

PDC ENERGY

WELD COUNTY, COLORADO

SW SW SEC. 28 T5N R67W 6th P.M.

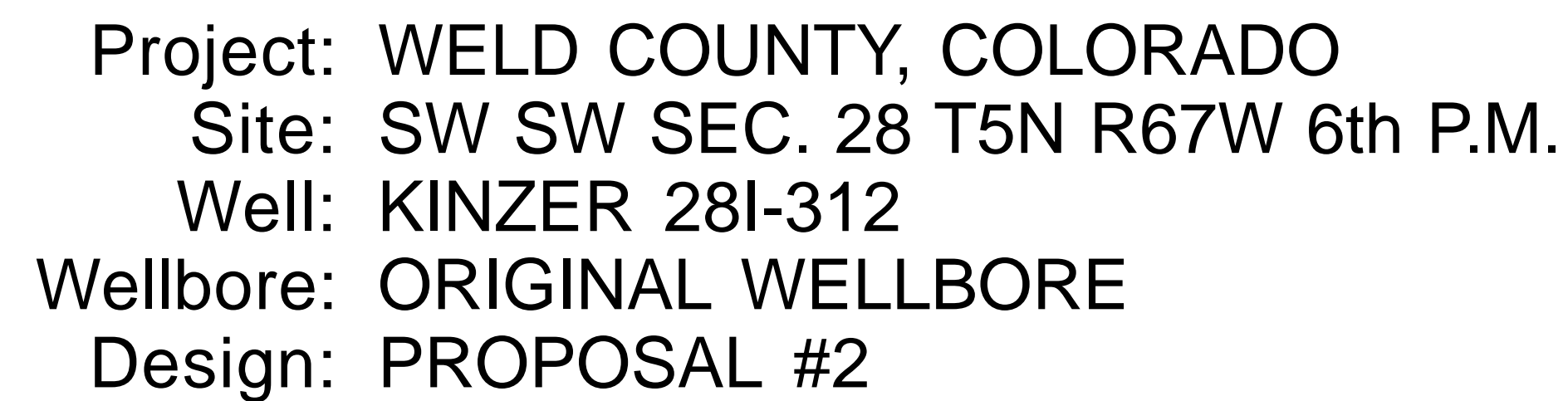
KINZER 28I-312

ORIGINAL WELLBORE

25 March, 2016

Plan: PROPOSAL #2





PROPOSED LOCAL COORDINATES:

SHL: 430ft FSL & 378ft FWL of Sec 28

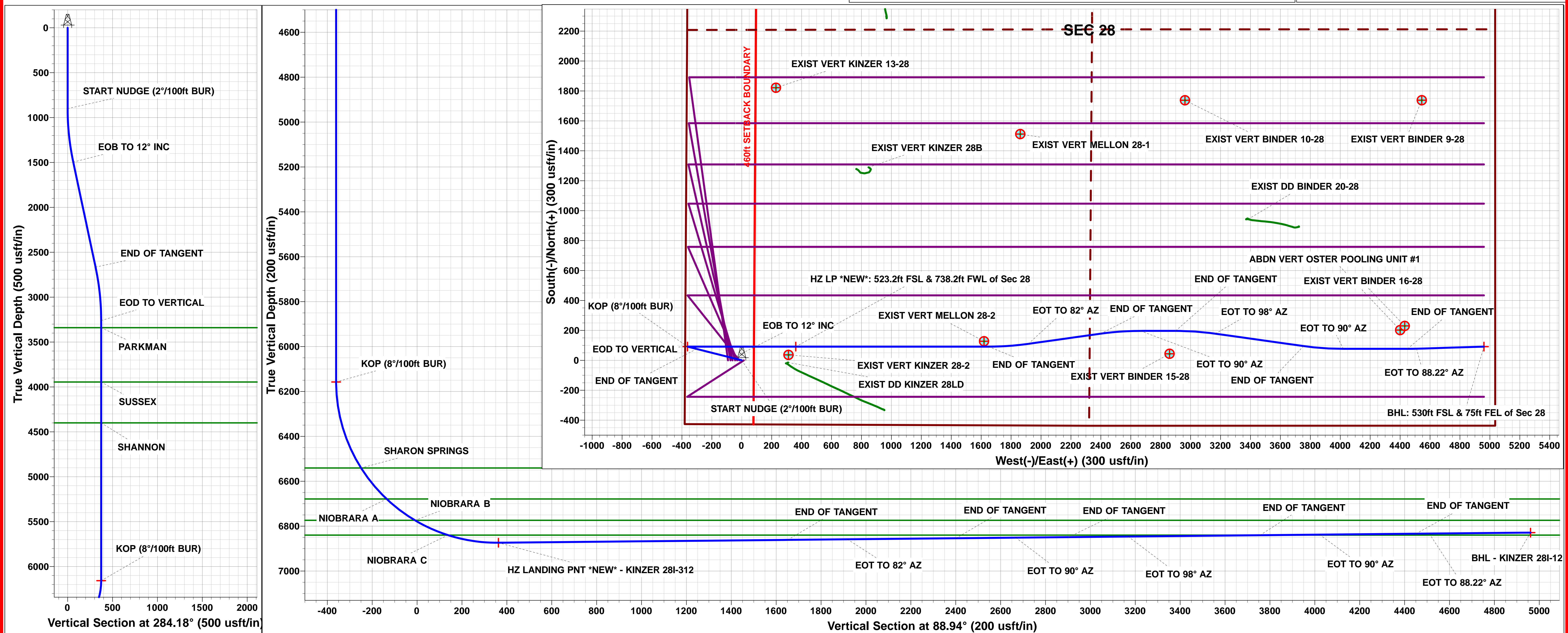
HZ LP *NEW*: 523.2ft FSL & 738.2ft FWL of Sec 28

