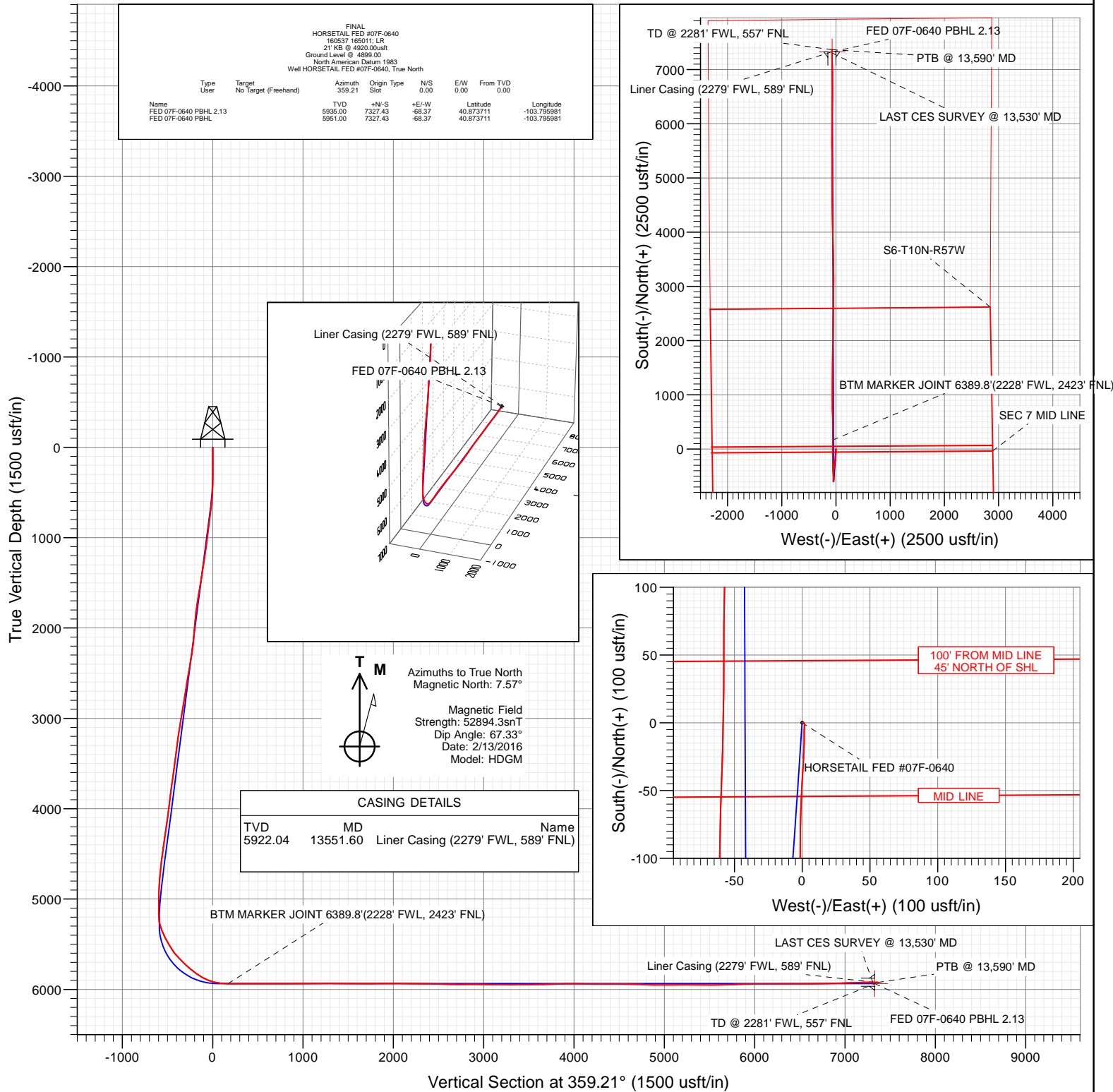




Project: Weld County, CO  
Site: S7-T10N-R57W  
Well: HORSETAIL FED #07F-0640  
Wellbore: OH  
Design: FINAL



