



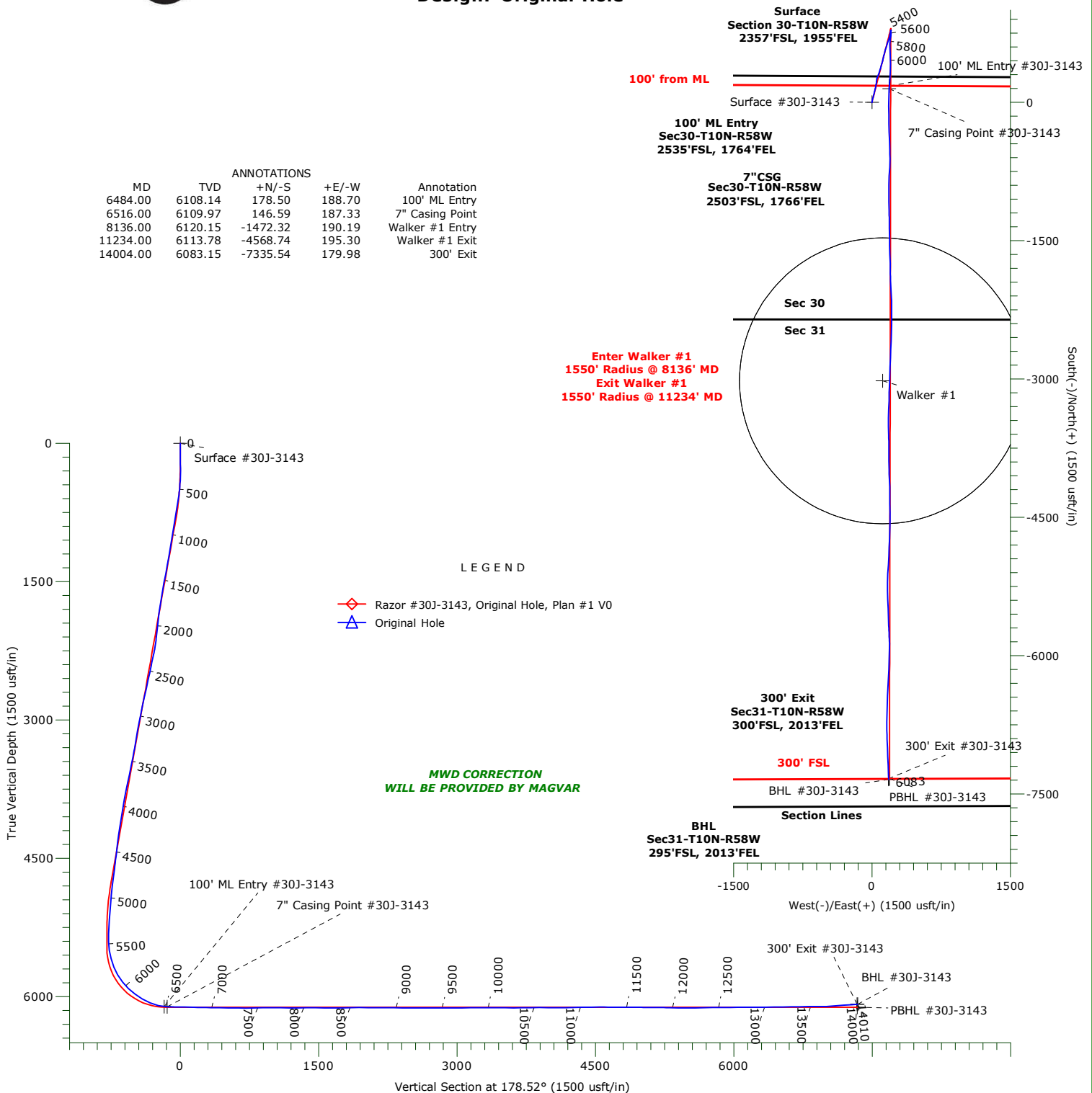
WHITING PETROLEUM CORP.

