

# **EXTRACTION OIL & GAS**

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

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

**VT-ALLES 1-16-18**

**ORIGINAL WELLBORE**

**09 March, 2016**

**Plan: PROPOSAL #2**

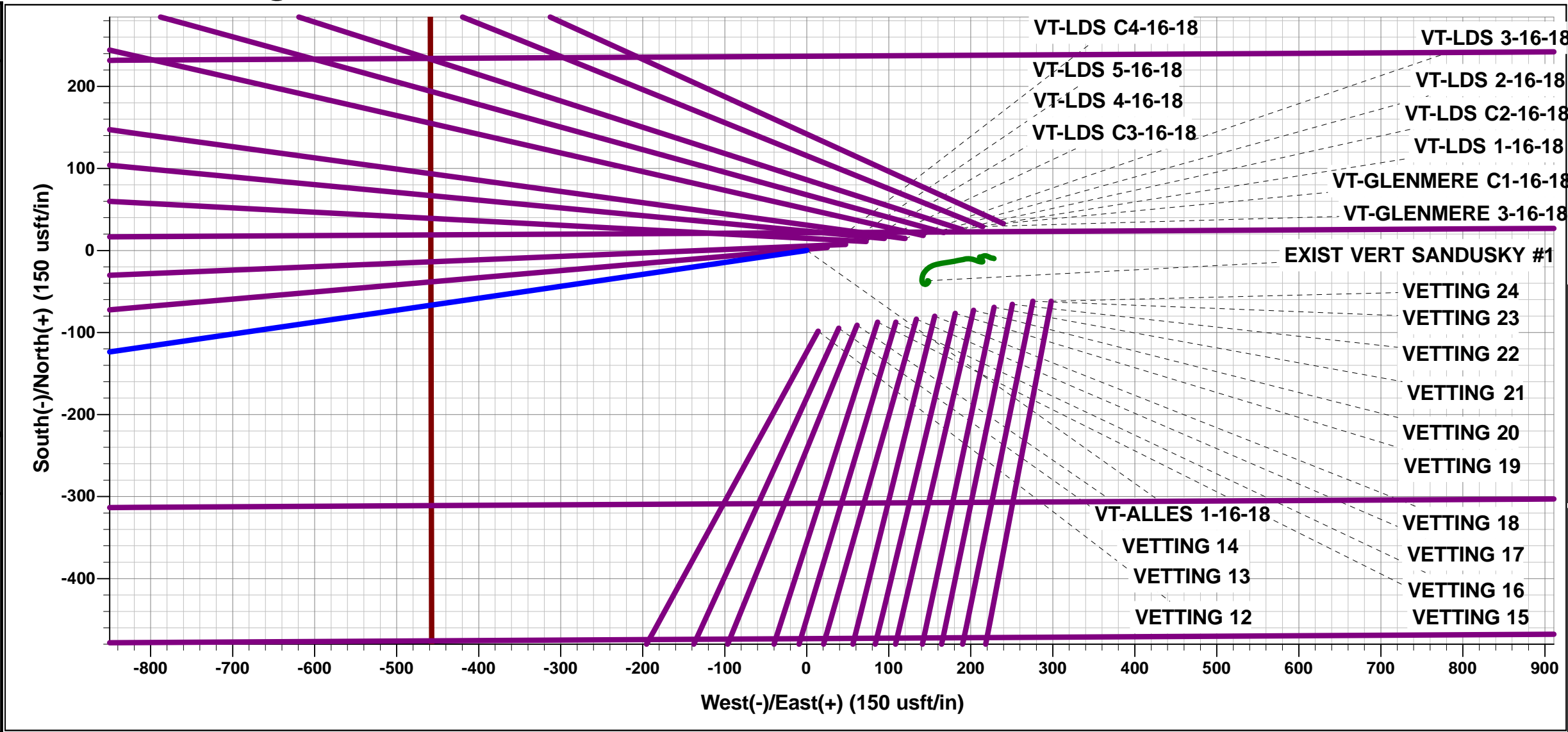




Project: WELD COUNTY, COLORADO (NAD 83)  
Site: SW NW SEC. 15 T5N R65W 6th P.M.  
Well: VT-ALLES 1-16-18  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation	
100.0	100.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
1444.9	1500.0	28.00	261.72	-48.3	-331.8	332.9	335.3	EOB TO 28° INC	
5859.7	6500.0	28.00	261.72	-386.3	-2654.7	2663.5	2682.7	KOP (10°/100ft DGLG)	
6580.3	7336.6	30.57	261.72	-447.5	-3075.3	3085.5	3107.7	START BUILD & TURN	
6864.0	7934.7	90.00	270.35	-469.7	-3570.7	3581.3	3603.9	LANDING POINT - VT-ALLES 1-16-18	
6864.0	20226.0	90.00	270.35	-395.6	-15861.7	15866.7	15895.2	BHL - VT-ALLES 1-16-18	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LANDING POINT - VT-ALLES 1-16-18	6864.0	-469.7	-3570.6	40.399960	-104.670050
BHL - VT-ALLES 1-16-18	6864.0	-395.6	-15861.8	40.400150	-104.714180



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3582.0	3920.4	PARKMAN
4131.0	4542.2	SUSSEX
4822.0	5324.8	SHANNON
6702.0	7492.1	SHARON SPRINGS
6722.0	7521.6	NIOBRARA
6864.0	7934.7	NIO B TARGET

PROPOSED LOCAL COORDINATES		
SHL: 1907ft FNL & 459ft FWL of Sec 15		
LP: 2372ft FNL & 2189ft FWL of Sec 16		
BHL: 2332ft FNL & 460ft FWL of Sec 18		

