



WHITING PETROLEUM CORP.
Project: Weld County, CO
Site: Sec 7-T10N-R57W
Well: Horsetail Fed #07G-0611
Wellbore: Original Hole
Design: Original Hole

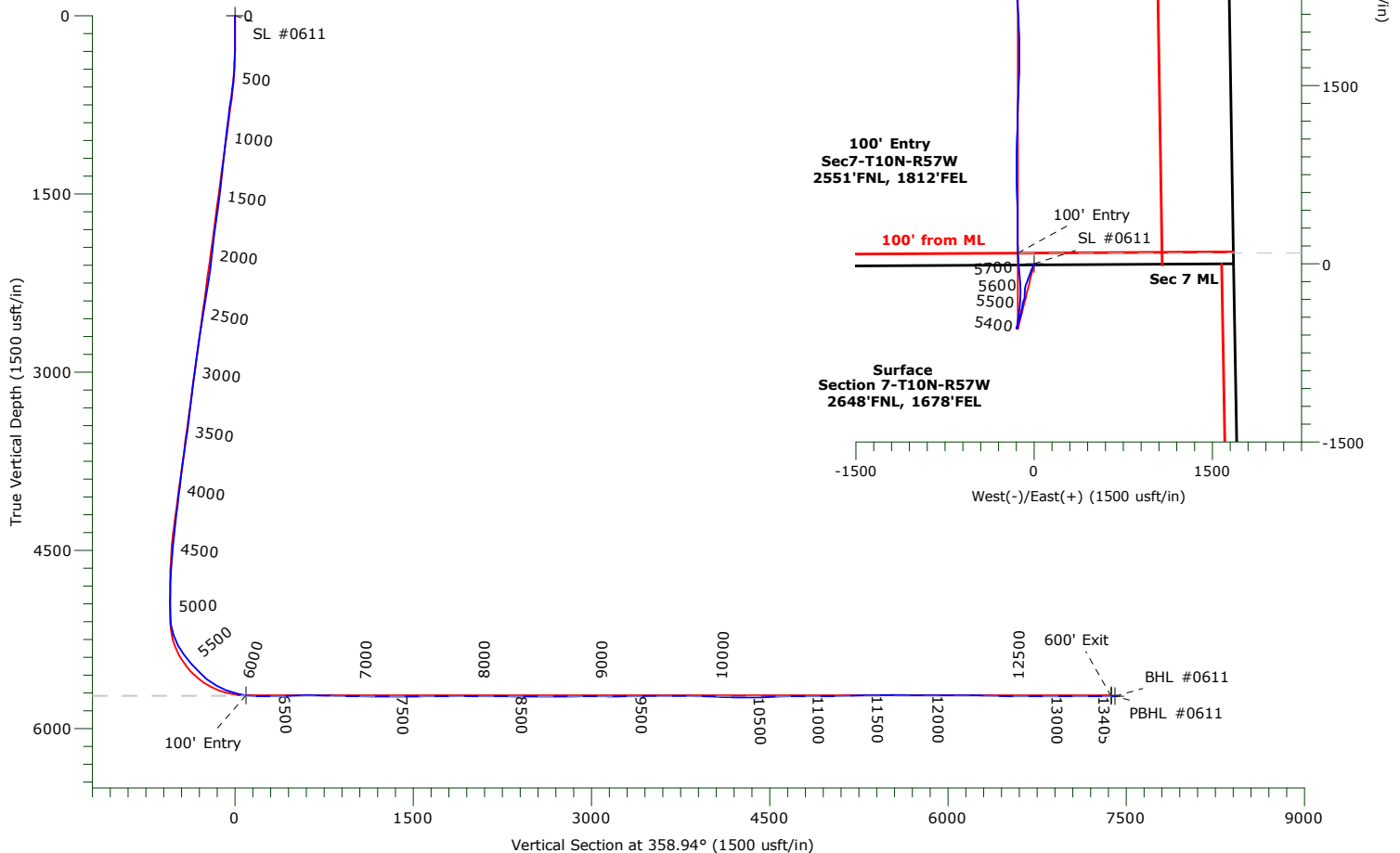


ANNOTATIONS

TVD	MD	+N/-S	+E/-W	Annotation
5721.90	6088.00	91.14	-135.82	100' Entry
5727.73	13373.00	7372.30	-139.66	600' Exit