Project: Weld County, CO
Site: Sec 30-T10N-R58W
Well: Razor #30J-3143
Wellbore: Original Hole
Design: Original Hole



Precision
Directional Services

ANNOTATIONS				
MD	TVD	+N/-S	+E/-W	Annotation
6484.00	6108.14	178.50	188.70	100' ML Entry
6516.00	6109.97	146.59	187.33	7" Casing Point
8136.00	6120.15	-1472.32	190.19	Walker #1 Entry
11234.00	6113.78	-4568.74	195.30	Walker #1 Exit
14004.00	6083.15	-7335.54	179.98	300' Exit



WELLBORE TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Surface #30J-3143	0.00	0.00	0.00	1541355.41	3441234.89	40.808517°N	103.906042°W
BHL #30J-3143	6082.70	-7341.52	180.20	1534018.32	3441547.02	40.788366°N	103.905391°W
300' Exit #30J-3143	6083.15	-7335.54	179.98	1534024.29	3441546.69	40.788383°N	103.905392°W
100' ML Entry #30J-3143	6108.14	178.50	188.70	1541537.27	3441420.35	40.809007°N	103.905360°W
7" Casing Point #30J-3143	6109.97	146.59	187.33	1541505.34	3441419.55	40.808919°N	103.905365°W
PBHL #30J-3143	6115.00	-7336.32	189.99	1534023.69	3441556.71	40.788381°N	103.905356°W
Walker #1	6682.00	-3020.59	114.25	1538337.36	3441403.42	40.800226°N	103.905629°W

WHITING PETROLEUM CORP.

Weld County, CO

Sec 30-T10N-R58W

Razor #30J-3143

Original Hole

Design: Original Hole

Standard Survey Report

16 August, 2017

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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 30-T10N-R58W		
Site Position:		Northing:	1,538,948.03 usft
From:	Map	Easting:	3,438,226.87 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in
		Latitude:	40.802058°N
		Longitude:	103.917061°W
		Grid Convergence:	1.02 °

Well	Razor #30J-3143		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	40.808517°N
		Longitude:	103.906042°W
		Ground Level:	4,838.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/18/17	7.77	67.31	52,680.16798986

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	178.52	

Survey Program	Date	08/16/17			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
224.00	13,951.00	Survey #1 (Original Hole)	MWD+IFR1+MS+sag	Fixed:v2:crustal dec & 3-axis correction + sag	
14,010.00	14,010.00	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	
224.00	1.47	206.26	223.98	-2.58	-1.27	2.54	0.66	0.66	0.00	
316.00	0.27	350.23	315.97	-3.42	-1.83	3.37	1.84	-1.30	156.49	
409.00	3.47	10.92	408.91	-0.44	-1.33	0.41	3.46	3.44	22.25	
502.00	5.76	16.50	501.60	6.80	0.52	-6.78	2.51	2.46	6.00	
595.00	8.71	14.68	593.85	18.09	3.64	-17.99	3.18	3.17	-1.96	
688.00	9.78	14.27	685.64	32.55	7.37	-32.35	1.15	1.15	-0.44	
781.00	9.79	14.28	777.29	47.87	11.26	-47.56	0.01	0.01	0.01	
875.00	10.10	14.72	869.87	63.59	15.33	-63.17	0.34	0.33	0.47	
967.00	9.88	15.21	960.48	79.01	19.45	-78.48	0.26	-0.24	0.53	

