

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

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

VETTING 14

ORIGINAL WELLBORE

09 March, 2016

Plan: PROPOSAL #2

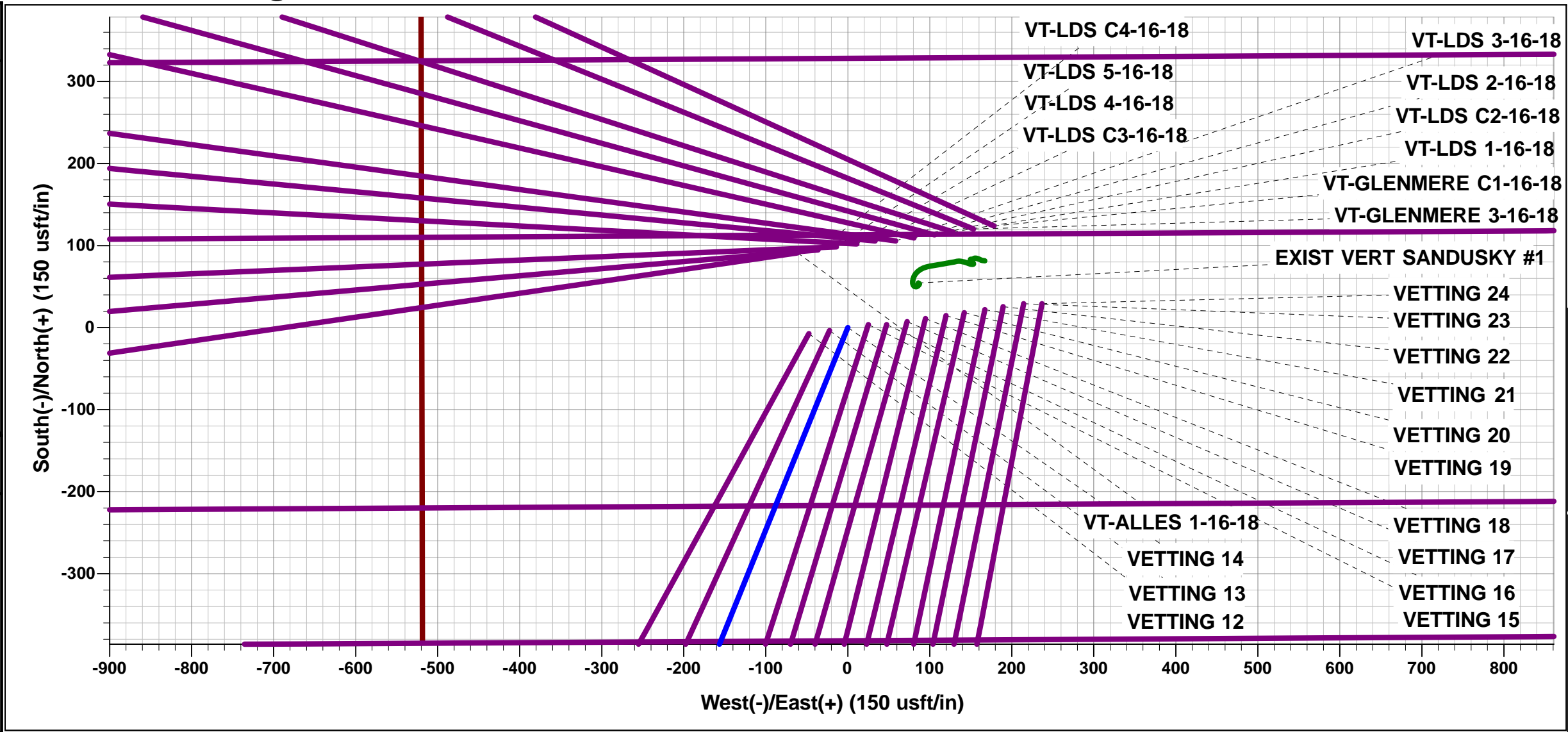




Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 15 T5N R65W 6th P.M.
Well: VETTING 14
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation	
300.0	300.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
895.5	899.9	12.00	202.07	-58.0	-23.5	30.0	62.6	EOB TO 12° INC	
5409.4	5514.6	12.00	202.07	-947.0	-383.9	489.8	1021.9	END OF TANGENT	
6005.0	6114.6	0.00	0.00	-1005.1	-407.4	519.8	1084.5	EOD TO VERTICAL	
6292.0	6401.6	0.00	0.00	-1005.1	-407.4	519.8	1084.5	KOP (10°/100ft BUR)	
6865.0	7301.6	90.00	269.96	-1005.5	-980.4	1089.0	1657.5	LANDING PNT - VETTING 14	
6865.0	15100.4	90.00	269.96	-1011.2	-8779.2	8837.2	9456.3	BHL - VETTING 14	