BHL: 530ft FSL & 75ft FEL of Sec 28

Magnetic Field
 Strength: 52499.7snT
 Dip Angle: 66.83°
 Date: 24/03/2016
 Model: IGRF2015

Geological Map Data:

Feature	Approx. West-East (100 usft/in)	Approx. South-North (100 usft/in)
KINZER 28H-302	-350	300
KINZER 28H-212	-350	200
KINZER 28G-232	-350	150
KINZER 28G-332	-350	100
KINZER 28H-432	150	300
KINZER 28I-312	150	250
KINZER 28I-202	150	200
EXIST VERT KINZER 28-2	300	50
EXIST DD KINZER 28LD	300	0





Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well KINZER 28I-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Site:	SW SW SEC. 28 T5N R67W 6th P.M.	North Reference:	True
Well:	KINZER 28I-312	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	SW SW SEC. 28 T5N R67W 6th P.M.		
Site Position:		Northing:	1,376,222.00 usft
From:	Lat/Long	Easting:	3,165,467.33 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000 ft
		Latitude:	40.364610
		Longitude:	-104.906190
		Grid Convergence:	0.38 °

Well	KINZER 28I-312		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	-13.9 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	40.364610
		Longitude:	-104.906240
		Ground Level:	4,784.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	24/03/2016	8.41	66.83	52,500

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	88.94

Planning Report



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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

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	-4,797.5	0.0	0.0	0.00	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	-3,897.5	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	12.00	284.18	1,495.6	-3,301.9	15.3	-60.7	2.00	2.00	0.00	284.18	
2,695.7	12.00	284.18	2,665.2	-2,132.3	76.3	-301.7	0.00	0.00	0.00	0.00	
3,295.7	0.00	0.00	3,260.8	-1,536.7	91.6	-362.4	2.00	-2.00	0.00	180.00	
6,192.7	0.00	0.00	6,157.8	1,360.3	91.6	-362.4	0.00	0.00	0.00	0.00	KOP - KINZER 28I-
7,324.7	90.56	90.00	6,874.0	2,076.5	91.6	360.8	8.00	8.00	0.00	90.00	
8,614.0	90.56	90.00	6,861.4	2,063.9	91.6	1,650.0	0.00	0.00	0.00	0.00	
8,880.6	90.56	82.00	6,858.7	2,061.2	110.2	1,915.8	3.00	0.00	-3.00	270.06	
9,368.1	90.56	82.00	6,854.0	2,056.5	178.0	2,398.5	0.00	0.00	0.00	0.00	
9,634.8	90.56	90.00	6,851.3	2,053.8	196.6	2,664.3	3.00	0.00	3.00	89.95	
9,870.5	90.56	90.00	6,849.0	2,051.5	196.6	2,900.0	0.00	0.00	0.00	0.00	
10,137.1	90.56	98.00	6,846.4	2,048.9	178.0	3,165.8	3.00	0.00	3.00	90.00	
10,732.1	90.56	98.00	6,840.6	2,043.1	95.2	3,755.0	0.00	0.00	0.00	0.00	
10,998.8	90.55	90.00	6,838.0	2,040.5	76.6	4,020.7	3.00	0.00	-3.00	270.00	
11,428.1	90.55	90.00	6,833.8	2,036.3	76.6	4,450.0	0.00	0.00	0.00	0.00	
11,487.5	90.54	88.22	6,833.3	2,035.8	77.6	4,509.4	3.00	-0.02	-3.00	-90.32	
11,938.6	90.54	88.22	6,829.0	2,031.5	91.6	4,960.3	0.00	0.00	0.00	0.00	BHL - KINZER 28I-

