

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

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

VETTING 13

ORIGINAL WELLBORE

16 June, 2016

Plan: PROPOSAL #4





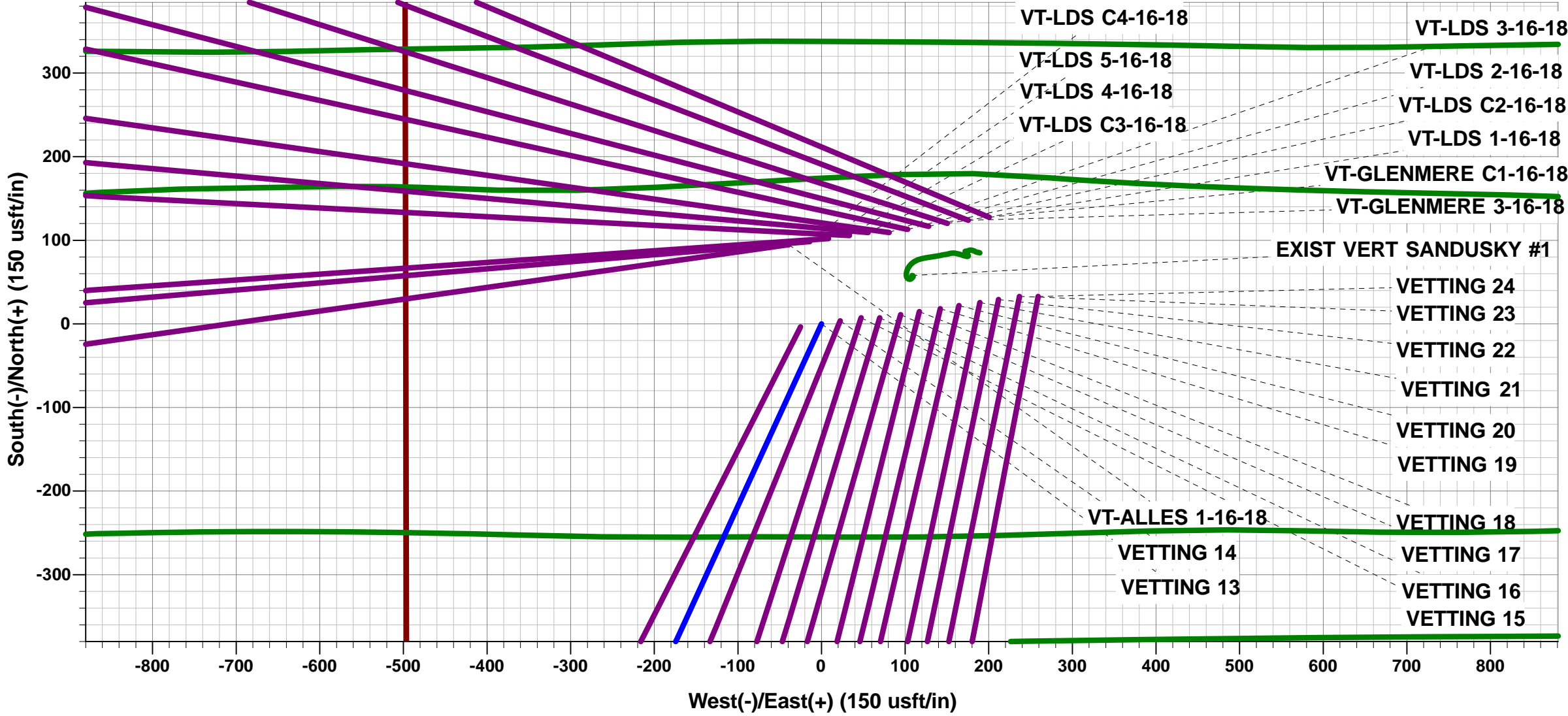
Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NW SEC. 15 T5N R65W 6th P.M.
Well: VETTING 13
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #4

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
200.0	200.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
795.5	799.9	12.00	204.64	-56.9	-26.1	31.4	62.6	EOB TO 12° INC
4521.4	4609.0	12.00	204.64	-776.7	-356.2	429.1	854.5	END OF TANGENT
5117.0	5209.0	0.00	0.00	-833.6	-382.3	460.5	917.1	EOD TO VERTICAL
6677.0	6769.0	0.00	0.00	-833.6	-382.3	460.5	917.1	KOP (10°/100ft BUR)
7105.0	7252.3	48.33	269.93	-833.8	-574.4	651.7	1109.2	GREENHORN TOP
7250.0	7669.1	90.00	269.93	-834.2	-955.4	1031.0	1490.1	LANDING PNT - VETTING 13 (P4)
7250.0	15470.6	90.00	269.93	-843.6	-8756.9	8797.4	9291.6	BHL - VETTING 13 (P4)

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - VETTING 13 (P4)	6677.0	-833.6	-382.3	40.398702	-104.658463
LANDING PNT - VETTING 13 (P4)	7250.0	-834.2	-955.3	40.398700	-104.660520
BHL - VETTING 13 (P4)	7250.0	-843.6	-8756.9	40.398670	-104.688530