T

M

Azimuths to True North

Magnetic North: 8.32°

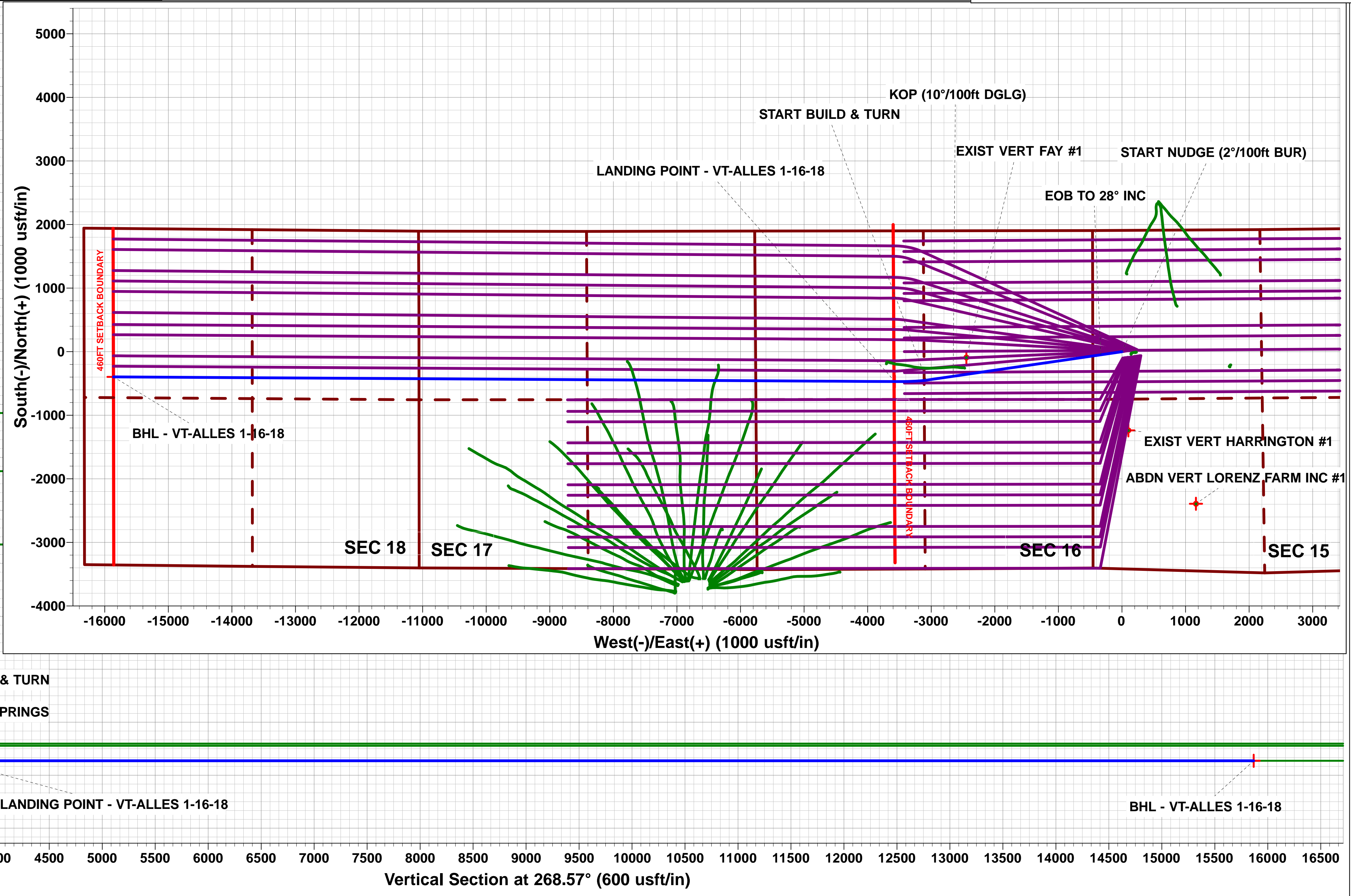
