



Project: Weld County, CO
 Site: Sec 26-T10N-R58W
 Well: Razor #26I-2348
 Wellbore: Hz
 Design: APD

PROJECT DETAILS: Weld County, CO
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level



Azimuths to True North
 Magnetic North: 7.83°
 Magnetic Field
 Strength: 52807.5nT
 Dip Angle: 67.35°
 Date: 7/7/2016
 Model: IGRF2015

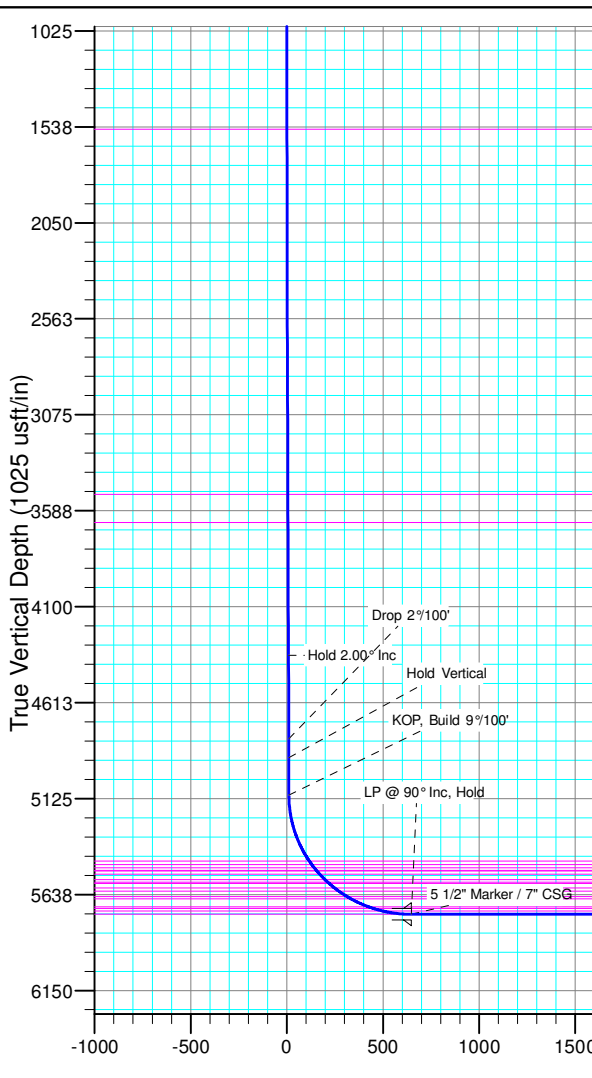
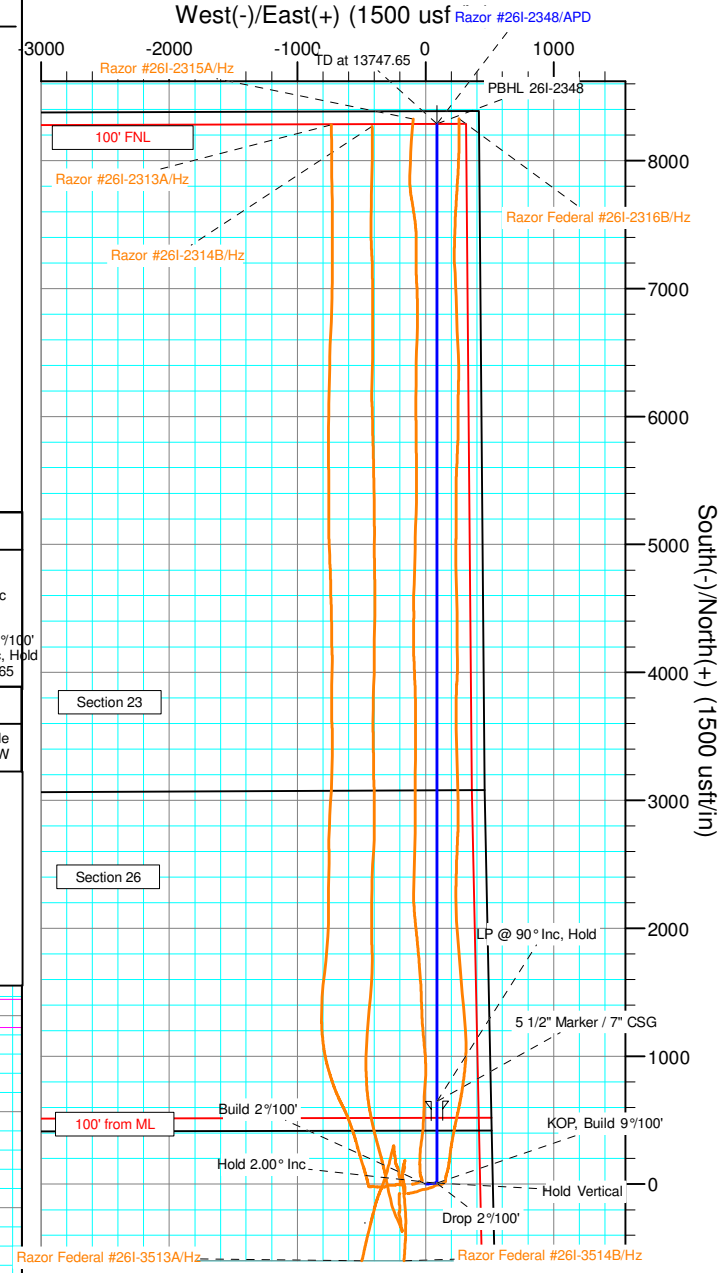
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1550.00	1550.02	Upper Pierre
3500.00	3500.40	Hygiene
3650.00	3650.46	Lower Pierre
5458.00	5480.00	P200 Marker
5478.00	5504.30	P300 Marker
5494.00	5524.23	P350 Marker
5508.00	5542.08	Sharon Springs
5512.00	5547.25	Niobrara
5529.00	5569.63	Top A Chalk
5559.00	5610.96	Top A Marl
5571.00	5628.27	A Marl
5579.00	5640.09	Top Upper B
5603.00	5677.12	Base Upper B
5619.00	5703.37	Top Lower B
5648.00	5755.19	Base Lower B
5661.00	5780.77	Top B Marl
5703.00	5880.58	Top C Chalk
5711.00	5904.74	Middle C Chalk
5725.00	5955.70	Middle C Marl
5743.00	6107.43	Lower C Chalk