LEGEND

- Horsetail Fed #07G-0611, Original Hole, Plan #2 V0
- Original Hole



WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL #0611	0.00	0.00	0.00	1558330.88	3472664.73	40.853494°N	103.791347°W	Point
PBHL #0611	5720.00	7377.01	-135.98	1565703.90	3472386.64	40.873742°N	103.791839°W	Point
100' Entry #0611	5721.90	91.14	-135.82	1558419.39	3472527.18	40.853745°N	103.791838°W	Point
BHL #0611	5727.25	7404.30	-139.56	1565731.12	3472382.53	40.873817°N	103.791852°W	Point
600' Exit #0611	5727.73	7372.30	-139.66	1565699.12	3472383.05	40.873729°N	103.791852°W	Point

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Weld County, CO

Sec 7-T10N-R57W

Horsetail Fed #07G-0611

Original Hole

Design: Original Hole

Standard Survey Report

03 May, 2016

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Horsetail Fed #07G-0611
Project:	Weld County, CO	TVD Reference:	KBE @ 4916.00usft
Site:	Sec 7-T10N-R57W	MD Reference:	KBE @ 4916.00usft
Well:	Horsetail Fed #07G-0611	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	COMPASS_ROCKIES

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:	1,558,398.04 usft
From:	Lat/Long	Easting:	3,469,889.54 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	40.853825°N
		Longitude:	103.801372°W
		Grid Convergence:	1.10 °

Well	Horsetail Fed #07G-0611		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	40.853494°N
		Longitude:	103.791347°W
		Ground Level:	4,895.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/6/2015	7.88	67.44	53,088

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.00	0.00	0.00	358.94	

Survey Program	Date	5/3/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
222.00	13,344.00	Survey #1 (Original Hole)	MWD+IFR+MS	MWD + IFR + Multi Station	
13,405.00	13,405.00	Survey #2 (Original Hole)	BLIND	OWSG BLIND	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
222.00	0.36	3.06	222.00	0.70	0.04	0.70	0.16	0.16	0.00	
314.00	0.85	207.11	314.00	0.38	-0.26	0.38	1.29	0.53	-169.51	
405.00	2.96	210.41	404.94	-2.25	-1.76	-2.22	2.32	2.32	3.63	
497.00	4.99	200.99	496.72	-8.03	-4.39	-7.95	2.31	2.21	-10.24	
589.00	7.32	197.74	588.18	-17.35	-7.61	-17.21	2.56	2.53	-3.53	
681.00	9.17	202.58	679.23	-29.71	-12.21	-29.48	2.15	2.01	5.26	
772.00	8.70	206.16	769.12	-42.58	-18.03	-42.24	0.80	-0.52	3.93	
863.00	7.59	204.12	859.20	-54.24	-23.52	-53.80	1.26	-1.22	-2.24	
955.00	7.21	200.06	950.44	-65.21	-27.98	-64.68	0.70	-0.41	-4.41	

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Site:	Sec 7-T10N-R57W	MD Reference:	KBE @ 4916.00usft
Well:	Horsetail Fed #07G-0611	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	COMPASS_ROCKIES