Planning Report



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Site:	SW SW SEC. 28 T5N R67W 6th P.M.	North Reference:	True
Well:	KINZER 28I-312	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)
SHL: 430ft FSL & 378ft FWL of Sec 28										
0.0	0.00	0.00	0.0	4,797.50	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,697.50	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,597.50	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,497.50	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,397.50	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,297.50	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,197.50	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,097.50	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	3,997.50	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
900.0	0.00	0.00	900.0	3,897.50	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	2.00	284.18	1,000.0	3,797.52	0.4	-1.7	-1.7	2.00	2.00	0.00
1,100.0	4.00	284.18	1,099.8	3,697.66	1.7	-6.8	-6.7	2.00	2.00	0.00
1,200.0	6.00	284.18	1,199.5	3,598.05	3.8	-15.2	-15.1	2.00	2.00	0.00
1,300.0	8.00	284.18	1,298.7	3,498.80	6.8	-27.0	-26.9	2.00	2.00	0.00
1,400.0	10.00	284.18	1,397.5	3,400.03	10.7	-42.2	-42.0	2.00	2.00	0.00
EOB TO 12° INC										
1,500.0	12.00	284.18	1,495.6	3,301.88	15.3	-60.7	-60.4	2.00	2.00	0.00
1,600.0	12.00	284.18	1,593.4	3,204.06	20.4	-80.9	-80.5	0.00	0.00	0.00
1,700.0	12.00	284.18	1,691.3	3,106.25	25.5	-101.0	-100.5	0.00	0.00	0.00
1,800.0	12.00	284.18	1,789.1	3,008.43	30.6	-121.2	-120.6	0.00	0.00	0.00
1,900.0	12.00	284.18	1,886.9	2,910.62	35.7	-141.3	-140.6	0.00	0.00	0.00
2,000.0	12.00	284.18	1,984.7	2,812.80	40.8	-161.5	-160.7	0.00	0.00	0.00
2,100.0	12.00	284.18	2,082.5	2,714.99	45.9	-181.6	-180.8	0.00	0.00	0.00
2,200.0	12.00	284.18	2,180.3	2,617.17	51.0	-201.8	-200.8	0.00	0.00	0.00
2,300.0	12.00	284.18	2,278.1	2,519.36	56.1	-221.9	-220.9	0.00	0.00	0.00
2,400.0	12.00	284.18	2,376.0	2,421.54	61.2	-242.1	-240.9	0.00	0.00	0.00
2,500.0	12.00	284.18	2,473.8	2,323.73	66.3	-262.3	-261.0	0.00	0.00	0.00
2,600.0	12.00	284.18	2,571.6	2,225.91	71.4	-282.4	-281.1	0.00	0.00	0.00
END OF TANGENT										
2,695.7	12.00	284.18	2,665.2	2,132.30	76.3	-301.7	-300.3	0.00	0.00	0.00
2,700.0	11.91	284.18	2,669.4	2,128.10	76.5	-302.6	-301.1	2.00	-2.00	0.00
2,800.0	9.91	284.18	2,767.6	2,029.91	81.1	-320.9	-319.4	2.00	-2.00	0.00
2,900.0	7.91	284.18	2,866.4	1,931.12	84.9	-335.9	-334.3	2.00	-2.00	0.00
3,000.0	5.91	284.18	2,965.6	1,831.86	87.9	-347.6	-345.9	2.00	-2.00	0.00
3,100.0	3.91	284.18	3,065.3	1,732.23	90.0	-355.9	-354.2	2.00	-2.00	0.00
3,200.0	1.91	284.18	3,165.1	1,632.36	91.2	-360.9	-359.1	2.00	-2.00	0.00
EOD TO VERTICAL										
3,295.7	0.00	0.00	3,260.8	1,536.68	91.6	-362.4	-360.6	2.00	-2.00	0.00
3,300.0	0.00	0.00	3,265.1	1,532.38	91.6	-362.4	-360.6	0.00	0.00	0.00
PARKMAN										
3,374.9	0.00	0.00	3,340.0	1,457.50	91.6	-362.4	-360.6	0.00	0.00	0.00
3,400.0	0.00	0.00	3,365.1	1,432.38	91.6	-362.4	-360.6	0.00	0.00	0.00
3,500.0	0.00	0.00	3,465.1	1,332.38	91.6	-362.4	-360.6	0.00	0.00	0.00
3,600.0	0.00	0.00	3,565.1	1,232.38	91.6	-362.4	-360.6	0.00	0.00	0.00
3,700.0	0.00	0.00	3,665.1	1,132.38	91.6	-362.4	-360.6	0.00	0.00	0.00
3,800.0	0.00	0.00	3,765.1	1,032.38	91.6	-362.4	-360.6	0.00	0.00	0.00
3,900.0	0.00	0.00	3,865.1	932.38	91.6	-362.4	-360.6	0.00	0.00	0.00
SUSSEX										
3,979.9	0.00	0.00	3,945.0	852.50	91.6	-362.4	-360.6	0.00	0.00	0.00
4,000.0	0.00	0.00	3,965.1	832.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,100.0	0.00	0.00	4,065.1	732.38	91.6	-362.4	-360.6	0.00	0.00	0.00

