,865.1	-2,201.05	-3,346.1	-3,823.8	4,750.5	0.00	0.00	0.00
11,200.0	90.00	269.96	6,865.1	-2,201.05	-3,346.2	-3,923.8	4,844.3	0.00	0.00	0.00
11,300.0	90.00	269.96	6,865.1	-2,201.05	-3,346.3	-4,023.8	4,938.0	0.00	0.00	0.00
11,400.0	90.00	269.96	6,865.1	-2,201.05	-3,346.3	-4,123.8	5,031.8	0.00	0.00	0.00
11,500.0	90.00	269.96	6,865.1	-2,201.05	-3,346.4	-4,223.8	5,125.5	0.00	0.00	0.00
11,600.0	90.00	269.96	6,865.1	-2,201.06	-3,346.5	-4,323.8	5,219.3	0.00	0.00	0.00
11,700.0	90.00	269.96	6,865.1	-2,201.06	-3,346.6	-4,423.8	5,313.0	0.00	0.00	0.00
11,800.0	90.00	269.96	6,865.1	-2,201.06	-3,346.6	-4,523.8	5,406.8	0.00	0.00	0.00
11,900.0	90.00	269.96	6,865.1	-2,201.06	-3,346.7	-4,623.8	5,500.5	0.00	0.00	0.00
12,000.0	90.00	269.96	6,865.1	-2,201.06	-3,346.8	-4,723.8	5,594.3	0.00	0.00	0.00
12,100.0	90.00	269.96	6,865.1	-2,201.06	-3,346.8	-4,823.8	5,688.0	0.00	0.00	0.00
12,200.0	90.00	269.96	6,865.1	-2,201.06	-3,346.9	-4,923.8	5,781.8	0.00	0.00	0.00
12,300.0	90.00	269.96	6,865.1	-2,201.06	-3,347.0	-5,023.8	5,875.5	0.00	0.00	0.00
12,400.0	90.00	269.96	6,865.1	-2,201.06	-3,347.1	-5,123.8	5,969.3	0.00	0.00	0.00
12,500.0	90.00	269.96	6,865.1	-2,201.06	-3,347.1	-5,223.8	6,063.0	0.00	0.00	0.00
12,600.0	90.00	269.96	6,865.1	-2,201.06	-3,347.2	-5,323.8	6,156.8	0.00	0.00	0.00
12,700.0	90.00	269.96	6,865.1	-2,201.06	-3,347.3	-5,423.8	6,250.5	0.00	0.00	0.00
12,800.0	90.00	269.96	6,865.1	-2,201.06	-3,347.4	-5,523.8	6,344.3	0.00	0.00	0.00
12,900.0	90.00	269.96	6,865.1	-2,201.06	-3,347.4	-5,623.8	6,438.0	0.00	0.00	0.00
13,000.0	90.00	269.96	6,865.1	-2,201.06	-3,347.5	-5,723.8	6,531.8	0.00	0.00	0.00
13,100.0	90.00	269.96	6,865.1	-2,201.06	-3,347.6	-5,823.8	6,625.5	0.00	0.00	0.00
13,200.0	90.00	269.96	6,865.1	-2,201.06	-3,347.6	-5,923.8	6,719.3	0.00	0.00	0.00
13,300.0	90.00	269.96	6,865.1	-2,201.05	-3,347.7	-6,023.8	6,813.0	0.00	0.00	0.00
13,400.0	90.00	269.96	6,865.1	-2,201.05	-3,347.8	-6,123.8	6,906.8	0.00	0.00	0.00
13,500.0	90.00	269.96	6,865.1	-2,201.05	-3,347.9	-6,223.8	7,000.5	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 24
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 24	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)
13,600.0	90.00	269.96	6,865.1	-2,201.05	-3,347.9	-6,323.8	7,094.3	0.00	0.00	0.00
13,700.0	90.00	269.96	6,865.1	-2,201.05	-3,348.0	-6,423.8	7,188.1	0.00	0.00	0.00
13,800.0	90.00	269.96	6,865.1	-2,201.05	-3,348.1	-6,523.8	7,281.8	0.00	0.00	0.00
13,900.0	90.00	269.96	6,865.0	-2,201.05	-3,348.2	-6,623.8	7,375.6	0.00	0.00	0.00
14,000.0	90.00	269.96	6,865.0	-2,201.05	-3,348.2	-6,723.8	7,469.3	0.00	0.00	0.00
14,100.0	90.00	269.96	6,865.0	-2,201.05	-3,348.3	-6,823.8	7,563.1	0.00	0.00	0.00
14,200.0	90.00	269.96	6,865.0	-2,201.05	-3,348.4	-6,923.8	7,656.8	0.00	0.00	0.00
