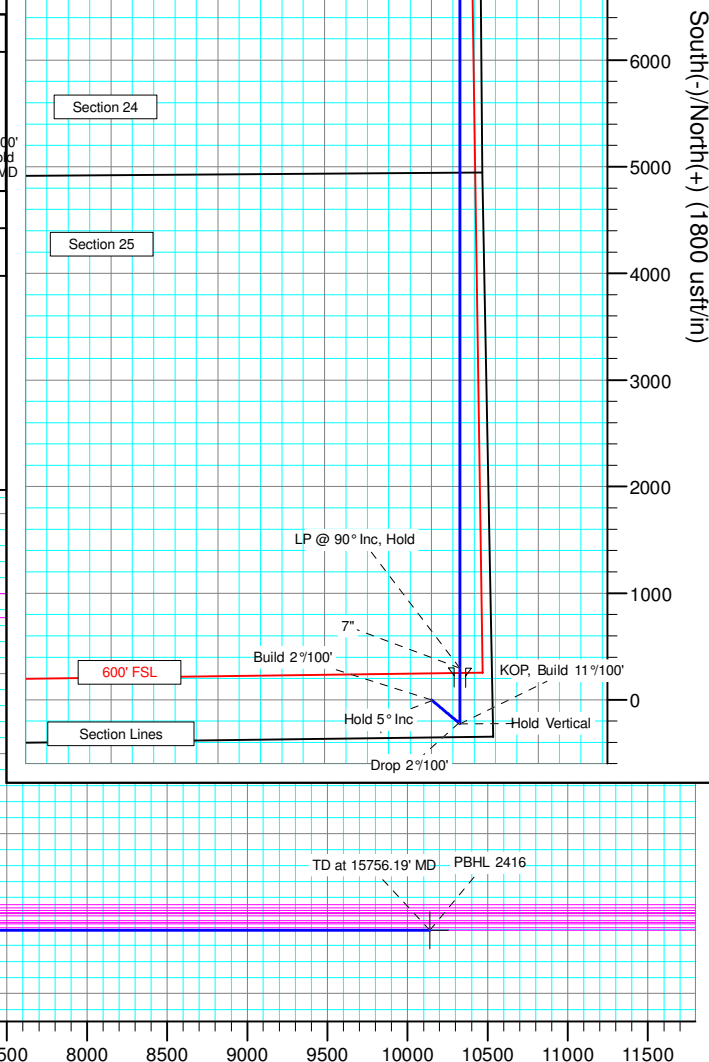


Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

FORMATION TOP DETAILS		
TVPath	MDPath	Formation
1550.00	1554.14	Upper Pierre
3500.00	3511.59	Hygiene
3650.00	3662.16	Lower Pierre
5444.00	5496.32	P200 Marker
5464.00	5524.74	P300 Marker
5480.00	5548.72	P350 Marker
5494.00	5570.82	Sharon Springs
5498.00	5577.35	Niobrara
5515.00	5606.42	Top A Chalk
5545.00	5664.74	Top A Marl
5557.00	5691.84	A Marl
5565.00	5711.75	Top Upper B
5589.00	5787.76	Base Upper B
5605.00	5915.07	Top Lower B

		Ground Level: 4741.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1540048.60	3469177.31	40° 48' 12.630 N	103° 48' 18.770 W

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	550.00	5.00	130.00	549.68	-7.01	8.35	2.00	130.00	-6.78	
4	4300.00	5.00	130.00	4285.41	-217.09	258.72	0.00	0.00	-210.19	
5	4550.00	0.00	0.00	4535.09	0.00	267.07	2.00	180.00	-216.97	
6	5095.04	0.00	0.00	5084.13	-224.10	267.07	0.00	0.00	-216.97	
7	5917.22	90.00	0.00	5605.00	296.77	267.09	11.00	0.00	303.71	PBHL 2416
8	15756.19	90.00	0.00	5605.00	10135.74	267.51	0.00	0.00	10139.27	PBHL 2416





Whiting Petroleum Corp.

