

PDC ENERGY

**WELD COUNTY, COLORADO
SE SW SEC. 29 T5N R63W 6th P.M.
R&R FARMS 29Q-241RD**

ORIGINAL WELLBORE

02 October, 2015

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO
Site: SE SW SEC. 29 T5N R63W 6th P.M.
Well: R&R FARMS 29Q-241RD
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS

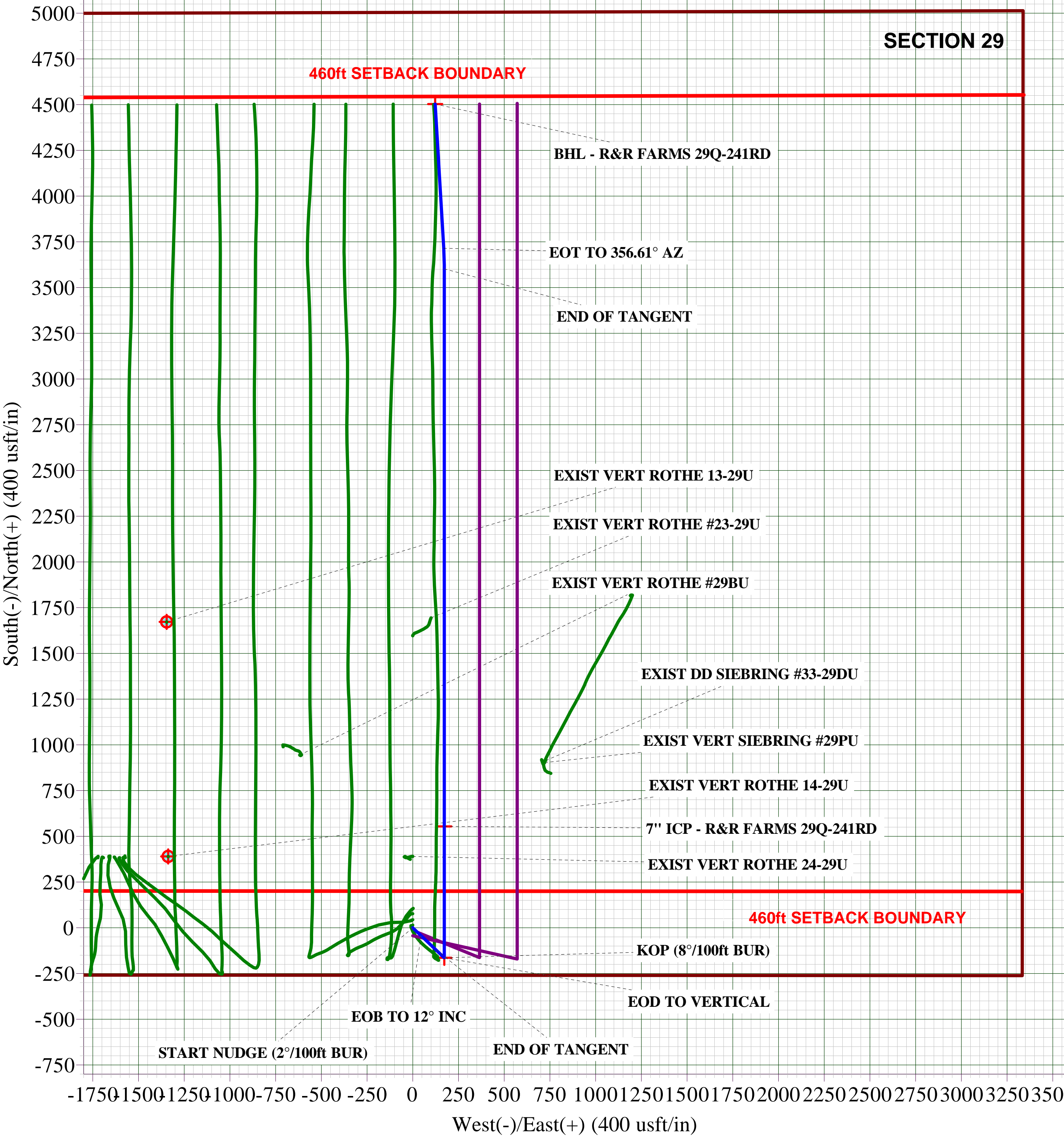
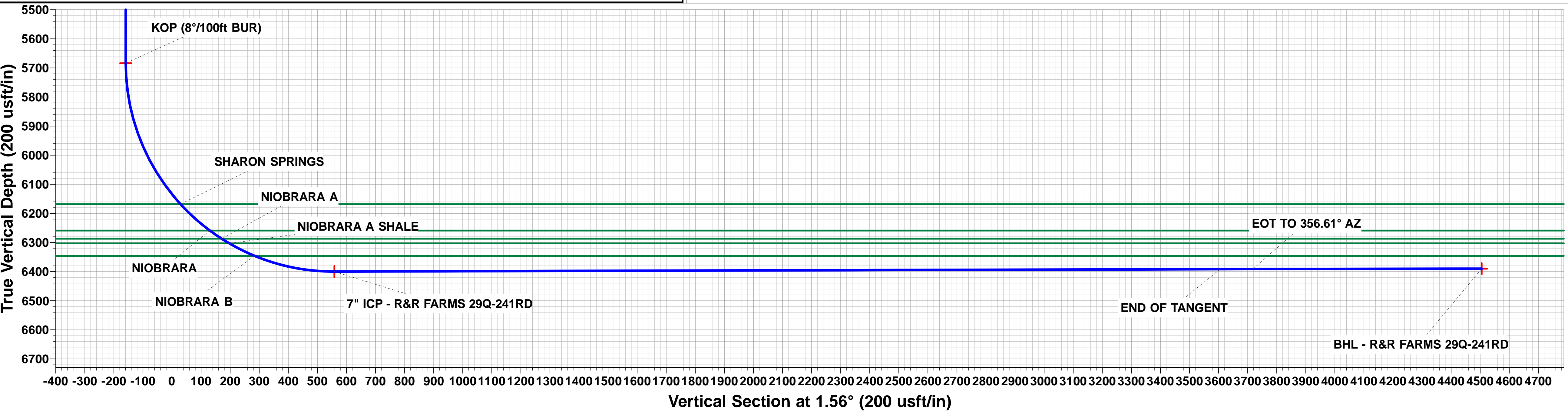