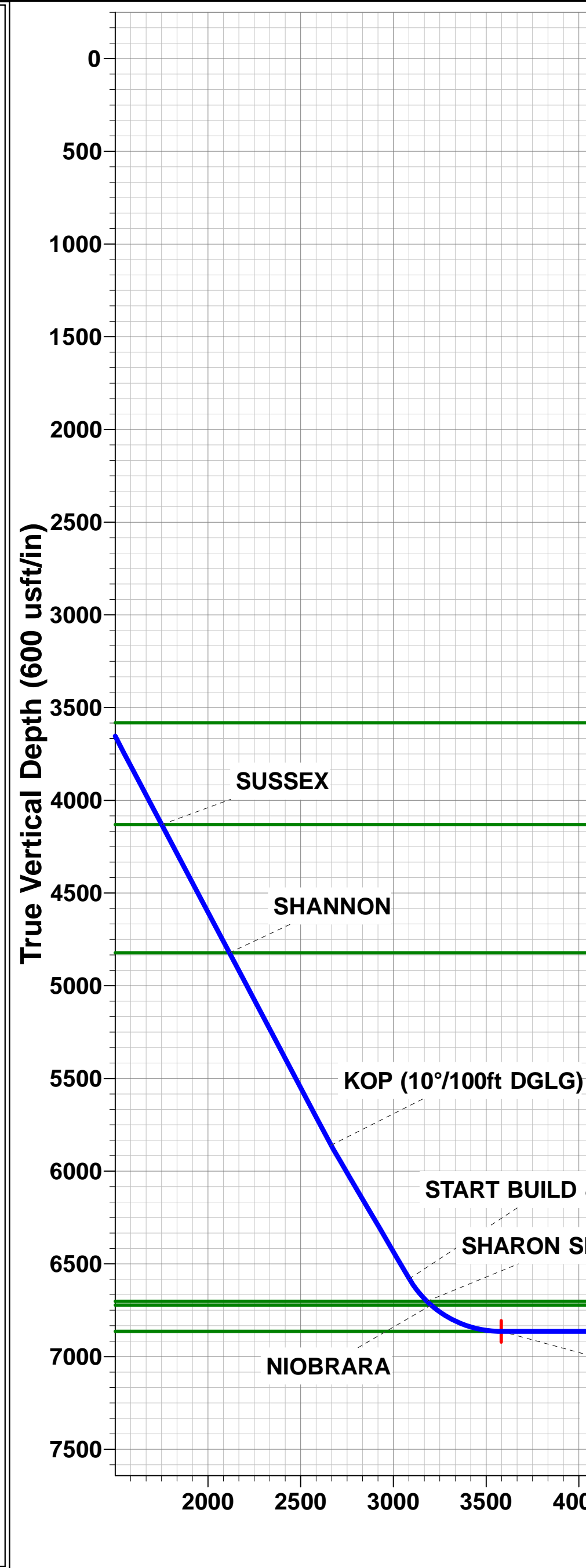
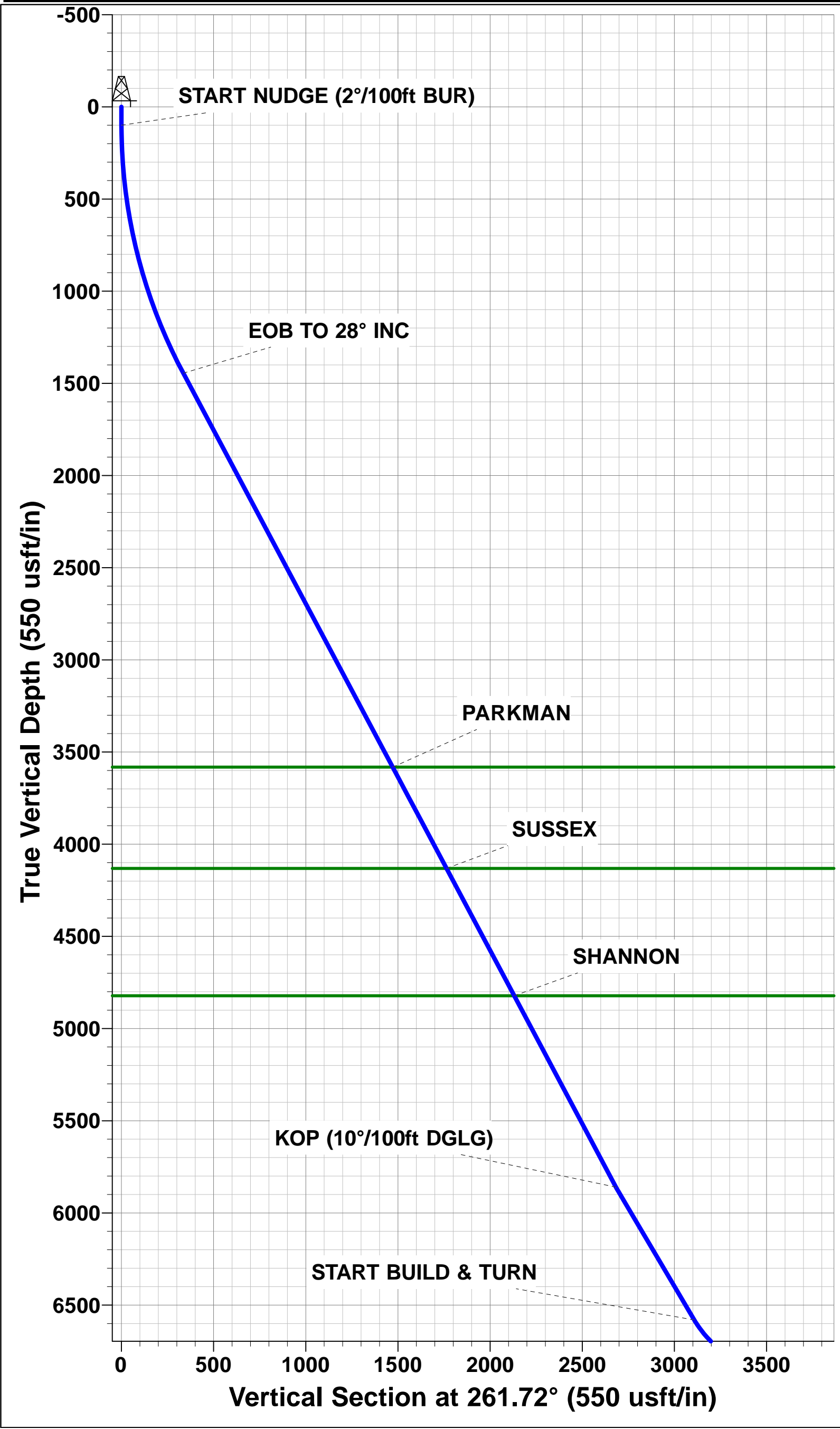
Magnetic Field

