

WHITING PETROLEUM CORP.

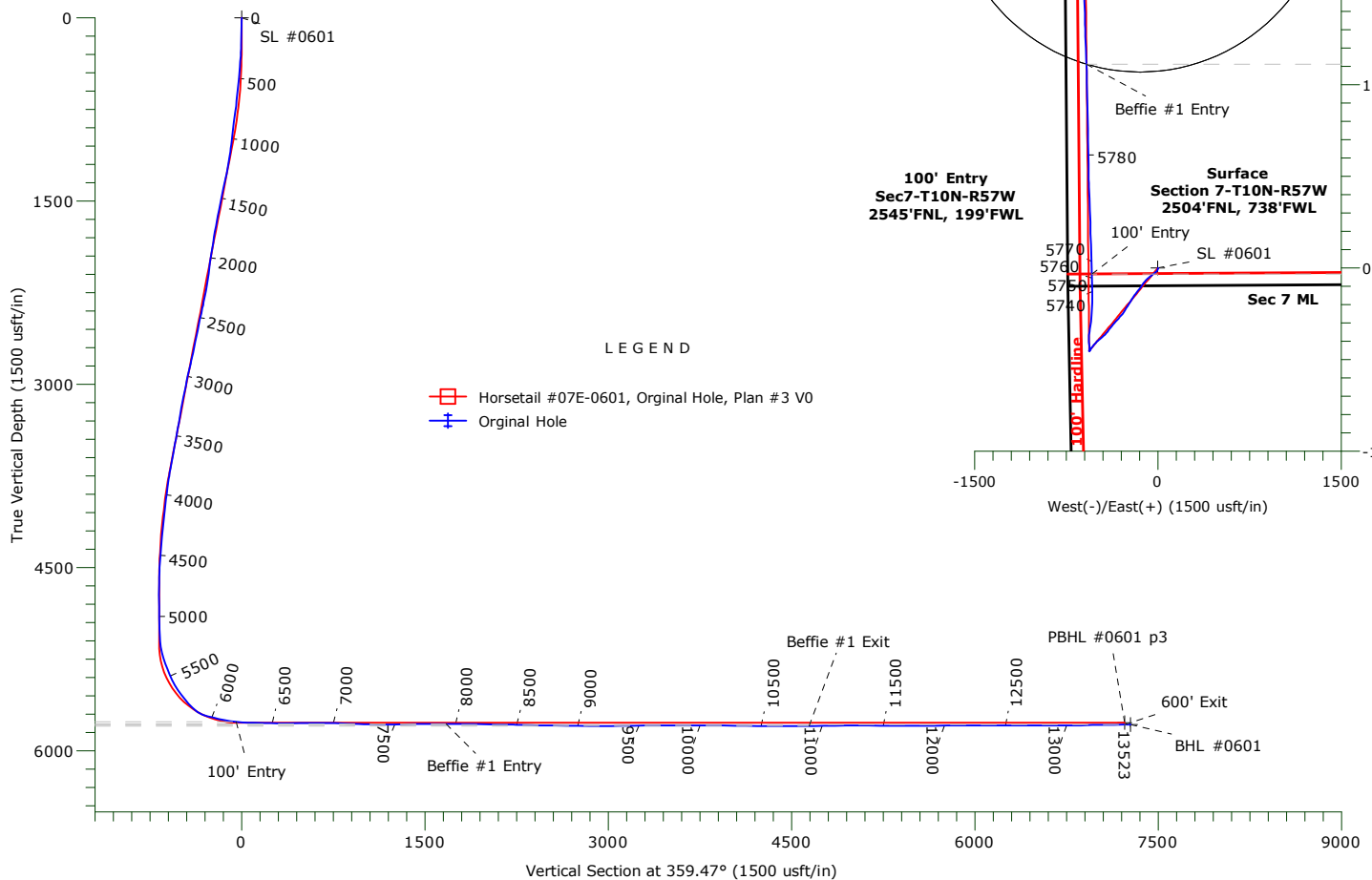
Project: Weld County, CO
Site: Sec 7-T10N-R57W
Well: Horsetail #07E-0601
Wellbore: Original Hole
Design: Original Hole