Planning Report



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Well:	KINZER 281-312	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)
4,200.0	0.00	0.00	4,165.1	632.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,300.0	0.00	0.00	4,265.1	532.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,400.0	0.00	0.00	4,365.1	432.38	91.6	-362.4	-360.6	0.00	0.00	0.00
SHANNON										
4,434.9	0.00	0.00	4,400.0	397.50	91.6	-362.4	-360.6	0.00	0.00	0.00
4,500.0	0.00	0.00	4,465.1	332.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,600.0	0.00	0.00	4,565.1	232.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,700.0	0.00	0.00	4,665.1	132.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,800.0	0.00	0.00	4,765.1	32.38	91.6	-362.4	-360.6	0.00	0.00	0.00
4,900.0	0.00	0.00	4,865.1	-67.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,000.0	0.00	0.00	4,965.1	-167.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,100.0	0.00	0.00	5,065.1	-267.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,165.1	-367.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,265.1	-467.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,365.1	-567.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,465.1	-667.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,565.1	-767.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,700.0	0.00	0.00	5,665.1	-867.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,765.1	-967.62	91.6	-362.4	-360.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,865.1	-1,067.62	91.6	-362.4	-360.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,965.1	-1,167.62	91.6	-362.4	-360.6	0.00	0.00	0.00
6,100.0	0.00	0.00	6,065.1	-1,267.62	91.6	-362.4	-360.6	0.00	0.00	0.00
KOP (8°/100ft BUR)										
6,192.7	0.00	0.00	6,157.8	-1,360.30	91.6	-362.4	-360.6	0.00	0.00	0.00
6,200.0	0.59	90.00	6,165.1	-1,367.62	91.6	-362.4	-360.6	8.00	8.00	0.00
6,300.0	8.59	90.00	6,264.7	-1,467.22	91.6	-354.4	-352.6	8.00	8.00	0.00
6,400.0	16.59	90.00	6,362.2	-1,564.74	91.6	-332.6	-330.9	8.00	8.00	0.00
6,500.0	24.59	90.00	6,455.8	-1,658.27	91.6	-297.5	-295.7	8.00	8.00	0.00
SHARON SPRINGS										
6,597.0	32.35	90.00	6,541.0	-1,743.50	91.6	-251.3	-249.5	8.00	8.00	0.00
6,600.0	32.59	90.00	6,543.5	-1,746.01	91.6	-249.7	-247.9	8.00	8.00	0.00
6,700.0	40.59	90.00	6,623.7	-1,826.24	91.6	-190.1	-188.4	8.00	8.00	0.00
NIOBRARA A										
6,776.4	46.70	90.00	6,679.0	-1,881.50	91.6	-137.4	-135.7	8.00	8.00	0.00
6,800.0	48.59	90.00	6,694.9	-1,897.41	91.6	-120.0	-118.3	8.00	8.00	0.00
6,900.0	56.59	90.00	6,755.6	-1,958.12	91.6	-40.6	-38.9	8.00	8.00	0.00
NIOBRARA B										
6,934.7	59.36	90.00	6,774.0	-1,976.50	91.6	-11.2	-9.5	8.00	8.00	0.00
7,000.0	64.59	90.00	6,804.7	-2,007.19	91.6	46.4	48.1	8.00	8.00	0.00
NIOBRARA C										
7,096.1	72.28	90.00	6,840.0	-2,042.50	91.6	135.8	137.4	8.00	8.00	0.00