Strength: 52585.6snT

Dip Angle: 66.91°

Date: 19/11/2015

Model: IGRF2015



# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #2		

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

<b>Well</b>	VT-ALLES 1-16-18		
<b>Well Position</b>	<b>+N-S</b>	98.4 usft	<b>Northing:</b>
	<b>+E-W</b>	-13.9 usft	<b>Easting:</b>
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<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	19/11/2015	8.32	66.91	52,586

<b>Design</b>	PROPOSAL #2			
<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>
	6,864.0	0.0	0.0	268.57

<b>Plan Sections</b>											
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	-4,663.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	-4,563.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	28.00	261.72	1,444.9	-3,218.1	-48.3	-331.8	2.00	2.00	0.00	261.72	
6,500.0	28.00	261.72	5,859.7	1,196.7	-386.3	-2,654.7	0.00	0.00	0.00	0.00	
6,525.7	30.57	261.72	5,882.1	1,219.1	-388.1	-2,667.2	10.00	10.00	0.00	-0.01	
7,336.6	30.57	261.72	6,580.2	1,917.2	-447.5	-3,075.2	0.00	0.00	0.00	0.00	
7,934.7	90.00	270.35	6,864.0	2,201.0	-469.7	-3,570.6	10.00	9.94	1.44	9.99	LANDING POINT -
20,226.0	90.00	270.35	6,864.0	2,201.0	-395.6	-15,861.8	0.00	0.00	0.00	0.00	BHL - VT-ALLES 1-