Precision

Directional Services

ANNOTATIONS				
TVD	MD	+N/-S	+E/-W	Annotation
5763.93	6203.00	-48.59	-539.38	100' Entry
5780.84	7922.00	1669.29	-584.41	Beffie #1 Entry
5798.31	10893.00	4639.33	-589.93	Beffie #1 Exit
5786.52	13476.00	7221.17	-636.08	600' Exit



WELLBORE TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SL #0601	0.00	0.00	0.00	1558398.04	3469889.55	40.853825°N	103.8013372°W	Point
PBHL #0601 p3	5770.00	7221.16	-634.56	1565605.71	3469116.78	40.873644°N	103.803667°W	Point
BHL #0601	5786.24	7268.07	-639.07	1565652.53	3469111.38	40.873773°N	103.803683°W	Point
Beffie #1 #0601	6739.60	3154.88	-144.62	1561549.56	3469684.52	40.862484°N	103.801895°W	Circle (Radius: 1550.00)

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Horsetail #07E-0601
Project:	Weld County, CO	TVD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Site:	Sec 7-T10N-R57W	MD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Well:	Horsetail #07E-0601	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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	Latitude:	40.853825°N		
From:		Lat/Long	Easting:	3,469,889.54	usft	Longitude:	103.801372°W	
Position Uncertainty:		0.000	usft	Slot Radius:	13.20	in	Grid Convergence:	1.10 °

Well	Horsetail #07E-0601					
Well Position	+N-S	0.000 usft	Northing:	1,558,398.04 usft	Latitude:	40.853825°N
	+E-W	0.000 usft	Easting:	3,469,889.54 usft	Longitude:	103.801372°W
Position Uncertainty		0.000 usft	Wellhead Elevation:	0.000 usft	Ground Level:	4,925.600 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/11/15	7.88	67.40	52,897

Design	Original Hole				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.000
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.000	0.000	0.000	359.47	

Survey Program	Date	01/05/16			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
223.000	13,463.000	Survey #1 (Original Hole)	MWD+IFR1+MS	Fixed:v2:crustal dec & 3-axis correction	
13,523.000	13,523.000	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)
0.000	0.00	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00
SL #0601									
223.000	1.71	151.28	222.967	-2.918	1.599	-2.933	0.77	0.77	0.00
314.000	3.73	201.49	313.870	-6.864	1.167	-6.874	3.24	2.22	55.18
406.000	5.12	205.23	405.594	-13.362	-1.679	-13.346	1.54	1.51	4.07
498.000	6.82	218.04	497.096	-21.379	-6.796	-21.315	2.34	1.85	13.92
589.000	8.27	222.62	587.306	-30.451	-14.557	-30.315	1.72	1.59	5.03
681.000	9.59	231.81	678.194	-40.059	-25.062	-39.825	2.11	1.43	9.99
772.000	11.29	230.04	767.684	-50.467	-37.848	-50.115	1.90	1.87	-1.95
863.000	12.04	232.23	856.804	-62.002	-52.179	-61.516	0.96	0.82	2.41