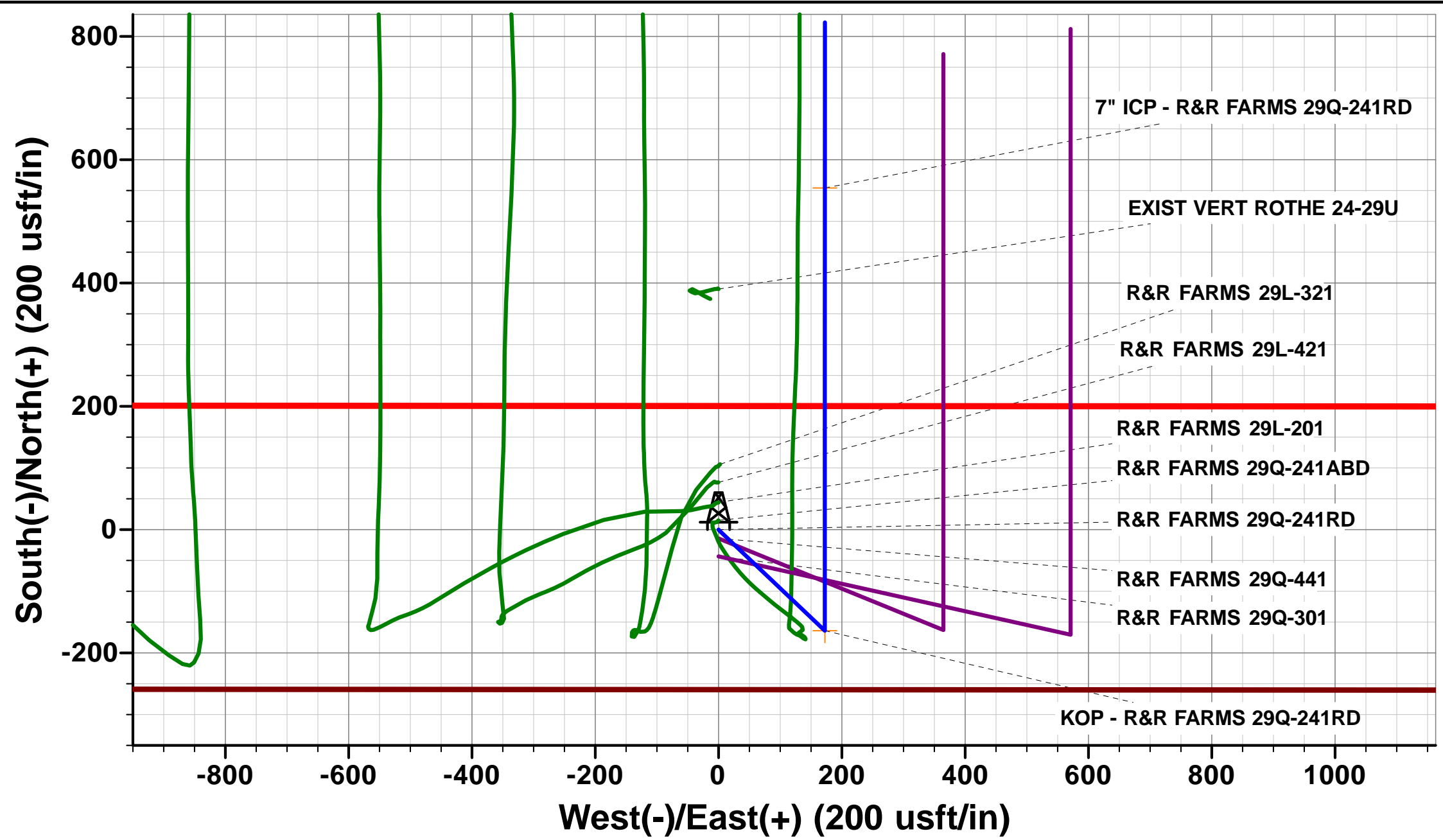
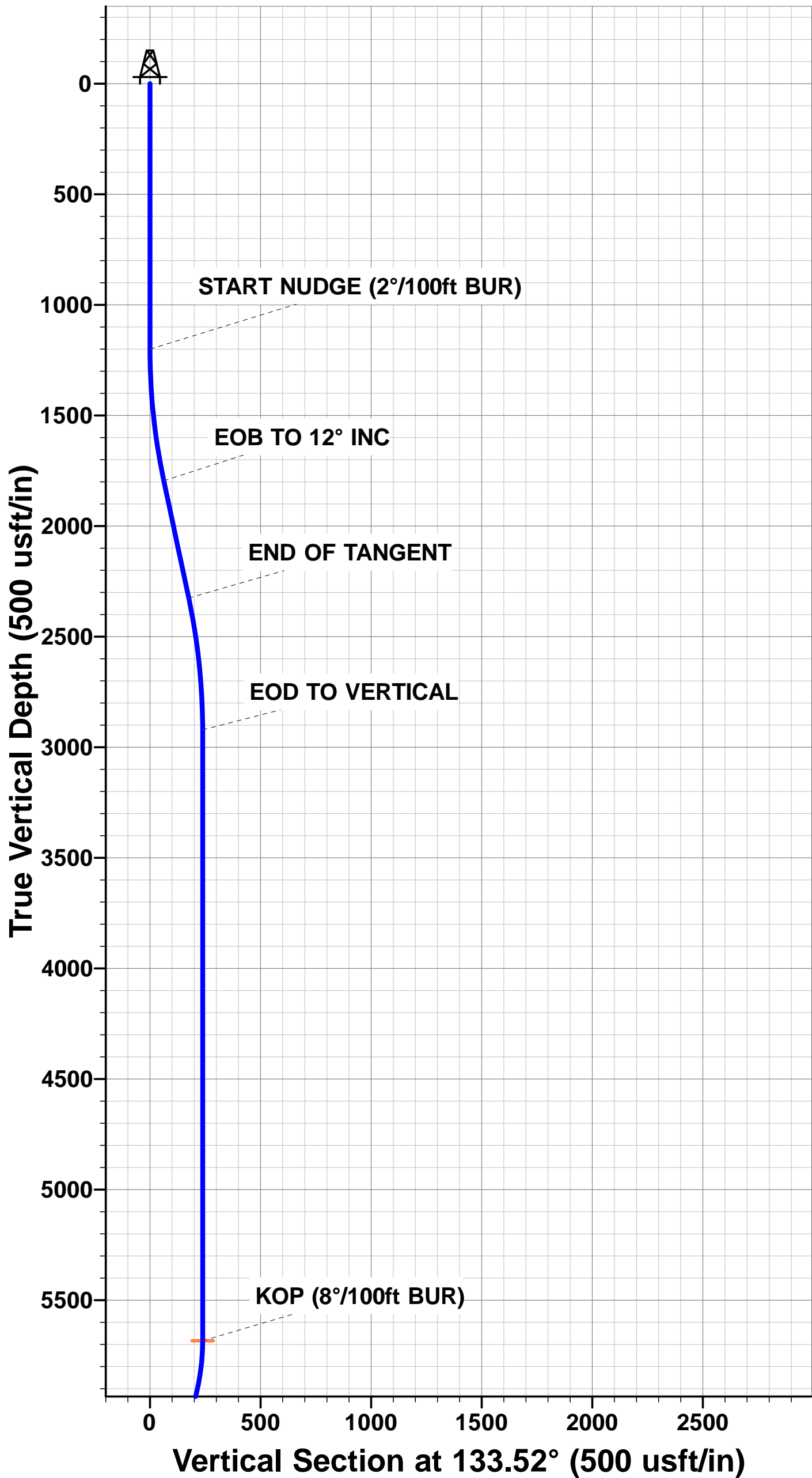
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation
1200.0	1200.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1795.8	1800.2	12.00	133.52	-43.1	45.4	-41.9	62.6	EOB TO 12° INC
2326.0	2342.2	12.00	133.52	-120.8	127.2	-117.3	175.4	END OF TANGENT
2921.8	2942.4	0.00	0.00	-163.9	172.6	-159.1	238.0	EOD TO VERTICAL
5683.8	5704.4	0.00	0.00	-163.9	172.6	-159.1	238.0	KOP (8°/100ft BUR)
6400.0	6831.4	90.15	0.00	554.2	172.6	558.7	956.2	7" ICP - R&R FARMS 29Q-241RD
6391.8	9879.4	90.15	0.00	3602.2	172.6	3605.6	4004.1	END OF TANGENT
6391.5	9992.4	90.11	356.61	3715.2	169.3	3718.4	4117.2	EOT TO 356.61° AZ
6390.0	10781.9	90.11	356.61	4503.3	122.6	4505.0	4906.7	BHL - R&R FARMS 29Q-241RD