WELL DETAILS: HORSETAIL FED #07F-0640

+N/-S	+E/-W	Northing	Ground Level:	4899.00	Latitude	Longitude
0.00	0.00	1558345.98	Easting	3471450.81	40.853600	-103.795733



## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well HORSETAIL FED #07F-0640
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	21' KB @ 4920.00usft
<b>Site:</b>	S7-T10N-R57W	<b>MD Reference:</b>	21' KB @ 4920.00usft
<b>Well:</b>	HORSETAIL FED #07F-0640	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

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

Site		S7-T10N-R57W			
Site Position:		Northing:	1,558,398.55 usft	Latitude:	40.853828
From:	Lat/Long	Easting:	3,469,859.44 usft	Longitude:	-103.801481
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.10 °

Well	HORSETAIL FED #07F-0640					
Well Position	+N/-S	0.00 usft	Northing:	1,558,345.98 usft	Latitude:	40.853600
	+E/-W	0.00 usft	Easting:	3,471,450.81 usft	Longitude:	-103.795733
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,899.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM	2/13/2016	7.57	67.33	52,894

<b>Design</b>	FINAL				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	359.21	

<b>Survey Program</b>	<b>Date</b>	5/11/2016			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
181.00	13,590.00	Survey #1 (OH)	MWD+IFR1+MS	MWD + IFR1 + Multi-Station Correction	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usf)</b>	<b>Build Rate (°/100u)</b>	<b>Formations / Comments</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
181.00	0.33	80.30	181.00	0.09	0.51	0.08	0.18	0.18		
273.00	0.11	70.62	273.00	0.16	0.86	0.15	0.24	-0.24		
364.00	0.60	108.00	364.00	0.04	1.39	0.02	0.57	0.54		
455.00	1.74	185.86	454.98	-1.48	1.71	-1.50	1.89	1.25		
547.00	4.00	181.56	546.86	-6.08	1.48	-6.10	2.47	2.46		
639.00	7.04	179.84	638.42	-14.92	1.40	-14.94	3.31	3.30		
731.00	7.75	184.65	729.66	-26.74	0.92	-26.75	1.02	0.77		
822.00	7.28	181.99	819.87	-38.62	0.22	-38.62	0.64	-0.52		
914.00	6.55	183.37	911.20	-49.69	-0.29	-49.68	0.81	-0.79		
1,005.00	6.16	181.86	1,001.65	-59.75	-0.75	-59.73	0.47	-0.43		
1,097.00	8.30	181.65	1,092.91	-71.32	-1.11	-71.30	2.33	2.33		
1,189.00	8.73	180.72	1,183.89	-84.94	-1.39	-84.91	0.49	0.47		