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Well:	Horsetail #07E-0601	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
955.000	11.58	233.69	946.857	-73.347	-67.205	-72.722	0.60	-0.50	1.59
1,047.000	10.46	230.18	1,037.160	-84.163	-81.060	-83.409	1.42	-1.22	-3.82
1,138.000	12.16	224.23	1,126.393	-96.322	-94.092	-95.447	2.26	1.87	-6.54
1,230.000	12.82	219.30	1,216.217	-111.164	-107.316	-110.166	1.36	0.72	-5.36
1,322.000	15.25	215.77	1,305.466	-128.882	-120.856	-127.759	2.80	2.64	-3.84
1,415.000	14.78	215.18	1,395.291	-148.502	-134.840	-147.248	0.53	-0.51	-0.63
1,507.000	14.13	216.06	1,484.378	-167.172	-148.211	-165.794	0.75	-0.71	0.96
1,599.000	14.97	217.45	1,573.427	-185.684	-162.047	-184.177	0.99	0.91	1.51
1,690.000	13.79	219.09	1,661.575	-203.433	-176.033	-201.796	1.37	-1.30	1.80
1,781.000	11.99	216.18	1,750.279	-219.482	-188.452	-217.729	2.10	-1.98	-3.20
1,873.000	10.40	213.96	1,840.526	-234.083	-198.733	-232.235	1.79	-1.73	-2.41
1,961.000	10.38	214.44	1,927.083	-247.210	-207.653	-245.278	0.10	-0.02	0.55
2,038.000	9.48	207.29	2,002.931	-258.567	-214.484	-256.571	1.98	-1.17	-9.29
2,133.000	9.28	214.29	2,096.664	-271.848	-222.387	-269.779	1.22	-0.21	7.37
2,228.000	11.08	211.53	2,190.165	-285.959	-231.477	-283.805	1.96	1.89	-2.91
2,322.000	12.61	211.07	2,282.161	-302.447	-241.496	-300.201	1.63	1.63	-0.49
2,418.000	15.51	214.90	2,375.277	-321.955	-254.251	-319.589	3.17	3.02	3.99
2,513.000	14.22	211.21	2,467.098	-342.353	-267.565	-339.863	1.68	-1.36	-3.88
2,608.000	14.42	213.24	2,559.147	-362.226	-280.095	-359.620	0.57	0.21	2.14
2,703.000	15.26	220.65	2,650.986	-381.607	-294.725	-378.864	2.18	0.88	7.80
2,798.000	14.66	220.74	2,742.765	-400.201	-310.715	-397.309	0.63	-0.63	0.09