WELL DETAILS: Razor #26I-2348

+N/-S	+E/-W	Northing	Ground Level:	4711.00	Easting	Latitude	Longitude	Slot
0.00	0.00	1541773.66	3463808.97	40° 48' 30.680 N	103° 49' 28.140 W			

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	4361.00	2.00	83.49	4361.17	8.03	70.41	0.05	83.49	8.78	
4	4807.62	2.00	83.49	4806.52	9.80	85.90	0.00	10.71	10.93	
5	4907.62	0.00	0.00	4906.50	10.00	87.63	2.00	180.00	10.93	
6	5107.62	0.00	0.00	5106.50	10.00	87.63	0.00	0.00	10.93	
7	6107.43	90.00	360.00	5743.00	646.50	87.63	9.00	360.00	647.39	
8	13747.65	90.00	360.00	5743.00	8286.72	87.63	0.00	0.00	8287.19	PBHL 26I-2348



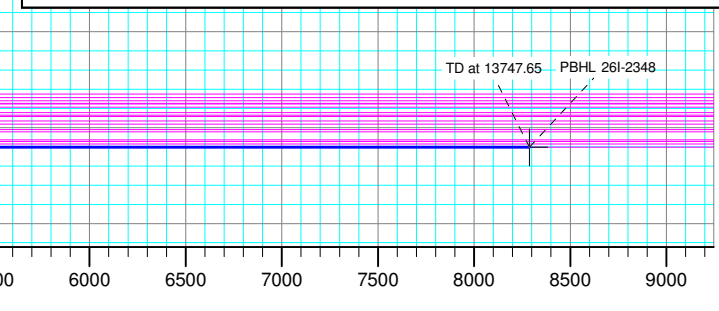
ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation		
300.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	Build 2°/100'		
4361.17	4361.00	2.00	83.49	8.03	70.41	8.78	70.87	Hold 2.00° Inc		
4806.52	4807.62	2.00	83.49	9.80	85.90	10.71	86.46	Drop 2°/100'		
4906.50	4907.62	0.00	0.00	10.00	87.63	10.93	88.20	Hold Vertical		
5106.50	5107.62	0.00	0.00	10.00	87.63	10.93	88.20	KOP, Build 9°/100'		
5743.00	6107.43	90.00	0.00	646.50	87.63	647.39	724.70	LP @ 90° Inc, Hold		
5743.00	13747.65	90.00	0.00	8286.72	87.63	8287.19	8364.93	TD at 13747.65		

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL 26I-2348	5743.00	8286.72	87.63	1550060.55	3463740.02	40° 49' 52.560 N	103° 49' 27.000 W

SHL:
 2242' FSL, 526' FEL
 Sec26-T10N-R58W

BHL:
 100' FNL, 330' FEL
 Sec23-T10N-R58W

5 1/2" Marker / 7" CSG:
 2436' FNL, 438' FWL
 Sec26-T10N-R58W





Whiting Petroleum Corp.

**Weld County, CO
Sec 26-T10N-R58W
Razor #26I-2348**

Hz

Plan: APD

Standard Planning Report

08 July, 2016



WOG Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #26I-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #26I-2348	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 26-T10N-R58W				
Site Position:		Northing:	1,541,803.23 usft	Latitude:	40° 48' 31.490 N
From:	Lat/Long	Easting:	3,461,028.06 usft	Longitude:	103° 50' 4.290 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	1.08 °

Well	Razor #26I-2348					
Well Position	+N/-S	-81.80 usft	Northing:	1,541,773.66 usft	Latitude:	40° 48' 30.680 N
	+E/-W	2,779.85 usft	Easting:	3,463,808.97 usft	Longitude:	103° 49' 28.140 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,711.00 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/7/2016	7.83	67.35	52,807

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	0.61

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	
4,361.00	2.00	83.49	4,360.17	8.03	70.41	0.05	0.05	0.00	83.49	
4,807.62	2.00	83.49	4,806.52	9.80	85.90	0.00	0.00	0.00	0.00	
4,907.62	0.00	0.00	4,906.50	10.00	87.63	2.00	-2.00	0.00	180.00	
5,107.62	0.00	0.00	5,106.50	10.00	87.63	0.00	0.00	0.00	0.00	
6,107.43	90.00	360.00	5,743.00	646.50	87.63	9.00	9.00	0.00	360.00	
13,747.65	90.00	360.00	5,743.00	8,286.72	87.63	0.00	0.00	0.00	0.00	PBHL 26I-2348



