



Project: Weld County, CO
Site: Sec 7-T10N-R57W
Well: Horsetail #07H-0615
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: 7.86°
Magnetic Field
Strength: 52883.4snT
Dip Angle: 67.40°
Date: 1/27/2016
Model: IGRF2015

WELL DETAILS: Horsetail #07H-0615

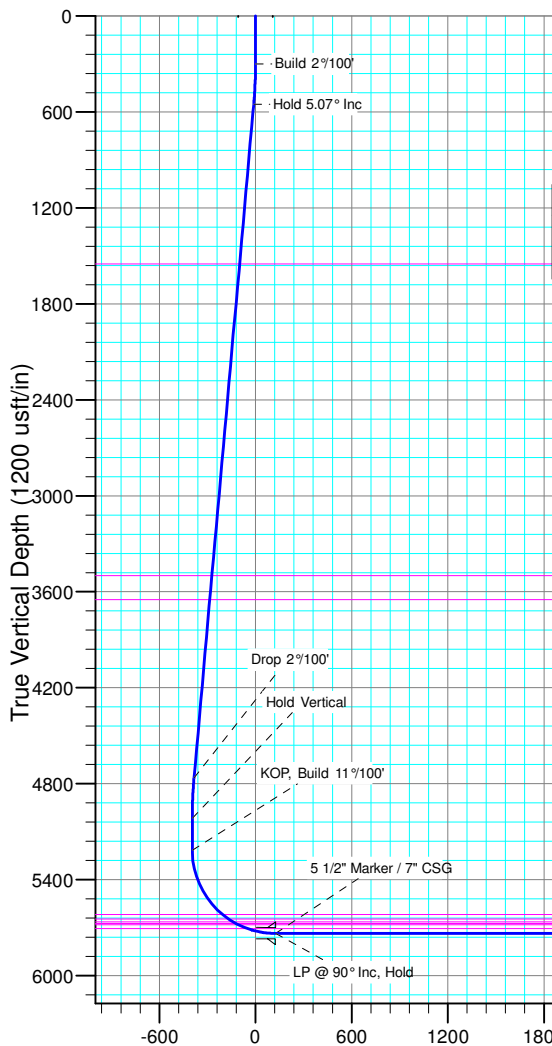
+N/-S	+E/-W	Northing	Ground Level:	4912.00	Longitude	Slot
0.00	0.00	1558321.48	Easting	3473803.22	40° 51' 12.270 N	103° 47' 14.040 W

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	553.51	5.07	176.11	553.18	-11.18	0.76	2.00	176.11	-11.18	
4	4779.69	5.07	176.11	4762.82	-383.82	26.13	0.00	0.00	-383.72	
5	5033.20	0.00	0.00	5016.00	-395.00	26.89	2.00	180.00	-394.90	
6	5233.20	0.00	0.00	5216.00	-395.00	26.89	0.00	0.00	-394.90	
7	6051.58	90.00	0.00	5737.00	126.00	26.89	11.00	0.00	126.10	
8	13347.11	90.00	0.00	5737.00	7421.53	26.89	0.00	0.00	7421.58	PBHL 07H-0615

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1550.00	1554.25	Upper Pierre
3500.00	3511.91	Hygiene
3650.00	3662.50	Lower Pierre
5619.00	5693.95	P200 Marker
5646.00	5738.98	P300 Marker
5665.00	5774.42	P350 Marker
5674.00	5792.71	Sharon Springs
5683.00	5812.28	Niobrara
5706.00	5870.95	Top A Chalk