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well HORSETAIL FED #07F-0640
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	21' KB @ 4920.00usft
<b>Site:</b>	S7-T10N-R57W	<b>MD Reference:</b>	21' KB @ 4920.00usft
<b>Well:</b>	HORSETAIL FED #07F-0640	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
1,280.00	8.78	180.16	1,273.83	-98.79	-1.49	-98.76	0.11	0.05	
1,372.00	8.87	179.93	1,364.74	-112.90	-1.50	-112.87	0.11	0.10	
1,464.00	8.92	181.66	1,455.64	-127.13	-1.70	-127.09	0.30	0.05	
1,556.00	9.02	182.74	1,546.51	-141.46	-2.25	-141.41	0.21	0.11	
1,647.00	9.64	182.69	1,636.31	-156.20	-2.95	-156.14	0.68	0.68	
1,738.00	8.83	181.49	1,726.13	-170.79	-3.49	-170.72	0.91	-0.89	
1,831.00	6.71	182.93	1,818.27	-183.35	-3.95	-183.28	2.29	-2.28	
1,922.00	5.95	184.48	1,908.71	-193.36	-4.59	-193.28	0.86	-0.84	
1,935.00	5.52	185.01	1,921.65	-194.66	-4.70	-194.57	3.33	-3.31	
2,070.00	3.82	185.63	2,056.20	-205.60	-5.71	-205.50	1.26	-1.26	
2,165.00	6.25	200.67	2,150.83	-213.59	-7.84	-213.46	2.89	2.56	
2,260.00	9.03	203.08	2,244.97	-225.29	-12.59	-225.10	2.95	2.93	
2,355.00	10.67	196.78	2,338.57	-240.57	-18.06	-240.30	2.06	1.73	
2,449.00	9.96	193.40	2,431.05	-256.81	-22.45	-256.48	0.99	-0.76	
2,567.00	9.47	189.92	2,547.36	-276.30	-26.49	-275.91	0.65	-0.42	
2,661.00	9.20	189.84	2,640.12	-291.32	-29.11	-290.89	0.29	-0.29	
2,756.00	8.57	190.86	2,733.98	-305.76	-31.74	-305.29	0.68	-0.66	
2,850.00	10.15	185.36	2,826.73	-320.88	-33.83	-320.38	1.93	1.68	
2,944.00	9.73	185.66	2,919.31	-337.03	-35.39	-336.51	0.45	-0.45	
3,039.00	9.38	186.47	3,013.00	-352.71	-37.05	-352.17	0.39	-0.37	
3,134.00	8.92	186.86	3,106.79	-367.72	-38.80	-367.15	0.49	-0.48	
3,228.00	8.32	187.26	3,199.72	-381.70	-40.53	-381.10	0.64	-0.64	
3,323.00	7.58	186.69	3,293.81	-394.74	-42.13	-394.12	0.78	-0.78	
3,417.00	7.24	187.12	3,387.03	-406.78	-43.59	-406.14	0.37	-0.36	
3,511.00	6.94	185.93	3,480.31	-418.30	-44.91	-417.64	0.36	-0.32	
3,605.00	8.21	174.68	3,573.49	-430.64	-44.87	-429.98	2.07	1.35	
3,700.00	8.14	175.05	3,667.52	-444.09	-43.67	-443.45	0.09	-0.07	
3,794.00	7.83	175.16	3,760.61	-457.10	-42.55	-456.47	0.33	-0.33	
3,890.00	7.24	174.55	3,855.78	-469.64	-41.42	-469.02	0.62	-0.61	
3,985.00	6.92	176.70	3,950.06	-481.31	-40.53	-480.71	0.44	-0.34	
4,079.00	6.59	177.24	4,043.41	-492.35	-39.94	-491.75	0.36	-0.35	
4,173.00	8.47	181.35	4,136.59	-504.66	-39.84	-504.06	2.08	2.00	
4,267.00	8.42	181.21	4,229.57	-518.46	-40.15	-517.86	0.06	-0.05	
4,362.00	8.13	182.28	4,323.58	-532.13	-40.57	-531.52	0.35	-0.31	
4,457.00	8.18	182.42	4,417.62	-545.59	-41.12	-544.97	0.06	0.05	
4,551.00	7.58	185.08	4,510.74	-558.45	-41.95	-557.82	0.75	-0.64	
4,644.00	7.07	185.18	4,602.98	-570.26	-43.01	-569.61	0.55	-0.55	
4,739.00	5.58	182.17	4,697.40	-580.70	-43.71	-580.04	1.61	-1.57	
4,833.00	3.26	190.59	4,791.11	-587.89	-44.38	-587.23	2.56	-2.47	
4,926.00	3.39	191.05	4,883.95	-593.19	-45.39	-592.51	0.14	0.14	
5,020.00	0.64	184.65	4,977.89	-596.44	-45.97	-595.75	2.93	-2.93	
5,115.00	0.71	219.70	5,072.88	-597.42	-46.38	-596.73	0.43	0.07	
5,209.00	0.97	224.53	5,166.87	-598.44	-47.31	-597.73	0.29	0.28	
5,303.00	10.36	358.70	5,260.39	-590.53	-48.07	-589.81	11.76	9.99	
5,398.00	23.89	1.87	5,350.97	-562.64	-47.63	-561.93	14.27	14.24	
5,493.00	27.59	359.36	5,436.53	-521.40	-47.25	-520.70	4.06	3.89	
5,587.00	30.33	357.92	5,518.77	-475.90	-48.35	-475.19	3.01	2.91	
5,681.00	36.68	359.45	5,597.11	-424.06	-49.49	-423.33	6.81	6.76	
5,775.00	46.53	357.81	5,667.31	-361.74	-51.06	-361.00	10.54	10.48	
5,822.00	46.52	357.24	5,699.65	-327.67	-52.54	-326.91	0.88	-0.02	
5,869.00	46.27	356.70	5,732.07	-293.68	-54.33	-292.91	0.99	-0.53	
5,916.00	48.68	357.42	5,763.83	-259.09	-56.11	-258.29	5.25	5.13	
5,962.00	52.02	358.26	5,793.18	-223.70	-57.43	-222.89	7.40	7.26	