WOG
Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #261-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #261-2348	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	0.05	83.49	400.00	0.00	0.04	0.01	0.05	0.05	0.00	
500.00	0.10	83.49	500.00	0.02	0.17	0.02	0.05	0.05	0.00	
600.00	0.15	83.49	600.00	0.04	0.38	0.05	0.05	0.05	0.00	
700.00	0.20	83.49	700.00	0.08	0.68	0.09	0.05	0.05	0.00	
800.00	0.25	83.49	800.00	0.12	1.07	0.13	0.05	0.05	0.00	
900.00	0.30	83.49	900.00	0.18	1.54	0.19	0.05	0.05	0.00	
1,000.00	0.34	83.49	1,000.00	0.24	2.09	0.26	0.05	0.05	0.00	
1,100.00	0.39	83.49	1,099.99	0.31	2.73	0.34	0.05	0.05	0.00	
1,200.00	0.44	83.49	1,199.99	0.39	3.46	0.43	0.05	0.05	0.00	
1,300.00	0.49	83.49	1,299.99	0.49	4.27	0.53	0.05	0.05	0.00	
1,400.00	0.54	83.49	1,399.98	0.59	5.17	0.64	0.05	0.05	0.00	
1,500.00	0.59	83.49	1,499.98	0.70	6.15	0.77	0.05	0.05	0.00	
1,550.02	0.62	83.49	1,550.00	0.76	6.67	0.83	0.05	0.05	0.00	
Upper Pierre										
1,600.00	0.64	83.49	1,599.97	0.82	7.22	0.90	0.05	0.05	0.00	
1,700.00	0.69	83.49	1,699.97	0.96	8.37	1.04	0.05	0.05	0.00	
1,800.00	0.74	83.49	1,799.96	1.10	9.61	1.20	0.05	0.05	0.00	
1,900.00	0.79	83.49	1,899.95	1.25	10.93	1.36	0.05	0.05	0.00	
2,000.00	0.84	83.49	1,999.94	1.41	12.34	1.54	0.05	0.05	0.00	
2,100.00	0.89	83.49	2,099.93	1.58	13.83	1.72	0.05	0.05	0.00	
2,200.00	0.94	83.49	2,199.92	1.76	15.41	1.92	0.05	0.05	0.00	
2,300.00	0.98	83.49	2,299.90	1.95	17.08	2.13	0.05	0.05	0.00	
2,400.00	1.03	83.49	2,399.89	2.15	18.83	2.35	0.05	0.05	0.00	
2,500.00	1.08	83.49	2,499.87	2.36	20.67	2.58	0.05	0.05	0.00	
2,600.00	1.13	83.49	2,599.85	2.58	22.59	2.82	0.05	0.05	0.00	
2,700.00	1.18	83.49	2,699.83	2.81	24.59	3.07	0.05	0.05	0.00	
2,800.00	1.23	83.49	2,799.81	3.05	26.69	3.33	0.05	0.05	0.00	
2,900.00	1.28	83.49	2,899.78	3.29	28.86	3.60	0.05	0.05	0.00	
3,000.00	1.33	83.49	2,999.76	3.55	31.13	3.88	0.05	0.05	0.00	
3,100.00	1.38	83.49	3,099.73	3.82	33.48	4.17	0.05	0.05	0.00	
3,200.00	1.43	83.49	3,199.70	4.10	35.91	4.48	0.05	0.05	0.00	
3,300.00	1.48	83.49	3,299.67	4.39	38.43	4.79	0.05	0.05	0.00	
3,400.00	1.53	83.49	3,399.63	4.68	41.03	5.12	0.05	0.05	0.00	
3,500.00	1.58	83.49	3,499.60	4.99	43.72	5.45	0.05	0.05	0.00	
3,500.40	1.58	83.49	3,500.00	4.99	43.73	5.45	0.00	0.00	0.00	
Hygiene										
3,600.00	1.63	83.49	3,599.56	5.31	46.50	5.80	0.05	0.05	0.00	
3,650.46	1.65	83.49	3,650.00	5.47	47.93	5.98	0.05	0.05	0.00	
Lower Pierre										
3,700.00	1.67	83.49	3,699.52	5.63	49.36	6.15	0.05	0.05	0.00	
3,800.00	1.72	83.49	3,799.47	5.97	52.30	6.52	0.05	0.05	0.00	
3,900.00	1.77	83.49	3,899.43	6.31	55.34	6.90	0.05	0.05	0.00	
4,000.00	1.82	83.49	3,999.38	6.67	58.45	7.29	0.05	0.05	0.00	
4,100.00	1.87	83.49	4,099.32	7.04	61.65	7.69	0.05	0.05	0.00	
4,200.00	1.92	83.49	4,199.27	7.41	64.94	8.10	0.05	0.05	0.00	
4,300.00	1.97	83.49	4,299.21	7.80	68.31	8.52	0.05	0.05	0.00	
4,361.00	2.00	83.49	4,360.17	8.03	70.41	8.78	0.05	0.05	0.00	
Hold 2.00° Inc										
4,400.00	2.00	83.49	4,399.15	8.19	71.77	8.95	0.00	0.00	0.00	