**Weld County, CO
Sec 25-T10N-R58W
Razor #25P-2416**

Hz

Plan: APD

Standard Planning Report

27 May, 2015



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #25P-2416
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Project	Weld County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 25-T10N-R58W			
Site Position:		Northing:	1,544,564.45 usft	Latitude:	40° 48' 58.050 N
From:	Lat/Long	Easting:	3,464,883.62 usft	Longitude:	103° 49' 13.480 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	1.09 °

Well		Razor #25P-2416				
Well Position	+N/-S	-4,596.36 usft	Northing:	1,540,048.61 usft	Latitude:	40° 48' 12.630 N
	+E/-W	4,207.39 usft	Easting:	3,469,177.31 usft	Longitude:	103° 48' 18.770 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,741.00 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/27/2015	7.83	67.38	53,021

Design	APD				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	1.51	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
550.00	5.00	130.00	549.68	-7.01	8.35	2.00	2.00	0.00	130.00	
4,300.00	5.00	130.00	4,285.41	-217.09	258.72	0.00	0.00	0.00	0.00	
4,550.00	0.00	0.00	4,535.09	-224.10	267.07	2.00	-2.00	0.00	180.00	
5,099.04	0.00	0.00	5,084.13	-224.10	267.07	0.00	0.00	0.00	0.00	
5,917.22	90.00	0.00	5,605.00	296.77	267.09	11.00	11.00	0.00	0.00	PBHL 2416
15,756.19	90.00	0.00	5,605.00	10,135.74	267.51	0.00	0.00	0.00	0.00	PBHL 2416



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #25P-2416
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Build 2°/100'									
400.00	2.00	130.00	399.98	-1.12	1.34	-1.09	2.00	2.00	0.00
500.00	4.00	130.00	499.84	-4.49	5.35	-4.34	2.00	2.00	0.00
550.00	5.00	130.00	549.68	-7.01	8.35	-6.78	2.00	2.00	0.00
Hold 5° Inc									
600.00	5.00	130.00	599.49	-9.81	11.69	-9.50	0.00	0.00	0.00
700.00	5.00	130.00	699.11	-15.41	18.37	-14.92	0.00	0.00	0.00
800.00	5.00	130.00	798.73	-21.01	25.04	-20.34	0.00	0.00	0.00
900.00	5.00	130.00	898.35	-26.62	31.72	-25.77	0.00	0.00	0.00
1,000.00	5.00	130.00	997.97	-32.22	38.40	-31.19	0.00	0.00	0.00
1,100.00	5.00	130.00	1,097.59	-37.82	45.07	-36.62	0.00	0.00	0.00
1,200.00	5.00	130.00	1,197.21	-43.42	51.75	-42.04	0.00	0.00	0.00
1,300.00	5.00	130.00	1,296.83	-49.02	58.42	-47.47	0.00	0.00	0.00