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well HORSETAIL FED #07F-0640
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	21' KB @ 4920.00usft
<b>Site:</b>	S7-T10N-R57W	<b>MD Reference:</b>	21' KB @ 4920.00usft
<b>Well:</b>	HORSETAIL FED #07F-0640	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
6,009.00	55.05	357.93	5,821.11	-185.93	-58.69	-185.11	6.47	6.45	
6,056.00	56.85	357.89	5,847.43	-147.02	-60.11	-146.17	3.83	3.83	
6,103.00	61.05	359.72	5,871.66	-106.77	-60.94	-105.92	9.54	8.94	
6,150.00	66.76	2.23	5,892.33	-64.59	-60.20	-63.76	13.06	12.15	
6,197.00	72.44	1.86	5,908.71	-20.59	-58.63	-19.78	12.11	12.09	
6,244.00	77.00	0.09	5,921.09	24.73	-57.87	25.53	10.36	9.70	
6,291.00	82.24	0.22	5,929.56	70.95	-57.74	71.74	11.15	11.15	
6,339.00	86.12	1.62	5,934.42	118.68	-56.97	119.46	8.59	8.08	
6,389.80	88.23	0.82	5,936.93	169.41	-55.89	170.16	4.44	4.15	BTM MARKER JOINT 6389.8'(2228' FWL, 2423' F
6,433.00	90.02	0.14	5,937.59	212.60	-55.53	213.34	4.44	4.15	
6,528.00	90.13	359.73	5,937.46	307.60	-55.64	308.34	0.45	0.12	
6,622.00	90.13	359.28	5,937.25	401.59	-56.45	402.33	0.48	0.00	
6,714.00	90.22	359.36	5,936.97	493.59	-57.54	494.33	0.13	0.10	
6,808.00	89.77	358.86	5,936.98	587.57	-59.00	588.33	0.72	-0.48	
6,903.00	89.61	357.77	5,937.49	682.53	-61.80	683.32	1.16	-0.17	
6,997.00	90.80	0.13	5,937.16	776.51	-63.52	777.31	2.81	1.27	
7,091.00	90.33	359.39	5,936.23	870.50	-63.91	871.30	0.93	-0.50	
7,184.00	90.58	359.41	5,935.49	963.49	-64.89	964.29	0.27	0.27	
7,277.00	90.77	358.49	5,934.39	1,056.47	-66.59	1,057.29	1.01	0.20	
7,372.00	90.07	1.26	5,933.70	1,151.46	-66.80	1,152.27	3.01	-0.74	
7,466.00	90.15	1.37	5,933.52	1,245.43	-64.64	1,246.20	0.14	0.09	
7,559.00	89.77	0.49	5,933.58	1,338.42	-63.13	1,339.16	1.03	-0.41	
7,653.00	89.42	0.40	5,934.25	1,432.41	-62.40	1,433.14	0.38	-0.37	
7,747.00	89.59	0.37	5,935.06	1,526.41	-61.77	1,527.11	0.18	0.18	
7,841.00	89.27	0.10	5,935.99	1,620.40	-61.38	1,621.09	0.45	-0.34	
7,935.00	90.42	1.23	5,936.25	1,714.39	-60.29	1,715.06	1.72	1.22	
8,030.00	90.42	0.27	5,935.55	1,809.38	-59.05	1,810.02	1.01	0.00	
8,125.00	90.66	1.19	5,934.66	1,904.37	-57.84	1,904.98	1.00	0.25	
8,220.00	90.54	0.93	5,933.66	1,999.34	-56.08	1,999.93	0.30	-0.13	
8,315.00	88.96	1.18	5,934.08	2,094.32	-54.33	2,094.87	1.68	-1.66	
8,407.00	89.28	1.80	5,935.49	2,186.28	-51.94	2,186.79	0.76	0.35	
8,498.00	89.02	1.81	5,936.84	2,277.23	-49.07	2,277.69	0.29	-0.29	
8,589.00	89.27	359.75	5,938.20	2,368.20	-47.84	2,368.64	2.28	0.27	
8,681.00	89.04	359.81	5,939.55	2,460.19	-48.19	2,460.62	0.26	-0.25	
8,773.00	88.76	359.52	5,941.32	2,552.17	-48.73	2,552.60	0.44	-0.30	
8,865.00	88.13	0.05	5,943.82	2,644.14	-49.07	2,644.56	0.89	-0.68	
8,956.00	90.35	0.69	5,945.02	2,735.12	-48.48	2,735.53	2.54	2.44	
9,048.00	90.02	1.83	5,944.73	2,827.10	-46.46	2,827.47	1.29	-0.36	
9,139.00	89.70	2.14	5,944.95	2,918.04	-43.31	2,918.36	0.49	-0.35	
9,231.00	89.51	0.13	5,945.58	3,010.02	-41.49	3,010.30	2.19	-0.21	
9,323.00	88.73	0.34	5,947.00	3,102.01	-41.11	3,102.28	0.88	-0.85	
9,414.00	90.07	359.11	5,947.95	3,193.00	-41.55	3,193.27	2.00	1.47	
9,506.00	89.96	359.66	5,947.93	3,284.99	-42.53	3,285.26	0.61	-0.12	
9,598.00	89.28	358.82	5,948.54	3,376.98	-43.75	3,377.26	1.17	-0.74	
9,690.00	91.27	359.01	5,948.09	3,468.96	-45.50	3,469.25	2.17	2.16	
9,781.00	91.30	359.13	5,946.05	3,559.92	-46.97	3,560.23	0.14	0.03	
9,872.00	91.01	358.28	5,944.22	3,650.88	-49.03	3,651.21	0.99	-0.32	
9,964.00	91.30	358.50	5,942.36	3,742.82	-51.61	3,743.18	0.40	0.32	
10,056.00	91.50	358.51	5,940.12	3,834.77	-54.01	3,835.15	0.22	0.22	
10,148.00	90.17	358.78	5,938.78	3,926.73	-56.19	3,927.13	1.48	-1.45	
10,240.00	90.08	358.41	5,938.58	4,018.70	-58.44	4,019.12	0.41	-0.10	
10,335.00	89.47	357.71	5,938.95	4,113.64	-61.66	4,114.10	0.98	-0.64	
10,429.00	89.42	359.49	5,939.86	4,207.61	-63.96	4,208.09	1.89	-0.05	