WOG
Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #26I-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #26I-2348	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)	
4,500.00	2.00	83.49	4,499.09	8.58	75.23	9.38	0.00	0.00	0.00	
4,600.00	2.00	83.49	4,599.03	8.98	78.70	9.81	0.00	0.00	0.00	
4,700.00	2.00	83.49	4,698.97	9.38	82.17	10.24	0.00	0.00	0.00	
4,800.00	2.00	83.49	4,798.91	9.77	85.64	10.68	0.00	0.00	0.00	
4,807.62	2.00	83.49	4,806.52	9.80	85.90	10.71	0.00	0.00	0.00	
Drop 2°/100'										
4,900.00	0.15	83.49	4,898.88	10.00	87.62	10.92	2.00	-2.00	0.00	
4,907.62	0.00	0.00	4,906.50	10.00	87.63	10.93	2.00	-2.00	0.00	
Hold Vertical										
5,000.00	0.00	0.00	4,998.88	10.00	87.63	10.93	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,098.88	10.00	87.63	10.93	0.00	0.00	0.00	
5,107.62	0.00	0.00	5,106.50	10.00	87.63	10.93	0.00	0.00	0.00	
KOP, Build 9°/100'										
5,200.00	8.32	360.00	5,198.56	16.69	87.63	17.62	9.00	9.00	0.00	
5,300.00	17.32	360.00	5,295.97	38.85	87.63	39.78	9.00	9.00	0.00	
5,400.00	26.32	360.00	5,388.71	75.98	87.63	76.90	9.00	9.00	0.00	
5,480.00	33.52	360.00	5,458.00	115.86	87.63	116.78	9.00	9.00	0.00	
P200 Marker										
5,500.00	35.32	360.00	5,474.50	127.16	87.63	128.08	9.00	9.00	0.00	
5,504.30	35.71	360.00	5,478.00	129.66	87.63	130.58	9.00	9.00	0.00	
P300 Marker										
5,524.23	37.50	360.00	5,494.00	141.55	87.63	142.47	9.00	9.00	0.00	
P350 Marker										
5,542.08	39.11	360.00	5,508.00	152.61	87.63	153.53	9.00	9.00	0.00	
Sharon Springs										
5,547.25	39.57	360.00	5,512.00	155.89	87.63	156.80	9.00	9.00	0.00	
Niobrara										
5,569.63	41.59	360.00	5,529.00	170.45	87.63	171.36	9.00	9.00	0.00	
Top A Chalk										
5,600.00	44.32	360.00	5,551.22	191.14	87.63	192.05	9.00	9.00	0.00	
5,610.96	45.31	360.00	5,559.00	198.87	87.63	199.78	9.00	9.00	0.00	
Top A Marl										
5,628.27	46.87	360.00	5,571.00	211.33	87.63	212.25	9.00	9.00	0.00	
A Marl										
5,640.09	47.93	360.00	5,579.00	220.03	87.63	220.95	9.00	9.00	0.00	
Top Upper B										
5,677.12	51.26	360.00	5,603.00	248.23	87.63	249.14	9.00	9.00	0.00	
Base Upper B										
5,700.00	53.32	360.00	5,616.99	266.33	87.63	267.24	9.00	9.00	0.00	
5,703.37	53.63	360.00	5,619.00	269.04	87.63	269.95	9.00	9.00	0.00	
Top Lower B										
5,755.19	58.29	360.00	5,648.00	311.97	87.63	312.88	9.00	9.00	0.00	
Base Lower B										
5,780.77	60.59	360.00	5,661.00	333.99	87.63	334.90	9.00	9.00	0.00	
Top B Marl										
5,800.00	62.33	360.00	5,670.19	350.89	87.63	351.79	9.00	9.00	0.00	
5,880.58	69.58	360.00	5,703.00	424.42	87.63	425.32	9.00	9.00	0.00	
Top C Chalk										
5,900.00	71.33	360.00	5,709.50	442.72	87.63	443.63	9.00	9.00	0.00	
5,904.74	71.75	360.00	5,711.00	447.22	87.63	448.12	9.00	9.00	0.00	
Middle C Chalk										
5,955.70	76.34	360.00	5,725.00	496.20	87.63	497.10	9.00	9.00	0.00	