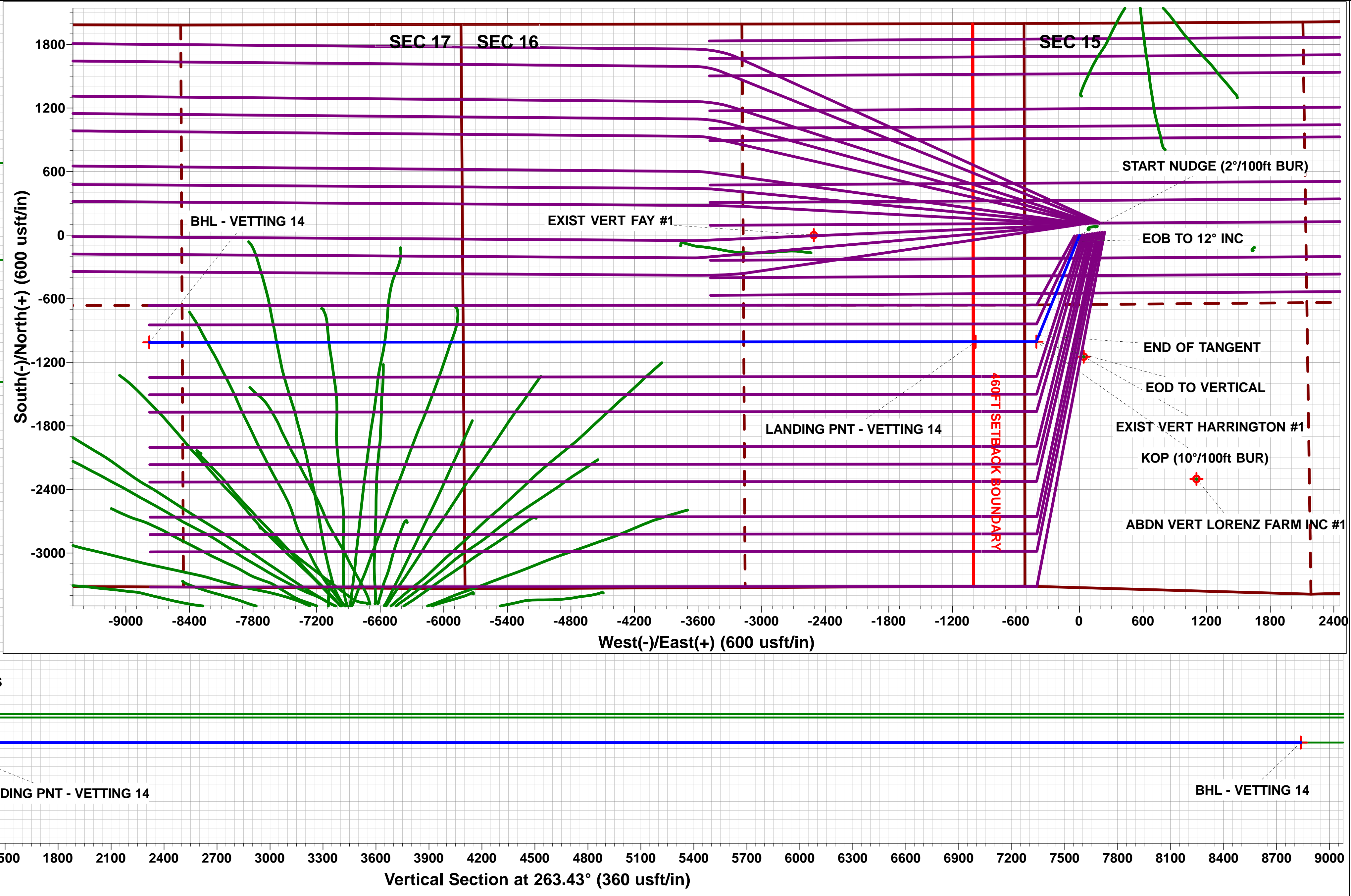
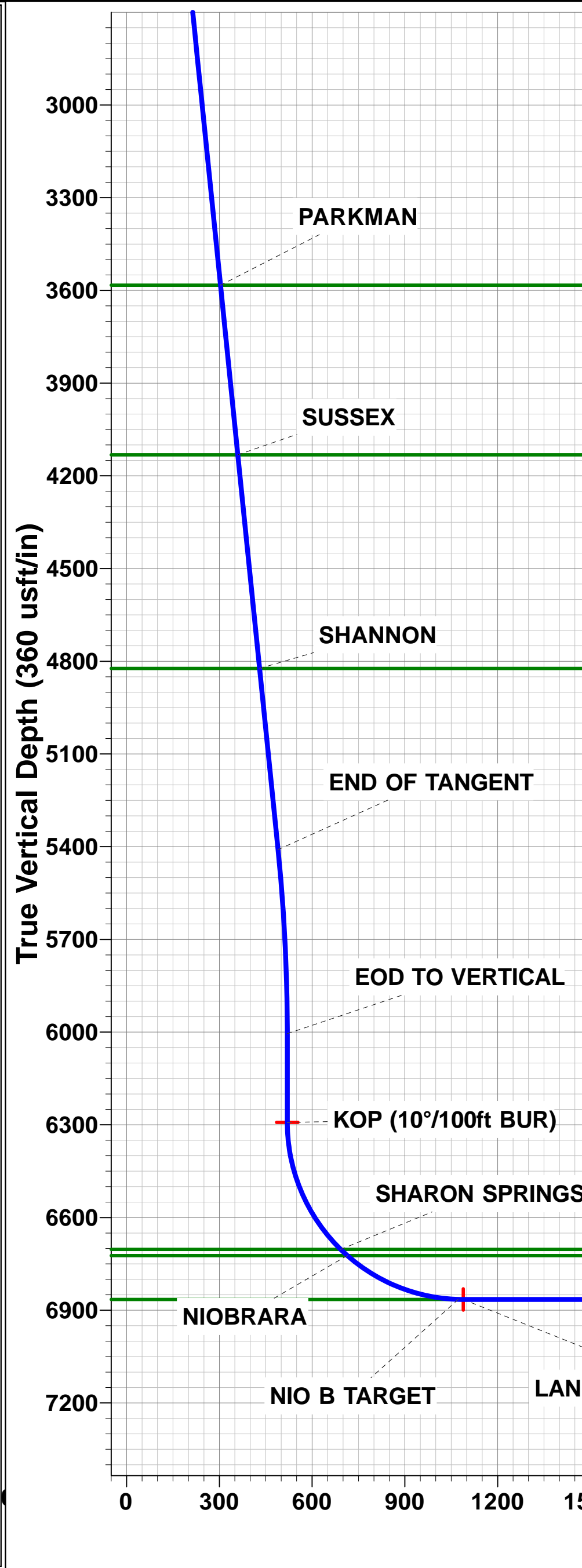
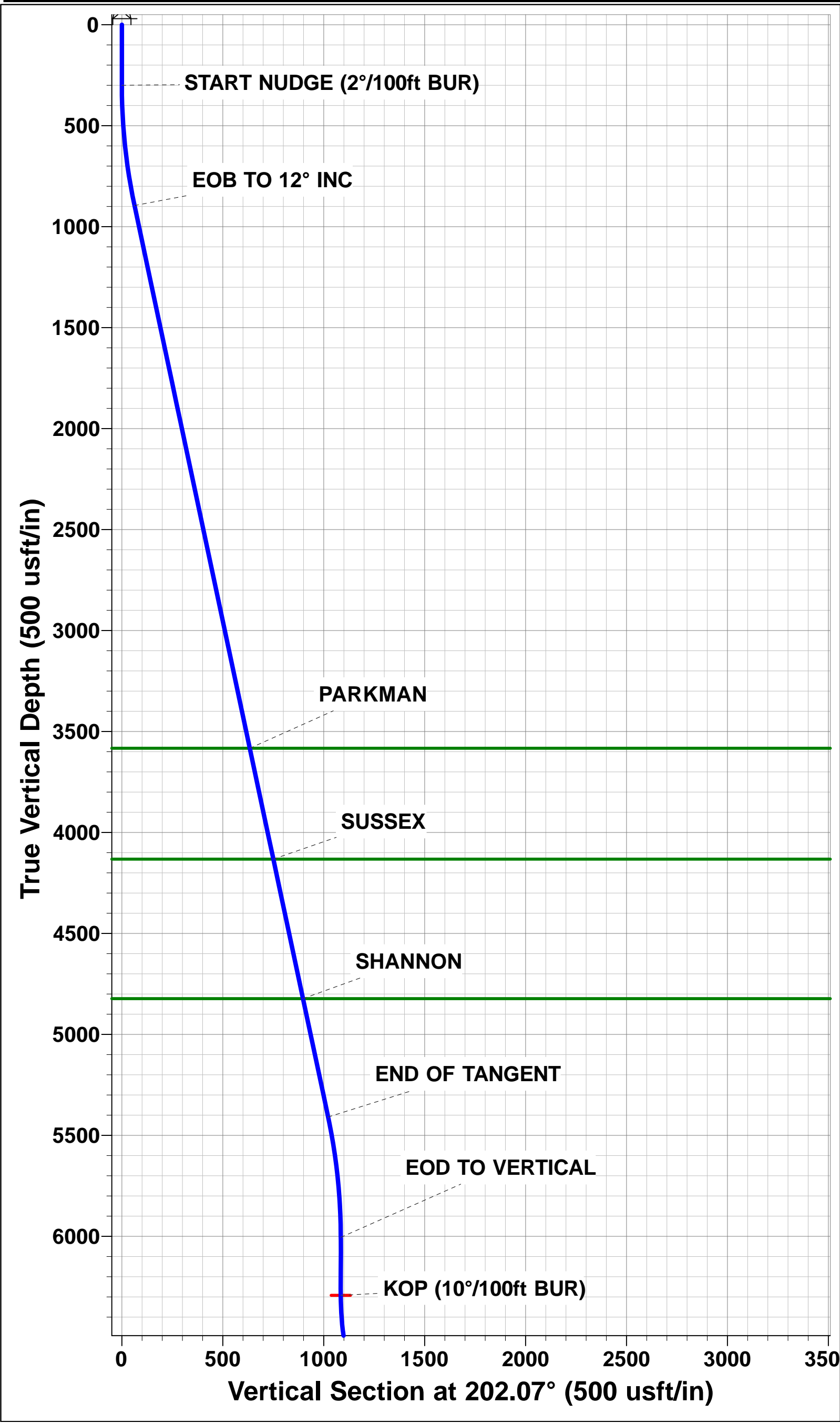
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - VETTING 14	6292.0	-1005.1	-407.4	40.398241	-104.658473
LANDING PNT - VETTING 14	6865.0	-1005.5	-980.4	40.398240	-104.660530
BHL - VETTING 14	6865.0	-1011.2	-8779.2	40.398220	-104.688530