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,046.00	7.35	199.46	1,040.70	-76.06	-31.88	-75.46	0.18	0.15	-0.66
1,138.00	7.10	201.83	1,131.97	-86.89	-35.96	-86.21	0.42	-0.27	2.58
1,229.00	6.53	200.64	1,222.33	-96.95	-39.87	-96.20	0.65	-0.63	-1.31
1,321.00	6.62	198.64	1,313.72	-106.87	-43.41	-106.05	0.27	0.10	-2.17
1,412.00	6.82	199.63	1,404.10	-116.93	-46.90	-116.04	0.25	0.22	1.09
1,504.00	7.10	200.05	1,495.42	-127.42	-50.69	-126.46	0.31	0.30	0.46
1,656.00	8.51	201.18	1,646.01	-146.73	-57.97	-145.63	0.93	0.93	0.74
1,688.00	9.08	201.17	1,677.63	-151.29	-59.74	-150.16	1.78	1.78	-0.03
1,780.00	8.48	203.39	1,768.55	-164.29	-65.05	-163.06	0.75	-0.65	2.41
1,872.00	8.03	193.46	1,859.61	-176.76	-69.24	-175.45	1.62	-0.49	-10.79
1,964.00	6.67	192.01	1,950.85	-188.24	-71.85	-186.88	1.49	-1.48	-1.58
2,119.00	6.18	189.51	2,104.87	-205.27	-75.10	-203.85	0.36	-0.32	-1.61
2,213.00	9.55	185.16	2,197.98	-218.03	-76.64	-216.58	3.64	3.59	-4.63
2,402.00	9.23	183.60	2,384.44	-248.78	-79.00	-247.27	0.22	-0.17	-0.83
2,496.00	9.10	181.24	2,477.25	-263.73	-79.64	-262.21	0.42	-0.14	-2.51
2,591.00	8.93	179.72	2,571.07	-278.62	-79.76	-277.09	0.31	-0.18	-1.60
2,685.00	8.90	199.58	2,663.96	-292.77	-82.16	-291.20	3.26	-0.03	21.13
2,780.00	8.83	199.68	2,757.82	-306.56	-87.08	-304.89	0.08	-0.07	0.11
2,874.00	8.61	199.13	2,850.74	-320.00	-91.82	-318.24	0.25	-0.23	-0.59
2,968.00	7.70	188.35	2,943.79	-332.88	-95.04	-331.06	1.89	-0.97	-11.47
3,063.00	7.36	187.31	3,037.97	-345.21	-96.74	-343.36	0.39	-0.36	-1.09
3,158.00	6.90	185.38	3,132.24	-356.92	-98.05	-355.05	0.55	-0.48	-2.03
3,251.00	7.85	194.16	3,224.47	-368.64	-100.12	-366.73	1.58	1.02	9.44
3,346.00	7.15	192.09	3,318.66	-380.72	-102.95	-378.75	0.79	-0.74	-2.18
3,441.00	6.54	191.68	3,412.98	-391.80	-105.28	-389.78	0.64	-0.64	-0.43
3,535.00	8.57	193.37	3,506.16	-403.85	-107.99	-401.79	2.17	2.16	1.80
3,630.00	8.14	191.37	3,600.15	-417.33	-110.95	-415.21	0.55	-0.45	-2.11
3,724.00	8.06	191.31	3,693.21	-430.32	-113.55	-428.15	0.09	-0.09	-0.06
3,819.00	7.96	192.38	3,787.28	-443.28	-116.27	-441.05	0.19	-0.11	1.13
3,913.00	7.31	192.77	3,880.45	-455.47	-118.99	-453.19	0.69	-0.69	0.41
4,007.00	7.74	200.07	3,973.64	-467.24	-122.48	-464.90	1.11	0.46	7.77
4,102.00	6.70	201.80	4,067.89	-478.40	-126.73	-475.97	1.12	-1.09	1.82
4,125.00	6.74	202.13	4,090.73	-480.89	-127.74	-478.45	0.24	0.17	1.43
4,220.00	7.77	200.62	4,184.97	-492.07	-132.10	-489.54	1.10	1.08	-1.59
4,314.00	7.50	202.80	4,278.14	-503.67	-136.72	-501.06	0.42	-0.29	2.32
4,409.00	5.79	203.60	4,372.49	-513.78	-141.04	-511.08	1.80	-1.80	0.84
4,503.00	5.87	193.82	4,466.01	-522.79	-144.09	-520.04	1.06	0.09	-10.40
4,597.00	5.10	205.59	4,559.58	-531.23	-147.04	-528.42	1.45	-0.82	12.52
4,691.00	3.59	176.78	4,653.32	-537.94	-148.68	-535.09	2.78	-1.61	-30.65
4,786.00	3.23	177.09	4,748.15	-543.58	-148.38	-540.74	0.38	-0.38	0.33
4,880.00	1.60	137.91	4,842.07	-547.20	-147.36	-544.38	2.37	-1.73	-41.68
4,974.00	1.62	56.66	4,936.04	-547.44	-145.37	-544.66	2.23	0.02	-86.44
5,068.00	1.42	55.96	5,030.01	-546.06	-143.30	-543.31	0.21	-0.21	-0.74