WOG
Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #26I-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #26I-2348	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)	
Middle C Marl										
6,000.00	80.33	360.00	5,733.96	539.58	87.63	540.48	9.00	9.00	0.00	
6,100.00	89.33	360.00	5,742.96	639.07	87.63	639.96	9.00	9.00	0.00	
6,107.43	90.00	360.00	5,743.00	646.50	87.63	647.39	9.00	9.00	0.00	
LP @ 90° Inc, Hold - Lower C Chalk - 5 1/2" Marker / 7" CSG										
6,200.00	90.00	360.00	5,743.00	739.07	87.63	739.96	0.00	0.00	0.00	
6,300.00	90.00	360.00	5,743.00	839.07	87.63	839.95	0.00	0.00	0.00	
6,400.00	90.00	360.00	5,743.00	939.07	87.63	939.95	0.00	0.00	0.00	
6,500.00	90.00	360.00	5,743.00	1,039.07	87.63	1,039.94	0.00	0.00	0.00	
6,600.00	90.00	360.00	5,743.00	1,139.07	87.63	1,139.93	0.00	0.00	0.00	
6,700.00	90.00	360.00	5,743.00	1,239.07	87.63	1,239.93	0.00	0.00	0.00	
6,800.00	90.00	360.00	5,743.00	1,339.07	87.63	1,339.92	0.00	0.00	0.00	
6,900.00	90.00	360.00	5,743.00	1,439.07	87.63	1,439.92	0.00	0.00	0.00	
7,000.00	90.00	360.00	5,743.00	1,539.07	87.63	1,539.91	0.00	0.00	0.00	
7,100.00	90.00	360.00	5,743.00	1,639.07	87.63	1,639.91	0.00	0.00	0.00	
7,200.00	90.00	360.00	5,743.00	1,739.07	87.63	1,739.90	0.00	0.00	0.00	
7,300.00	90.00	360.00	5,743.00	1,839.07	87.63	1,839.90	0.00	0.00	0.00	
7,400.00	90.00	360.00	5,743.00	1,939.07	87.63	1,939.89	0.00	0.00	0.00	
7,500.00	90.00	360.00	5,743.00	2,039.07	87.63	2,039.88	0.00	0.00	0.00	
7,600.00	90.00	360.00	5,743.00	2,139.07	87.63	2,139.88	0.00	0.00	0.00	
7,700.00	90.00	360.00	5,743.00	2,239.07	87.63	2,239.87	0.00	0.00	0.00	
7,800.00	90.00	360.00	5,743.00	2,339.07	87.63	2,339.87	0.00	0.00	0.00	
7,900.00	90.00	360.00	5,743.00	2,439.07	87.63	2,439.86	0.00	0.00	0.00	
8,000.00	90.00	360.00	5,743.00	2,539.07	87.63	2,539.86	0.00	0.00	0.00	
8,100.00	90.00	360.00	5,743.00	2,639.07	87.63	2,639.85	0.00	0.00	0.00	
8,200.00	90.00	360.00	5,743.00	2,739.07	87.63	2,739.84	0.00	0.00	0.00	