2,893.000	17.46	222.67	2,834.049	-419.792	-328.224	-416.738	3.00	2.95	2.03
2,988.000	16.61	221.80	2,924.880	-440.394	-346.934	-437.166	0.93	-0.89	-0.92
3,084.000	15.46	220.07	3,017.144	-460.415	-364.317	-457.025	1.30	-1.20	-1.80
3,179.000	13.74	219.34	3,109.073	-478.831	-379.621	-475.299	1.82	-1.81	-0.77
3,272.000	13.84	218.50	3,199.393	-496.078	-393.546	-492.417	0.24	0.11	-0.90
3,368.000	11.70	215.75	3,293.014	-512.966	-406.383	-509.185	2.32	-2.23	-2.86
3,463.000	13.62	219.28	3,385.701	-529.443	-419.093	-525.544	2.18	2.02	3.72
3,558.000	14.81	226.43	3,477.798	-546.472	-434.974	-542.425	2.23	1.25	7.53
3,652.000	16.11	229.37	3,568.396	-563.246	-453.577	-559.026	1.61	1.38	3.13
3,748.000	16.06	229.47	3,660.638	-580.548	-473.778	-576.141	0.06	-0.05	0.10
3,843.000	13.84	227.41	3,752.417	-596.779	-492.134	-592.201	2.40	-2.34	-2.17
3,939.000	9.87	221.20	3,846.354	-610.747	-506.013	-606.040	4.34	-4.14	-6.47
4,035.000	8.54	220.54	3,941.116	-622.355	-516.066	-617.555	1.39	-1.39	-0.69
4,130.000	8.19	221.15	4,035.105	-632.811	-525.103	-627.926	0.38	-0.37	0.64
4,154.000	8.05	220.25	4,058.865	-635.380	-527.314	-630.476	0.79	-0.58	-3.75
4,249.000	7.76	217.44	4,152.962	-645.550	-535.511	-640.569	0.51	-0.31	-2.96
4,344.000	7.65	220.30	4,247.105	-655.465	-543.500	-650.409	0.42	-0.12	3.01
4,440.000	5.19	214.81	4,342.496	-663.904	-550.112	-658.787	2.64	-2.56	-5.72
4,535.000	5.22	212.12	4,437.105	-671.092	-554.863	-665.931	0.26	0.03	-2.83
4,631.000	3.34	222.23	4,532.834	-676.862	-559.065	-671.662	2.10	-1.96	10.53
4,726.000	1.93	229.75	4,627.731	-679.945	-562.146	-674.716	1.53	-1.48	7.92
4,822.000	0.75	345.71	4,723.714	-680.381	-563.535	-675.139	2.45	-1.23	120.79