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
1,060.00	9.66	13.27	1,052.13	94.30	23.33	-93.67	0.43	-0.24	-2.09
1,153.00	9.84	12.28	1,143.79	109.66	26.82	-108.93	0.26	0.19	-1.06
1,246.00	9.81	11.66	1,235.42	125.18	30.11	-124.36	0.12	-0.03	-0.67
1,339.00	10.54	13.01	1,326.96	141.23	33.62	-140.32	0.83	0.78	1.45
1,432.00	11.15	12.74	1,418.30	158.29	37.52	-157.27	0.66	0.66	-0.29
1,526.00	10.37	11.58	1,510.64	175.44	41.22	-174.32	0.86	-0.83	-1.23
1,619.00	10.27	9.99	1,602.14	191.81	44.34	-190.60	0.32	-0.11	-1.71
1,712.00	8.80	7.92	1,693.85	207.02	46.76	-205.74	1.62	-1.58	-2.23
1,805.00	8.86	6.53	1,785.75	221.18	48.56	-219.85	0.24	0.06	-1.49
1,899.00	7.28	7.84	1,878.82	234.27	50.19	-232.90	1.69	-1.68	1.39
1,992.00	6.50	6.46	1,971.14	245.34	51.59	-243.93	0.86	-0.84	-1.48
2,125.00	5.92	9.07	2,103.36	259.59	53.52	-258.13	0.48	-0.44	1.96
2,220.00	10.44	27.37	2,197.39	272.08	58.25	-270.49	5.43	4.76	19.26
2,315.00	14.31	22.26	2,290.17	290.60	66.66	-288.78	4.23	4.07	-5.38
2,409.00	11.05	19.29	2,381.86	309.86	74.03	-307.84	3.54	-3.47	-3.16
2,504.00	13.10	17.92	2,474.75	328.70	80.36	-326.51	2.18	2.16	-1.44
2,599.00	13.03	16.86	2,567.30	349.19	86.77	-346.83	0.26	-0.07	-1.12
2,693.00	13.00	16.23	2,658.88	369.48	92.80	-366.96	0.15	-0.03	-0.67
2,788.00	13.01	15.92	2,751.44	390.03	98.72	-387.35	0.07	0.01	-0.33
2,882.00	12.82	15.95	2,843.07	410.23	104.49	-407.39	0.20	-0.20	0.03
2,977.00	12.19	14.54	2,935.81	430.07	109.90	-427.09	0.74	-0.66	-1.48
3,072.00	11.30	14.80	3,028.82	448.78	114.80	-445.66	0.94	-0.94	0.27
3,167.00	10.43	11.90	3,122.12	466.19	118.95	-462.97	1.08	-0.92	-3.05
3,262.00	9.81	10.32	3,215.64	482.57	122.17	-479.25	0.72	-0.65	-1.66
3,356.00	9.57	10.20	3,308.30	498.14	124.99	-494.74	0.26	-0.26	-0.13
3,451.00	11.65	18.53	3,401.68	515.01	129.44	-511.49	2.71	2.19	8.77
3,545.00	11.81	16.89	3,493.71	533.21	135.25	-529.54	0.39	0.17	-1.74
3,640.00	12.32	17.09	3,586.61	552.20	141.05	-548.37	0.54	0.54	0.21
3,735.00	12.40	15.40	3,679.41	571.72	146.74	-567.74	0.39	0.08	-1.78
3,829.00	12.34	16.59	3,771.23	591.08	152.29	-586.95	0.28	-0.06	1.27
3,924.00	11.47	17.92	3,864.19	609.80	158.09	-605.51	0.96	-0.92	1.40
4,019.00	9.96	18.15	3,957.53	626.59	163.56	-622.16	1.59	-1.59	0.24
4,113.00	9.70	17.14	4,050.15	641.88	168.43	-637.32	0.33	-0.28	-1.07
4,208.00	9.09	18.00	4,143.87	656.67	173.10	-651.98	0.66	-0.64	0.91
4,303.00	8.24	20.23	4,237.79	670.19	177.78	-665.38	0.96	-0.89	2.35
4,397.00	7.41	20.67	4,330.91	682.19	182.25	-677.25	0.89	-0.88	0.47
4,492.00	7.52	17.96	4,425.11	693.83	186.32	-688.79	0.39	0.12	-2.85
4,587.00	6.35	17.78	4,519.41	704.75	189.85	-699.61	1.23	-1.23	-0.19
4,682.00	8.30	9.84	4,613.63	716.51	192.62	-711.29	2.31	2.05	-8.36
4,776.00	7.43	9.38	4,706.75	729.19	194.77	-723.91	0.93	-0.93	-0.49
4,871.00	6.93	11.86	4,801.00	740.86	196.95	-735.52	0.62	-0.53	2.61
4,966.00	5.79	10.26	4,895.42	751.18	198.98	-745.79	1.21	-1.20	-1.68
5,060.00	4.88	12.71	4,989.01	759.75	200.71	-754.31	1.00	-0.97	2.61