8,300.00	90.00	360.00	5,743.00	2,839.07	87.63	2,839.84	0.00	0.00	0.00	
8,400.00	90.00	360.00	5,743.00	2,939.07	87.63	2,939.83	0.00	0.00	0.00	
8,500.00	90.00	360.00	5,743.00	3,039.07	87.63	3,039.83	0.00	0.00	0.00	
8,600.00	90.00	360.00	5,743.00	3,139.07	87.63	3,139.82	0.00	0.00	0.00	
8,700.00	90.00	360.00	5,743.00	3,239.07	87.63	3,239.82	0.00	0.00	0.00	
8,800.00	90.00	360.00	5,743.00	3,339.07	87.63	3,339.81	0.00	0.00	0.00	
8,900.00	90.00	360.00	5,743.00	3,439.07	87.63	3,439.81	0.00	0.00	0.00	
9,000.00	90.00	360.00	5,743.00	3,539.07	87.63	3,539.80	0.00	0.00	0.00	
9,100.00	90.00	360.00	5,743.00	3,639.07	87.63	3,639.79	0.00	0.00	0.00	
9,200.00	90.00	360.00	5,743.00	3,739.07	87.63	3,739.79	0.00	0.00	0.00	
9,300.00	90.00	360.00	5,743.00	3,839.07	87.63	3,839.78	0.00	0.00	0.00	
9,400.00	90.00	360.00	5,743.00	3,939.07	87.63	3,939.78	0.00	0.00	0.00	
9,500.00	90.00	360.00	5,743.00	4,039.07	87.63	4,039.77	0.00	0.00	0.00	
9,600.00	90.00	360.00	5,743.00	4,139.07	87.63	4,139.77	0.00	0.00	0.00	
9,700.00	90.00	360.00	5,743.00	4,239.07	87.63	4,239.76	0.00	0.00	0.00	
9,800.00	90.00	360.00	5,743.00	4,339.07	87.63	4,339.76	0.00	0.00	0.00	
9,900.00	90.00	360.00	5,743.00	4,439.07	87.63	4,439.75	0.00	0.00	0.00	
10,000.00	90.00	360.00	5,743.00	4,539.07	87.63	4,539.74	0.00	0.00	0.00	
10,100.00	90.00	360.00	5,743.00	4,639.07	87.63	4,639.74	0.00	0.00	0.00	
10,200.00	90.00	360.00	5,743.00	4,739.07	87.63	4,739.73	0.00	0.00	0.00	
10,300.00	90.00	360.00	5,743.00	4,839.07	87.63	4,839.73	0.00	0.00	0.00	
10,400.00	90.00	360.00	5,743.00	4,939.07	87.63	4,939.72	0.00	0.00	0.00	
10,500.00	90.00	360.00	5,743.00	5,039.07	87.63	5,039.72	0.00	0.00	0.00	
10,600.00	90.00	360.00	5,743.00	5,139.07	87.63	5,139.71	0.00	0.00	0.00	
10,700.00	90.00	360.00	5,743.00	5,239.07	87.63	5,239.70	0.00	0.00	0.00	
10,800.00	90.00	360.00	5,743.00	5,339.07	87.63	5,339.70	0.00	0.00	0.00	
10,900.00	90.00	360.00	5,743.00	5,439.07	87.63	5,439.69	0.00	0.00	0.00	
11,000.00	90.00	360.00	5,743.00	5,539.07	87.63	5,539.69	0.00	0.00	0.00	