Precision Drilling Corporation

Survey Report

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

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)
4,917.000	0.51	51.01	4,818.709	-679.512	-563.360	-674.272	0.75	-0.25	68.74
5,012.000	1.10	31.31	4,913.699	-678.467	-562.558	-673.234	0.68	0.62	-20.74
5,108.000	1.81	21.02	5,009.668	-676.265	-561.535	-671.041	0.79	0.74	-10.72
5,203.000	4.22	13.22	5,104.530	-671.461	-560.197	-666.250	2.57	2.54	-8.21
5,250.000	9.66	3.49	5,151.169	-665.837	-559.561	-660.632	11.80	11.57	-20.70
5,298.000	13.78	357.61	5,198.160	-656.101	-559.554	-650.897	8.93	8.58	-12.25
5,345.000	17.10	355.05	5,243.458	-643.620	-560.384	-638.409	7.21	7.06	-5.45
5,392.000	19.13	355.30	5,288.126	-629.059	-561.612	-623.837	4.32	4.32	0.53
5,439.000	21.82	356.69	5,332.153	-612.661	-562.747	-607.429	5.82	5.72	2.96
5,488.000	24.17	355.12	5,377.257	-593.572	-564.127	-588.328	4.96	4.80	-3.20
5,535.000	27.02	1.18	5,419.648	-573.303	-564.726	-568.055	8.23	6.06	12.89
5,584.000	30.22	4.83	5,462.658	-549.879	-563.458	-544.644	7.44	6.53	7.45
5,631.000	34.34	6.94	5,502.387	-524.923	-560.859	-519.712	9.09	8.77	4.49
5,678.000	36.06	10.98	5,540.797	-498.178	-556.621	-493.008	6.16	3.66	8.60
5,725.000	38.78	8.71	5,578.123	-470.043	-551.757	-464.919	6.49	5.79	-4.83
5,774.000	42.17	6.85	5,615.392	-438.534	-547.470	-433.451	7.34	6.92	-3.80
5,820.000	47.00	5.40	5,648.145	-406.437	-544.043	-401.387	10.73	10.50	-3.15
5,869.000	53.84	2.19	5,679.352	-368.782	-541.598	-363.756	14.84	13.96	-6.55
5,916.000	65.80	3.47	5,702.938	-328.278	-539.568	-323.273	25.55	25.45	2.72
5,964.000	75.90	0.77	5,718.666	-283.028	-537.925	-278.040	21.70	21.04	-5.63
6,011.000	77.03	359.65	5,729.666	-237.335	-537.759	-232.351	3.34	2.40	-2.38
6,060.000	77.15	358.99	5,740.614	-189.578	-538.326	-184.590	1.34	0.24	-1.35
6,155.000	81.66	0.07	5,758.077	-96.226	-539.085	-91.235	4.88	4.75	1.14
6,203.000	84.33	359.23	5,763.929	-48.590	-539.378	-43.598	5.83	5.57	-1.76
100' Entry									
6,250.000	86.95	358.41	5,767.501	-1.740	-540.345	3.258	5.83	5.57	-1.74
6,346.000	88.49	357.76	5,771.320	94.127	-543.551	99.151	1.74	1.60	-0.68
6,441.000	88.45	357.56	5,773.857	189.014	-547.428	194.069	0.21	-0.04	-0.21
6,536.000	89.89	358.64	5,775.233	283.948	-550.577	289.028	1.89	1.52	1.14
6,631.000	90.36	358.15	5,775.026	378.910	-553.238	384.011	0.71	0.49	-0.52
6,727.000	90.25	358.37	5,774.515	474.864	-556.153	479.988	0.26	-0.11	0.23
6,822.000	90.01	357.45	5,774.299	569.799	-559.617	574.952	1.00	-0.25	-0.97
6,916.000	90.47	357.48	5,773.905	663.706	-563.775	668.893	0.49	0.49	0.03
7,011.000	88.49	359.52	5,774.768	758.660	-566.262	763.866	2.99	-2.08	2.15
7,106.000	88.26	359.12	5,777.462	853.615	-567.389	858.827	0.49	-0.24	-0.42
7,202.000	87.60	358.56	5,780.929	949.532	-569.331	954.758	0.90	-0.69	-0.58
7,297.000	89.14	359.15	5,783.631	1,044.471	-571.228	1,049.710	1.74	1.62	0.62
7,392.000	89.44	358.79	5,784.809	1,139.448	-572.936	1,144.699	0.49	0.32	-0.38
7,488.000	90.59	359.11	5,784.783	1,235.430	-574.695	1,240.693	1.24	1.20	0.33
7,581.000	90.82	358.88	5,783.639	1,328.409	-576.326	1,333.683	0.35	0.25	-0.25
7,677.000	90.94	358.48	5,782.165	1,424.372	-578.537	1,429.662	0.43	0.13	-0.42
7,772.000	90.18	358.94	5,781.236	1,519.342	-580.676	1,524.649	0.94	-0.80	0.48
7,867.000	90.15	358.37	5,780.963	1,614.315	-582.905	1,619.638	0.60	-0.03	-0.60
7,922.000	90.10	358.49	5,780.844	1,669.294	-584.414	1,674.629	0.23	-0.10	0.21