PROPOSED LOCAL COORDINATES:

SHL: 260ft FSL & 2004t FWL Sec 29
7" ICP: 816ft FSL & 2174.2ft FWL Sec 29
BHL: 500ft FNL & 2161ft FWL Sec 29

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - R&R FARMS 29Q-241RD	5683.8	-163.9	172.6	40.363539	-104.461801
7" ICP - R&R FARMS 29Q-241RD	6400.0	554.2	172.6	40.365510	-104.461801
BHL - R&R FARMS 29Q-241RD	6390.0	4503.3	122.6	40.376350	-104.461980



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well R&R FARMS 29Q-241RD
Company:	PDC ENERGY	TVD Reference:	KB @ 4586.0usft (ENS 135)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4586.0usft (ENS 135)
Site:	SE SW SEC. 29 T5N R63W 6th P.M.	North Reference:	True
Well:	R&R FARMS 29Q-241RD	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	WELD COUNTY, COLORADO		
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	SE SW SEC. 29 T5N R63W 6th P.M.		
Site Position:		Northing:	1,377,177.35 usft
From:	Lat/Long	Easting:	3,289,123.16 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.364110
		Longitude:	-104.462420
		Grid Convergence:	0.67 °

Well	R&R FARMS 29Q-241RD		
Well Position	+N/-S	-44.2 usft	Northing:
	+E/-W	0.0 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	02/10/2015	8.23	66.92	52,602