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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	4,663.00	0.0	0.0	0.0	0.00	0.00	0.00
<b>START NUDGE (2°/100ft BUR)</b>										
100.0	0.00	0.00	100.0	4,563.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	2.00	261.72	200.0	4,463.02	-0.3	-1.7	1.7	2.00	2.00	0.00
300.0	4.00	261.72	299.8	4,363.16	-1.0	-6.9	6.9	2.00	2.00	0.00
400.0	6.00	261.72	399.5	4,263.55	-2.3	-15.5	15.6	2.00	2.00	0.00
500.0	8.00	261.72	498.7	4,164.30	-4.0	-27.6	27.7	2.00	2.00	0.00
600.0	10.00	261.72	597.5	4,065.53	-6.3	-43.1	43.2	2.00	2.00	0.00
700.0	12.00	261.72	695.6	3,967.38	-9.0	-61.9	62.2	2.00	2.00	0.00
800.0	14.00	261.72	793.1	3,869.94	-12.3	-84.2	84.5	2.00	2.00	0.00
900.0	16.00	261.72	889.6	3,773.36	-16.0	-109.8	110.2	2.00	2.00	0.00
1,000.0	18.00	261.72	985.3	3,677.73	-20.2	-138.8	139.2	2.00	2.00	0.00
1,100.0	20.00	261.72	1,079.8	3,583.18	-24.9	-171.0	171.5	2.00	2.00	0.00
1,200.0	22.00	261.72	1,173.2	3,489.83	-30.0	-206.4	207.1	2.00	2.00	0.00
1,300.0	24.00	261.72	1,265.2	3,397.79	-35.7	-245.1	245.9	2.00	2.00	0.00
1,400.0	26.00	261.72	1,355.8	3,307.16	-41.8	-286.9	287.9	2.00	2.00	0.00
<b>EOB TO 28° INC</b>										
1,500.0	28.00	261.72	1,444.9	3,218.06	-48.3	-331.8	332.9	2.00	2.00	0.00
1,600.0	28.00	261.72	1,533.2	3,129.77	-55.1	-378.3	379.5	0.00	0.00	0.00
1,700.0	28.00	261.72	1,621.5	3,041.47	-61.8	-424.8	426.2	0.00	0.00	0.00
1,800.0	28.00	261.72	1,709.8	2,953.18	-68.6	-471.2	472.8	0.00	0.00	0.00
1,900.0	28.00	261.72	1,798.1	2,864.88	-75.3	-517.7	519.4	0.00	0.00	0.00
2,000.0	28.00	261.72	1,886.4	2,776.59	-82.1	-564.1	566.0	0.00	0.00	0.00
2,100.0	28.00	261.72	1,974.7	2,688.29	-88.9	-610.6	612.6	0.00	0.00	0.00
2,200.0	28.00	261.72	2,063.0	2,600.00	-95.6	-657.0	659.2	0.00	0.00	0.00
2,300.0	28.00	261.72	2,151.3	2,511.70	-102.4	-703.5	705.8	0.00	0.00	0.00
2,400.0	28.00	261.72	2,239.6	2,423.41	-109.1	-750.0	752.4	0.00	0.00	0.00
2,500.0	28.00	261.72	2,327.9	2,335.12	-115.9	-796.4	799.1	0.00	0.00	0.00
2,600.0	28.00	261.72	2,416.2	2,246.82	-122.7	-842.9	845.7	0.00	0.00	0.00
2,700.0	28.00	261.72	2,504.5	2,158.53	-129.4	-889.3	892.3	0.00	0.00	0.00
2,800.0	28.00	261.72	2,592.8	2,070.23	-136.2	-935.8	938.9	0.00	0.00	0.00
2,900.0	28.00	261.72	2,681.1	1,981.94	-142.9	-982.2	985.5	0.00	0.00	0.00
3,000.0	28.00	261.72	2,769.4	1,893.64	-149.7	-1,028.7	1,032.1	0.00	0.00	0.00
3,100.0	28.00	261.72	2,857.7	1,805.35	-156.5	-1,075.2	1,078.7	0.00	0.00	0.00
3,200.0	28.00	261.72	2,945.9	1,717.05	-163.2	-1,121.6	1,125.3	0.00	0.00	0.00
3,300.0	28.00	261.72	3,034.2	1,628.76	-170.0	-1,168.1	1,172.0	0.00	0.00	0.00
3,400.0	28.00	261.72	3,122.5	1,540.46	-176.7	-1,214.5	1,218.6	0.00	0.00	0.00
3,500.0	28.00	261.72	3,210.8	1,452.17	-183.5	-1,261.0	1,265.2	0.00	0.00	0.00
3,600.0	28.00	261.72	3,299.1	1,363.87	-190.3	-1,307.4	1,311.8	0.00	0.00	0.00
3,700.0	28.00	261.72	3,387.4	1,275.58	-197.0	-1,353.9	1,358.4	0.00	0.00	0.00
3,800.0	28.00	261.72	3,475.7	1,187.28	-203.8	-1,400.4	1,405.0	0.00	0.00	0.00
3,900.0	28.00	261.72	3,564.0	1,098.99	-210.6	-1,446.8	1,451.6	0.00	0.00	0.00
<b>PARKMAN</b>										
3,920.4	28.00	261.72	3,582.0	1,081.00	-211.9	-1,456.3	1,461.1	0.00	0.00	0.00
4,000.0	28.00	261.72	3,652.3	1,010.69	-217.3	-1,493.3	1,498.2	0.00	0.00	0.00
4,100.0	28.00	261.72	3,740.6	922.40	-224.1	-1,539.7	1,544.8	0.00	0.00	0.00
4,200.0	28.00	261.72	3,828.9	834.10	-230.8	-1,586.2	1,591.5	0.00	0.00	0.00
4,300.0	28.00	261.72	3,917.2	745.81	-237.6	-1,632.7	1,638.1	0.00	0.00	0.00
4,400.0	28.00	261.72	4,005.5	657.52	-244.4	-1,679.1	1,684.7	0.00	0.00	0.00
4,500.0	28.00	261.72	4,093.8	569.22	-251.1	-1,725.6	1,731.3	0.00	0.00	0.00
<b>SUSSEX</b>										
4,542.2	28.00	261.72	4,131.0	532.00	-254.0	-1,745.2	1,750.9	0.00	0.00	0.00
4,600.0	28.00	261.72	4,182.1	480.93	-257.9	-1,772.0	1,777.9	0.00	0.00	0.00
4,700.0	28.00	261.72	4,270.4	392.63	-264.6	-1,818.5	1,824.5	0.00	0.00	0.00



## Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
4,800.0	28.00	261.72	4,358.7	304.34	-271.4	-1,864.9	1,871.1	0.00	0.00	0.00
4,900.0	28.00	261.72	4,447.0	216.04	-278.2	-1,911.4	1,917.7	0.00	0.00	0.00
5,000.0	28.00	261.72	4,535.3	127.75	-284.9	-1,957.9	1,964.4	0.00	0.00	0.00
5,100.0	28.00	261.72	4,623.5	39.45	-291.7	-2,004.3	2,011.0	0.00	0.00	0.00
5,200.0	28.00	261.72	4,711.8	-48.84	-298.4	-2,050.8	2,057.6	0.00	0.00	0.00
5,300.0	28.00	261.72	4,800.1	-137.14	-305.2	-2,097.2	2,104.2	0.00	0.00	0.00
<b>SHANNON</b>										
<b>5,324.8</b>	<b>28.00</b>	<b>261.72</b>	<b>4,822.0</b>	<b>-159.00</b>	<b>-306.9</b>	<b>-2,108.7</b>	<b>2,115.7</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
5,400.0	28.00	261.72	4,888.4	-225.43	-312.0	-2,143.7	2,150.8	0.00	0.00	0.00
5,500.0	28.00	261.72	4,976.7	-313.73	-318.7	-2,190.1	2,197.4	0.00	0.00	0.00
5,600.0	28.00	261.72	5,065.0	-402.02	-325.5	-2,236.6	2,244.0	0.00	0.00	0.00
5,700.0	28.00	261.72	5,153.3	-490.32	-332.2	-2,283.1	2,290.6	0.00	0.00	0.00
5,800.0	28.00	261.72	5,241.6	-578.61	-339.0	-2,329.5	2,337.2	0.00	0.00	0.00
5,900.0	28.00	261.72	5,329.9	-666.91	-345.8	-2,376.0	2,383.9	0.00	0.00	0.00
6,000.0	28.00	261.72	5,418.2	-755.20	-352.5	-2,422.4	2,430.5	0.00	0.00	0.00
6,100.0	28.00	261.72	5,506.5	-843.50	-359.3	-2,468.9	2,477.1	0.00	0.00	0.00
6,200.0	28.00	261.72	5,594.8	-931.79	-366.1	-2,515.4	2,523.7	0.00	0.00	0.00
6,300.0	28.00	261.72	5,683.1	-1,020.09	-372.8	-2,561.8	2,570.3	0.00	0.00	0.00
6,400.0	28.00	261.72	5,771.4	-1,108.38	-379.6	-2,608.3	2,616.9	0.00	0.00	0.00
<b>KOP (10°/100ft DGLG)</b>										
<b>6,500.0</b>	<b>28.00</b>	<b>261.72</b>	<b>5,859.7</b>	<b>-1,196.67</b>	<b>-386.3</b>	<b>-2,654.7</b>	<b>2,663.5</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
6,525.7	30.57	261.72	5,882.1	-1,219.08	-388.1	-2,667.2	2,676.0	10.00	10.00	0.00
6,600.0	30.57	261.72	5,946.1	-1,283.06	-393.6	-2,704.6	2,713.5	0.00	0.00	0.00
6,700.0	30.57	261.72	6,032.2	-1,369.16	-400.9	-2,754.9	2,764.0	0.00	0.00	0.00
6,800.0	30.57	261.72	6,118.3	-1,455.27	-408.2	-2,805.2	2,814.5	0.00	0.00	0.00
6,900.0	30.57	261.72	6,204.4	-1,541.37	-415.6	-2,855.5	2,865.0	0.00	0.00	0.00
7,000.0	30.57	261.72	6,290.5	-1,627.47	-422.9	-2,905.9	2,915.5	0.00	0.00	0.00
7,100.0	30.57	261.72	6,376.6	-1,713.57	-430.2	-2,956.2	2,966.0	0.00	0.00	0.00
7,200.0	30.57	261.72	6,462.7	-1,799.67	-437.5	-3,006.5	3,016.5	0.00	0.00	0.00
7,300.0	30.57	261.72	6,548.8	-1,885.77	-444.9	-3,056.8	3,067.0	0.00	0.00	0.00
<b>START BUILD &amp; TURN</b>										
<b>7,336.6</b>	<b>30.57</b>	<b>261.72</b>	<b>6,580.3</b>	<b>-1,917.29</b>	<b>-447.5</b>	<b>-3,075.3</b>	<b>3,085.5</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
7,400.0	36.83	263.55	6,633.0	-1,970.01	-452.0	-3,110.1	3,120.4	10.01	9.88	2.89
<b>SHARON SPRINGS</b>										
<b>7,492.1</b>	<b>45.95</b>	<b>265.43</b>	<b>6,702.0</b>	<b>-2,039.00</b>	<b>-457.8</b>	<b>-3,170.7</b>	<b>3,181.1</b>	<b>10.00</b>	<b>9.91</b>	<b>2.04</b>
7,500.0	46.74	265.56	6,707.5	-2,044.48	-458.2	-3,176.4	3,186.8	10.00	9.93	1.69
<b>NIOBRARA</b>										
<b>7,521.6</b>	<b>48.89</b>	<b>265.91</b>	<b>6,722.0</b>	<b>-2,059.00</b>	<b>-459.4</b>	<b>-3,192.4</b>	<b>3,202.8</b>	<b>10.00</b>	<b>9.93</b>	<b>1.61</b>
7,600.0	56.68	267.01	6,769.4	-2,106.37	-463.2	-3,254.6	3,265.2	10.00	9.94	1.40
7,700.0	66.63	268.15	6,816.8	-2,153.79	-466.9	-3,342.4	3,353.0	10.00	9.95	1.14
7,800.0	76.58	269.13	6,848.3	-2,185.30	-469.1	-3,437.2	3,447.8	10.00	9.96	0.98
7,900.0	86.54	270.04	6,863.0	-2,199.95	-469.8	-3,536.0	3,546.6	10.00	9.96	0.90
<b>LANDING POINT - VT-ALLES 1-16-18 - NIO B TARGET</b>										
<b>7,934.7</b>	<b>90.00</b>	<b>270.35</b>	<b>6,864.0</b>	<b>-2,201.00</b>	<b>-469.7</b>	<b>-3,570.6</b>	<b>3,581.2</b>	<b>10.00</b>	<b>9.96</b>	<b>0.88</b>
8,000.0	90.00	270.35	6,864.0	-2,201.00	-469.3	-3,636.0	3,646.5	0.00	0.00	0.00
8,100.0	90.00	270.35	6,864.0	-2,201.00	-468.7	-3,736.0	3,746.5	0.00	0.00	0.00
8,200.0	90.00	270.35	6,864.0	-2,201.00	-468.1	-3,836.0	3,846.4	0.00	0.00	0.00
8,300.0	90.00	270.35	6,864.0	-2,201.00	-467.5	-3,936.0	3,946.4	0.00	0.00	0.00
8,400.0	90.00	270.35	6,864.0	-2,201.00	-466.9	-4,036.0	4,046.3	0.00	0.00	0.00
8,500.0	90.00	270.35	6,864.0	-2,201.00	-466.3	-4,135.9	4,146.3	0.00	0.00	0.00
8,600.0	90.00	270.35	6,864.0	-2,201.00	-465.7	-4,235.9	4,246.2	0.00	0.00	0.00
8,700.0	90.00	270.35	6,864.0	-2,201.00	-465.1	-4,335.9	4,346.2	0.00	0.00	0.00