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Beffie #1 Entry									
7,961.000	90.06	358.57	5,780.790	1,708.282	-585.415	1,713.624	0.23	-0.10	0.21
8,056.000	89.61	357.75	5,781.064	1,803.231	-588.466	1,808.597	0.98	-0.47	-0.86
8,150.000	89.43	357.07	5,781.851	1,897.131	-592.713	1,902.533	0.75	-0.19	-0.72
8,245.000	88.62	359.00	5,783.468	1,992.056	-595.970	1,997.484	2.20	-0.85	2.03
8,341.000	89.02	358.46	5,785.445	2,088.012	-598.097	2,093.455	0.70	0.42	-0.56
8,437.000	89.83	357.74	5,786.409	2,183.953	-601.280	2,189.421	1.13	0.84	-0.75
8,532.000	88.30	359.44	5,787.959	2,278.905	-603.618	2,284.391	2.41	-1.61	1.79
8,626.000	87.96	359.28	5,791.026	2,372.849	-604.667	2,378.341	0.40	-0.36	-0.17
8,722.000	89.23	0.34	5,793.380	2,468.816	-604.985	2,474.307	1.72	1.32	1.10
8,817.000	89.54	359.46	5,794.400	2,563.810	-605.151	2,569.298	0.98	0.33	-0.93
8,908.000	89.22	359.32	5,795.385	2,654.799	-606.120	2,660.292	0.38	-0.35	-0.15
9,000.000	89.01	0.97	5,796.806	2,746.784	-605.887	2,752.271	1.81	-0.23	1.79
9,091.000	89.77	0.55	5,797.774	2,837.770	-604.680	2,843.242	0.95	0.84	-0.46
9,183.000	89.39	0.41	5,798.449	2,929.764	-603.909	2,935.225	0.44	-0.41	-0.15
9,275.000	90.94	0.73	5,798.184	3,021.757	-602.994	3,027.205	1.72	1.68	0.35
9,366.000	91.61	1.56	5,796.159	3,112.715	-601.176	3,118.142	1.17	0.74	0.91
9,406.721	90.95	1.61	5,795.248	3,153.410	-600.049	3,158.826	1.61	-1.61	0.13
Beffie #1 #0601									
9,458.000	90.13	1.68	5,794.762	3,204.665	-598.576	3,210.064	1.61	-1.61	0.13
9,549.000	90.27	2.73	5,794.444	3,295.595	-595.074	3,300.959	1.16	0.15	1.15
9,640.000	89.77	2.03	5,794.413	3,386.516	-591.295	3,391.841	0.95	-0.55	-0.77
9,732.000	90.26	1.63	5,794.389	3,478.469	-588.358	3,483.762	0.69	0.53	-0.43
9,824.000	90.18	0.94	5,794.035	3,570.444	-586.294	3,575.715	0.76	-0.09	-0.75
9,915.000	90.04	0.73	5,793.861	3,661.434	-584.968	3,666.689	0.28	-0.15	-0.23
10,007.000	90.45	0.81	5,793.467	3,753.425	-583.732	3,758.664	0.45	0.45	0.09
10,099.000	89.56	359.36	5,793.459	3,845.422	-583.595	3,850.655	1.85	-0.97	-1.58
10,192.000	89.43	359.55	5,794.279	3,938.414	-584.480	3,943.652	0.25	-0.14	0.20
10,284.000	89.19	359.42	5,795.387	4,030.403	-585.307	4,035.645	0.30	-0.26	-0.14
10,375.000	89.25	0.38	5,796.626	4,121.393	-585.466	4,126.633	1.06	0.07	1.05
10,467.000	89.54	0.18	5,797.597	4,213.387	-585.016	4,218.618	0.38	0.32	-0.22
10,558.000	89.37	359.98	5,798.463	4,304.383	-584.889	4,309.609	0.29	-0.19	-0.22
10,650.000	90.15	359.44	5,798.848	4,396.380	-585.355	4,401.606	1.03	0.85	-0.59
10,741.000	90.14	359.02	5,798.618	4,487.371	-586.578	4,492.605	0.46	-0.01	-0.46
10,832.000	89.94	358.70	5,798.554	4,578.353	-588.388	4,583.600	0.41	-0.22	-0.35
10,893.000	90.52	358.41	5,798.307	4,639.333	-589.927	4,644.591	1.07	0.96	-0.48
Beffie #1 Exit									
10,924.000	90.82	358.26	5,797.944	4,670.317	-590.828	4,675.583	1.07	0.96	-0.48
11,015.000	91.43	357.80	5,796.157	4,761.245	-593.956	4,766.536	0.84	0.67	-0.51
11,106.000	90.65	357.53	5,794.506	4,852.154	-597.663	4,857.475	0.91	-0.86	-0.30
11,198.000	90.29	356.79	5,793.751	4,944.037	-602.221	4,949.396	0.89	-0.39	-0.80
11,289.000	89.81	358.40	5,793.672	5,034.954	-606.040	5,040.344	1.85	-0.53	1.77
11,381.000	89.75	358.12	5,794.025	5,126.910	-608.833	5,132.323	0.31	-0.07	-0.30