1,400.00	5.00	130.00	1,396.45	-54.63	65.10	-52.89	0.00	0.00	0.00
1,500.00	5.00	130.00	1,496.07	-60.23	71.78	-58.31	0.00	0.00	0.00
1,554.14	5.00	130.00	1,550.00	-63.26	75.39	-61.25	0.00	0.00	0.00
Upper Pierre									
1,600.00	5.00	130.00	1,595.69	-65.83	78.45	-63.74	0.00	0.00	0.00
1,700.00	5.00	130.00	1,695.31	-71.43	85.13	-69.16	0.00	0.00	0.00
1,800.00	5.00	130.00	1,794.93	-77.04	91.81	-74.59	0.00	0.00	0.00
1,900.00	5.00	130.00	1,894.55	-82.64	98.48	-80.01	0.00	0.00	0.00
2,000.00	5.00	130.00	1,994.17	-88.24	105.16	-85.43	0.00	0.00	0.00
2,100.00	5.00	130.00	2,093.78	-93.84	111.84	-90.86	0.00	0.00	0.00
2,200.00	5.00	130.00	2,193.40	-99.44	118.51	-96.28	0.00	0.00	0.00
2,300.00	5.00	130.00	2,293.02	-105.05	125.19	-101.71	0.00	0.00	0.00
2,400.00	5.00	130.00	2,392.64	-110.65	131.87	-107.13	0.00	0.00	0.00
2,500.00	5.00	130.00	2,492.26	-116.25	138.54	-112.56	0.00	0.00	0.00
2,600.00	5.00	130.00	2,591.88	-121.85	145.22	-117.98	0.00	0.00	0.00
2,700.00	5.00	130.00	2,691.50	-127.46	151.90	-123.40	0.00	0.00	0.00
2,800.00	5.00	130.00	2,791.12	-133.06	158.57	-128.83	0.00	0.00	0.00
2,900.00	5.00	130.00	2,890.74	-138.66	165.25	-134.25	0.00	0.00	0.00
3,000.00	5.00	130.00	2,990.36	-144.26	171.93	-139.68	0.00	0.00	0.00
3,100.00	5.00	130.00	3,089.98	-149.87	178.60	-145.10	0.00	0.00	0.00
3,200.00	5.00	130.00	3,189.60	-155.47	185.28	-150.52	0.00	0.00	0.00
3,300.00	5.00	130.00	3,289.22	-161.07	191.96	-155.95	0.00	0.00	0.00
3,400.00	5.00	130.00	3,388.84	-166.67	198.63	-161.37	0.00	0.00	0.00
3,500.00	5.00	130.00	3,488.46	-172.27	205.31	-166.80	0.00	0.00	0.00
3,511.59	5.00	130.00	3,500.00	-172.92	206.08	-167.43	0.00	0.00	0.00
Hygiene									
3,600.00	5.00	130.00	3,588.08	-177.88	211.98	-172.22	0.00	0.00	0.00
3,662.16	5.00	130.00	3,650.00	-181.36	216.13	-175.59	0.00	0.00	0.00
Lower Pierre									
3,700.00	5.00	130.00	3,687.70	-183.48	218.66	-177.65	0.00	0.00	0.00
3,800.00	5.00	130.00	3,787.32	-189.08	225.34	-183.07	0.00	0.00	0.00
3,900.00	5.00	130.00	3,886.94	-194.68	232.01	-188.49	0.00	0.00	0.00
4,000.00	5.00	130.00	3,986.55	-200.29	238.69	-193.92	0.00	0.00	0.00
4,100.00	5.00	130.00	4,086.17	-205.89	245.37	-199.34	0.00	0.00	0.00
4,200.00	5.00	130.00	4,185.79	-211.49	252.04	-204.77	0.00	0.00	0.00
4,300.00	5.00	130.00	4,285.41	-217.09	258.72	-210.19	0.00	0.00	0.00