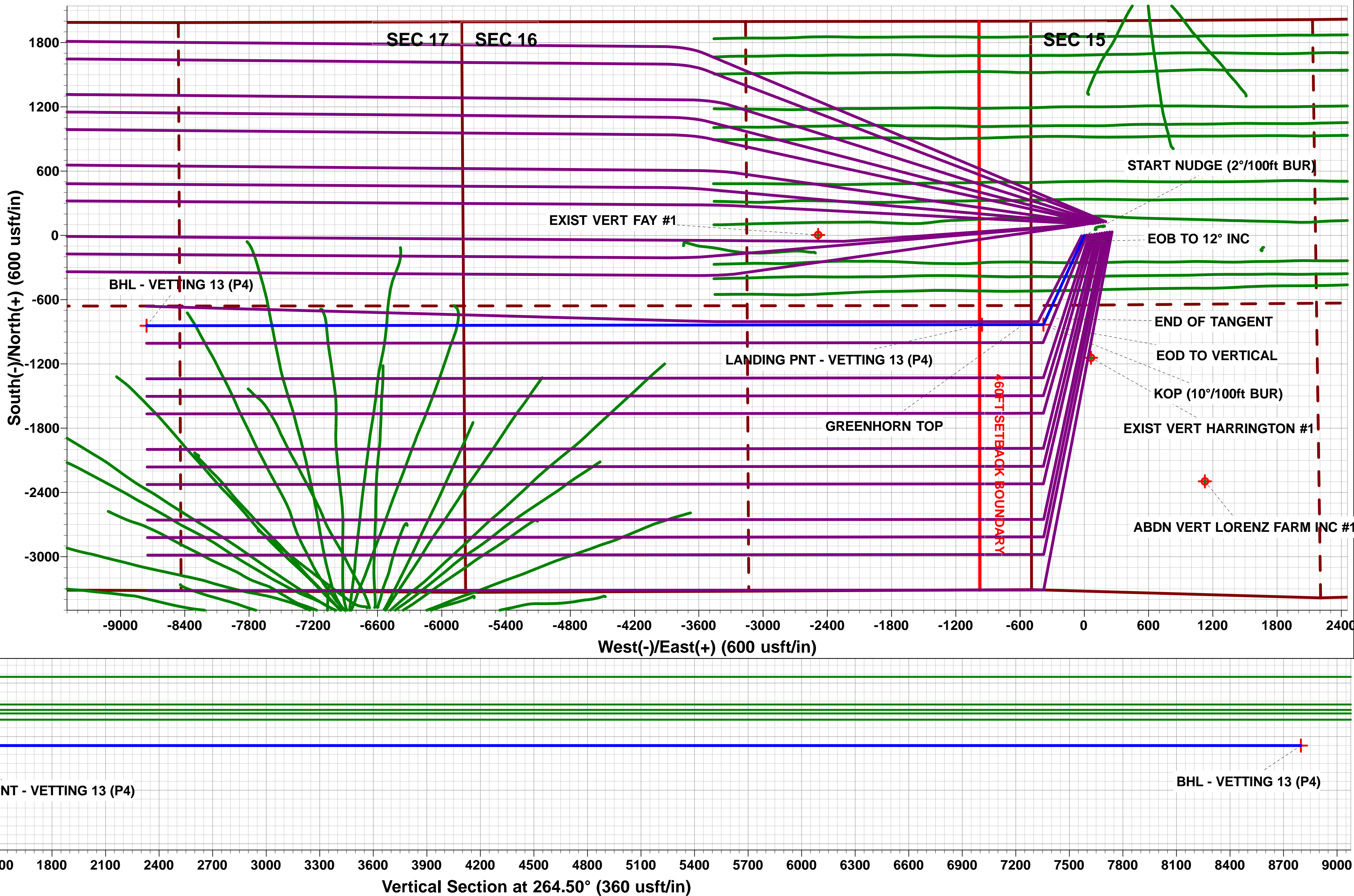
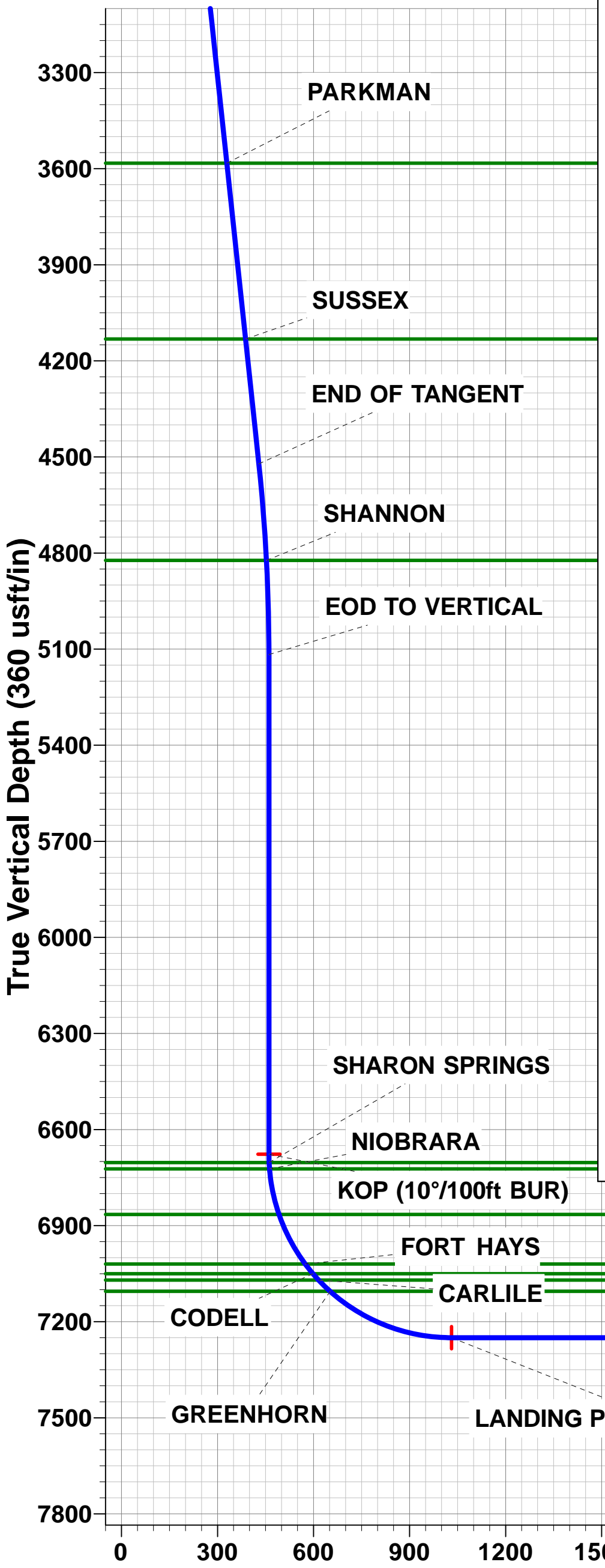