7,100.0	72.59	90.00	6,841.2	-2,043.67	91.6	139.5	141.1	8.00	8.00	0.00
7,200.0	80.59	90.00	6,864.4	-2,066.85	91.6	236.6	238.3	8.00	8.00	0.00
7,300.0	88.59	90.00	6,873.8	-2,076.28	91.6	336.1	337.8	8.00	8.00	0.00
HZ LP *NEW*: 523.2ft FSL & 738.2ft FWL of Sec 28										
7,324.7	90.56	90.00	6,874.0	-2,076.46	91.6	360.8	362.4	8.00	8.00	0.00
7,400.0	90.56	90.00	6,873.2	-2,075.73	91.6	436.1	437.7	0.00	0.00	0.00
7,500.0	90.56	90.00	6,872.2	-2,074.75	91.6	536.1	537.7	0.00	0.00	0.00
7,600.0	90.56	90.00	6,871.3	-2,073.77	91.6	636.1	637.7	0.00	0.00	0.00
7,700.0	90.56	90.00	6,870.3	-2,072.79	91.6	736.1	737.7	0.00	0.00	0.00
7,800.0	90.56	90.00	6,869.3	-2,071.82	91.6	836.1	837.6	0.00	0.00	0.00
7,900.0	90.56	90.00	6,868.3	-2,070.84	91.6	936.1	937.6	0.00	0.00	0.00
8,000.0	90.56	90.00	6,867.4	-2,069.86	91.6	1,036.1	1,037.6	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well KINZER 28I-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Site:	SW SW SEC. 28 T5N R67W 6th P.M.	North Reference:	True
Well:	KINZER 28I-312	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)
8,100.0	90.56	90.00	6,866.4	-2,068.89	91.6	1,136.1	1,137.6	0.00	0.00	0.00
8,200.0	90.56	90.00	6,865.4	-2,067.91	91.6	1,236.1	1,237.6	0.00	0.00	0.00
8,300.0	90.56	90.00	6,864.4	-2,066.93	91.6	1,336.1	1,337.5	0.00	0.00	0.00
8,400.0	90.56	90.00	6,863.5	-2,065.95	91.6	1,436.1	1,437.5	0.00	0.00	0.00
8,500.0	90.56	90.00	6,862.5	-2,064.98	91.6	1,536.1	1,537.5	0.00	0.00	0.00
8,600.0	90.56	90.00	6,861.5	-2,064.00	91.6	1,636.1	1,637.5	0.00	0.00	0.00
END OF TANGENT										
8,614.0	90.56	90.00	6,861.4	-2,063.86	91.6	1,650.1	1,651.5	0.00	0.00	0.00
8,700.0	90.56	87.42	6,860.5	-2,063.02	93.5	1,736.0	1,737.5	3.00	0.00	-3.00
8,800.0	90.56	84.42	6,859.5	-2,062.04	100.7	1,835.8	1,837.3	3.00	0.00	-3.00
EOT TO 82° AZ										
8,880.6	90.56	82.00	6,858.7	-2,061.24	110.2	1,915.8	1,917.5	3.00	0.00	-3.00
8,900.0	90.56	82.00	6,858.6	-2,061.05	112.9	1,935.0	1,936.7	0.01	0.00	-0.01
9,000.0	90.56	82.00	6,857.6	-2,060.07	126.8	2,034.0	2,036.0	0.00	0.00	0.00
9,100.0	90.56	82.00	6,856.6	-2,059.09	140.7	2,133.0	2,135.3	0.00	0.00	0.00
9,200.0	90.56	82.00	6,855.6	-2,058.11	154.6	2,232.1	2,234.5	0.00	0.00	0.00
9,300.0	90.56	82.00	6,854.6	-2,057.12	168.5	2,331.1	2,333.8	0.00	0.00	0.00
END OF TANGENT										
9,368.1	90.56	82.00	6,854.0	-2,056.46	178.0	2,398.5	2,401.4	0.00	0.00	0.00
9,400.0	90.56	82.96	6,853.6	-2,056.14	182.2	2,430.1	2,433.1	3.00	0.00	3.00
9,500.0	90.57	85.96	6,852.7	-2,055.16	191.9	2,529.6	2,532.8	3.00	0.00	3.00
9,600.0	90.56	88.96	6,851.7	-2,054.17	196.3	2,629.5	2,632.7	3.00	0.00	3.00
EOT TO 90° AZ										
9,634.8	90.56	90.00	6,851.3	-2,053.83	196.6	2,664.3	2,667.5	3.00	0.00	3.00
9,700.0	90.56	90.00	6,850.7	-2,053.19	196.6	2,729.5	2,732.7	0.00	0.00	0.00
9,800.0	90.56	90.00	6,849.7	-2,052.20	196.6	2,829.5	2,832.7	0.00	0.00	0.00
END OF TANGENT										