WOG
Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #26I-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #26I-2348	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)
11,100.00	90.00	360.00	5,743.00	5,639.07	87.63	5,639.68	0.00	0.00	0.00
11,200.00	90.00	360.00	5,743.00	5,739.07	87.63	5,739.68	0.00	0.00	0.00
11,300.00	90.00	360.00	5,743.00	5,839.07	87.63	5,839.67	0.00	0.00	0.00
11,400.00	90.00	360.00	5,743.00	5,939.07	87.63	5,939.67	0.00	0.00	0.00
11,500.00	90.00	360.00	5,743.00	6,039.07	87.63	6,039.66	0.00	0.00	0.00
11,600.00	90.00	360.00	5,743.00	6,139.07	87.63	6,139.65	0.00	0.00	0.00
11,700.00	90.00	360.00	5,743.00	6,239.07	87.63	6,239.65	0.00	0.00	0.00
11,800.00	90.00	360.00	5,743.00	6,339.07	87.63	6,339.64	0.00	0.00	0.00
11,900.00	90.00	360.00	5,743.00	6,439.07	87.63	6,439.64	0.00	0.00	0.00
12,000.00	90.00	360.00	5,743.00	6,539.07	87.63	6,539.63	0.00	0.00	0.00
12,100.00	90.00	360.00	5,743.00	6,639.07	87.63	6,639.63	0.00	0.00	0.00
12,200.00	90.00	360.00	5,743.00	6,739.07	87.63	6,739.62	0.00	0.00	0.00
12,300.00	90.00	360.00	5,743.00	6,839.07	87.63	6,839.62	0.00	0.00	0.00
12,400.00	90.00	360.00	5,743.00	6,939.07	87.63	6,939.61	0.00	0.00	0.00
12,500.00	90.00	360.00	5,743.00	7,039.07	87.63	7,039.60	0.00	0.00	0.00
12,600.00	90.00	360.00	5,743.00	7,139.07	87.63	7,139.60	0.00	0.00	0.00
12,700.00	90.00	360.00	5,743.00	7,239.07	87.63	7,239.59	0.00	0.00	0.00
12,800.00	90.00	360.00	5,743.00	7,339.07	87.63	7,339.59	0.00	0.00	0.00
12,900.00	90.00	360.00	5,743.00	7,439.07	87.63	7,439.58	0.00	0.00	0.00
13,000.00	90.00	360.00	5,743.00	7,539.07	87.63	7,539.58	0.00	0.00	0.00
13,100.00	90.00	360.00	5,743.00	7,639.07	87.63	7,639.57	0.00	0.00	0.00
13,200.00	90.00	360.00	5,743.00	7,739.07	87.63	7,739.57	0.00	0.00	0.00
13,300.00	90.00	360.00	5,743.00	7,839.07	87.63	7,839.56	0.00	0.00	0.00
13,400.00	90.00	360.00	5,743.00	7,939.07	87.63	7,939.55	0.00	0.00	0.00
13,500.00	90.00	360.00	5,743.00	8,039.07	87.63	8,039.55	0.00	0.00	0.00
13,600.00	90.00	360.00	5,743.00	8,139.07	87.63	8,139.54	0.00	0.00	0.00
13,700.00	90.00	360.00	5,743.00	8,239.07	87.63	8,239.54	0.00	0.00	0.00
13,747.65	90.00	360.00	5,743.00	8,286.72	87.63	8,287.19	0.00	0.00	0.00
TD at 13747.65									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL 26I-2348	0.00	0.00	5,743.00	8,286.72	87.63	1,550,060.56	3,463,740.01	40° 49' 52.560 N	103° 49' 27.000 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
6,107.43	5,743.00	5 1/2" Marker / 7" CSG	7.000	8.750	