Design	PROPOSAL #1			
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	1.56

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	-4,586.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	-3,386.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,800.2	12.00	133.52	1,795.8	-2,790.2	-43.1	45.4	2.00	2.00	0.00	133.52	
2,342.2	12.00	133.52	2,326.0	-2,260.0	-120.8	127.2	0.00	0.00	0.00	0.00	
2,942.4	0.00	0.00	2,921.8	-1,664.2	-163.9	172.6	2.00	-2.00	0.00	180.00	
5,704.4	0.00	0.00	5,683.8	1,097.8	-163.9	172.6	0.00	0.00	0.00	0.00	KOP - R&R FARMS
6,831.4	90.15	0.00	6,400.0	1,814.0	554.2	172.6	8.00	8.00	0.00	0.00	7" ICP - R&R FARM
9,879.4	90.15	0.00	6,391.8	1,805.8	3,602.2	172.6	0.00	0.00	0.00	0.00	
9,992.4	90.11	356.61	6,391.5	1,805.5	3,715.2	169.3	3.00	-0.04	-3.00	269.20	
10,781.9	90.11	356.61	6,390.0	1,804.0	4,503.3	122.6	0.00	0.00	0.00	23.37	BHL - R&R FARMS

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well R&R FARMS 29Q-241RD
Company:	PDC ENERGY	TVD Reference:	KB @ 4586.0usft (ENS 135)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4586.0usft (ENS 135)
Site:	SE SW SEC. 29 T5N R63W 6th P.M.	North Reference:	True
Well:	R&R FARMS 29Q-241RD	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	4,586.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,486.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,386.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,286.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,186.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,086.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	3,986.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	3,886.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,786.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,686.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,586.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,486.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,200.0	0.00	0.00	1,200.0	3,386.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	2.00	133.52	1,300.0	3,286.02	-1.2	1.3	-1.2	2.00	2.00	0.00
1,400.0	4.00	133.52	1,399.8	3,186.16	-4.8	5.1	-4.7	2.00	2.00	0.00
1,500.0	6.00	133.52	1,499.5	3,086.55	-10.8	11.4	-10.5	2.00	2.00	0.00
1,600.0	8.00	133.52	1,598.7	2,987.30	-19.2	20.2	-18.6	2.00	2.00	0.00
1,700.0	10.00	133.52	1,697.5	2,888.53	-30.0	31.6	-29.1	2.00	2.00	0.00
1,800.0	12.00	133.52	1,795.6	2,790.38	-43.1	45.4	-41.9	2.00	2.00	0.00
EOB TO 12° INC										
1,800.2	12.00	133.52	1,795.8	2,790.16	-43.1	45.4	-41.9	2.00	2.00	0.00
1,900.0	12.00	133.52	1,893.4	2,692.56	-57.4	60.5	-55.8	0.00	0.00	0.00
2,000.0	12.00	133.52	1,991.2	2,594.75	-71.8	75.6	-69.7	0.00	0.00	0.00
2,100.0	12.00	133.52	2,089.1	2,496.94	-86.1	90.6	-83.6	0.00	0.00	0.00
2,200.0	12.00	133.52	2,186.9	2,399.12	-100.4	105.7	-97.5	0.00	0.00	0.00
2,300.0	12.00	133.52	2,284.7	2,301.31	-114.7	120.8	-111.4	0.00	0.00	0.00
END OF TANGENT										
2,342.2	12.00	133.52	2,326.0	2,260.04	-120.8	127.2	-117.3	0.00	0.00	0.00
2,400.0	10.85	133.52	2,382.6	2,203.38	-128.6	135.5	-124.9	2.00	-2.00	0.00
2,500.0	8.85	133.52	2,481.1	2,104.86	-140.4	147.9	-136.3	2.00	-2.00	0.00
2,600.0	6.85	133.52	2,580.2	2,005.80	-149.8	157.8	-145.5	2.00	-2.00	0.00
2,700.0	4.85	133.52	2,679.7	1,906.33	-156.8	165.2	-152.3	2.00	-2.00	0.00
2,800.0	2.85	133.52	2,779.4	1,806.56	-161.5	170.0	-156.8	2.00	-2.00	0.00
2,900.0	0.85	133.52	2,879.4	1,706.61	-163.7	172.4	-158.9	2.00	-2.00	0.00
EOD TO VERTICAL										
2,942.4	0.00	0.00	2,921.8	1,664.20	-163.9	172.6	-159.1	2.00	-2.00	0.00
3,000.0	0.00	0.00	2,979.4	1,606.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,100.0	0.00	0.00	3,079.4	1,506.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,200.0	0.00	0.00	3,179.4	1,406.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,300.0	0.00	0.00	3,279.4	1,306.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,400.0	0.00	0.00	3,379.4	1,206.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,500.0	0.00	0.00	3,479.4	1,106.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,600.0	0.00	0.00	3,579.4	1,006.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,700.0	0.00	0.00	3,679.4	906.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,800.0	0.00	0.00	3,779.4	806.62	-163.9	172.6	-159.1	0.00	0.00	0.00
3,900.0	0.00	0.00	3,879.4	706.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,000.0	0.00	0.00	3,979.4	606.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,100.0	0.00	0.00	4,079.4	506.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,200.0	0.00	0.00	4,179.4	406.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,300.0	0.00	0.00	4,279.4	306.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,400.0	0.00	0.00	4,379.4	206.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,500.0	0.00	0.00	4,479.4	106.62	-163.9	172.6	-159.1	0.00	0.00	0.00
4,600.0	0.00	0.00	4,579.4	6.62	-163.9	172.6	-159.1	0.00	0.00	0.00