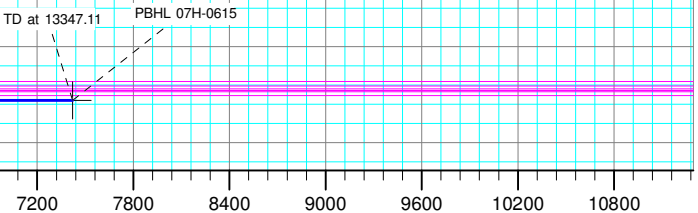
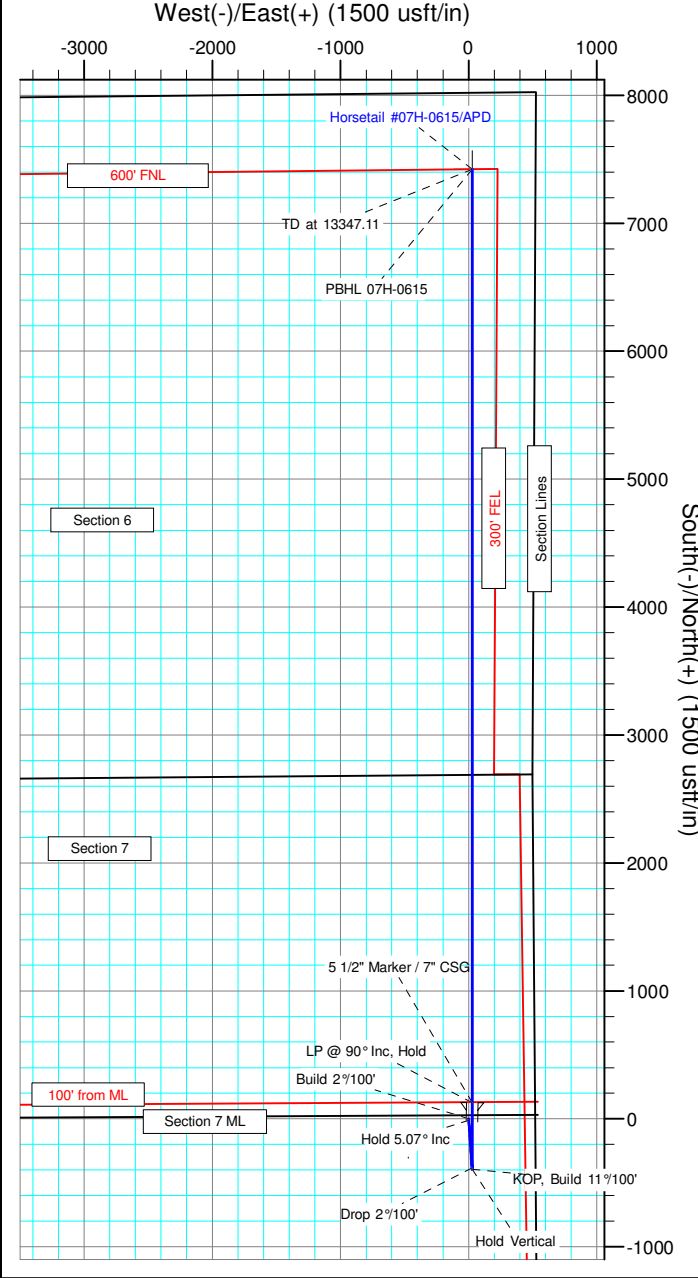
ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation		
300.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	Build 2°/100'		
553.18	553.51	5.07	176.11	-11.18	0.76	-11.18	11.21	Hold 5.07° Inc		
4762.82	4779.69	5.07	176.11	-383.82	26.13	-383.72	384.70	Drop 2°/100'		
5016.00	5033.20	0.00	0.00	-395.00	26.89	-394.90	395.91	Hold Vertical		
5216.00	5233.20	0.00	0.00	-395.00	26.89	-394.90	395.91	KOP, Build 11°/100'		
5737.00	6051.58	90.00	0.00	126.00	26.89	126.10	916.91	LP @ 90° Inc, Hold		
5737.00	13347.11	90.00	0.00	7421.53	26.89	7421.58	8212.44	TD at 13347.11		

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL 07H-0615	5737.00	7421.53	26.89	1565742.15	3473686.76	40° 52' 25.600 N	103° 47' 13.690 W

SHL:
2630' FSL, 540' FEL
Sec7-T10N-R57W

BHL:
600' FNL, 495' FEL
Sec6-T10N-R57W

7"CSG PT/5 1/2" Marker::
2561' FNL, 513' FEL
Sec7-T10N-R57W



Vertical Section at 0.21° (1200 usft/in)



Whiting Petroleum Corp.