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3583.0	3647.4	PARKMAN
4132.0	4208.7	SUSSEX
4823.0	4915.1	SHANNON
6703.0	6859.9	SHARON SPRINGS
6723.0	6889.4	NIOBRARA
6865.0	7301.6	NIO B TARGET

PROPOSED LOCAL COORDINATES		
SHL: 2000ft FNL & 520ft FWL of Sec 15		
LP: 2310ft FSL & 460ft FEL of Sec 16		
BHL: 2310ft FNL & 2339ft FWL of Sec 17		

Azimuths to True North	
Magnetic North: 8.32°	
Magnetic Field Strength: 52585.1snT	
Dip Angle: 66.91°	
Date: 20/11/2015	
Model: IGRF2015	



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 14
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 14	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 14		
Well Position	+N/-S	7.3 usft	Northing:
	+E/-W	47.3 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	20/11/2015	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	263.43

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	
300.0	0.00	0.00	300.0	-4,364.0	0.0	0.0	0.00	0.00	0.00	0.00	
899.9	12.00	202.07	895.5	-3,768.5	-58.0	-23.5	2.00	2.00	0.00	202.07	
5,514.6	12.00	202.07	5,409.5	745.5	-947.1	-383.9	0.00	0.00	0.00	0.00	
6,114.6	0.00	0.00	6,005.0	1,341.0	-1,005.1	-407.4	2.00	-2.00	0.00	180.00	
6,401.6	0.00	0.00	6,292.0	1,628.0	-1,005.1	-407.4	0.00	0.00	0.00	0.00	KOP - VETTING 14
7,301.6	90.00	269.96	6,865.0	2,201.0	-1,005.5	-980.4	10.00	10.00	-10.00	269.96	LANDING PNT - VE
15,100.4	90.00	269.96	6,865.0	2,201.0	-1,011.2	-8,779.2	0.00	0.00	0.00	-34.32	BHL - VETTING 14