Planning Report



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Well:	R&R FARMS 29Q-241RD	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	0.00	0.00	4,679.4	-93.38	-163.9	172.6	-159.1	0.00	0.00	0.00
4,800.0	0.00	0.00	4,779.4	-193.38	-163.9	172.6	-159.1	0.00	0.00	0.00
4,900.0	0.00	0.00	4,879.4	-293.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,000.0	0.00	0.00	4,979.4	-393.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,100.0	0.00	0.00	5,079.4	-493.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,200.0	0.00	0.00	5,179.4	-593.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,300.0	0.00	0.00	5,279.4	-693.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,400.0	0.00	0.00	5,379.4	-793.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,500.0	0.00	0.00	5,479.4	-893.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,600.0	0.00	0.00	5,579.4	-993.38	-163.9	172.6	-159.1	0.00	0.00	0.00
5,700.0	0.00	0.00	5,679.4	-1,093.38	-163.9	172.6	-159.1	0.00	0.00	0.00
KOP (8°/100ft BUR)										
5,704.4	0.00	0.00	5,683.8	-1,097.80	-163.9	172.6	-159.1	0.00	0.00	0.00
5,800.0	7.65	0.00	5,779.1	-1,193.10	-157.5	172.6	-152.8	8.00	8.00	0.00
5,900.0	15.65	0.00	5,877.0	-1,290.96	-137.4	172.6	-132.6	8.00	8.00	0.00
6,000.0	23.65	0.00	5,971.1	-1,385.06	-103.8	172.6	-99.0	8.00	8.00	0.00
6,100.0	31.65	0.00	6,059.6	-1,473.58	-57.4	172.6	-52.7	8.00	8.00	0.00
6,200.0	39.65	0.00	6,140.8	-1,554.77	0.8	172.6	5.5	8.00	8.00	0.00
SHARON SPRINGS										
6,236.1	42.54	0.00	6,168.0	-1,582.00	24.6	172.6	29.3	8.00	8.00	0.00
6,300.0	47.65	0.00	6,213.1	-1,627.07	69.8	172.6	74.5	8.00	8.00	0.00
NIOBRARA										
6,372.3	53.43	0.00	6,259.0	-1,673.00	125.6	172.6	130.2	8.00	8.00	0.00
6,400.0	55.65	0.00	6,275.1	-1,689.08	148.1	172.6	152.8	8.00	8.00	0.00
NIOBRARA A										
6,421.6	57.38	0.00	6,287.0	-1,701.00	166.2	172.6	170.8	8.00	8.00	0.00
NIOBRARA A SHALE										
6,452.3	59.83	0.00	6,303.0	-1,717.00	192.4	172.6	197.0	8.00	8.00	0.00
6,500.0	63.65	0.00	6,325.6	-1,739.57	234.4	172.6	239.0	8.00	8.00	0.00
NIOBRARA B										
6,549.5	67.61	0.00	6,346.0	-1,760.00	279.5	172.6	284.1	8.00	8.00	0.00
6,600.0	71.65	0.00	6,363.6	-1,777.57	326.8	172.6	331.4	8.00	8.00	0.00
6,700.0	79.65	0.00	6,388.3	-1,802.34	423.6	172.6	428.1	8.00	8.00	0.00
6,800.0	87.65	0.00	6,399.4	-1,813.40	522.9	172.6	527.4	8.00	8.00	0.00
7" ICP - R&R FARMS 29Q-241RD										