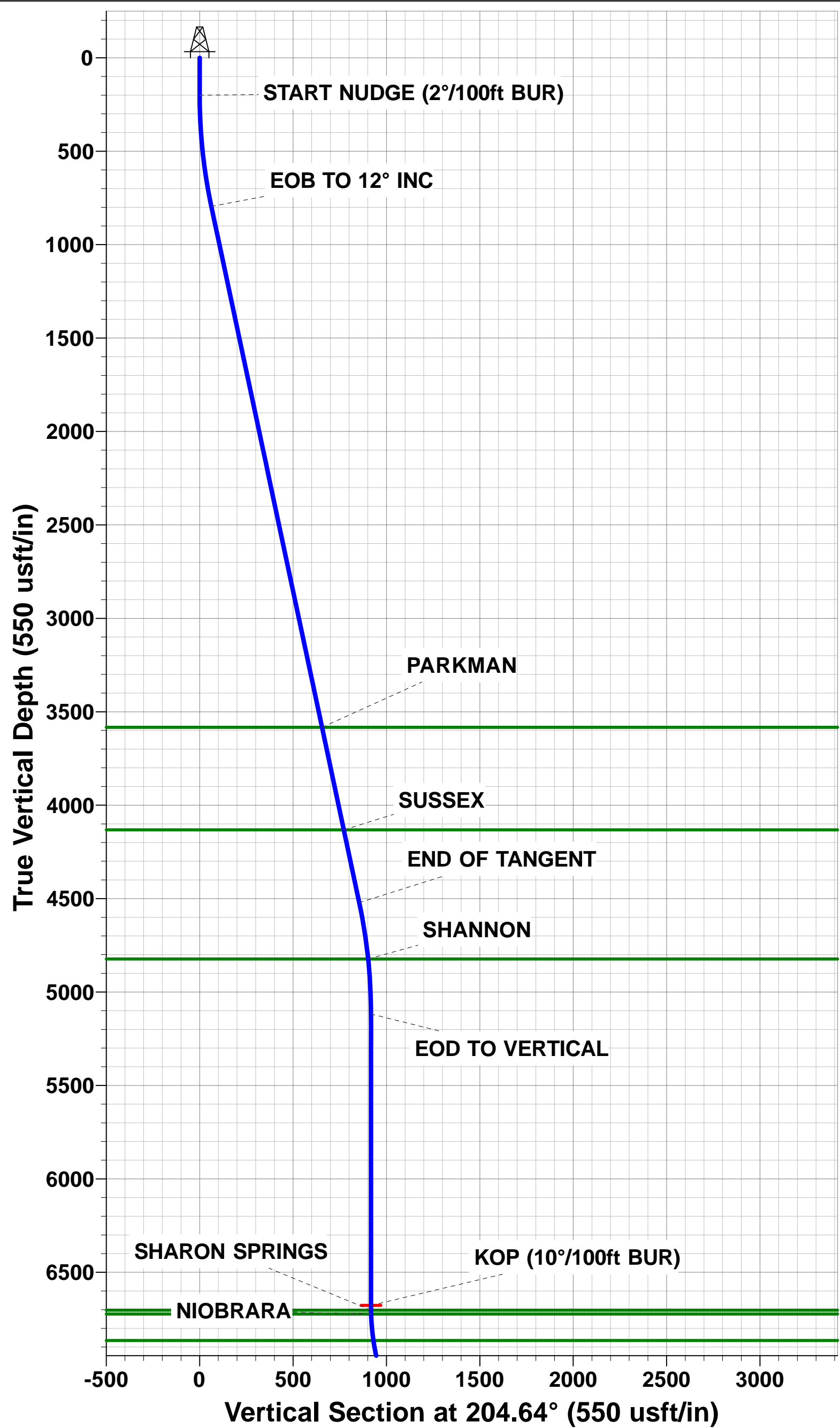


FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3583.0	3649.6	PARKMAN
4132.0	4210.9	SUSSEX
4823.0	4914.5	SHANNON
6703.0	6795.0	SHARON SPRINGS
6723.0	6815.0	NIOBRARA
6865.0	6960.5	NIO B TARGET
7020.0	7136.7	FORT HAYS
7050.0	7175.1	CODELL
7070.0	7202.0	CARLILE
7105.0	7252.3	GREENHORN

PROPOSED LOCAL COORDINATES

SHL: 2003ft FNL & 496ft FWL of Sec 15
LP: 2475ft FSL & 460ft FEL of Sec 16
BHL: 2475ft FNL & 2338ft FWL of Sec 17



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 13
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 13	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	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 13		
Well Position	+N/-S	3.6 usft	Northing:
	+E/-W	25.1 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40.400990
		Longitude:	-104.657090
		Ground Level:	4,648.0 usft

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 #4			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	7,250.0	0.0	0.0	264.50

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	-4,664.0	0.0	0.0	0.00	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	-4,464.0	0.0	0.0	0.00	0.00	0.00	0.00	
799.9	12.00	204.64	795.6	-3,868.4	-56.9	-26.1	2.00	2.00	0.00	204.64	
4,609.0	12.00	204.64	4,521.4	-142.6	-776.7	-356.2	0.00	0.00	0.00	0.00	
5,209.0	0.00	0.00	5,117.0	453.0	-833.6	-382.3	2.00	-2.00	0.00	180.00	
6,769.0	0.00	0.00	6,677.0	2,013.0	-833.6	-382.3	0.00	0.00	0.00	0.00	KOP - VETTING 13
7,669.1	90.00	269.93	7,250.0	2,586.0	-834.2	-955.3	10.00	10.00	-10.01	269.93	LANDING PNT - VE
15,470.6	90.00	269.93	7,250.0	2,586.0	-843.6	-8,756.9	0.00	0.00	0.00	-178.04	BHL - VETTING 13