WOG Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #25P-2416
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Drop 2°/100'									
4,400.00	3.00	130.00	4,385.16	-221.58	264.06	-214.53	2.00	-2.00	0.00
4,500.00	1.00	130.00	4,485.10	-223.82	266.74	-216.70	2.00	-2.00	0.00
4,550.00	0.00	0.00	4,535.09	-224.10	267.07	-216.98	2.00	-2.00	0.00
Hold Vertical									
4,600.00	0.00	0.00	4,585.10	-224.10	267.07	-216.98	0.00	0.00	0.00
4,700.00	0.00	0.00	4,685.10	-224.10	267.07	-216.98	0.00	0.00	0.00
4,800.00	0.00	0.00	4,785.10	-224.10	267.07	-216.98	0.00	0.00	0.00
4,900.00	0.00	0.00	4,885.10	-224.10	267.07	-216.98	0.00	0.00	0.00
5,000.00	0.00	0.00	4,985.10	-224.10	267.07	-216.98	0.00	0.00	0.00
5,099.04	0.00	0.00	5,084.13	-224.10	267.07	-216.98	0.00	0.00	0.00
KOP, Build 11°/100'									
5,150.00	5.61	0.00	5,135.01	-221.61	267.07	-214.48	11.00	11.00	0.00
5,200.00	11.11	0.00	5,184.46	-214.35	267.07	-207.22	11.00	11.00	0.00
5,250.00	16.61	0.00	5,232.99	-202.38	267.07	-195.26	11.00	11.00	0.00
5,300.00	22.11	0.00	5,280.15	-185.81	267.07	-178.70	11.00	11.00	0.00
5,350.00	27.61	0.00	5,325.50	-164.80	267.07	-157.70	11.00	11.00	0.00
5,400.00	33.11	0.00	5,368.63	-139.54	267.07	-132.45	11.00	11.00	0.00
5,450.00	38.61	0.00	5,409.14	-110.27	267.08	-103.18	11.00	11.00	0.00
5,496.32	43.70	0.00	5,444.00	-79.80	267.08	-72.72	11.00	11.00	0.00
P200 Marker									
5,500.00	44.11	0.00	5,446.65	-77.24	267.08	-70.17	11.00	11.00	0.00
5,524.74	46.83	0.00	5,464.00	-59.61	267.08	-52.54	11.00	11.00	0.00
P300 Marker									
5,548.72	49.46	0.00	5,480.00	-41.75	267.08	-34.69	11.00	11.00	0.00
P350 Marker									
5,550.00	49.61	0.00	5,480.83	-40.78	267.08	-33.71	11.00	11.00	0.00
5,570.82	51.90	0.00	5,494.00	-24.66	267.08	-17.60	11.00	11.00	0.00
Sharon Springs									
5,577.35	52.61	0.00	5,498.00	-19.49	267.08	-12.44	11.00	11.00	0.00
Niobrara									
5,600.00	55.11	0.00	5,511.36	-1.20	267.08	5.85	11.00	11.00	0.00
5,606.42	55.81	0.00	5,515.00	4.09	267.08	11.14	11.00	11.00	0.00
Top A Chalk									
5,650.00	60.61	0.00	5,537.95	41.12	267.08	48.15	11.00	11.00	0.00
5,664.74	62.23	0.00	5,545.00	54.06	267.08	61.09	11.00	11.00	0.00
Top A Marl									
5,691.84	65.21	0.00	5,557.00	78.36	267.08	85.38	11.00	11.00	0.00
A Marl									
5,700.00	66.11	0.00	5,560.36	85.79	267.08	92.81	11.00	11.00	0.00
5,711.75	67.40	0.00	5,565.00	96.59	267.08	103.60	11.00	11.00	0.00
Top Upper B									
5,750.00	71.61	0.00	5,578.39	132.41	267.09	139.41	11.00	11.00	0.00
5,787.76	75.76	0.00	5,589.00	168.64	267.09	175.63	11.00	11.00	0.00
Base Upper B									
5,800.00	77.11	0.00	5,591.87	180.54	267.09	187.52	11.00	11.00	0.00
5,850.00	82.61	0.00	5,600.67	229.74	267.09	236.70	11.00	11.00	0.00
5,900.00	88.11	0.00	5,604.72	279.55	267.09	286.50	11.00	11.00	0.00
5,915.07	89.76	0.00	5,605.00	294.62	267.09	301.57	11.00	11.00	0.00
Top Lower B									
5,917.22	90.00	0.00	5,605.00	296.77	267.09	303.71	11.00	11.00	0.00
LP @ 90° Inc, Hold - 7"									