Weld County, CO

Sec 7-T10N-R57W

Horsetail #07H-0615

Hz

Plan: APD

Standard Planning Report

27 January, 2016



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Horsetail #07H-0615
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4933.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4933.00usft
Site:	Sec 7-T10N-R57W	North Reference:	True
Well:	Horsetail #07H-0615	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 7-T10N-R57W			
Site Position:		Northing:	1,558,450.14 usft	Latitude:	40° 51' 14.300 N
From:	Lat/Long	Easting:	3,469,810.15 usft	Longitude:	103° 48' 5.960 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	1.10 °

Well	Horsetail #07H-0615					
Well Position	+N/-S	-205.10 usft	Northing:	1,558,321.49 usft	Latitude:	40° 51' 12.270 N
	+E/-W	3,989.87 usft	Easting:	3,473,803.22 usft	Longitude:	103° 47' 14.040 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,912.00 usft

Wellbore	Hz				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/27/2016	7.86	67.40	52,883

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	0.21

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	
553.51	5.07	176.11	553.18	-11.18	0.76	2.00	2.00	0.00	176.11	
4,779.69	5.07	176.11	4,762.82	-383.82	26.13	0.00	0.00	0.00	0.00	
5,033.20	0.00	0.00	5,016.00	-395.00	26.89	2.00	-2.00	0.00	180.00	
5,233.20	0.00	0.00	5,216.00	-395.00	26.89	0.00	0.00	0.00	0.00	
6,051.58	90.00	0.00	5,737.00	126.00	26.89	11.00	11.00	0.00	0.00	
13,347.11	90.00	0.00	5,737.00	7,421.53	26.89	0.00	0.00	0.00	0.00	PBHL 07H-0615