WOG
Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Razor #26I-2348
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4732.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4732.00usft
Site:	Sec 26-T10N-R58W	North Reference:	True
Well:	Razor #26I-2348	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hz		
Design:	APD		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,550.02	1,550.00	Upper Pierre				
3,500.40	3,500.00	Hygiene				
3,650.46	3,650.00	Lower Pierre				
5,480.00	5,458.00	P200 Marker				
5,504.30	5,478.00	P300 Marker				
5,524.23	5,494.00	P350 Marker				
5,542.08	5,508.00	Sharon Springs				
5,547.25	5,512.00	Niobrara				
5,569.63	5,529.00	Top A Chalk				
5,610.96	5,559.00	Top A Marl				
5,628.27	5,571.00	A Marl				
5,640.09	5,579.00	Top Upper B				
5,677.12	5,603.00	Base Upper B				
5,703.37	5,619.00	Top Lower B				
5,755.19	5,648.00	Base Lower B				
5,780.77	5,661.00	Top B Marl				
5,880.58	5,703.00	Top C Chalk				
5,904.74	5,711.00	Middle C Chalk				
5,955.70	5,725.00	Middle C Marl				
6,107.43	5,743.00	Lower C Chalk				

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'	
4,361.00	4,360.17	8.03	70.41	Hold 2.00° Inc	
4,807.62	4,806.52	9.80	85.90	Drop 2°/100'	
4,907.62	4,906.50	10.00	87.63	Hold Vertical	
5,107.62	5,106.50	10.00	87.63	KOP, Build 9°/100'	
6,107.43	5,743.00	646.50	87.63	LP @ 90° Inc, Hold	
13,747.65	5,743.00	8,286.72	87.63	TD at 13747.65	