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well HORSETAIL FED #07F-0640
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	21' KB @ 4920.00usft
<b>Site:</b>	S7-T10N-R57W	<b>MD Reference:</b>	21' KB @ 4920.00usft
<b>Well:</b>	HORSETAIL FED #07F-0640	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100u)	Formations / Comments
10,524.00	89.77	359.48	5,940.53	4,302.60	-64.81	4,303.09	0.37	0.37	
10,619.00	89.41	359.42	5,941.21	4,397.59	-65.72	4,398.08	0.38	-0.38	
10,714.00	90.22	359.30	5,941.52	4,492.59	-66.78	4,493.08	0.86	0.85	
10,808.00	90.09	359.61	5,941.26	4,586.58	-67.68	4,587.08	0.36	-0.14	
10,904.00	87.93	359.36	5,942.92	4,682.56	-68.54	4,683.06	2.27	-2.25	
10,996.00	87.36	358.48	5,946.70	4,774.46	-70.27	4,774.98	1.14	-0.62	
11,090.00	88.52	359.50	5,950.08	4,868.38	-71.93	4,868.91	1.64	1.23	
11,185.00	90.82	1.51	5,950.63	4,963.37	-71.09	4,963.88	3.22	2.42	
11,278.00	90.30	1.20	5,949.72	5,056.34	-68.89	5,056.81	0.65	-0.56	
11,373.00	89.89	0.57	5,949.56	5,151.32	-67.42	5,151.76	0.79	-0.43	
11,466.00	90.34	0.64	5,949.38	5,244.32	-66.44	5,244.74	0.49	0.48	
11,561.00	89.42	358.44	5,949.57	5,339.31	-67.20	5,339.73	2.51	-0.97	
11,655.00	90.36	359.90	5,949.75	5,433.30	-68.57	5,433.72	1.85	1.00	
11,748.00	89.27	357.37	5,950.05	5,526.26	-70.78	5,526.71	2.96	-1.17	
11,840.00	90.39	358.80	5,950.33	5,618.20	-73.86	5,618.69	1.97	1.22	
11,934.00	92.31	0.69	5,948.11	5,712.17	-74.27	5,712.65	2.87	2.04	
12,028.00	92.36	0.60	5,944.28	5,806.08	-73.22	5,806.54	0.11	0.05	
12,122.00	91.14	0.15	5,941.41	5,900.04	-72.60	5,900.48	1.38	-1.30	
12,217.00	90.29	1.37	5,940.23	5,995.02	-71.34	5,995.43	1.57	-0.89	
12,312.00	90.58	0.77	5,939.51	6,090.00	-69.57	6,090.38	0.70	0.31	
12,407.00	90.69	359.89	5,938.45	6,184.99	-69.02	6,185.35	0.93	0.12	
12,501.00	89.25	1.10	5,938.50	6,278.98	-68.21	6,279.33	2.00	-1.53	
12,595.00	88.89	0.76	5,940.03	6,372.96	-66.68	6,373.27	0.53	-0.38	
12,689.00	90.93	1.15	5,940.18	6,466.94	-65.12	6,467.22	2.21	2.17	
12,784.00	91.17	0.94	5,938.43	6,561.91	-63.38	6,562.16	0.34	0.25	
12,879.00	91.11	0.69	5,936.54	6,656.88	-62.03	6,657.10	0.27	-0.06	
12,973.00	90.58	359.89	5,935.16	6,750.87	-61.56	6,751.07	1.02	-0.56	
13,068.00	91.15	359.41	5,933.72	6,845.85	-62.14	6,846.06	0.78	0.60	
13,163.00	91.60	358.61	5,931.44	6,940.81	-63.78	6,941.03	0.97	0.47	
13,257.00	92.10	357.88	5,928.41	7,034.72	-66.66	7,034.97	0.94	0.53	
13,351.00	92.76	358.09	5,924.42	7,128.57	-69.96	7,128.86	0.74	0.70	
13,444.00	90.13	359.30	5,922.08	7,221.51	-72.07	7,221.82	3.11	-2.83	
13,530.00	89.95	359.48	5,922.02	7,307.50	-72.99	7,307.82	0.30	-0.21	LAST CES SURVEY @ 13,530' MD
13,590.00	89.95	359.48	5,922.07	7,367.50	-73.54	7,367.82	0.00	0.00	PTB @ 13,590' MD - TD @ 2281' FWL, 557' FNL