9,870.5	90.56	90.00	6,849.0	-2,051.51	196.6	2,900.0	2,903.2	0.00	0.00	0.00
9,900.0	90.56	90.89	6,848.7	-2,051.22	196.4	2,929.5	2,932.6	3.00	0.00	3.00
10,000.0	90.56	93.89	6,847.7	-2,050.23	192.2	3,029.4	3,032.4	3.00	0.00	3.00
10,100.0	90.56	96.89	6,846.8	-2,049.25	182.8	3,129.0	3,131.8	3.00	0.00	3.00
EOT TO 98° AZ										
10,137.1	90.56	98.00	6,846.4	-2,048.89	178.0	3,165.7	3,168.5	3.00	0.00	3.00
10,200.0	90.56	98.00	6,845.8	-2,048.28	169.3	3,228.0	3,230.6	0.00	0.00	0.00
10,300.0	90.56	98.00	6,844.8	-2,047.30	155.4	3,327.0	3,329.3	0.00	0.00	0.00
10,400.0	90.56	98.00	6,843.8	-2,046.32	141.4	3,426.1	3,428.1	0.00	0.00	0.00
10,500.0	90.56	98.00	6,842.8	-2,045.35	127.5	3,525.1	3,526.8	0.00	0.00	0.00
10,600.0	90.56	98.00	6,841.9	-2,044.37	113.6	3,624.1	3,625.6	0.00	0.00	0.00
10,700.0	90.56	98.00	6,840.9	-2,043.40	99.7	3,723.1	3,724.3	0.00	0.00	0.00
END OF TANGENT										
10,732.1	90.56	98.00	6,840.6	-2,043.08	95.2	3,754.9	3,756.0	0.00	0.00	0.00
10,800.0	90.56	95.96	6,839.9	-2,042.42	87.0	3,822.3	3,823.3	3.00	0.00	-3.00
10,900.0	90.56	92.96	6,838.9	-2,041.45	79.2	3,922.0	3,922.8	3.00	0.00	-3.00
EOT TO 90° AZ										
10,998.8	90.55	90.00	6,838.0	-2,040.49	76.6	4,020.7	4,021.5	3.00	0.00	-3.00
11,000.0	90.55	90.00	6,838.0	-2,040.48	76.6	4,021.9	4,022.7	0.00	0.00	0.00
11,100.0	90.55	90.00	6,837.0	-2,039.51	76.6	4,121.9	4,122.7	0.00	0.00	0.00
11,200.0	90.55	90.00	6,836.0	-2,038.55	76.6	4,221.9	4,222.6	0.00	0.00	0.00
11,300.0	90.55	90.00	6,835.1	-2,037.58	76.6	4,321.9	4,322.6	0.00	0.00	0.00
11,400.0	90.55	90.00	6,834.1	-2,036.62	76.6	4,421.9	4,422.6	0.00	0.00	0.00
END OF TANGENT										
11,428.1	90.55	90.00	6,833.8	-2,036.34	76.6	4,450.0	4,450.7	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well KINZER 28I-312
Company:	PDC ENERGY	TVD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO	MD Reference:	KB-EST @ 4797.5usft (Original Well Elev)
Site:	SW SW SEC. 28 T5N R67W 6th P.M.	North Reference:	True
Well:	KINZER 28I-312	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)
EOT TO 88.22° AZ										
11,487.5	90.54	88.22	6,833.3	-2,035.78	77.6	4,509.4	4,510.1	3.00	-0.02	-3.00
11,500.0	90.54	88.22	6,833.2	-2,035.66	78.0	4,521.9	4,522.6	0.00	0.00	0.00
11,600.0	90.54	88.22	6,832.2	-2,034.71	81.1	4,621.9	4,622.6	0.00	0.00	0.00
11,700.0	90.54	88.22	6,831.3	-2,033.76	84.2	4,721.8	4,722.5	0.00	0.00	0.00
11,800.0	90.54	88.22	6,830.3	-2,032.81	87.3	4,821.7	4,822.5	0.00	0.00	0.00
11,900.0	90.54	88.22	6,829.4	-2,031.87	90.4	4,921.7	4,922.5	0.00	0.00	0.00
BHL: 530ft FSL & 75ft FEL of Sec 28										
11,938.6	90.54	88.22	6,829.0	-2,031.50	91.6	4,960.3	4,961.1	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,374.9	3,340.0	PARKMAN			
3,979.9	3,945.0	SUSSEX			
4,434.9	4,400.0	SHANNON			
6,597.0	6,541.0	SHARON SPRINGS			
6,776.4	6,679.0	NIOBRARA A			
6,934.7	6,774.0	NIOBRARA B			
7,096.1	6,840.0	NIOBRARA C			