Planning Report



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Site:	SW NW SEC. 15 T5N R65W 6th P.M.	North Reference:	True
Well:	VETTING 13	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)
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
START NUDGE (2°/100ft BUR)										
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	2.00	204.64	300.0	4,364.02	-1.6	-0.7	0.9	2.00	2.00	0.00
400.0	4.00	204.64	399.8	4,264.16	-6.3	-2.9	3.5	2.00	2.00	0.00
500.0	6.00	204.64	499.5	4,164.55	-14.3	-6.5	7.9	2.00	2.00	0.00
600.0	8.00	204.64	598.7	4,065.30	-25.3	-11.6	14.0	2.00	2.00	0.00
700.0	10.00	204.64	697.5	3,966.53	-39.6	-18.1	21.9	2.00	2.00	0.00
EOB TO 12° INC										
799.9	12.00	204.64	795.5	3,868.47	-56.9	-26.1	31.4	2.00	2.00	0.00
800.0	12.00	204.64	795.6	3,868.38	-56.9	-26.1	31.4	0.73	0.73	0.00
900.0	12.00	204.64	893.4	3,770.56	-75.8	-34.8	41.9	0.00	0.00	0.00
1,000.0	12.00	204.64	991.3	3,672.75	-94.7	-43.4	52.3	0.00	0.00	0.00
1,100.0	12.00	204.64	1,089.1	3,574.93	-113.6	-52.1	62.8	0.00	0.00	0.00
1,200.0	12.00	204.64	1,186.9	3,477.12	-132.5	-60.8	73.2	0.00	0.00	0.00
1,300.0	12.00	204.64	1,284.7	3,379.30	-151.4	-69.4	83.6	0.00	0.00	0.00
1,400.0	12.00	204.64	1,382.5	3,281.49	-170.3	-78.1	94.1	0.00	0.00	0.00
1,500.0	12.00	204.64	1,480.3	3,183.67	-189.2	-86.8	104.5	0.00	0.00	0.00
1,600.0	12.00	204.64	1,578.1	3,085.86	-208.1	-95.4	114.9	0.00	0.00	0.00
1,700.0	12.00	204.64	1,676.0	2,988.04	-227.0	-104.1	125.4	0.00	0.00	0.00
1,800.0	12.00	204.64	1,773.8	2,890.22	-245.9	-112.8	135.8	0.00	0.00	0.00
1,900.0	12.00	204.64	1,871.6	2,792.41	-264.8	-121.4	146.3	0.00	0.00	0.00
2,000.0	12.00	204.64	1,969.4	2,694.59	-283.7	-130.1	156.7	0.00	0.00	0.00
2,100.0	12.00	204.64	2,067.2	2,596.78	-302.6	-138.8	167.1	0.00	0.00	0.00
2,200.0	12.00	204.64	2,165.0	2,498.96	-321.4	-147.4	177.6	0.00	0.00	0.00
2,300.0	12.00	204.64	2,262.9	2,401.15	-340.3	-156.1	188.0	0.00	0.00	0.00
2,400.0	12.00	204.64	2,360.7	2,303.33	-359.2	-164.8	198.5	0.00	0.00	0.00
2,500.0	12.00	204.64	2,458.5	2,205.52	-378.1	-173.4	208.9	0.00	0.00	0.00
2,600.0	12.00	204.64	2,556.3	2,107.70	-397.0	-182.1	219.3	0.00	0.00	0.00
2,700.0	12.00	204.64	2,654.1	2,009.89	-415.9	-190.8	229.8	0.00	0.00	0.00
2,800.0	12.00	204.64	2,751.9	1,912.07	-434.8	-199.4	240.2	0.00	0.00	0.00
2,900.0	12.00	204.64	2,849.7	1,814.26	-453.7	-208.1	250.7	0.00	0.00	0.00
3,000.0	12.00	204.64	2,947.6	1,716.44	-472.6	-216.8	261.1	0.00	0.00	0.00
3,100.0	12.00	204.64	3,045.4	1,618.63	-491.5	-225.4	271.5	0.00	0.00	0.00
3,200.0	12.00	204.64	3,143.2	1,520.81	-510.4	-234.1	282.0	0.00	0.00	0.00
3,300.0	12.00	204.64	3,241.0	1,423.00	-529.3	-242.8	292.4	0.00	0.00	0.00
3,400.0	12.00	204.64	3,338.8	1,325.18	-548.2	-251.4	302.9	0.00	0.00	0.00
3,500.0	12.00	204.64	3,436.6	1,227.37	-567.1	-260.1	313.3	0.00	0.00	0.00
3,600.0	12.00	204.64	3,534.4	1,129.55	-586.0	-268.8	323.7	0.00	0.00	0.00
PARKMAN										
3,649.6	12.00	204.64	3,583.0	1,081.00	-595.4	-273.1	328.9	0.00	0.00	0.00
3,700.0	12.00	204.64	3,632.3	1,031.74	-604.9	-277.4	334.2	0.00	0.00	0.00
3,800.0	12.00	204.64	3,730.1	933.92	-623.8	-286.1	344.6	0.00	0.00	0.00
3,900.0	12.00	204.64	3,827.9	836.11	-642.7	-294.8	355.0	0.00	0.00	0.00
4,000.0	12.00	204.64	3,925.7	738.29	-661.6	-303.4	365.5	0.00	0.00	0.00
4,100.0	12.00	204.64	4,023.5	640.47	-680.5	-312.1	375.9	0.00	0.00	0.00
4,200.0	12.00	204.64	4,121.3	542.66	-699.4	-320.8	386.4	0.00	0.00	0.00
SUSSEX										
4,210.9	12.00	204.64	4,132.0	532.00	-701.4	-321.7	387.5	0.00	0.00	0.00
4,300.0	12.00	204.64	4,219.2	444.84	-718.3	-329.4	396.8	0.00	0.00	0.00
4,400.0	12.00	204.64	4,317.0	347.03	-737.2	-338.1	407.2	0.00	0.00	0.00
4,500.0	12.00	204.64	4,414.8	249.21	-756.1	-346.8	417.7	0.00	0.00	0.00
4,600.0	12.00	204.64	4,512.6	151.40	-775.0	-355.4	428.1	0.00	0.00	0.00