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well HORSETAIL FED #07F-0640
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	21' KB @ 4920.00usft
<b>Site:</b>	S7-T10N-R57W	<b>MD Reference:</b>	21' KB @ 4920.00usft
<b>Well:</b>	HORSETAIL FED #07F-0640	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL	<b>Database:</b>	USA EDM 5000 Multi Users DB

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
FED 07F-0640 PBHL 2.1	0.00	0.00	5,935.00	7,327.43	-68.37	1,565,670.74	3,471,241.63	40.873711	-103.795981
- survey misses target center by 24.22usft at 13530.00usft MD (5922.02 TVD, 7307.50 N, -72.99 E)									
- Point									
FED 07F-0640 PBHL	0.00	0.00	5,951.00	7,327.43	-68.37	1,565,670.74	3,471,241.63	40.873711	-103.795981
- survey misses target center by 35.47usft at 13530.00usft MD (5922.02 TVD, 7307.50 N, -72.99 E)									
- Point									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
13,551.60	5,922.04	Liner Casing (2279' FWL, 589' FNL)	0	0

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
6,389.80	5,936.93	169.41	-55.89	BTM MARKER JOINT 6389.8'(2228' FWL, 2423' FNL)
13,530.00	5,922.02	7,307.50	-72.99	LAST CES SURVEY @ 13,530' MD
13,590.00	5,922.07	7,367.50	-73.54	PTB @ 13,590' MD
13,590.00	5,922.07	7,367.50	-73.54	TD @ 2281' FWL, 557' FNL

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_