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 14
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 14	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
START NUDGE (2°/100ft BUR)										
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	2.00	202.07	400.0	4,264.02	-1.6	-0.7	0.8	2.00	2.00	0.00
500.0	4.00	202.07	499.8	4,164.16	-6.5	-2.6	3.3	2.00	2.00	0.00
600.0	6.00	202.07	599.5	4,064.55	-14.5	-5.9	7.5	2.00	2.00	0.00
700.0	8.00	202.07	698.7	3,965.30	-25.8	-10.5	13.4	2.00	2.00	0.00
800.0	10.00	202.07	797.5	3,866.53	-40.3	-16.4	20.9	2.00	2.00	0.00
EOB TO 12° INC										
899.9	12.00	202.07	895.5	3,768.47	-58.0	-23.5	30.0	2.00	2.00	0.00
900.0	12.00	202.07	895.6	3,768.38	-58.0	-23.5	30.0	0.39	0.39	0.00
1,000.0	12.00	202.07	993.4	3,670.56	-77.3	-31.3	40.0	0.00	0.00	0.00
1,100.0	12.00	202.07	1,091.3	3,572.75	-96.5	-39.1	49.9	0.00	0.00	0.00
1,200.0	12.00	202.07	1,189.1	3,474.93	-115.8	-46.9	59.9	0.00	0.00	0.00
1,300.0	12.00	202.07	1,286.9	3,377.12	-135.1	-54.8	69.9	0.00	0.00	0.00
1,400.0	12.00	202.07	1,384.7	3,279.30	-154.3	-62.6	79.8	0.00	0.00	0.00
1,500.0	12.00	202.07	1,482.5	3,181.48	-173.6	-70.4	89.8	0.00	0.00	0.00
1,600.0	12.00	202.07	1,580.3	3,083.67	-192.9	-78.2	99.7	0.00	0.00	0.00
1,700.0	12.00	202.07	1,678.1	2,985.85	-212.1	-86.0	109.7	0.00	0.00	0.00
1,800.0	12.00	202.07	1,776.0	2,888.04	-231.4	-93.8	119.7	0.00	0.00	0.00
1,900.0	12.00	202.07	1,873.8	2,790.22	-250.7	-101.6	129.6	0.00	0.00	0.00
2,000.0	12.00	202.07	1,971.6	2,692.41	-269.9	-109.4	139.6	0.00	0.00	0.00
2,100.0	12.00	202.07	2,069.4	2,594.59	-289.2	-117.2	149.6	0.00	0.00	0.00
2,200.0	12.00	202.07	2,167.2	2,496.78	-308.5	-125.0	159.5	0.00	0.00	0.00
2,300.0	12.00	202.07	2,265.0	2,398.96	-327.7	-132.9	169.5	0.00	0.00	0.00
2,400.0	12.00	202.07	2,362.9	2,301.15	-347.0	-140.7	179.5	0.00	0.00	0.00
2,500.0	12.00	202.07	2,460.7	2,203.33	-366.3	-148.5	189.4	0.00	0.00	0.00
2,600.0	12.00	202.07	2,558.5	2,105.52	-385.5	-156.3	199.4	0.00	0.00	0.00
2,700.0	12.00	202.07	2,656.3	2,007.70	-404.8	-164.1	209.3	0.00	0.00	0.00
2,800.0	12.00	202.07	2,754.1	1,909.89	-424.1	-171.9	219.3	0.00	0.00	0.00
2,900.0	12.00	202.07	2,851.9	1,812.07	-443.3	-179.7	229.3	0.00	0.00	0.00
3,000.0	12.00	202.07	2,949.7	1,714.25	-462.6	-187.5	239.2	0.00	0.00	0.00
3,100.0	12.00	202.07	3,047.6	1,616.44	-481.9	-195.3	249.2	0.00	0.00	0.00
3,200.0	12.00	202.07	3,145.4	1,518.62	-501.1	-203.1	259.2	0.00	0.00	0.00
3,300.0	12.00	202.07	3,243.2	1,420.81	-520.4	-211.0	269.1	0.00	0.00	0.00
3,400.0	12.00	202.07	3,341.0	1,322.99	-539.7	-218.8	279.1	0.00	0.00	0.00
3,500.0	12.00	202.07	3,438.8	1,225.18	-558.9	-226.6	289.0	0.00	0.00	0.00
3,600.0	12.00	202.07	3,536.6	1,127.36	-578.2	-234.4	299.0	0.00	0.00	0.00
PARKMAN										
3,647.4	12.00	202.07	3,583.0	1,081.00	-587.3	-238.1	303.7	0.00	0.00	0.00
3,700.0	12.00	202.07	3,634.5	1,029.55	-597.5	-242.2	309.0	0.00	0.00	0.00
3,800.0	12.00	202.07	3,732.3	931.73	-616.7	-250.0	318.9	0.00	0.00	0.00
3,900.0	12.00	202.07	3,830.1	833.92	-636.0	-257.8	328.9	0.00	0.00	0.00
4,000.0	12.00	202.07	3,927.9	736.10	-655.3	-265.6	338.9	0.00	0.00	0.00
4,100.0	12.00	202.07	4,025.7	638.29	-674.5	-273.4	348.8	0.00	0.00	0.00
4,200.0	12.00	202.07	4,123.5	540.47	-693.8	-281.2	358.8	0.00	0.00	0.00
SUSSEX										
4,208.7	12.00	202.07	4,132.0	532.00	-695.4	-281.9	359.6	0.00	0.00	0.00
4,300.0	12.00	202.07	4,221.3	442.66	-713.0	-289.1	368.7	0.00	0.00	0.00
4,400.0	12.00	202.07	4,319.2	344.84	-732.3	-296.9	378.7	0.00	0.00	0.00
4,500.0	12.00	202.07	4,417.0	247.02	-751.6	-304.7	388.7	0.00	0.00	0.00
4,600.0	12.00	202.07	4,514.8	149.21	-770.8	-312.5	398.6	0.00	0.00	0.00