8,800.0	90.00	270.35	6,864.0	-2,201.00	-464.5	-4,435.9	4,446.1	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
8,900.0	90.00	270.35	6,864.0	-2,201.00	-463.9	-4,535.9	4,546.1	0.00	0.00	0.00
9,000.0	90.00	270.35	6,864.0	-2,201.00	-463.3	-4,635.9	4,646.1	0.00	0.00	0.00
9,100.0	90.00	270.35	6,864.0	-2,201.00	-462.7	-4,735.9	4,746.0	0.00	0.00	0.00
9,200.0	90.00	270.35	6,864.0	-2,201.00	-462.1	-4,835.9	4,846.0	0.00	0.00	0.00
9,300.0	90.00	270.35	6,864.0	-2,201.00	-461.5	-4,935.9	4,945.9	0.00	0.00	0.00
9,400.0	90.00	270.35	6,864.0	-2,201.00	-460.9	-5,035.9	5,045.9	0.00	0.00	0.00
9,500.0	90.00	270.35	6,864.0	-2,201.00	-460.3	-5,135.9	5,145.8	0.00	0.00	0.00
9,600.0	90.00	270.35	6,864.0	-2,201.00	-459.7	-5,235.9	5,245.8	0.00	0.00	0.00
9,700.0	90.00	270.35	6,864.0	-2,201.00	-459.1	-5,335.9	5,345.7	0.00	0.00	0.00
9,800.0	90.00	270.35	6,864.0	-2,201.00	-458.5	-5,435.9	5,445.7	0.00	0.00	0.00
9,900.0	90.00	270.35	6,864.0	-2,201.00	-457.9	-5,535.9	5,545.6	0.00	0.00	0.00
10,000.0	90.00	270.35	6,864.0	-2,201.00	-457.3	-5,635.9	5,645.6	0.00	0.00	0.00
10,100.0	90.00	270.35	6,864.0	-2,201.00	-456.6	-5,735.9	5,745.5	0.00	0.00	0.00
10,200.0	90.00	270.35	6,864.0	-2,201.00	-456.0	-5,835.9	5,845.5	0.00	0.00	0.00
10,300.0	90.00	270.35	6,864.0	-2,201.00	-455.4	-5,935.9	5,945.4	0.00	0.00	0.00
10,400.0	90.00	270.35	6,864.0	-2,201.00	-454.8	-6,035.9	6,045.4	0.00	0.00	0.00
10,500.0	90.00	270.35	6,864.0	-2,201.00	-454.2	-6,135.9	6,145.3	0.00	0.00	0.00
10,600.0	90.00	270.35	6,864.0	-2,201.00	-453.6	-6,235.9	6,245.3	0.00	0.00	0.00
10,700.0	90.00	270.35	6,864.0	-2,201.00	-453.0	-6,335.9	6,345.2	0.00	0.00	0.00
10,800.0	90.00	270.35	6,864.0	-2,201.00	-452.4	-6,435.9	6,445.2	0.00	0.00	0.00
10,900.0	90.00	270.35	6,864.0	-2,201.00	-451.8	-6,535.9	6,545.1	0.00	0.00	0.00
11,000.0	90.00	270.35	6,864.0	-2,201.00	-451.2	-6,635.9	6,645.1	0.00	0.00	0.00
11,100.0	90.00	270.35	6,864.0	-2,201.00	-450.6	-6,735.9	6,745.0	0.00	0.00	0.00
11,200.0	90.00	270.35	6,864.0	-2,201.00	-450.0	-6,835.9	6,845.0	0.00	0.00	0.00
11,300.0	90.00	270.35	6,864.0	-2,201.00	-449.4	-6,935.9	6,944.9	0.00	0.00	0.00
11,400.0	90.00	270.35	6,864.0	-2,201.00	-448.8	-7,035.9	7,044.9	0.00	0.00	0.00
11,500.0	90.00	270.35	6,864.0	-2,201.00	-448.2	-7,135.9	7,144.9	0.00	0.00	0.00
11,600.0	90.00	270.35	6,864.0	-2,201.00	-447.6	-7,235.9	7,244.8	0.00	0.00	0.00
11,700.0	90.00	270.35	6,864.0	-2,201.00	-447.0	-7,335.9	7,344.8	0.00	0.00	0.00
11,800.0	90.00	270.35	6,864.0	-2,201.00	-446.4	-7,435.9	7,444.7	0.00	0.00	0.00
11,900.0	90.00	270.35	6,864.0	-2,201.00	-445.8	-7,535.9	7,544.7	0.00	0.00	0.00
12,000.0	90.00	270.35	6,864.0	-2,201.00	-445.2	-7,635.9	7,644.6	0.00	0.00	0.00
12,100.0	90.00	270.35	6,864.0	-2,201.00	-444.6	-7,735.9	7,744.6	0.00	0.00	0.00
12,200.0	90.00	270.35	6,864.0	-2,201.00	-444.0	-7,835.9	7,844.5	0.00	0.00	0.00
12,300.0	90.00	270.35	6,864.0	-2,201.00	-443.4	-7,935.9	7,944.5	0.00	0.00	0.00
12,400.0	90.00	270.35	6,864.0	-2,201.00	-442.8	-8,035.9	8,044.4	0.00	0.00	0.00
12,500.0	90.00	270.35	6,864.0	-2,201.00	-442.2	-8,135.9	8,144.4	0.00	0.00	0.00
12,600.0	90.00	270.35	6,864.0	-2,201.00	-441.6	-8,235.9	8,244.3	0.00	0.00	0.00
12,700.0	90.00	270.35	6,864.0	-2,201.00	-441.0	-8,335.9	8,344.3	0.00	0.00	0.00
12,800.0	90.00	270.35	6,864.0	-2,201.00	-440.4	-8,435.9	8,444.2	0.00	0.00	0.00
12,900.0	90.00	270.35	6,864.0	-2,201.00	-439.8	-8,535.9	8,544.2	0.00	0.00	0.00
13,000.0	90.00	270.35	6,864.0	-2,201.00	-439.2	-8,635.9	8,644.1	0.00	0.00	0.00
13,100.0	90.00	270.35	6,864.0	-2,201.00	-438.6	-8,735.9	8,744.1	0.00	0.00	0.00
13,200.0	90.00	270.35	6,864.0	-2,201.00	-438.0	-8,835.9	8,844.0	0.00	0.00	0.00
13,300.0	90.00	270.35	6,864.0	-2,201.00	-437.4	-8,935.9	8,944.0	0.00	0.00	0.00
13,400.0	90.00	270.35	6,864.0	-2,201.00	-436.8	-9,035.9	9,043.9	0.00	0.00	0.00
13,500.0	90.00	270.35	6,864.0	-2,201.00	-436.2	-9,135.9	9,143.9	0.00	0.00	0.00
13,600.0	90.00	270.35	6,864.0	-2,201.00	-435.6	-9,235.9	9,243.8	0.00	0.00	0.00
13,700.0	90.00	270.35	6,864.0	-2,201.00	-435.0	-9,335.9	9,343.8	0.00	0.00	0.00
13,800.0	90.00	270.35	6,864.0	-2,201.00	-434.4	-9,435.9	9,443.8	0.00	0.00	0.00
13,900.0	90.00	270.35	6,864.0	-2,201.00	-433.8	-9,535.9	9,543.7	0.00	0.00	0.00
14,000.0	90.00	270.35	6,864.0	-2,201.00	-433.2	-9,635.8	9,643.7	0.00	0.00	0.00
14,100.0	90.00	270.35	6,864.0	-2,201.00	-432.5	-9,735.8	9,743.6	0.00	0.00	0.00
14,200.0	90.00	270.35	6,864.0	-2,201.00	-431.9	-9,835.8	9,843.6	0.00	0.00	0.00