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Survey										
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5,162.00	6.22	0.29	5,123.79	-540.31	-142.30	-537.58	5.90	5.11	-59.22	
5,256.00	19.38	8.86	5,215.26	-519.72	-139.87	-517.04	14.11	14.00	9.12	
5,350.00	29.16	4.81	5,300.86	-481.39	-135.53	-478.80	10.55	10.40	-4.31	
5,444.00	36.26	9.72	5,379.91	-431.10	-128.91	-428.64	8.06	7.55	5.22	
5,539.00	43.26	5.31	5,452.91	-370.91	-121.14	-368.60	7.94	7.37	-4.64	
5,633.00	44.18	3.57	5,520.85	-306.14	-116.12	-303.94	1.61	0.98	-1.85	
5,728.00	50.40	358.71	5,585.28	-236.42	-114.88	-234.25	7.55	6.55	-5.12	
5,822.00	59.89	356.20	5,638.94	-159.46	-118.40	-157.24	10.33	10.10	-2.67	
5,916.00	70.04	356.40	5,678.67	-74.58	-123.88	-72.28	10.80	10.80	0.21	
6,010.00	75.35	354.96	5,706.62	14.87	-130.66	17.29	5.84	5.65	-1.53	
6,105.00	83.50	357.76	5,724.04	107.98	-136.55	110.49	9.05	8.58	2.95	
6,199.00	89.32	359.94	5,729.93	201.73	-138.43	204.26	6.61	6.19	2.32	
6,294.00	90.74	359.80	5,729.88	296.73	-138.64	299.25	1.50	1.49	-0.15	
6,387.00	92.24	359.85	5,727.46	389.70	-138.93	392.20	1.61	1.61	0.05	
6,482.00	93.34	358.21	5,722.83	484.57	-140.53	487.08	2.08	1.16	-1.73	
6,576.00	90.64	358.45	5,719.57	578.46	-143.27	581.01	2.88	-2.87	0.26	
6,671.00	88.20	358.77	5,720.53	673.42	-145.57	676.00	2.59	-2.57	0.34	
6,765.00	87.89	358.48	5,723.74	767.34	-147.83	769.94	0.45	-0.33	-0.31	
6,860.00	89.68	0.94	5,725.75	862.31	-148.31	864.90	3.20	1.88	2.59	
6,954.00	88.25	1.36	5,727.45	956.27	-146.42	958.81	1.59	-1.52	0.45	
7,049.00	89.25	2.00	5,729.52	1,051.20	-143.64	1,053.68	1.25	1.05	0.67	
7,143.00	89.50	1.70	5,730.55	1,145.15	-140.60	1,147.55	0.42	0.27	-0.32	
7,237.00	90.35	1.44	5,730.67	1,239.11	-138.03	1,241.45	0.95	0.90	-0.28	
7,331.00	89.30	1.71	5,730.96	1,333.07	-135.44	1,335.35	1.15	-1.12	0.29	
7,426.00	90.05	2.23	5,731.50	1,428.02	-132.18	1,430.22	0.96	0.79	0.55	
7,519.00	91.14	3.05	5,730.53	1,520.91	-127.89	1,523.02	1.47	1.17	0.88	
7,614.00	90.23	0.91	5,729.40	1,615.84	-124.61	1,617.87	2.45	-0.96	-2.25	
7,708.00	90.59	0.65	5,728.72	1,709.83	-123.33	1,711.82	0.47	0.38	-0.28	
7,802.00	91.01	359.58	5,727.41	1,803.82	-123.14	1,805.79	1.22	0.45	-1.14	
7,896.00	90.00	358.22	5,726.58	1,897.79	-124.95	1,899.78	1.80	-1.07	-1.45	
7,991.00	89.31	357.33	5,727.16	1,992.72	-128.64	1,994.76	1.19	-0.73	-0.94	
8,085.00	89.62	357.04	5,728.03	2,086.60	-133.25	2,088.71	0.45	0.33	-0.31	
8,179.00	90.01	356.13	5,728.34	2,180.43	-138.85	2,182.63	1.05	0.41	-0.97	
8,273.00	89.15	357.55	5,729.03	2,274.28	-144.03	2,276.56	1.77	-0.91	1.51	
8,367.00	88.87	359.97	5,730.65	2,368.24	-146.07	2,370.54	2.59	-0.30	2.57	
8,461.00	90.12	0.17	5,731.48	2,462.23	-145.95	2,464.51	1.35	1.33	0.21	
8,556.00	90.89	359.80	5,730.64	2,557.23	-145.98	2,559.49	0.90	0.81	-0.39	
8,648.00	89.77	0.84	5,730.11	2,649.22	-145.46	2,651.46	1.66	-1.22	1.13	
8,739.00	89.51	0.31	5,730.68	2,740.22	-144.55	2,742.42	0.65	-0.29	-0.58	
8,831.00	90.48	0.12	5,730.69	2,832.22	-144.21	2,834.40	1.07	1.05	-0.21	
8,922.00	91.63	359.92	5,729.02	2,923.20	-144.17	2,925.37	1.28	1.26	-0.22	
9,014.00	89.40	1.48	5,728.19	3,015.18	-143.05	3,017.31	2.96	-2.42	1.70	
9,106.00	88.97	1.15	5,729.50	3,107.15	-140.94	3,109.22	0.59	-0.47	-0.36	