WOG

Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Horsetail #07H-0615
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4933.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4933.00usft
Site:	Sec 7-T10N-R57W	North Reference:	True
Well:	Horsetail #07H-0615	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	176.11	399.98	-1.74	0.12	-1.74	2.00	2.00	0.00
500.00	4.00	176.11	499.84	-6.96	0.47	-6.96	2.00	2.00	0.00
553.51	5.07	176.11	553.18	-11.18	0.76	-11.18	2.00	2.00	0.00
Hold 5.07° Inc									
600.00	5.07	176.11	599.49	-15.28	1.04	-15.28	0.00	0.00	0.00
700.00	5.07	176.11	699.10	-24.10	1.64	-24.09	0.00	0.00	0.00
800.00	5.07	176.11	798.70	-32.92	2.24	-32.91	0.00	0.00	0.00
900.00	5.07	176.11	898.31	-41.73	2.84	-41.72	0.00	0.00	0.00
1,000.00	5.07	176.11	997.92	-50.55	3.44	-50.54	0.00	0.00	0.00
1,100.00	5.07	176.11	1,097.53	-59.37	4.04	-59.35	0.00	0.00	0.00
1,200.00	5.07	176.11	1,197.14	-68.19	4.64	-68.17	0.00	0.00	0.00
1,300.00	5.07	176.11	1,296.75	-77.00	5.24	-76.98	0.00	0.00	0.00
1,400.00	5.07	176.11	1,396.36	-85.82	5.84	-85.80	0.00	0.00	0.00
1,500.00	5.07	176.11	1,495.97	-94.64	6.44	-94.61	0.00	0.00	0.00
1,554.25	5.07	176.11	1,550.00	-99.42	6.77	-99.40	0.00	0.00	0.00
Upper Pierre									
1,600.00	5.07	176.11	1,595.57	-103.46	7.04	-103.43	0.00	0.00	0.00
1,700.00	5.07	176.11	1,695.18	-112.27	7.64	-112.24	0.00	0.00	0.00
1,800.00	5.07	176.11	1,794.79	-121.09	8.24	-121.06	0.00	0.00	0.00
1,900.00	5.07	176.11	1,894.40	-129.91	8.84	-129.87	0.00	0.00	0.00
2,000.00	5.07	176.11	1,994.01	-138.72	9.44	-138.69	0.00	0.00	0.00
2,100.00	5.07	176.11	2,093.62	-147.54	10.04	-147.50	0.00	0.00	0.00
2,200.00	5.07	176.11	2,193.23	-156.36	10.64	-156.32	0.00	0.00	0.00
2,300.00	5.07	176.11	2,292.84	-165.18	11.24	-165.13	0.00	0.00	0.00
2,400.00	5.07	176.11	2,392.44	-173.99	11.84	-173.95	0.00	0.00	0.00
2,500.00	5.07	176.11	2,492.05	-182.81	12.44	-182.76	0.00	0.00	0.00
2,600.00	5.07	176.11	2,591.66	-191.63	13.04	-191.58	0.00	0.00	0.00
2,700.00	5.07	176.11	2,691.27	-200.45	13.64	-200.39	0.00	0.00	0.00
2,800.00	5.07	176.11	2,790.88	-209.26	14.24	-209.21	0.00	0.00	0.00
2,900.00	5.07	176.11	2,890.49	-218.08	14.84	-218.02	0.00	0.00	0.00
3,000.00	5.07	176.11	2,990.10	-226.90	15.45	-226.84	0.00	0.00	0.00
3,100.00	5.07	176.11	3,089.71	-235.71	16.05	-235.65	0.00	0.00	0.00
3,200.00	5.07	176.11	3,189.31	-244.53	16.65	-244.47	0.00	0.00	0.00
3,300.00	5.07	176.11	3,288.92	-253.35	17.25	-253.28	0.00	0.00	0.00
3,400.00	5.07	176.11	3,388.53	-262.17	17.85	-262.10	0.00	0.00	0.00
3,500.00	5.07	176.11	3,488.14	-270.98	18.45	-270.91	0.00	0.00	0.00
3,511.91	5.07	176.11	3,500.00	-272.03	18.52	-271.96	0.00	0.00	0.00
Hygiene									
3,600.00	5.07	176.11	3,587.75	-279.80	19.05	-279.73	0.00	0.00	0.00
3,662.50	5.07	176.11	3,650.00	-285.31	19.42	-285.24	0.00	0.00	0.00
Lower Pierre									
3,700.00	5.07	176.11	3,687.36	-288.62	19.65	-288.54	0.00	0.00	0.00
3,800.00	5.07	176.11	3,786.97	-297.43	20.25	-297.36	0.00	0.00	0.00
3,900.00	5.07	176.11	3,886.57	-306.25	20.85	-306.17	0.00	0.00	0.00
4,000.00	5.07	176.11	3,986.18	-315.07	21.45	-314.99	0.00	0.00	0.00
4,100.00	5.07	176.11	4,085.79	-323.89	22.05	-323.80	0.00	0.00	0.00
4,200.00	5.07	176.11	4,185.40	-332.70	22.65	-332.62	0.00	0.00	0.00
4,300.00	5.07	176.11	4,285.01	-341.52	23.25	-341.43	0.00	0.00	0.00
4,400.00	5.07	176.11	4,384.62	-350.34	23.85	-350.25	0.00	0.00	0.00