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Well:	VETTING 14	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)
4,700.0	12.00	202.07	4,612.6	51.39	-790.1	-320.3	408.6	0.00	0.00	0.00
4,800.0	12.00	202.07	4,710.4	-46.42	-809.4	-328.1	418.6	0.00	0.00	0.00
4,900.0	12.00	202.07	4,808.2	-144.24	-828.6	-335.9	428.5	0.00	0.00	0.00
SHANNON										
4,915.1	12.00	202.07	4,823.0	-159.00	-831.5	-337.1	430.0	0.00	0.00	0.00
5,000.0	12.00	202.07	4,906.1	-242.05	-847.9	-343.7	438.5	0.00	0.00	0.00
5,100.0	12.00	202.07	5,003.9	-339.87	-867.2	-351.5	448.5	0.00	0.00	0.00
5,200.0	12.00	202.07	5,101.7	-437.68	-886.4	-359.3	458.4	0.00	0.00	0.00
5,300.0	12.00	202.07	5,199.5	-535.50	-905.7	-367.2	468.4	0.00	0.00	0.00
5,400.0	12.00	202.07	5,297.3	-633.31	-925.0	-375.0	478.3	0.00	0.00	0.00
5,500.0	12.00	202.07	5,395.1	-731.13	-944.2	-382.8	488.3	0.00	0.00	0.00
END OF TANGENT										
5,514.6	12.00	202.07	5,409.4	-745.41	-947.0	-383.9	489.8	0.00	0.00	0.00
5,600.0	10.29	202.07	5,493.2	-829.20	-962.3	-390.1	497.7	2.00	-2.00	0.00
5,700.0	8.29	202.07	5,591.9	-927.88	-977.3	-396.2	505.4	2.00	-2.00	0.00
5,800.0	6.29	202.07	5,691.1	-1,027.07	-989.1	-401.0	511.5	2.00	-2.00	0.00
5,900.0	4.29	202.07	5,790.6	-1,126.63	-997.6	-404.4	515.9	2.00	-2.00	0.00
6,000.0	2.29	202.07	5,890.5	-1,226.46	-1,002.9	-406.6	518.7	2.00	-2.00	0.00
6,100.0	0.29	202.07	5,990.4	-1,326.43	-1,005.0	-407.4	519.7	2.00	-2.00	0.00
EOD TO VERTICAL										
6,114.6	0.00	0.00	6,005.0	-1,341.03	-1,005.1	-407.4	519.8	2.00	-2.00	0.00
6,200.0	0.00	0.00	6,090.4	-1,426.43	-1,005.1	-407.4	519.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,190.4	-1,526.43	-1,005.1	-407.4	519.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,290.4	-1,626.43	-1,005.1	-407.4	519.8	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,401.6	0.00	0.00	6,292.0	-1,628.03	-1,005.1	-407.4	519.8	0.00	0.00	0.00
6,500.0	9.84	269.96	6,390.0	-1,725.95	-1,005.1	-415.9	528.1	10.00	10.00	0.00
6,600.0	19.84	269.96	6,486.5	-1,822.49	-1,005.1	-441.4	553.6	10.00	10.00	0.00
6,700.0	29.84	269.96	6,577.1	-1,913.12	-1,005.1	-483.4	595.2	10.00	10.00	0.00
6,800.0	39.84	269.96	6,659.1	-1,995.09	-1,005.2	-540.5	651.9	10.00	10.00	0.00
SHARON SPRINGS										
6,859.9	45.83	269.96	6,703.0	-2,039.00	-1,005.2	-581.2	692.4	10.00	10.00	0.00
NIORARA										
6,889.4	48.78	269.96	6,723.0	-2,059.00	-1,005.2	-602.9	713.9	10.00	10.00	0.00
6,900.0	49.84	269.96	6,729.9	-2,065.91	-1,005.2	-610.9	721.9	10.00	10.00	0.00
7,000.0	59.84	269.96	6,787.4	-2,123.43	-1,005.3	-692.5	803.0	10.00	10.00	0.00
7,100.0	69.84	269.96	6,829.9	-2,165.89	-1,005.3	-782.9	892.8	10.00	10.00	0.00
7,200.0	79.84	269.96	6,856.0	-2,192.01	-1,005.4	-879.3	988.6	10.00	10.00	0.00
7,300.0	89.84	269.96	6,865.0	-2,201.00	-1,005.5	-978.8	1,087.4	10.00	10.00	0.00
LANDING PNT - VETTING 14 - NIO B TARGET										
7,301.6	90.00	269.96	6,865.0	-2,201.00	-1,005.5	-980.4	1,089.0	10.00	10.00	0.00
7,400.0	90.00	269.96	6,865.0	-2,201.00	-1,005.5	-1,078.8	1,186.8	0.00	0.00	0.00
7,500.0	90.00	269.96	6,865.0	-2,201.00	-1,005.6	-1,178.8	1,286.1	0.00	0.00	0.00
7,600.0	90.00	269.96	6,865.0	-2,201.01	-1,005.7	-1,278.8	1,385.5	0.00	0.00	0.00
7,700.0	90.00	269.96	6,865.0	-2,201.01	-1,005.8	-1,378.8	1,484.8	0.00	0.00	0.00
7,800.0	90.00	269.96	6,865.0	-2,201.01	-1,005.8	-1,478.8	1,584.2	0.00	0.00	0.00
7,900.0	90.00	269.96	6,865.0	-2,201.01	-1,005.9	-1,578.8	1,683.5	0.00	0.00	0.00