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.0	0.0	0.0	0.0	SHL: 430ft FSL & 378ft FWL of Sec 28
900.0	900.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1,500.0	1,495.6	15.3	-60.7	EOB TO 12° INC
2,695.7	2,665.2	76.3	-301.7	END OF TANGENT
3,295.7	3,260.8	91.6	-362.4	EOD TO VERTICAL
6,192.7	6,157.8	91.6	-362.4	KOP (8°/100ft BUR)
7,324.7	6,874.0	91.6	360.8	HZ LP *NEW*: 523.2ft FSL & 738.2ft FWL of Sec 28
8,614.0	6,861.4	91.6	1,650.1	END OF TANGENT
8,880.6	6,858.7	110.2	1,915.8	EOT TO 82° AZ
9,368.1	6,854.0	178.0	2,398.5	END OF TANGENT
9,634.8	6,851.3	196.6	2,664.3	EOT TO 90° AZ
9,870.5	6,849.0	196.6	2,900.0	END OF TANGENT
10,137.1	6,846.4	178.0	3,165.7	EOT TO 98° AZ
10,732.1	6,840.6	95.2	3,754.9	END OF TANGENT
10,998.8	6,838.0	76.6	4,020.7	EOT TO 90° AZ
11,428.1	6,833.8	76.6	4,450.0	END OF TANGENT
11,487.5	6,833.3	77.6	4,509.4	EOT TO 88.22° AZ
11,938.6	6,829.0	91.6	4,960.3	BHL: 530ft FSL & 75ft FEL of Sec 28