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Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	COMPASS_ROCKIES

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,198.00	90.08	1.50	5,730.26	3,199.12	-138.81	3,201.14	1.27	1.21	0.38
9,289.00	90.84	1.54	5,729.53	3,290.08	-136.40	3,292.04	0.84	0.84	0.04
9,380.00	91.48	0.94	5,727.69	3,381.04	-134.43	3,382.95	0.96	0.70	-0.66
9,472.00	90.06	1.92	5,726.45	3,473.00	-132.13	3,474.85	1.88	-1.54	1.07
9,563.00	90.25	2.03	5,726.20	3,563.95	-129.00	3,565.72	0.24	0.21	0.12
9,655.00	89.57	2.45	5,726.35	3,655.87	-125.40	3,657.57	0.87	-0.74	0.46
9,746.00	89.99	2.25	5,726.70	3,746.80	-121.67	3,748.41	0.51	0.46	-0.22
9,838.00	89.70	1.15	5,726.95	3,838.75	-118.94	3,840.30	1.24	-0.32	-1.20
9,929.00	88.16	359.45	5,728.65	3,929.73	-118.46	3,931.25	2.52	-1.69	-1.87
10,021.00	87.81	358.82	5,731.88	4,021.66	-119.85	4,023.19	0.78	-0.38	-0.68
10,113.00	88.02	358.15	5,735.23	4,113.57	-122.28	4,115.13	0.76	0.23	-0.73
10,205.00	89.15	358.49	5,737.50	4,205.50	-124.98	4,207.09	1.28	1.23	0.37
10,297.00	89.38	357.83	5,738.68	4,297.44	-127.93	4,299.08	0.76	0.25	-0.72
10,389.00	91.11	359.43	5,738.29	4,389.41	-130.13	4,391.07	2.56	1.88	1.74
10,481.00	91.69	359.21	5,736.04	4,481.38	-131.22	4,483.04	0.67	0.63	-0.24
10,573.00	92.80	358.70	5,732.44	4,573.29	-132.90	4,574.96	1.33	1.21	-0.55
10,664.00	90.57	359.98	5,729.76	4,664.24	-133.95	4,665.92	2.83	-2.45	1.41
10,755.00	90.31	359.69	5,729.06	4,755.23	-134.21	4,756.90	0.43	-0.29	-0.32
10,847.00	89.97	357.22	5,728.84	4,847.19	-136.69	4,848.89	2.71	-0.37	-2.68
10,938.00	89.52	354.95	5,729.24	4,937.97	-142.90	4,939.77	2.54	-0.49	-2.49
11,029.00	91.05	359.19	5,728.79	5,028.83	-147.55	5,030.70	4.95	1.68	4.66
11,118.00	91.93	359.11	5,726.47	5,117.79	-148.87	5,119.67	0.99	0.99	-0.09
11,209.00	91.17	0.23	5,724.01	5,208.75	-149.40	5,210.62	1.49	-0.84	1.23
11,300.00	92.02	0.33	5,721.48	5,299.71	-148.95	5,301.56	0.94	0.93	0.11
11,391.00	90.40	0.93	5,719.56	5,390.68	-147.95	5,392.50	1.90	-1.78	0.66
11,481.00	90.72	1.19	5,718.68	5,480.66	-146.29	5,482.43	0.46	0.36	0.29