WOG

Planning Report

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Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,000.00	90.00	0.00	5,605.00	379.55	267.10	386.47	0.00	0.00	0.00	
6,100.00	90.00	0.00	5,605.00	479.55	267.10	486.43	0.00	0.00	0.00	
6,200.00	90.00	0.00	5,605.00	579.55	267.11	586.40	0.00	0.00	0.00	
6,300.00	90.00	0.00	5,605.00	679.55	267.11	686.36	0.00	0.00	0.00	
6,400.00	90.00	0.00	5,605.00	779.55	267.11	786.33	0.00	0.00	0.00	
6,500.00	90.00	0.00	5,605.00	879.55	267.12	886.29	0.00	0.00	0.00	
6,600.00	90.00	0.00	5,605.00	979.55	267.12	986.26	0.00	0.00	0.00	
6,700.00	90.00	0.00	5,605.00	1,079.55	267.13	1,086.22	0.00	0.00	0.00	
6,800.00	90.00	0.00	5,605.00	1,179.55	267.13	1,186.19	0.00	0.00	0.00	
6,900.00	90.00	0.00	5,605.00	1,279.55	267.14	1,286.15	0.00	0.00	0.00	
7,000.00	90.00	0.00	5,605.00	1,379.55	267.14	1,386.12	0.00	0.00	0.00	
7,100.00	90.00	0.00	5,605.00	1,479.55	267.14	1,486.08	0.00	0.00	0.00	
7,200.00	90.00	0.00	5,605.00	1,579.55	267.15	1,586.05	0.00	0.00	0.00	
7,300.00	90.00	0.00	5,605.00	1,679.55	267.15	1,686.01	0.00	0.00	0.00	
7,400.00	90.00	0.00	5,605.00	1,779.55	267.16	1,785.98	0.00	0.00	0.00	
7,500.00	90.00	0.00	5,605.00	1,879.55	267.16	1,885.95	0.00	0.00	0.00	
7,600.00	90.00	0.00	5,605.00	1,979.55	267.17	1,985.91	0.00	0.00	0.00	
7,700.00	90.00	0.00	5,605.00	2,079.55	267.17	2,085.88	0.00	0.00	0.00	
7,800.00	90.00	0.00	5,605.00	2,179.55	267.17	2,185.84	0.00	0.00	0.00	
7,900.00	90.00	0.00	5,605.00	2,279.55	267.18	2,285.81	0.00	0.00	0.00	
8,000.00	90.00	0.00	5,605.00	2,379.55	267.18	2,385.77	0.00	0.00	0.00	
8,100.00	90.00	0.00	5,605.00	2,479.55	267.19	2,485.74	0.00	0.00	0.00	
8,200.00	90.00	0.00	5,605.00	2,579.55	267.19	2,585.70	0.00	0.00	0.00	
8,300.00	90.00	0.00	5,605.00	2,679.55	267.20	2,685.67	0.00	0.00	0.00	
8,400.00	90.00	0.00	5,605.00	2,779.55	267.20	2,785.63	0.00	0.00	0.00	
8,500.00	90.00	0.00	5,605.00	2,879.55	267.20	2,885.60	0.00	0.00	0.00	
8,600.00	90.00	0.00	5,605.00	2,979.55	267.21	2,985.56	0.00	0.00	0.00	
8,700.00	90.00	0.00	5,605.00	3,079.55	267.21	3,085.53	0.00	0.00	0.00	
8,800.00	90.00	0.00	5,605.00	3,179.55	267.22	3,185.49	0.00	0.00	0.00	
8,900.00	90.00	0.00	5,605.00	3,279.55	267.22	3,285.46	0.00	0.00	0.00	
9,000.00	90.00	0.00	5,605.00	3,379.55	267.23	3,385.43	0.00	0.00	0.00	
9,100.00	90.00	0.00	5,605.00	3,479.55	267.23	3,485.39	0.00	0.00	0.00	
9,200.00	90.00	0.00	5,605.00	3,579.55	267.23	3,585.36	0.00	0.00	0.00	
9,300.00	90.00	0.00	5,605.00	3,679.55	267.24	3,685.32	0.00	0.00	0.00	
9,400.00	90.00	0.00	5,605.00	3,779.55	267.24	3,785.29	0.00	0.00	0.00	
9,500.00	90.00	0.00	5,605.00	3,879.55	267.25	3,885.25	0.00	0.00	0.00	
9,600.00	90.00	0.00	5,605.00	3,979.55	267.25	3,985.22	0.00	0.00	0.00	
9,700.00	90.00	0.00	5,605.00	4,079.55	267.26	4,085.18	0.00	0.00	0.00	
9,800.00	90.00	0.00	5,605.00	4,179.55	267.26	4,185.15	0.00	0.00	0.00	
9,900.00	90.00	0.00	5,605.00	4,279.55	267.26	4,285.11	0.00	0.00	0.00	
10,000.00	90.00	0.00	5,605.00	4,379.55	267.27	4,385.08	0.00	0.00	0.00	
10,100.00	90.00	0.00	5,605.00	4,479.55	267.27	4,485.04	0.00	0.00	0.00	
10,200.00	90.00	0.00	5,605.00	4,579.55	267.28	4,585.01	0.00	0.00	0.00	
10,300.00	90.00	0.00	5,605.00	4,679.55	267.28	4,684.97	0.00	0.00	0.00	
10,400.00	90.00	0.00	5,605.00	4,779.55	267.28	4,784.94	0.00	0.00	0.00	
10,500.00	90.00	0.00	5,605.00	4,879.55	267.29	4,884.90	0.00	0.00	0.00	
10,600.00	90.00	0.00	5,605.00	4,979.55	267.29	4,984.87	0.00	0.00	0.00	
10,700.00	90.00	0.00	5,605.00	5,079.55	267.30	5,084.84	0.00	0.00	0.00	
10,800.00	90.00	0.00	5,605.00	5,179.55	267.30	5,184.80	0.00	0.00	0.00	
10,900.00	90.00	0.00	5,605.00	5,279.55	267.31	5,284.77	0.00	0.00	0.00	
11,000.00	90.00	0.00	5,605.00	5,379.55	267.31	5,384.73	0.00	0.00	0.00	
11,100.00	90.00	0.00	5,605.00	5,479.55	267.31	5,484.70	0.00	0.00	0.00	
11,200.00	90.00	0.00	5,605.00	5,579.55	267.32	5,584.66	0.00	0.00	0.00	
11,300.00	90.00	0.00	5,605.00	5,679.55	267.32	5,684.63	0.00	0.00	0.00	