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Well:	VETTING 13	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)
END OF TANGENT										
4,609.0	12.00	204.64	4,521.4	142.60	-776.7	-356.2	429.1	0.00	0.00	0.00
4,700.0	10.18	204.64	4,610.7	53.30	-792.6	-363.5	437.8	2.00	-2.00	0.00
4,800.0	8.18	204.64	4,709.4	-45.42	-807.1	-370.2	445.9	2.00	-2.00	0.00
4,900.0	6.18	204.64	4,808.6	-144.63	-818.4	-375.4	452.1	2.00	-2.00	0.00
SHANNON										
4,914.5	5.89	204.64	4,823.0	-159.00	-819.8	-376.0	452.9	2.00	-2.00	0.00
5,000.0	4.18	204.64	4,908.2	-244.21	-826.6	-379.1	456.7	2.00	-2.00	0.00
5,100.0	2.18	204.64	5,008.1	-344.05	-831.7	-381.5	459.5	2.00	-2.00	0.00
5,200.0	0.18	204.64	5,108.0	-444.03	-833.5	-382.3	460.5	2.00	-2.00	0.00
EOD TO VERTICAL										
5,209.0	0.00	0.00	5,117.0	-453.03	-833.6	-382.3	460.5	1.99	-1.99	0.00
5,300.0	0.00	0.00	5,208.0	-544.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,400.0	0.00	0.00	5,308.0	-644.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,500.0	0.00	0.00	5,408.0	-744.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,600.0	0.00	0.00	5,508.0	-844.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,700.0	0.00	0.00	5,608.0	-944.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,708.0	-1,044.03	-833.6	-382.3	460.5	0.00	0.00	0.00
5,900.0	0.00	0.00	5,808.0	-1,144.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,908.0	-1,244.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,100.0	0.00	0.00	6,008.0	-1,344.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,108.0	-1,444.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,300.0	0.00	0.00	6,208.0	-1,544.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,308.0	-1,644.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,500.0	0.00	0.00	6,408.0	-1,744.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,508.0	-1,844.03	-833.6	-382.3	460.5	0.00	0.00	0.00
6,700.0	0.00	0.00	6,608.0	-1,944.03	-833.6	-382.3	460.5	0.00	0.00	0.00
KOP (10°/100ft BUR)										
6,769.0	0.00	0.00	6,677.0	-2,013.03	-833.6	-382.3	460.5	0.00	0.00	0.00
SHARON SPRINGS										
6,795.0	2.60	269.93	6,703.0	-2,039.00	-833.6	-382.9	461.1	10.01	10.01	0.00
6,800.0	3.10	269.93	6,708.0	-2,044.01	-833.6	-383.2	461.3	10.00	10.00	0.00
NIOBRARA										
6,815.0	4.60	269.93	6,723.0	-2,059.00	-833.6	-384.2	462.3	10.00	10.00	0.00
6,900.0	13.10	269.93	6,806.9	-2,142.89	-833.6	-397.2	475.3	10.00	10.00	0.00
NIO B TARGET										
6,960.5	19.15	269.93	6,865.0	-2,201.00	-833.6	-414.0	492.1	10.00	10.00	0.00
7,000.0	23.10	269.93	6,901.8	-2,237.82	-833.6	-428.3	506.2	10.00	10.00	0.00
7,100.0	33.10	269.93	6,989.9	-2,325.92	-833.7	-475.3	553.1	10.00	10.00	0.00
FORT HAYS										
7,136.7	36.77	269.93	7,020.0	-2,356.00	-833.7	-496.3	574.0	10.00	10.00	0.00
CODELL										
7,175.1	40.61	269.93	7,050.0	-2,386.00	-833.7	-520.3	597.9	10.00	10.00	0.00
7,200.0	43.10	269.93	7,068.5	-2,404.51	-833.7	-536.9	614.4	10.00	10.00	0.00
CARLILE										
7,202.0	43.30	269.93	7,070.0	-2,406.00	-833.7	-538.3	615.8	10.00	10.00	0.00
GREENHORN TOP - GREENHORN										
7,252.3	48.33	269.93	7,105.0	-2,441.00	-833.8	-574.3	651.6	10.00	10.00	0.00
7,300.0	53.10	269.93	7,135.2	-2,471.21	-833.8	-611.3	688.4	10.00	10.00	0.00
7,400.0	63.10	269.93	7,188.0	-2,523.99	-833.9	-696.1	772.8	10.00	10.00	0.00
7,500.0	73.10	269.93	7,225.2	-2,561.25	-834.0	-788.7	865.1	10.00	10.00	0.00
7,600.0	83.10	269.93	7,245.8	-2,581.85	-834.2	-886.4	962.4	10.00	10.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 13
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 13	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)
LANDING PNT - VETTING 13 (P4)										
7,669.1	90.00	269.93	7,250.0	-2,586.00	-834.2	-955.4	1,031.0	9.99	9.99	0.00