WOG

Planning Report

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Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4933.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4933.00usft
Site:	Sec 7-T10N-R57W	North Reference:	True
Well:	Horsetail #07H-0615	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	5.07	176.11	4,484.23	-359.16	24.45	-359.06	0.00	0.00	0.00
4,600.00	5.07	176.11	4,583.84	-367.97	25.05	-367.88	0.00	0.00	0.00
4,700.00	5.07	176.11	4,683.44	-376.79	25.65	-376.69	0.00	0.00	0.00
4,779.69	5.07	176.11	4,762.82	-383.82	26.13	-383.72	0.00	0.00	0.00
Drop 2°/100'									
4,800.00	4.66	176.11	4,783.06	-385.54	26.24	-385.44	2.00	-2.00	0.00
4,900.00	2.66	176.11	4,882.85	-391.91	26.68	-391.81	2.00	-2.00	0.00
5,000.00	0.66	176.11	4,982.80	-394.81	26.88	-394.71	2.00	-2.00	0.00
5,033.20	0.00	0.00	5,016.00	-395.00	26.89	-394.90	2.00	-2.00	0.00
Hold Vertical									
5,100.00	0.00	0.00	5,082.80	-395.00	26.89	-394.90	0.00	0.00	0.00
5,200.00	0.00	0.00	5,182.80	-395.00	26.89	-394.90	0.00	0.00	0.00
5,233.20	0.00	0.00	5,216.00	-395.00	26.89	-394.90	0.00	0.00	0.00
KOP, Build 11°/100'									
5,300.00	7.35	0.00	5,282.62	-390.72	26.89	-390.62	11.00	11.00	0.00
5,400.00	18.34	0.00	5,379.97	-368.53	26.89	-368.43	11.00	11.00	0.00
5,500.00	29.34	0.00	5,471.29	-328.17	26.89	-328.07	11.00	11.00	0.00
5,600.00	40.34	0.00	5,553.24	-271.13	26.89	-271.03	11.00	11.00	0.00
5,693.95	50.67	0.00	5,619.00	-204.20	26.89	-204.10	11.00	11.00	0.00
P200 Marker									
5,700.00	51.34	0.00	5,622.81	-199.50	26.89	-199.40	11.00	11.00	0.00
5,738.98	55.62	0.00	5,646.00	-168.18	26.89	-168.08	11.00	11.00	0.00
P300 Marker									
5,774.42	59.52	0.00	5,665.00	-138.27	26.89	-138.17	11.00	11.00	0.00
P350 Marker									
5,792.71	61.53	0.00	5,674.00	-122.35	26.89	-122.25	11.00	11.00	0.00
Sharon Springs									
5,800.00	62.33	0.00	5,677.43	-115.92	26.89	-115.82	11.00	11.00	0.00
5,812.28	63.68	0.00	5,683.00	-104.98	26.89	-104.88	11.00	11.00	0.00
Niobrara									
5,870.95	70.14	0.00	5,706.00	-51.03	26.89	-50.94	11.00	11.00	0.00
Top A Chalk									
5,900.00	73.33	0.00	5,715.10	-23.45	26.89	-23.36	11.00	11.00	0.00
6,000.00	84.33	0.00	5,734.45	74.50	26.89	74.60	11.00	11.00	0.00
6,051.58	90.00	0.00	5,737.00	126.00	26.89	126.09	11.00	11.00	0.00
LP @ 90° Inc, Hold - 5 1/2" Marker / 7" CSG									
6,100.00	90.00	0.00	5,737.00	174.42	26.89	174.51	0.00	0.00	0.00
6,200.00	90.00	0.00	5,737.00	274.42	26.89	274.51	0.00	0.00	0.00
6,300.00	90.00	0.00	5,737.00	374.42	26.89	374.51	0.00	0.00	0.00
6,400.00	90.00	0.00	5,737.00	474.42	26.89	474.51	0.00	0.00	0.00
6,500.00	90.00	0.00	5,737.00	574.42	26.89	574.51	0.00	0.00	0.00
6,600.00	90.00	0.00	5,737.00	674.42	26.89	674.51	0.00	0.00	0.00
6,700.00	90.00	0.00	5,737.00	774.42	26.89	774.51	0.00	0.00	0.00
6,800.00	90.00	0.00	5,737.00	874.42	26.89	874.51	0.00	0.00	0.00
6,900.00	90.00	0.00	5,737.00	974.42	26.89	974.51	0.00	0.00	0.00
7,000.00	90.00	0.00	5,737.00	1,074.42	26.89	1,074.51	0.00	0.00	0.00
7,100.00	90.00	0.00	5,737.00	1,174.42	26.89	1,174.51	0.00	0.00	0.00
7,200.00	90.00	0.00	5,737.00	1,274.42	26.89	1,274.51	0.00	0.00	0.00
7,300.00	90.00	0.00	5,737.00	1,374.42	26.89	1,374.51	0.00	0.00	0.00
7,400.00	90.00	0.00	5,737.00	1,474.42	26.89	1,474.50	0.00	0.00	0.00
7,500.00	90.00	0.00	5,737.00	1,574.42	26.89	1,574.50	0.00	0.00	0.00
7,600.00	90.00	0.00	5,737.00	1,674.42	26.89	1,674.50	0.00	0.00	0.00