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #25P-2416
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,400.00	90.00	0.00	5,605.00	5,779.55	267.33	5,784.59	0.00	0.00	0.00
11,500.00	90.00	0.00	5,605.00	5,879.55	267.33	5,884.56	0.00	0.00	0.00
11,600.00	90.00	0.00	5,605.00	5,979.55	267.34	5,984.52	0.00	0.00	0.00
11,700.00	90.00	0.00	5,605.00	6,079.55	267.34	6,084.49	0.00	0.00	0.00
11,800.00	90.00	0.00	5,605.00	6,179.55	267.34	6,184.45	0.00	0.00	0.00
11,900.00	90.00	0.00	5,605.00	6,279.55	267.35	6,284.42	0.00	0.00	0.00
12,000.00	90.00	0.00	5,605.00	6,379.55	267.35	6,384.38	0.00	0.00	0.00
12,100.00	90.00	0.00	5,605.00	6,479.55	267.36	6,484.35	0.00	0.00	0.00
12,200.00	90.00	0.00	5,605.00	6,579.55	267.36	6,584.31	0.00	0.00	0.00
12,300.00	90.00	0.00	5,605.00	6,679.55	267.37	6,684.28	0.00	0.00	0.00
12,400.00	90.00	0.00	5,605.00	6,779.55	267.37	6,784.25	0.00	0.00	0.00
12,500.00	90.00	0.00	5,605.00	6,879.55	267.37	6,884.21	0.00	0.00	0.00
12,600.00	90.00	0.00	5,605.00	6,979.55	267.38	6,984.18	0.00	0.00	0.00
12,700.00	90.00	0.00	5,605.00	7,079.55	267.38	7,084.14	0.00	0.00	0.00
12,800.00	90.00	0.00	5,605.00	7,179.55	267.39	7,184.11	0.00	0.00	0.00
12,900.00	90.00	0.00	5,605.00	7,279.55	267.39	7,284.07	0.00	0.00	0.00
13,000.00	90.00	0.00	5,605.00	7,379.55	267.40	7,384.04	0.00	0.00	0.00
13,100.00	90.00	0.00	5,605.00	7,479.55	267.40	7,484.00	0.00	0.00	0.00
13,200.00	90.00	0.00	5,605.00	7,579.55	267.40	7,583.97	0.00	0.00	0.00
13,300.00	90.00	0.00	5,605.00	7,679.55	267.41	7,683.93	0.00	0.00	0.00
13,400.00	90.00	0.00	5,605.00	7,779.55	267.41	7,783.90	0.00	0.00	0.00
13,500.00	90.00	0.00	5,605.00	7,879.55	267.42	7,883.86	0.00	0.00	0.00
13,600.00	90.00	0.00	5,605.00	7,979.55	267.42	7,983.83	0.00	0.00	0.00
13,700.00	90.00	0.00	5,605.00	8,079.55	267.43	8,083.79	0.00	0.00	0.00
13,800.00	90.00	0.00	5,605.00	8,179.55	267.43	8,183.76	0.00	0.00	0.00
13,900.00	90.00	0.00	5,605.00	8,279.55	267.43	8,283.73	0.00	0.00	0.00
14,000.00	90.00	0.00	5,605.00	8,379.55	267.44	8,383.69	0.00	0.00	0.00
14,100.00	90.00	0.00	5,605.00	8,479.55	267.44	8,483.66	0.00	0.00	0.00
14,200.00	90.00	0.00	5,605.00	8,579.55	267.45	8,583.62	0.00	0.00	0.00
14,300.00	90.00	0.00	5,605.00	8,679.55	267.45	8,683.59	0.00	0.00	0.00
14,400.00	90.00	0.00	5,605.00	8,779.55	267.46	8,783.55	0.00	0.00	0.00
14,500.00	90.00	0.00	5,605.00	8,879.55	267.46	8,883.52	0.00	0.00	0.00
14,600.00	90.00	0.00	5,605.00	8,979.55	267.46	8,983.48	0.00	0.00	0.00
14,700.00	90.00	0.00	5,605.00	9,079.55	267.47	9,083.45	0.00	0.00	0.00
14,800.00	90.00	0.00	5,605.00	9,179.55	267.47	9,183.41	0.00	0.00	0.00
14,900.00	90.00	0.00	5,605.00	9,279.55	267.48	9,283.38	0.00	0.00	0.00
15,000.00	90.00	0.00	5,605.00	9,379.55	267.48	9,383.34	0.00	0.00	0.00
15,100.00	90.00	0.00	5,605.00	9,479.55	267.49	9,483.31	0.00	0.00	0.00
15,200.00	90.00	0.00	5,605.00	9,579.55	267.49	9,583.27	0.00	0.00	0.00
15,300.00	90.00	0.00	5,605.00	9,679.55	267.49	9,683.24	0.00	0.00	0.00
15,400.00	90.00	0.00	5,605.00	9,779.55	267.50	9,783.20	0.00	0.00	0.00
15,500.00	90.00	0.00	5,605.00	9,879.55	267.50	9,883.17	0.00	0.00	0.00
15,600.00	90.00	0.00	5,605.00	9,979.55	267.51	9,983.14	0.00	0.00	0.00
15,700.00	90.00	0.00	5,605.00	10,079.55	267.51	10,083.10	0.00	0.00	0.00
15,756.19	90.00	0.00	5,605.00	10,135.74	267.51	10,139.27	0.00	0.00	0.00
TD at 15756.19' MD									