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
5,155.00	4.27	12.54	5,083.71	767.14	202.36	-761.66	0.64	-0.64	-0.18
5,250.00	3.78	11.69	5,178.47	773.66	203.77	-768.14	0.52	-0.52	-0.89
5,345.00	2.08	2.67	5,273.34	778.45	204.48	-772.91	1.85	-1.79	-9.49
5,474.00	0.94	153.31	5,402.32	779.84	205.07	-774.29	2.28	-0.88	116.78
5,569.00	8.45	180.01	5,496.94	772.16	205.42	-766.59	8.02	7.91	28.11
5,663.00	15.16	179.36	5,588.90	752.94	205.55	-747.38	7.14	7.14	-0.69
5,758.00	21.29	183.69	5,679.09	723.28	204.58	-717.75	6.60	6.45	4.56
5,853.00	30.50	191.06	5,764.48	682.31	198.83	-676.94	10.25	9.69	7.76
5,947.00	39.38	180.58	5,841.53	628.92	193.94	-623.70	11.37	9.45	-11.15
6,042.00	45.61	176.17	5,911.56	564.84	195.90	-559.59	7.27	6.56	-4.64
6,136.00	51.99	178.47	5,973.45	494.23	199.14	-488.93	7.03	6.79	2.45
6,231.00	59.40	180.24	6,026.96	415.82	199.97	-410.52	7.95	7.80	1.86
6,326.00	68.10	182.78	6,068.94	330.74	197.65	-325.53	9.47	9.16	2.67
6,421.00	76.48	183.95	6,097.82	240.49	192.33	-235.44	8.90	8.82	1.23
6,484.00	84.64	182.76	6,108.14	178.50	188.70	-173.56	13.09	12.96	-1.89
100' ML Entry									
6,516.00	88.79	182.17	6,109.97	146.59	187.33	-141.70	13.09	12.96	-1.84
7" Casing Point									
6,610.00	89.45	182.58	6,111.41	52.68	183.43	-47.92	0.83	0.70	0.44
6,705.00	88.42	179.81	6,113.18	-42.27	181.45	46.95	3.11	-1.08	-2.92
6,800.00	88.32	179.28	6,115.88	-137.23	182.20	141.89	0.57	-0.11	-0.56
6,894.00	89.46	178.71	6,117.70	-231.20	183.85	235.87	1.36	1.21	-0.61
6,989.00	88.42	177.80	6,119.46	-326.13	186.75	330.85	1.45	-1.09	-0.96
7,084.00	89.42	178.55	6,121.25	-421.07	189.77	425.83	1.32	1.05	0.79
7,178.00	89.47	177.69	6,122.16	-515.01	192.85	519.82	0.92	0.05	-0.91
7,273.00	88.30	179.26	6,124.01	-609.96	195.38	614.80	2.06	-1.23	1.65
7,367.00	91.03	183.38	6,124.56	-703.90	193.22	708.66	5.26	2.90	4.38
7,462.00	92.62	184.44	6,121.54	-798.63	186.74	803.18	2.01	1.67	1.12
7,557.00	89.99	180.66	6,119.37	-893.48	182.52	897.90	4.85	-2.77	-3.98
7,652.00	89.67	179.53	6,119.65	-988.48	182.36	992.86	1.24	-0.34	-1.19
7,746.00	89.22	178.97	6,120.56	-1,082.47	183.59	1,086.85	0.76	-0.48	-0.60
7,841.00	88.31	178.08	6,122.61	-1,177.41	186.04	1,181.82	1.34	-0.96	-0.94
7,936.00	90.88	179.63	6,123.28	-1,272.38	187.93	1,276.81	3.16	2.71	1.63
8,031.00	91.92	179.30	6,120.96	-1,367.35	188.82	1,371.77	1.15	1.09	-0.35
8,125.00	89.25	179.22	6,120.00	-1,461.32	190.04	1,465.74	2.84	-2.84	-0.09
8,136.00	89.19	179.17	6,120.15	-1,472.32	190.19	1,476.74	0.72	-0.59	-0.42
Walker #1 Entry									
8,220.00	88.69	178.82	6,121.71	-1,556.29	191.66	1,560.73	0.72	-0.59	-0.42
8,315.00	89.32	178.30	6,123.36	-1,651.25	194.05	1,655.71	0.86	0.66	-0.55
8,409.00	91.37	178.61	6,122.79	-1,745.21	196.58	1,749.70	2.21	2.18	0.33
8,504.00	92.35	178.85	6,119.71	-1,840.13	198.69	1,844.65	1.06	1.03	0.25
8,599.00	89.52	177.79	6,118.16	-1,935.07	201.47	1,939.63	3.18	-2.98	-1.12
8,693.00	89.67	177.38	6,118.82	-2,028.98	205.43	2,033.61	0.46	0.16	-0.44
8,788.00	89.29	176.82	6,119.69	-2,123.86	210.24	2,128.58	0.71	-0.40	-0.59