# Planning Report



<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
14,300.0	90.00	270.35	6,864.0	-2,201.00	-431.3	-9,935.8	9,943.5	0.00	0.00	0.00
14,400.0	90.00	270.35	6,864.0	-2,201.00	-430.7	-10,035.8	10,043.5	0.00	0.00	0.00
14,500.0	90.00	270.35	6,864.0	-2,201.00	-430.1	-10,135.8	10,143.4	0.00	0.00	0.00
14,600.0	90.00	270.35	6,864.0	-2,201.00	-429.5	-10,235.8	10,243.4	0.00	0.00	0.00
14,700.0	90.00	270.35	6,864.0	-2,201.00	-428.9	-10,335.8	10,343.3	0.00	0.00	0.00
14,800.0	90.00	270.35	6,864.0	-2,201.00	-428.3	-10,435.8	10,443.3	0.00	0.00	0.00
14,900.0	90.00	270.35	6,864.0	-2,201.00	-427.7	-10,535.8	10,543.2	0.00	0.00	0.00
15,000.0	90.00	270.35	6,864.0	-2,201.00	-427.1	-10,635.8	10,643.2	0.00	0.00	0.00
15,100.0	90.00	270.35	6,864.0	-2,201.00	-426.5	-10,735.8	10,743.1	0.00	0.00	0.00
15,200.0	90.00	270.35	6,864.0	-2,201.00	-425.9	-10,835.8	10,843.1	0.00	0.00	0.00
15,300.0	90.00	270.35	6,864.0	-2,201.00	-425.3	-10,935.8	10,943.0	0.00	0.00	0.00
15,400.0	90.00	270.35	6,864.0	-2,201.00	-424.7	-11,035.8	11,043.0	0.00	0.00	0.00
15,500.0	90.00	270.35	6,864.0	-2,201.00	-424.1	-11,135.8	11,142.9	0.00	0.00	0.00
15,600.0	90.00	270.35	6,864.0	-2,201.00	-423.5	-11,235.8	11,242.9	0.00	0.00	0.00
15,700.0	90.00	270.35	6,864.0	-2,201.00	-422.9	-11,335.8	11,342.8	0.00	0.00	0.00
15,800.0	90.00	270.35	6,864.0	-2,201.00	-422.3	-11,435.8	11,442.8	0.00	0.00	0.00
15,900.0	90.00	270.35	6,864.0	-2,201.00	-421.7	-11,535.8	11,542.7	0.00	0.00	0.00
16,000.0	90.00	270.35	6,864.0	-2,201.00	-421.1	-11,635.8	11,642.7	0.00	0.00	0.00
16,100.0	90.00	270.35	6,864.0	-2,201.00	-420.5	-11,735.8	11,742.6	0.00	0.00	0.00
16,200.0	90.00	270.35	6,864.0	-2,201.00	-419.9	-11,835.8	11,842.6	0.00	0.00	0.00
16,300.0	90.00	270.35	6,864.0	-2,201.00	-419.3	-11,935.8	11,942.6	0.00	0.00	0.00
16,400.0	90.00	270.35	6,864.0	-2,201.00	-418.7	-12,035.8	12,042.5	0.00	0.00	0.00
16,500.0	90.00	270.35	6,864.0	-2,201.00	-418.1	-12,135.8	12,142.5	0.00	0.00	0.00
16,600.0	90.00	270.35	6,864.0	-2,201.00	-417.5	-12,235.8	12,242.4	0.00	0.00	0.00
16,700.0	90.00	270.35	6,864.0	-2,201.00	-416.9	-12,335.8	12,342.4	0.00	0.00	0.00
16,800.0	90.00	270.35	6,864.0	-2,201.00	-416.3	-12,435.8	12,442.3	0.00	0.00	0.00
16,900.0	90.00	270.35	6,864.0	-2,201.00	-415.7	-12,535.8	12,542.3	0.00	0.00	0.00
17,000.0	90.00	270.35	6,864.0	-2,201.00	-415.1	-12,635.8	12,642.2	0.00	0.00	0.00
17,100.0	90.00	270.35	6,864.0	-2,201.00	-414.5	-12,735.8	12,742.2	0.00	0.00	0.00
17,200.0	90.00	270.35	6,864.0	-2,201.00	-413.9	-12,835.8	12,842.1	0.00	0.00	0.00
17,300.0	90.00	270.35	6,864.0	-2,201.00	-413.3	-12,935.8	12,942.1	0.00	0.00	0.00
17,400.0	90.00	270.35	6,864.0	-2,201.00	-412.7	-13,035.8	13,042.0	0.00	0.00	0.00
17,500.0	90.00	270.35	6,864.0	-2,201.00	-412.1	-13,135.8	13,142.0	0.00	0.00	0.00
17,600.0	90.00	270.35	6,864.0	-2,201.00	-411.5	-13,235.8	13,241.9	0.00	0.00	0.00
17,700.0	90.00	270.35	6,864.0	-2,201.00	-410.9	-13,335.8	13,341.9	0.00	0.00	0.00
17,800.0	90.00	270.35	6,864.0	-2,201.00	-410.3	-13,435.8	13,441.8	0.00	0.00	0.00
17,900.0	90.00	270.35	6,864.0	-2,201.00	-409.7	-13,535.8	13,541.8	0.00	0.00	0.00
18,000.0	90.00	270.35	6,864.0	-2,201.00	-409.1	-13,635.8	13,641.7	0.00	0.00	0.00
18,100.0	90.00	270.35	6,864.0	-2,201.00	-408.5	-13,735.8	13,741.7	0.00	0.00	0.00
18,200.0	90.00	270.35	6,864.0	-2,201.00	-407.8	-13,835.8	13,841.6	0.00	0.00	0.00
18,300.0	90.00	270.35	6,864.0	-2,201.00	-407.2	-13,935.8	13,941.6	0.00	0.00	0.00
18,400.0	90.00	270.35	6,864.0	-2,201.00	-406.6	-14,035.8	14,041.5	0.00	0.00	0.00
18,500.0	90.00	270.35	6,864.0	-2,201.00	-406.0	-14,135.8	14,141.5	0.00	0.00	0.00
18,600.0	90.00	270.35	6,864.0	-2,201.00	-405.4	-14,235.8	14,241.4	0.00	0.00	0.00
18,700.0	90.00	270.35	6,864.0	-2,201.00	-404.8	-14,335.8	14,341.4	0.00	0.00	0.00
18,800.0	90.00	270.35	6,864.0	-2,201.00	-404.2	-14,435.8	14,441.4	0.00	0.00	0.00
18,900.0	90.00	270.35	6,864.0	-2,201.00	-403.6	-14,535.8	14,541.3	0.00	0.00	0.00
19,000.0	90.00	270.35	6,864.0	-2,201.00	-403.0	-14,635.8	14,641.3	0.00	0.00	0.00
19,100.0	90.00	270.35	6,864.0	-2,201.00	-402.4	-14,735.8	14,741.2	0.00	0.00	0.00
19,200.0	90.00	270.35	6,864.0	-2,201.00	-401.8	-14,835.8	14,841.2	0.00	0.00	0.00
19,300.0	90.00	270.35	6,864.0	-2,201.00	-401.2	-14,935.8	14,941.1	0.00	0.00	0.00
19,400.0	90.00	270.35	6,864.0	-2,201.00	-400.6	-15,035.8	15,041.1	0.00	0.00	0.00
19,500.0	90.00	270.35	6,864.0	-2,201.00	-400.0	-15,135.7	15,141.0	0.00	0.00	0.00
19,600.0	90.00	270.35	6,864.0	-2,201.00	-399.4	-15,235.7	15,241.0	0.00	0.00	0.00

<b>Database:</b>	EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well VT-ALLES 1-16-18
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4663.0usft
<b>Project:</b>	WELD COUNTY, COLORADO (NAD 83)	<b>MD Reference:</b>	KB-EST @ 4663.0usft
<b>Site:</b>	SW NW SEC. 15 T5N R65W 6th P.M.	<b>North Reference:</b>	True
<b>Well:</b>	VT-ALLES 1-16-18	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
19,700.0	90.00	270.35	6,864.0	-2,201.00	-398.8	-15,335.7	15,340.9	0.00	0.00	0.00
19,800.0	90.00	270.35	6,864.0	-2,201.00	-398.2	-15,435.7	15,440.9	0.00	0.00	0.00
19,900.0	90.00	270.35	6,864.0	-2,201.00	-397.6	-15,535.7	15,540.8	0.00	0.00	0.00
20,000.0	90.00	270.35	6,864.0	-2,201.00	-397.0	-15,635.7	15,640.8	0.00	0.00	0.00
20,100.0	90.00	270.35	6,864.0	-2,201.00	-396.4	-15,735.7	15,740.7	0.00	0.00	0.00
20,200.0	90.00	270.35	6,864.0	-2,201.00	-395.8	-15,835.7	15,840.7	0.00	0.00	0.00
<b>BHL - VT-ALLES 1-16-18</b>										
<b>20,226.0</b>	<b>90.00</b>	<b>270.35</b>	<b>6,864.0</b>	<b>-2,201.00</b>	<b>-395.6</b>	<b>-15,861.7</b>	<b>15,866.7</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,920.4	3,582.0	PARKMAN				
4,542.2	4,131.0	SUSSEX				
5,324.8	4,822.0	SHANNON				
7,492.1	6,702.0	SHARON SPRINGS				
7,521.6	6,722.0	NIOBRARA				
7,934.7	6,864.0	NIO B TARGET				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.0	100.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,500.0	1,444.9	-48.3	-331.8	EOB TO 28° INC
6,500.0	5,859.7	-386.3	-2,654.7	KOP (10°/100ft DGLG)
7,336.6	6,580.3	-447.5	-3,075.3	START BUILD & TURN
7,934.7	6,864.0	-469.7	-3,570.7	LANDING POINT - VT-ALLES 1-16-18
20,226.0	6,864.0	-395.6	-15,861.7	BHL - VT-ALLES 1-16-18