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #25P-2416
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4762.00usft (Original Well Elev)
Project:	Weld County, CO	MD Reference:	KBE @ 4762.00usft (Original Well Elev)
Site:	Sec 25-T10N-R58W	North Reference:	True
Well:	Razor #25P-2416	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL 2416	0.00	0.00	5,605.00	10,135.74	267.51	1,550,187.61	3,469,251.07	40° 49' 52.780 N	103° 48' 15.290 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
5,917.22	5,605.00	7"	7.000	8.750	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,554.14	1,550.00	Upper Pierre				
3,511.59	3,500.00	Hygiene				
3,662.16	3,650.00	Lower Pierre				
5,496.32	5,444.00	P200 Marker				
5,524.74	5,464.00	P300 Marker				
5,548.72	5,480.00	P350 Marker				
5,570.82	5,494.00	Sharon Springs				
5,577.35	5,498.00	Niobrara				
5,606.42	5,515.00	Top A Chalk				
5,664.74	5,545.00	Top A Marl				
5,691.84	5,557.00	A Marl				
5,711.75	5,565.00	Top Upper B				
5,787.76	5,589.00	Base Upper B				
5,915.07	5,605.00	Top Lower B				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.00	300.00	0.00	0.00	Build 2°/100'
550.00	549.68	-7.01	8.35	Hold 5° Inc
4,300.00	4,285.41	-217.09	258.72	Drop 2°/100'
4,550.00	4,535.09	-224.10	267.07	Hold Vertical
5,099.04	5,084.13	-224.10	267.07	KOP, Build 11°/100'
5,917.22	5,605.00	296.77	267.09	LP @ 90° Inc, Hold
15,756.19	5,605.00	10,135.74	267.51	TD at 15756.19' MD