8,000.0	90.00	269.96	6,865.0	-2,201.01	-1,006.0	-1,678.8	1,782.9	0.00	0.00	0.00
8,100.0	90.00	269.96	6,865.0	-2,201.01	-1,006.1	-1,778.8	1,882.2	0.00	0.00	0.00
8,200.0	90.00	269.96	6,865.0	-2,201.02	-1,006.1	-1,878.8	1,981.6	0.00	0.00	0.00
8,300.0	90.00	269.96	6,865.0	-2,201.02	-1,006.2	-1,978.8	2,080.9	0.00	0.00	0.00
8,400.0	90.00	269.96	6,865.0	-2,201.02	-1,006.3	-2,078.8	2,180.3	0.00	0.00	0.00
8,500.0	90.00	269.96	6,865.0	-2,201.02	-1,006.3	-2,178.8	2,279.6	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 14
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 14	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)
8,600.0	90.00	269.96	6,865.0	-2,201.02	-1,006.4	-2,278.8	2,379.0	0.00	0.00	0.00
8,700.0	90.00	269.96	6,865.0	-2,201.02	-1,006.5	-2,378.8	2,478.3	0.00	0.00	0.00
8,800.0	90.00	269.96	6,865.0	-2,201.02	-1,006.6	-2,478.8	2,577.7	0.00	0.00	0.00
8,900.0	90.00	269.96	6,865.0	-2,201.03	-1,006.6	-2,578.8	2,677.0	0.00	0.00	0.00
9,000.0	90.00	269.96	6,865.0	-2,201.03	-1,006.7	-2,678.8	2,776.4	0.00	0.00	0.00
9,100.0	90.00	269.96	6,865.0	-2,201.03	-1,006.8	-2,778.8	2,875.7	0.00	0.00	0.00
9,200.0	90.00	269.96	6,865.0	-2,201.03	-1,006.9	-2,878.8	2,975.1	0.00	0.00	0.00
9,300.0	90.00	269.96	6,865.0	-2,201.03	-1,006.9	-2,978.8	3,074.5	0.00	0.00	0.00
9,400.0	90.00	269.96	6,865.0	-2,201.03	-1,007.0	-3,078.8	3,173.8	0.00	0.00	0.00
9,500.0	90.00	269.96	6,865.0	-2,201.03	-1,007.1	-3,178.8	3,273.2	0.00	0.00	0.00
9,600.0	90.00	269.96	6,865.0	-2,201.03	-1,007.1	-3,278.8	3,372.5	0.00	0.00	0.00
9,700.0	90.00	269.96	6,865.0	-2,201.03	-1,007.2	-3,378.8	3,471.9	0.00	0.00	0.00
9,800.0	90.00	269.96	6,865.0	-2,201.03	-1,007.3	-3,478.8	3,571.2	0.00	0.00	0.00
9,900.0	90.00	269.96	6,865.0	-2,201.03	-1,007.4	-3,578.8	3,670.6	0.00	0.00	0.00
10,000.0	90.00	269.96	6,865.0	-2,201.04	-1,007.4	-3,678.8	3,769.9	0.00	0.00	0.00
10,100.0	90.00	269.96	6,865.0	-2,201.04	-1,007.5	-3,778.8	3,869.3	0.00	0.00	0.00
10,200.0	90.00	269.96	6,865.0	-2,201.04	-1,007.6	-3,878.8	3,968.6	0.00	0.00	0.00
10,300.0	90.00	269.96	6,865.0	-2,201.04	-1,007.7	-3,978.8	4,068.0	0.00	0.00	0.00
10,400.0	90.00	269.96	6,865.0	-2,201.04	-1,007.7	-4,078.8	4,167.3	0.00	0.00	0.00
10,500.0	90.00	269.96	6,865.0	-2,201.04	-1,007.8	-4,178.8	4,266.7	0.00	0.00	0.00
10,600.0	90.00	269.96	6,865.0	-2,201.04	-1,007.9	-4,278.8	4,366.0	0.00	0.00	0.00
10,700.0	90.00	269.96	6,865.0	-2,201.04	-1,007.9	-4,378.8	4,465.4	0.00	0.00	0.00
10,800.0	90.00	269.96	6,865.0	-2,201.04	-1,008.0	-4,478.8	4,564.7	0.00	0.00	0.00
10,900.0	90.00	269.96	6,865.0	-2,201.04	-1,008.1	-4,578.8	4,664.1	0.00	0.00	0.00
11,000.0	90.00	269.96	6,865.0	-2,201.04	-1,008.2	-4,678.8	4,763.4	0.00	0.00	0.00
11,100.0	90.00	269.96	6,865.0	-2,201.04	-1,008.2	-4,778.8	4,862.8	0.00	0.00	0.00
11,200.0	90.00	269.96	6,865.0	-2,201.04	-1,008.3	-4,878.8	4,962.1	0.00	0.00	0.00
11,300.0	90.00	269.96	6,865.0	-2,201.04	-1,008.4	-4,978.8	5,061.5	0.00	0.00	0.00
11,400.0	90.00	269.96	6,865.0	-2,201.04	-1,008.5	-5,078.8	5,160.8	0.00	0.00	0.00
11,500.0	90.00	269.96	6,865.0	-2,201.04	-1,008.5	-5,178.8	5,260.2	0.00	0.00	0.00
11,600.0	90.00	269.96	6,865.0	-2,201.04	-1,008.6	-5,278.8	5,359.5	0.00	0.00	0.00
11,700.0	90.00	269.96	6,865.0	-2,201.04	-1,008.7	-5,378.8	5,458.9	0.00	0.00	0.00
11,800.0	90.00	269.96	6,865.0	-2,201.04	-1,008.8	-5,478.8	5,558.2	0.00	0.00	0.00
11,900.0	90.00	269.96	6,865.0	-2,201.04	-1,008.8	-5,578.8	5,657.6	0.00	0.00	0.00
12,000.0	90.00	269.96	6,865.0	-2,201.04	-1,008.9	-5,678.8	5,756.9	0.00	0.00	0.00