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Site:	Sec 7-T10N-R57W	North Reference:	True
Well:	Horsetail #07H-0615	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)
7,700.00	90.00	0.00	5,737.00	1,774.42	26.89	1,774.50	0.00	0.00	0.00
7,800.00	90.00	0.00	5,737.00	1,874.42	26.89	1,874.50	0.00	0.00	0.00
7,900.00	90.00	0.00	5,737.00	1,974.42	26.89	1,974.50	0.00	0.00	0.00
8,000.00	90.00	0.00	5,737.00	2,074.42	26.89	2,074.50	0.00	0.00	0.00
8,100.00	90.00	0.00	5,737.00	2,174.42	26.89	2,174.50	0.00	0.00	0.00
8,200.00	90.00	0.00	5,737.00	2,274.42	26.89	2,274.50	0.00	0.00	0.00
8,300.00	90.00	0.00	5,737.00	2,374.42	26.89	2,374.50	0.00	0.00	0.00
8,400.00	90.00	0.00	5,737.00	2,474.42	26.89	2,474.50	0.00	0.00	0.00
8,500.00	90.00	0.00	5,737.00	2,574.42	26.89	2,574.50	0.00	0.00	0.00
8,600.00	90.00	0.00	5,737.00	2,674.42	26.89	2,674.50	0.00	0.00	0.00
8,700.00	90.00	0.00	5,737.00	2,774.42	26.89	2,774.50	0.00	0.00	0.00
8,800.00	90.00	0.00	5,737.00	2,874.42	26.89	2,874.50	0.00	0.00	0.00
8,900.00	90.00	0.00	5,737.00	2,974.42	26.89	2,974.50	0.00	0.00	0.00
9,000.00	90.00	0.00	5,737.00	3,074.42	26.89	3,074.49	0.00	0.00	0.00
9,100.00	90.00	0.00	5,737.00	3,174.42	26.89	3,174.49	0.00	0.00	0.00
9,200.00	90.00	0.00	5,737.00	3,274.42	26.89	3,274.49	0.00	0.00	0.00
9,300.00	90.00	0.00	5,737.00	3,374.42	26.89	3,374.49	0.00	0.00	0.00
9,400.00	90.00	0.00	5,737.00	3,474.42	26.89	3,474.49	0.00	0.00	0.00
9,500.00	90.00	0.00	5,737.00	3,574.42	26.89	3,574.49	0.00	0.00	0.00
9,600.00	90.00	0.00	5,737.00	3,674.42	26.89	3,674.49	0.00	0.00	0.00
9,700.00	90.00	0.00	5,737.00	3,774.42	26.89	3,774.49	0.00	0.00	0.00
9,800.00	90.00	0.00	5,737.00	3,874.42	26.89	3,874.49	0.00	0.00	0.00
9,900.00	90.00	0.00	5,737.00	3,974.42	26.89	3,974.49	0.00	0.00	0.00
10,000.00	90.00	0.00	5,737.00	4,074.42	26.89	4,074.49	0.00	0.00	0.00
10,100.00	90.00	0.00	5,737.00	4,174.42	26.89	4,174.49	0.00	0.00	0.00
10,200.00	90.00	0.00	5,737.00	4,274.42	26.89	4,274.49	0.00	0.00	0.00
10,300.00	90.00	0.00	5,737.00	4,374.42	26.89	4,374.49	0.00	0.00	0.00
10,400.00	90.00	0.00	5,737.00	4,474.42	26.89	4,474.49	0.00	0.00	0.00
10,500.00	90.00	0.00	5,737.00	4,574.42	26.89	4,574.48	0.00	0.00	0.00
10,600.00	90.00	0.00	5,737.00	4,674.42	26.89	4,674.48	0.00	0.00	0.00
10,700.00	90.00	0.00	5,737.00	4,774.42	26.89	4,774.48	0.00	0.00	0.00
10,800.00	90.00	0.00	5,737.00	4,874.42	26.89	4,874.48	0.00	0.00	0.00
10,900.00	90.00	0.00	5,737.00	4,974.42	26.89	4,974.48	0.00	0.00	0.00
11,000.00	90.00	0.00	5,737.00	5,074.42	26.89	5,074.48	0.00	0.00	0.00
11,100.00	90.00	0.00	5,737.00	5,174.42	26.89	5,174.48	0.00	0.00	0.00
11,200.00	90.00	0.00	5,737.00	5,274.42	26.89	5,274.48	0.00	0.00	0.00
11,300.00	90.00	0.00	5,737.00	5,374.42	26.89	5,374.48	0.00	0.00	0.00
11,400.00	90.00	0.00	5,737.00	5,474.42	26.89	5,474.48	0.00	0.00	0.00
11,500.00	90.00	0.00	5,737.00	5,574.42	26.89	5,574.48	0.00	0.00	0.00
11,600.00	90.00	0.00	5,737.00	5,674.42	26.89	5,674.48	0.00	0.00	0.00
11,700.00	90.00	0.00	5,737.00	5,774.42	26.89	5,774.48	0.00	0.00	0.00
11,800.00	90.00	0.00	5,737.00	5,874.42	26.89	5,874.48	0.00	0.00	0.00
11,900.00	90.00	0.00	5,737.00	5,974.42	26.89	5,974.48	0.00	0.00	0.00
12,000.00	90.00	0.00	5,737.00	6,074.42	26.89	6,074.47	0.00	0.00	0.00
12,100.00	90.00	0.00	5,737.00	6,174.42	26.89	6,174.47	0.00	0.00	0.00
12,200.00	90.00	0.00	5,737.00	6,274.42	26.89	6,274.47	0.00	0.00	0.00
12,300.00	90.00	0.00	5,737.00	6,374.42	26.89	6,374.47	0.00	0.00	0.00
12,400.00	90.00	0.00	5,737.00	6,474.42	26.89	6,474.47	0.00	0.00	0.00
12,500.00	90.00	0.00	5,737.00	6,574.42	26.89	6,574.47	0.00	0.00	0.00
12,600.00	90.00	0.00	5,737.00	6,674.42	26.89	6,674.47	0.00	0.00	0.00
12,700.00	90.00	0.00	5,737.00	6,774.42	26.89	6,774.47	0.00	0.00	0.00
12,800.00	90.00	0.00	5,737.00	6,874.42	26.89	6,874.47	0.00	0.00	0.00
12,900.00	90.00	0.00	5,737.00	6,974.42	26.89	6,974.47	0.00	0.00	0.00
13,000.00	90.00	0.00	5,737.00	7,074.42	26.89	7,074.47	0.00	0.00	0.00