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Horsetail #07E-0601
Project:	Weld County, CO	TVD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Site:	Sec 7-T10N-R57W	MD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Well:	Horsetail #07E-0601	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

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)
11,473.000	89.62	357.53	5,794.531	5,218.842	-612.325	5,224.283	0.66	-0.14	-0.64
11,565.000	89.67	356.74	5,795.101	5,310.725	-616.923	5,316.204	0.86	0.05	-0.86
11,657.000	89.51	358.55	5,795.759	5,402.641	-620.703	5,408.151	1.98	-0.17	1.97
11,748.000	90.13	359.67	5,796.045	5,493.628	-622.116	5,499.147	1.41	0.68	1.23
11,840.000	90.03	359.26	5,795.916	5,585.623	-622.975	5,591.147	0.46	-0.11	-0.45
11,932.000	90.71	1.56	5,795.322	5,677.612	-622.317	5,683.126	2.61	0.74	2.50
12,024.000	90.45	1.18	5,794.391	5,769.581	-620.118	5,775.070	0.50	-0.28	-0.41
12,115.000	90.18	0.73	5,793.891	5,860.567	-618.601	5,866.038	0.58	-0.30	-0.49
12,207.000	90.40	0.34	5,793.425	5,952.561	-617.742	5,958.021	0.49	0.24	-0.42
12,299.000	90.23	359.69	5,792.919	6,044.559	-617.718	6,050.015	0.73	-0.18	-0.71
12,390.000	90.27	359.59	5,792.522	6,135.557	-618.290	6,141.013	0.12	0.04	-0.11
12,481.000	89.85	359.36	5,792.427	6,226.553	-619.124	6,232.013	0.53	-0.46	-0.25
12,572.000	89.57	359.16	5,792.888	6,317.544	-620.299	6,323.011	0.38	-0.31	-0.22
12,665.000	90.10	0.33	5,793.155	6,410.540	-620.713	6,416.008	1.38	0.57	1.26
12,757.000	89.88	0.33	5,793.171	6,502.539	-620.183	6,507.997	0.24	-0.24	0.00
12,848.000	89.14	359.76	5,793.950	6,593.534	-620.111	6,598.988	1.03	-0.81	-0.63
12,939.000	90.56	359.91	5,794.188	6,684.531	-620.373	6,689.984	1.57	1.56	0.16
13,031.000	90.86	359.45	5,793.048	6,776.523	-620.887	6,781.976	0.60	0.33	-0.50
13,121.000	91.02	358.77	5,791.571	6,866.499	-622.285	6,871.961	0.78	0.18	-0.76
13,213.000	90.99	358.22	5,789.958	6,958.453	-624.701	6,963.934	0.60	-0.03	-0.60
13,304.000	90.95	358.10	5,788.417	7,049.393	-627.622	7,054.897	0.14	-0.04	-0.13
13,395.000	90.62	357.14	5,787.170	7,140.305	-631.401	7,145.840	1.12	-0.36	-1.05
13,463.000	90.34	356.36	5,786.601	7,208.192	-635.256	7,213.760	1.22	-0.41	-1.15
13,475.996	90.34	356.36	5,786.524	7,221.161	-636.081	7,226.736	0.00	0.00	0.00
PBHL #0601 p3									
13,476.000	90.34	356.36	5,786.524	7,221.166	-636.081	7,226.741	0.00	0.00	0.00
600' Exit									
13,523.000	90.34	356.36	5,786.245	7,268.070	-639.065	7,273.670	0.00	0.00	0.00
BHL #0601									

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Horsetail #07E-0601
Project:	Weld County, CO	TVD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Site:	Sec 7-T10N-R57W	MD Reference:	4925.6'GL+21'KB @ 4946.600usft (Unit 409)
Well:	Horsetail #07E-0601	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	Compass_US

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL #0601 - actual wellpath misses target center by 0.004usft at 0.000usft MD (0.000 TVD, 0.000 N, 0.000 E) - Point	0.00	0.00	0.000	0.004	0.000	1,558,398.04	3,469,889.54	40.853825°N	103.801372°W
PBHL #0601 p3 - actual wellpath misses target center by 16.594usft at 13475.995usft MD (5786.524 TVD, 7221.162 N, -636.081 E) - Point	0.00	0.00	5,770.00 0	7,221.160	-634.560	1,565,605.72	3,469,116.78	40.873645°N	103.803667°W
BHL #0601 - actual wellpath hits target center - Point	0.00	0.00	5,786.24 5	7,268.070	-639.065	1,565,652.53	3,469,111.38	40.873773°N	103.803683°W
Beffie #1 #0601 - actual wellpath misses target center by 1048.443usft at 9399.657usft MD (5795.373 TVD, 3146.350 N, -600.247 E) - Circle (radius 1,550.000)	0.00	0.00	6,739.60 0	3,154.876	-144.621	1,561,549.57	3,469,684.52	40.862484°N	103.801895°W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,203.000	5,763.929	-48.590	-539.378	100' Entry
7,922.000	5,780.844	1,669.294	-584.414	Beffie #1 Entry
10,893.000	5,798.307	4,639.333	-589.927	Beffie #1 Exit
13,476.000	5,786.524	7,221.166	-636.081	600' Exit