11,573.00	88.90	1.14	5,718.98	5,572.64	-144.42	5,574.36	1.98	-1.98	-0.05
11,664.00	89.02	1.26	5,720.64	5,663.61	-142.51	5,665.27	0.19	0.13	0.13
11,755.00	89.57	0.76	5,721.76	5,754.58	-140.91	5,756.21	0.82	0.60	-0.55
11,847.00	90.48	0.88	5,721.72	5,846.57	-139.59	5,848.16	1.00	0.99	0.13
11,939.00	91.07	0.37	5,720.47	5,938.56	-138.59	5,940.11	0.85	0.64	-0.55
12,030.00	89.58	0.73	5,719.95	6,029.55	-137.71	6,031.07	1.68	-1.64	0.40
12,121.00	90.48	1.90	5,719.91	6,120.52	-135.62	6,121.99	1.62	0.99	1.29
12,212.00	89.12	359.37	5,720.22	6,211.51	-134.62	6,212.94	3.16	-1.49	-2.78
12,307.00	87.94	0.08	5,722.66	6,306.47	-135.07	6,307.89	1.45	-1.24	0.75
12,401.00	88.16	359.93	5,725.86	6,400.42	-135.06	6,401.82	0.28	0.23	-0.16
12,495.00	88.92	359.32	5,728.26	6,494.39	-135.68	6,495.78	1.04	0.81	-0.65
12,590.00	89.61	359.56	5,729.47	6,589.37	-136.61	6,590.77	0.77	0.73	0.25
12,684.00	90.78	359.84	5,729.15	6,683.37	-137.10	6,684.76	1.28	1.24	0.30
12,778.00	91.34	359.40	5,727.42	6,777.35	-137.72	6,778.74	0.76	0.60	-0.47
12,872.00	89.10	359.19	5,727.05	6,871.34	-138.88	6,872.73	2.39	-2.38	-0.22
12,967.00	89.47	359.51	5,728.24	6,966.32	-139.96	6,967.72	0.51	0.39	0.34
13,061.00	91.00	359.76	5,727.85	7,060.32	-140.56	7,061.71	1.65	1.63	0.27
13,156.00	89.16	0.27	5,727.72	7,155.31	-140.53	7,156.69	2.01	-1.94	0.54

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Horsetail Fed #07G-0611
Project:	Weld County, CO	TVD Reference:	KBE @ 4916.00usft
Site:	Sec 7-T10N-R57W	MD Reference:	KBE @ 4916.00usft
Well:	Horsetail Fed #07G-0611	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	COMPASS_ROCKIES

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,250.00	89.73	0.26	5,728.63	7,249.31	-140.10	7,250.66	0.61	0.61	-0.01
13,344.00	90.85	0.17	5,728.16	7,343.30	-139.74	7,344.63	1.20	1.19	-0.10
13,405.00	90.85	0.17	5,727.25	7,404.30	-139.56	7,405.61	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,088.00	5,721.90	91.14	-135.82	100' Entry
13,373.00	5,727.73	7,372.30	-139.66	600' Exit

Checked By: _____ Approved By: _____ Date: _____