7,700.0	90.00	269.93	7,250.0	-2,586.00	-834.3	-986.3	1,061.7	0.00	0.00	0.00
7,800.0	90.00	269.93	7,250.0	-2,585.99	-834.4	-1,086.3	1,161.3	0.00	0.00	0.00
7,900.0	90.00	269.93	7,250.0	-2,585.99	-834.5	-1,186.3	1,260.8	0.00	0.00	0.00
8,000.0	90.00	269.93	7,250.0	-2,585.98	-834.6	-1,286.3	1,360.4	0.00	0.00	0.00
8,100.0	90.00	269.93	7,250.0	-2,585.98	-834.8	-1,386.3	1,459.9	0.00	0.00	0.00
8,200.0	90.00	269.93	7,250.0	-2,585.97	-834.9	-1,486.3	1,559.5	0.00	0.00	0.00
8,300.0	90.00	269.93	7,250.0	-2,585.97	-835.0	-1,586.3	1,659.0	0.00	0.00	0.00
8,400.0	90.00	269.93	7,250.0	-2,585.97	-835.1	-1,686.3	1,758.6	0.00	0.00	0.00
8,500.0	90.00	269.93	7,250.0	-2,585.96	-835.2	-1,786.3	1,858.1	0.00	0.00	0.00
8,600.0	90.00	269.93	7,250.0	-2,585.96	-835.4	-1,886.3	1,957.7	0.00	0.00	0.00
8,700.0	90.00	269.93	7,250.0	-2,585.95	-835.5	-1,986.3	2,057.2	0.00	0.00	0.00
8,800.0	90.00	269.93	7,250.0	-2,585.95	-835.6	-2,086.3	2,156.8	0.00	0.00	0.00
8,900.0	90.00	269.93	7,249.9	-2,585.95	-835.7	-2,186.3	2,256.3	0.00	0.00	0.00
9,000.0	90.00	269.93	7,249.9	-2,585.94	-835.8	-2,286.3	2,355.9	0.00	0.00	0.00
9,100.0	90.00	269.93	7,249.9	-2,585.94	-836.0	-2,386.3	2,455.4	0.00	0.00	0.00
9,200.0	90.00	269.93	7,249.9	-2,585.94	-836.1	-2,486.3	2,555.0	0.00	0.00	0.00
9,300.0	90.00	269.93	7,249.9	-2,585.93	-836.2	-2,586.3	2,654.5	0.00	0.00	0.00
9,400.0	90.00	269.93	7,249.9	-2,585.93	-836.3	-2,686.3	2,754.1	0.00	0.00	0.00
9,500.0	90.00	269.93	7,249.9	-2,585.93	-836.4	-2,786.3	2,853.6	0.00	0.00	0.00
9,600.0	90.00	269.93	7,249.9	-2,585.93	-836.6	-2,886.3	2,953.2	0.00	0.00	0.00
9,700.0	90.00	269.93	7,249.9	-2,585.92	-836.7	-2,986.3	3,052.8	0.00	0.00	0.00
9,800.0	90.00	269.93	7,249.9	-2,585.92	-836.8	-3,086.3	3,152.3	0.00	0.00	0.00
9,900.0	90.00	269.93	7,249.9	-2,585.92	-836.9	-3,186.3	3,251.9	0.00	0.00	0.00
10,000.0	90.00	269.93	7,249.9	-2,585.92	-837.1	-3,286.3	3,351.4	0.00	0.00	0.00
10,100.0	90.00	269.93	7,249.9	-2,585.91	-837.2	-3,386.3	3,451.0	0.00	0.00	0.00
10,200.0	90.00	269.93	7,249.9	-2,585.91	-837.3	-3,486.3	3,550.5	0.00	0.00	0.00
10,300.0	90.00	269.93	7,249.9	-2,585.91	-837.4	-3,586.3	3,650.1	0.00	0.00	0.00
10,400.0	90.00	269.93	7,249.9	-2,585.91	-837.5	-3,686.3	3,749.6	0.00	0.00	0.00
10,500.0	90.00	269.93	7,249.9	-2,585.91	-837.7	-3,786.3	3,849.2	0.00	0.00	0.00
10,600.0	90.00	269.93	7,249.9	-2,585.91	-837.8	-3,886.3	3,948.7	0.00	0.00	0.00
10,700.0	90.00	269.93	7,249.9	-2,585.91	-837.9	-3,986.3	4,048.3	0.00	0.00	0.00
10,800.0	90.00	269.93	7,249.9	-2,585.90	-838.0	-4,086.3	4,147.8	0.00	0.00	0.00
10,900.0	90.00	269.93	7,249.9	-2,585.90	-838.1	-4,186.3	4,247.4	0.00	0.00	0.00
11,000.0	90.00	269.93	7,249.9	-2,585.90	-838.3	-4,286.3	4,346.9	0.00	0.00	0.00
11,100.0	90.00	269.93	7,249.9	-2,585.90	-838.4	-4,386.3	4,446.5	0.00	0.00	0.00
11,200.0	90.00	269.93	7,249.9	-2,585.90	-838.5	-4,486.3	4,546.0	0.00	0.00	0.00
11,300.0	90.00	269.93	7,249.9	-2,585.90	-838.6	-4,586.3	4,645.6	0.00	0.00	0.00
11,400.0	90.00	269.93	7,249.9	-2,585.90	-838.7	-4,686.3	4,745.1	0.00	0.00	0.00
11,500.0	90.00	269.93	7,249.9	-2,585.90	-838.9	-4,786.3	4,844.7	0.00	0.00	0.00
11,600.0	90.00	269.93	7,249.9	-2,585.90	-839.0	-4,886.3	4,944.2	0.00	0.00	0.00
11,700.0	90.00	269.93	7,249.9	-2,585.90	-839.1	-4,986.3	5,043.8	0.00	0.00	0.00
11,800.0	90.00	269.93	7,249.9	-2,585.90	-839.2	-5,086.3	5,143.3	0.00	0.00	0.00
11,900.0	90.00	269.93	7,249.9	-2,585.90	-839.3	-5,186.3	5,242.9	0.00	0.00	0.00
12,000.0	90.00	269.93	7,249.9	-2,585.90	-839.5	-5,286.3	5,342.4	0.00	0.00	0.00
12,100.0	90.00	269.93	7,249.9	-2,585.90	-839.6	-5,386.3	5,442.0	0.00	0.00	0.00
12,200.0	90.00	269.93	7,249.9	-2,585.90	-839.7	-5,486.3	5,541.5	0.00	0.00	0.00
12,300.0	90.00	269.93	7,249.9	-2,585.90	-839.8	-5,586.3	5,641.1	0.00	0.00	0.00