6,831.4	90.15	0.00	6,400.0	-1,814.00	554.2	172.6	558.7	8.00	8.00	0.00
6,900.0	90.15	0.00	6,399.8	-1,813.81	622.9	172.6	627.3	0.00	0.00	0.00
7,000.0	90.15	0.00	6,399.5	-1,813.55	722.9	172.6	727.3	0.00	0.00	0.00
7,100.0	90.15	0.00	6,399.3	-1,813.28	822.9	172.6	827.3	0.00	0.00	0.00
7,200.0	90.15	0.00	6,399.0	-1,813.01	922.9	172.6	927.2	0.00	0.00	0.00
7,300.0	90.15	0.00	6,398.7	-1,812.74	1,022.9	172.6	1,027.2	0.00	0.00	0.00
7,400.0	90.15	0.00	6,398.5	-1,812.47	1,122.9	172.6	1,127.2	0.00	0.00	0.00
7,500.0	90.15	0.00	6,398.2	-1,812.20	1,222.9	172.6	1,227.1	0.00	0.00	0.00
7,600.0	90.15	0.00	6,397.9	-1,811.93	1,322.9	172.6	1,327.1	0.00	0.00	0.00
7,700.0	90.15	0.00	6,397.7	-1,811.66	1,422.9	172.6	1,427.0	0.00	0.00	0.00
7,800.0	90.15	0.00	6,397.4	-1,811.39	1,522.9	172.6	1,527.0	0.00	0.00	0.00
7,900.0	90.15	0.00	6,397.1	-1,811.12	1,622.9	172.6	1,627.0	0.00	0.00	0.00
8,000.0	90.15	0.00	6,396.8	-1,810.85	1,722.9	172.6	1,726.9	0.00	0.00	0.00
8,100.0	90.15	0.00	6,396.6	-1,810.58	1,822.9	172.6	1,826.9	0.00	0.00	0.00
8,200.0	90.15	0.00	6,396.3	-1,810.31	1,922.9	172.6	1,926.9	0.00	0.00	0.00
8,300.0	90.15	0.00	6,396.0	-1,810.04	2,022.9	172.6	2,026.8	0.00	0.00	0.00
8,400.0	90.15	0.00	6,395.8	-1,809.77	2,122.9	172.6	2,126.8	0.00	0.00	0.00
8,500.0	90.15	0.00	6,395.5	-1,809.50	2,222.9	172.6	2,226.7	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well R&R FARMS 29Q-241RD
Company:	PDC ENERGY	TVD Reference:	KB @ 4586.0usft (ENS 135)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4586.0usft (ENS 135)
Site:	SE SW SEC. 29 T5N R63W 6th P.M.	North Reference:	True
Well:	R&R FARMS 29Q-241RD	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	90.15	0.00	6,395.2	-1,809.23	2,322.9	172.6	2,326.7	0.00	0.00	0.00
8,700.0	90.15	0.00	6,395.0	-1,808.96	2,422.9	172.6	2,426.7	0.00	0.00	0.00
8,800.0	90.15	0.00	6,394.7	-1,808.69	2,522.9	172.6	2,526.6	0.00	0.00	0.00
8,900.0	90.15	0.00	6,394.4	-1,808.42	2,622.9	172.6	2,626.6	0.00	0.00	0.00
9,000.0	90.15	0.00	6,394.2	-1,808.15	2,722.9	172.6	2,726.6	0.00	0.00	0.00
9,100.0	90.15	0.00	6,393.9	-1,807.88	2,822.9	172.6	2,826.5	0.00	0.00	0.00
9,200.0	90.15	0.00	6,393.6	-1,807.62	2,922.9	172.6	2,926.5	0.00	0.00	0.00
9,300.0	90.15	0.00	6,393.3	-1,807.35	3,022.9	172.6	3,026.4	0.00	0.00	0.00
9,400.0	90.15	0.00	6,393.1	-1,807.08	3,122.9	172.6	3,126.4	0.00	0.00	0.00
9,500.0	90.15	0.00	6,392.8	-1,806.81	3,222.9	172.6	3,226.4	0.00	0.00	0.00