WOG Planning Report

Database:	LandmarkEDM	Local Co-ordinate Reference:	Well Horsetail #07H-0615
Company:	Whiting Petroleum Corp.	TVD Reference:	KBE @ 4933.00usft
Project:	Weld County, CO	MD Reference:	KBE @ 4933.00usft
Site:	Sec 7-T10N-R57W	North Reference:	True
Well:	Horsetail #07H-0615	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)
13,100.00	90.00	0.00	5,737.00	7,174.42	26.89	7,174.47	0.00	0.00	0.00
13,200.00	90.00	0.00	5,737.00	7,274.42	26.89	7,274.47	0.00	0.00	0.00
13,300.00	90.00	0.00	5,737.00	7,374.42	26.89	7,374.47	0.00	0.00	0.00
13,347.11	90.00	0.00	5,737.00	7,421.53	26.89	7,421.58	0.00	0.00	0.00
TD at 13347.11									

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 07H-0615	0.00	0.00	5,737.00	7,421.53	26.89	1,565,742.15	3,473,686.76	40° 52' 25.600 N	103° 47' 13.690 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
6,051.58	5,737.00	5 1/2" Marker / 7" CSG	5.500	8.750	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,554.25	1,550.00	Upper Pierre			
3,511.91	3,500.00	Hygiene			
3,662.50	3,650.00	Lower Pierre			
5,693.95	5,619.00	P200 Marker			
5,738.98	5,646.00	P300 Marker			
5,774.42	5,665.00	P350 Marker			
5,792.71	5,674.00	Sharon Springs			
5,812.28	5,683.00	Niobrara			
5,870.95	5,706.00	Top A 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'
553.51	553.18	-11.18	0.76	Hold 5.07° Inc
4,779.69	4,762.82	-383.82	26.13	Drop 2°/100'
5,033.20	5,016.00	-395.00	26.89	Hold Vertical
5,233.20	5,216.00	-395.00	26.89	KOP, Build 11°/100'
6,051.58	5,737.00	126.00	26.89	LP @ 90° Inc, Hold
13,347.11	5,737.00	7,421.53	26.89	TD at 13347.11