12,400.0	90.00	269.93	7,249.9	-2,585.90	-839.9	-5,686.3	5,740.6	0.00	0.00	0.00
12,500.0	90.00	269.93	7,249.9	-2,585.91	-840.1	-5,786.3	5,840.2	0.00	0.00	0.00
12,600.0	90.00	269.93	7,249.9	-2,585.91	-840.2	-5,886.3	5,939.7	0.00	0.00	0.00
12,700.0	90.00	269.93	7,249.9	-2,585.91	-840.3	-5,986.3	6,039.3	0.00	0.00	0.00
12,800.0	90.00	269.93	7,249.9	-2,585.91	-840.4	-6,086.3	6,138.8	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 13
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 13	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)
12,900.0	90.00	269.93	7,249.9	-2,585.91	-840.5	-6,186.3	6,238.4	0.00	0.00	0.00
13,000.0	90.00	269.93	7,249.9	-2,585.91	-840.7	-6,286.3	6,337.9	0.00	0.00	0.00
13,100.0	90.00	269.93	7,249.9	-2,585.92	-840.8	-6,386.3	6,437.5	0.00	0.00	0.00
13,200.0	90.00	269.93	7,249.9	-2,585.92	-840.9	-6,486.3	6,537.0	0.00	0.00	0.00
13,300.0	90.00	269.93	7,249.9	-2,585.92	-841.0	-6,586.3	6,636.6	0.00	0.00	0.00
13,400.0	90.00	269.93	7,249.9	-2,585.92	-841.1	-6,686.3	6,736.1	0.00	0.00	0.00
13,500.0	90.00	269.93	7,249.9	-2,585.92	-841.3	-6,786.3	6,835.7	0.00	0.00	0.00
13,600.0	90.00	269.93	7,249.9	-2,585.93	-841.4	-6,886.3	6,935.2	0.00	0.00	0.00
13,700.0	90.00	269.93	7,249.9	-2,585.93	-841.5	-6,986.3	7,034.8	0.00	0.00	0.00
13,800.0	90.00	269.93	7,249.9	-2,585.93	-841.6	-7,086.3	7,134.3	0.00	0.00	0.00
13,900.0	90.00	269.93	7,249.9	-2,585.94	-841.7	-7,186.3	7,233.9	0.00	0.00	0.00
14,000.0	90.00	269.93	7,249.9	-2,585.94	-841.9	-7,286.3	7,333.4	0.00	0.00	0.00
14,100.0	90.00	269.93	7,249.9	-2,585.94	-842.0	-7,386.3	7,433.0	0.00	0.00	0.00
14,200.0	90.00	269.93	7,249.9	-2,585.95	-842.1	-7,486.3	7,532.5	0.00	0.00	0.00
14,300.0	90.00	269.93	7,249.9	-2,585.95	-842.2	-7,586.3	7,632.1	0.00	0.00	0.00
14,400.0	90.00	269.93	7,250.0	-2,585.95	-842.4	-7,686.3	7,731.6	0.00	0.00	0.00
14,500.0	90.00	269.93	7,250.0	-2,585.96	-842.5	-7,786.3	7,831.2	0.00	0.00	0.00
14,600.0	90.00	269.93	7,250.0	-2,585.96	-842.6	-7,886.3	7,930.7	0.00	0.00	0.00
14,700.0	90.00	269.93	7,250.0	-2,585.96	-842.7	-7,986.3	8,030.3	0.00	0.00	0.00
14,800.0	90.00	269.93	7,250.0	-2,585.97	-842.8	-8,086.3	8,129.8	0.00	0.00	0.00
14,900.0	90.00	269.93	7,250.0	-2,585.97	-843.0	-8,186.3	8,229.4	0.00	0.00	0.00
15,000.0	90.00	269.93	7,250.0	-2,585.98	-843.1	-8,286.3	8,328.9	0.00	0.00	0.00
15,100.0	90.00	269.93	7,250.0	-2,585.98	-843.2	-8,386.3	8,428.5	0.00	0.00	0.00
15,200.0	90.00	269.93	7,250.0	-2,585.99	-843.3	-8,486.3	8,528.0	0.00	0.00	0.00
15,300.0	90.00	269.93	7,250.0	-2,585.99	-843.4	-8,586.3	8,627.6	0.00	0.00	0.00
15,400.0	90.00	269.93	7,250.0	-2,586.00	-843.6	-8,686.3	8,727.1	0.00	0.00	0.00
BHL - VETTING 13 (P4)										
15,470.6	90.00	269.93	7,250.0	-2,586.00	-843.6	-8,756.9	8,797.4	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,649.6	3,583.0	PARKMAN			
4,210.9	4,132.0	SUSSEX			
4,914.5	4,823.0	SHANNON			
6,795.0	6,703.0	SHARON SPRINGS			
6,815.0	6,723.0	NIOBRARA			
6,960.5	6,865.0	NIO B TARGET			
7,136.7	7,020.0	FORT HAYS			
7,175.1	7,050.0	CODELL			
7,202.0	7,070.0	CARLILE		0.00	
7,252.3	7,105.0	GREENHORN		0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well VETTING 13
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 13	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #4		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.0	200.0	0.0	0.0	START NUDGE (2°/100ft BUR)
799.9	795.5	-56.9	-26.1	EOB TO 12° INC
4,609.0	4,521.4	-776.7	-356.2	END OF TANGENT
5,209.0	5,117.0	-833.6	-382.3	EOD TO VERTICAL
6,769.0	6,677.0	-833.6	-382.3	KOP (10°/100ft BUR)
7,252.3	7,105.0	-833.8	-574.4	GREENHORN TOP
7,669.1	7,250.0	-834.2	-955.4	LANDING PNT - VETTING 13 (P4)
15,470.6	7,250.0	-843.6	-8,756.9	BHL - VETTING 13 (P4)