9,600.0	90.15	0.00	6,392.5	-1,806.54	3,322.9	172.6	3,326.3	0.00	0.00	0.00
9,700.0	90.15	0.00	6,392.3	-1,806.27	3,422.9	172.6	3,426.3	0.00	0.00	0.00
9,800.0	90.15	0.00	6,392.0	-1,806.00	3,522.9	172.6	3,526.3	0.00	0.00	0.00
END OF TANGENT										
9,879.4	90.15	0.00	6,391.8	-1,805.78	3,602.2	172.6	3,605.6	0.00	0.00	0.00
9,900.0	90.15	359.38	6,391.7	-1,805.73	3,622.9	172.5	3,626.2	3.00	-0.04	-3.00
EOT TO 356.61° AZ										
9,992.4	90.11	356.61	6,391.5	-1,805.53	3,715.2	169.3	3,718.4	3.00	-0.04	-3.00
10,000.0	90.11	356.61	6,391.5	-1,805.51	3,722.8	168.8	3,726.0	0.00	0.00	0.00
10,100.0	90.11	356.61	6,391.3	-1,805.32	3,822.6	162.9	3,825.6	0.00	0.00	0.00
10,200.0	90.11	356.61	6,391.1	-1,805.14	3,922.4	157.0	3,925.3	0.00	0.00	0.00
10,300.0	90.11	356.61	6,390.9	-1,804.94	4,022.3	151.1	4,024.9	0.00	0.00	0.00
10,400.0	90.11	356.61	6,390.8	-1,804.75	4,122.1	145.2	4,124.5	0.00	0.00	0.00
10,500.0	90.11	356.61	6,390.6	-1,804.56	4,221.9	139.2	4,224.1	0.00	0.00	0.00
10,600.0	90.11	356.61	6,390.4	-1,804.36	4,321.7	133.3	4,323.8	0.00	0.00	0.00
10,700.0	90.11	356.61	6,390.2	-1,804.16	4,421.6	127.4	4,423.4	0.00	0.00	0.00
BHL - R&R FARMS 29Q-241RD										
10,781.9	90.11	356.61	6,390.0	-1,804.00	4,503.3	122.6	4,505.0	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,236.1	6,168.0	SHARON SPRINGS		0.00	
6,372.3	6,259.0	NIOBRARA		0.00	
6,421.6	6,287.0	NIOBRARA A		0.00	
6,452.3	6,303.0	NIOBRARA A SHALE		0.00	
6,549.5	6,346.0	NIOBRARA B		0.00	

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well R&R FARMS 29Q-241RD
Company:	PDC ENERGY	TVD Reference:	KB @ 4586.0usft (ENS 135)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB @ 4586.0usft (ENS 135)
Site:	SE SW SEC. 29 T5N R63W 6th P.M.	North Reference:	True
Well:	R&R FARMS 29Q-241RD	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Plan Annotations				
Local Coordinates				
MD (usft)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Comment
1,200.0	1,200.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,800.2	1,795.8	-43.1	45.4	EOB TO 12° INC
2,342.2	2,326.0	-120.8	127.2	END OF TANGENT
2,942.4	2,921.8	-163.9	172.6	EOD TO VERTICAL
5,704.4	5,683.8	-163.9	172.6	KOP (8°/100ft BUR)
6,831.4	6,400.0	554.2	172.6	7" ICP - R&R FARMS 29Q-241RD
9,879.4	6,391.8	3,602.2	172.6	END OF TANGENT
9,992.4	6,391.5	3,715.2	169.3	EOT TO 356.61° AZ
10,781.9	6,390.0	4,503.3	122.6	BHL - R&R FARMS 29Q-241RD