14,300.0	90.00	269.96	6,865.0	-2,201.04	-3,348.5	-7,023.8	7,750.6	0.00	0.00	0.00
14,400.0	90.00	269.96	6,865.0	-2,201.04	-3,348.6	-7,123.8	7,844.3	0.00	0.00	0.00
14,500.0	90.00	269.96	6,865.0	-2,201.04	-3,348.6	-7,223.8	7,938.1	0.00	0.00	0.00
14,600.0	90.00	269.96	6,865.0	-2,201.04	-3,348.7	-7,323.8	8,031.8	0.00	0.00	0.00
14,700.0	90.00	269.96	6,865.0	-2,201.04	-3,348.8	-7,423.8	8,125.6	0.00	0.00	0.00
14,800.0	90.00	269.96	6,865.0	-2,201.04	-3,348.9	-7,523.8	8,219.3	0.00	0.00	0.00
14,900.0	90.00	269.96	6,865.0	-2,201.03	-3,348.9	-7,623.8	8,313.1	0.00	0.00	0.00
15,000.0	90.00	269.96	6,865.0	-2,201.03	-3,349.0	-7,723.8	8,406.8	0.00	0.00	0.00
15,100.0	90.00	269.96	6,865.0	-2,201.03	-3,349.1	-7,823.8	8,500.6	0.00	0.00	0.00
15,200.0	90.00	269.96	6,865.0	-2,201.03	-3,349.2	-7,923.8	8,594.3	0.00	0.00	0.00
15,300.0	90.00	269.96	6,865.0	-2,201.03	-3,349.2	-8,023.8	8,688.1	0.00	0.00	0.00
15,400.0	90.00	269.96	6,865.0	-2,201.02	-3,349.3	-8,123.8	8,781.8	0.00	0.00	0.00
15,500.0	90.00	269.96	6,865.0	-2,201.02	-3,349.4	-8,223.8	8,875.6	0.00	0.00	0.00
15,600.0	90.00	269.96	6,865.0	-2,201.02	-3,349.5	-8,323.8	8,969.3	0.00	0.00	0.00
15,700.0	90.00	269.96	6,865.0	-2,201.02	-3,349.6	-8,423.8	9,063.1	0.00	0.00	0.00
15,800.0	90.00	269.96	6,865.0	-2,201.01	-3,349.6	-8,523.8	9,156.8	0.00	0.00	0.00
15,900.0	90.00	269.95	6,865.0	-2,201.01	-3,349.7	-8,623.8	9,250.6	0.00	0.00	0.00
16,000.0	90.00	269.95	6,865.0	-2,201.01	-3,349.8	-8,723.8	9,344.4	0.00	0.00	0.00
16,100.0	90.00	269.95	6,865.0	-2,201.01	-3,349.9	-8,823.8	9,438.1	0.00	0.00	0.00
16,200.0	90.00	269.95	6,865.0	-2,201.00	-3,349.9	-8,923.8	9,531.9	0.00	0.00	0.00
BHL - VETTING 24										
16,281.8	90.00	269.95	6,865.0	-2,201.00	-3,350.0	-9,005.6	9,608.5	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,097.5	3,583.0	PARKMAN			
4,908.3	4,132.0	SUSSEX			
5,928.8	4,823.0	SHANNON			
8,046.2	6,703.0	SHARON SPRINGS			
8,075.7	6,723.0	NIOBRARA			
8,487.9	6,865.0	NIO B TARGET			

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 24
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 24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Plan Annotations				
Local Coordinates				
MD (usft)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,300.0	1,300.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,600.6	1,600.0	-15.5	-3.0	9 5/8" SURFACE CASING
1,665.6	1,664.7	-22.2	-4.2	END OF TANGENT
3,044.6	2,870.1	-617.6	-118.0	EOB TO 47.38° INC
5,978.4	4,856.6	-2,738.2	-523.0	END OF TANGENT
7,557.8	6,262.0	-3,344.0	-638.7	EOD TO VERTICAL
7,587.8	6,292.0	-3,344.0	-638.7	KOP (10°/100ft BUR)
8,487.9	6,865.0	-3,344.3	-1,211.7	LANDING PNT - VETTING 24
16,281.8	6,865.0	-3,350.0	-9,005.6	BHL - VETTING 24