12,100.0	90.00	269.96	6,865.0	-2,201.04	-1,009.0	-5,778.8	5,856.3	0.00	0.00	0.00
12,200.0	90.00	269.96	6,865.0	-2,201.04	-1,009.1	-5,878.8	5,955.6	0.00	0.00	0.00
12,300.0	90.00	269.96	6,865.0	-2,201.04	-1,009.1	-5,978.8	6,055.0	0.00	0.00	0.00
12,400.0	90.00	269.96	6,865.0	-2,201.04	-1,009.2	-6,078.8	6,154.4	0.00	0.00	0.00
12,500.0	90.00	269.96	6,865.0	-2,201.03	-1,009.3	-6,178.8	6,253.7	0.00	0.00	0.00
12,600.0	90.00	269.96	6,865.0	-2,201.03	-1,009.4	-6,278.8	6,353.1	0.00	0.00	0.00
12,700.0	90.00	269.96	6,865.0	-2,201.03	-1,009.4	-6,378.8	6,452.4	0.00	0.00	0.00
12,800.0	90.00	269.96	6,865.0	-2,201.03	-1,009.5	-6,478.8	6,551.8	0.00	0.00	0.00
12,900.0	90.00	269.96	6,865.0	-2,201.03	-1,009.6	-6,578.8	6,651.1	0.00	0.00	0.00
13,000.0	90.00	269.96	6,865.0	-2,201.03	-1,009.6	-6,678.8	6,750.5	0.00	0.00	0.00
13,100.0	90.00	269.96	6,865.0	-2,201.03	-1,009.7	-6,778.8	6,849.8	0.00	0.00	0.00
13,200.0	90.00	269.96	6,865.0	-2,201.03	-1,009.8	-6,878.8	6,949.2	0.00	0.00	0.00
13,300.0	90.00	269.96	6,865.0	-2,201.03	-1,009.9	-6,978.8	7,048.5	0.00	0.00	0.00
13,400.0	90.00	269.96	6,865.0	-2,201.03	-1,009.9	-7,078.8	7,147.9	0.00	0.00	0.00
13,500.0	90.00	269.96	6,865.0	-2,201.03	-1,010.0	-7,178.8	7,247.2	0.00	0.00	0.00
13,600.0	90.00	269.96	6,865.0	-2,201.02	-1,010.1	-7,278.8	7,346.6	0.00	0.00	0.00
13,700.0	90.00	269.96	6,865.0	-2,201.02	-1,010.2	-7,378.8	7,445.9	0.00	0.00	0.00
13,800.0	90.00	269.96	6,865.0	-2,201.02	-1,010.2	-7,478.8	7,545.3	0.00	0.00	0.00
13,900.0	90.00	269.96	6,865.0	-2,201.02	-1,010.3	-7,578.8	7,644.6	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 14
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 14	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)
14,000.0	90.00	269.96	6,865.0	-2,201.02	-1,010.4	-7,678.8	7,744.0	0.00	0.00	0.00
14,100.0	90.00	269.96	6,865.0	-2,201.02	-1,010.5	-7,778.8	7,843.3	0.00	0.00	0.00
14,200.0	90.00	269.96	6,865.0	-2,201.02	-1,010.5	-7,878.8	7,942.7	0.00	0.00	0.00
14,300.0	90.00	269.96	6,865.0	-2,201.01	-1,010.6	-7,978.8	8,042.0	0.00	0.00	0.00
14,400.0	90.00	269.96	6,865.0	-2,201.01	-1,010.7	-8,078.8	8,141.4	0.00	0.00	0.00
14,500.0	90.00	269.96	6,865.0	-2,201.01	-1,010.8	-8,178.8	8,240.7	0.00	0.00	0.00
14,600.0	90.00	269.96	6,865.0	-2,201.01	-1,010.8	-8,278.8	8,340.1	0.00	0.00	0.00
14,700.0	90.00	269.96	6,865.0	-2,201.01	-1,010.9	-8,378.8	8,439.4	0.00	0.00	0.00
14,800.0	90.00	269.96	6,865.0	-2,201.01	-1,011.0	-8,478.8	8,538.8	0.00	0.00	0.00
14,900.0	90.00	269.96	6,865.0	-2,201.00	-1,011.1	-8,578.8	8,638.1	0.00	0.00	0.00
15,000.0	90.00	269.96	6,865.0	-2,201.00	-1,011.1	-8,678.8	8,737.5	0.00	0.00	0.00
15,100.0	90.00	269.96	6,865.0	-2,201.00	-1,011.2	-8,778.8	8,836.8	0.00	0.00	0.00
BHL - VETTING 14										
15,100.4	90.00	269.96	6,865.0	-2,201.00	-1,011.2	-8,779.2	8,837.2	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,647.4	3,583.0	PARKMAN				
4,208.7	4,132.0	SUSSEX				
4,915.1	4,823.0	SHANNON				
6,859.9	6,703.0	SHARON SPRINGS				
6,889.4	6,723.0	NIOBRARA				
7,301.6	6,865.0	NIO B TARGET				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.0	300.0	0.0	0.0	START NUDGE (2°/100ft BUR)
899.9	895.5	-58.0	-23.5	EOB TO 12° INC
5,514.6	5,409.4	-947.0	-383.9	END OF TANGENT
6,114.6	6,005.0	-1,005.1	-407.4	EOD TO VERTICAL
6,401.6	6,292.0	-1,005.1	-407.4	KOP (10°/100ft BUR)
7,301.6	6,865.0	-1,005.5	-980.4	LANDING PNT - VETTING 14
15,100.4	6,865.0	-1,011.2	-8,779.2	BHL - VETTING 14