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)
8,882.00	90.33	179.10	6,120.00	-2,217.79	213.58	2,222.57	2.67	1.11	2.43
8,974.00	89.11	181.22	6,120.45	-2,309.78	213.33	2,314.52	2.66	-1.33	2.30
9,066.00	89.45	180.80	6,121.60	-2,401.76	211.70	2,406.43	0.59	0.37	-0.46
9,159.00	89.44	180.05	6,122.51	-2,494.75	211.02	2,499.37	0.81	-0.01	-0.81
9,252.00	89.60	182.90	6,123.28	-2,587.71	208.62	2,592.23	3.07	0.17	3.06
9,345.00	90.05	182.97	6,123.57	-2,680.58	203.86	2,684.96	0.49	0.48	0.08
9,438.00	90.07	182.31	6,123.47	-2,773.49	199.58	2,777.71	0.71	0.02	-0.71
9,531.00	89.09	181.66	6,124.15	-2,866.43	196.35	2,870.54	1.26	-1.05	-0.70
9,625.00	91.46	182.18	6,123.70	-2,960.36	193.21	2,964.37	2.58	2.52	0.55
9,717.00	90.98	181.89	6,121.74	-3,052.29	189.94	3,056.17	0.61	-0.52	-0.32
9,810.00	90.76	181.36	6,120.33	-3,145.24	187.30	3,149.03	0.62	-0.24	-0.57
9,903.00	90.33	181.94	6,119.45	-3,238.19	184.63	3,241.88	0.78	-0.46	0.62
9,996.00	89.58	181.92	6,119.52	-3,331.14	181.49	3,334.72	0.81	-0.81	-0.02
10,089.00	89.30	181.71	6,120.43	-3,424.09	178.55	3,427.56	0.38	-0.30	-0.23
10,183.00	89.68	178.81	6,121.27	-3,518.07	178.12	3,521.50	3.11	0.40	-3.09
10,276.00	89.47	178.21	6,121.95	-3,611.04	180.54	3,614.50	0.68	-0.23	-0.65
10,369.00	91.67	179.86	6,121.03	-3,704.01	182.11	3,707.48	2.96	2.37	1.77
10,462.00	90.94	179.54	6,118.91	-3,796.99	182.59	3,800.44	0.86	-0.78	-0.34
10,556.00	89.99	179.16	6,118.15	-3,890.98	183.66	3,894.42	1.09	-1.01	-0.40
10,649.00	89.35	178.72	6,118.68	-3,983.96	185.38	3,987.42	0.84	-0.69	-0.47
10,742.00	89.48	177.47	6,119.63	-4,076.90	188.47	4,080.41	1.35	0.14	-1.34
10,835.00	90.41	178.06	6,119.72	-4,169.83	192.10	4,173.40	1.18	1.00	0.63
10,928.00	91.49	179.98	6,118.18	-4,262.80	193.69	4,266.38	2.37	1.16	2.06
11,022.00	91.04	179.43	6,116.11	-4,356.77	194.17	4,360.33	0.76	-0.48	-0.59
11,114.00	90.86	178.98	6,114.58	-4,448.75	195.45	4,452.31	0.53	-0.20	-0.49
11,209.00	90.13	180.77	6,113.76	-4,543.74	195.66	4,547.28	2.03	-0.77	1.88
11,234.00	89.76	180.87	6,113.78	-4,568.74	195.30	4,572.26	1.54	-1.49	0.40
Walker #1 Exit									
11,303.00	88.73	181.15	6,114.70	-4,637.72	194.08	4,641.19	1.54	-1.49	0.40
11,398.00	90.57	183.06	6,115.28	-4,732.65	190.59	4,735.99	2.79	1.94	2.01
11,492.00	89.47	181.22	6,115.24	-4,826.58	187.08	4,829.80	2.28	-1.17	-1.96
11,587.00	90.20	183.70	6,115.52	-4,921.48	183.00	4,924.56	2.72	0.77	2.61
11,682.00	87.28	182.58	6,117.61	-5,016.30	177.80	5,019.22	3.29	-3.07	-1.18
11,777.00	91.97	184.27	6,118.23	-5,111.10	172.13	5,113.84	5.25	4.94	1.78
11,871.00	89.15	180.76	6,117.31	-5,204.98	168.01	5,207.58	4.79	-3.00	-3.73
11,966.00	87.77	178.48	6,119.86	-5,299.94	168.63	5,302.52	2.80	-1.45	-2.40
12,060.00	87.75	178.24	6,123.54	-5,393.83	171.32	5,396.45	0.26	-0.02	-0.26
12,155.00	91.37	177.97	6,124.26	-5,488.76	174.46	5,491.43	3.82	3.81	-0.28
12,249.00	91.46	177.76	6,121.94	-5,582.66	177.96	5,585.40	0.24	0.10	-0.22
12,344.00	92.12	178.12	6,118.98	-5,677.55	181.38	5,680.34	0.79	0.69	0.38
12,438.00	89.45	176.32	6,117.69	-5,771.42	185.94	5,774.30	3.43	-2.84	-1.91
12,533.00	90.09	179.91	6,118.07	-5,866.35	189.06	5,869.28	3.84	0.67	3.78
12,627.00	90.97	181.91	6,117.20	-5,960.33	187.57	5,963.19	2.32	0.94	2.13

Precision Drilling Corporation

Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

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)	
12,722.00	89.63	181.10	6,116.70	-6,055.29	185.07	6,058.05	1.65	-1.41	-0.85	
12,816.00	90.97	182.59	6,116.21	-6,149.24	182.05	6,151.89	2.13	1.43	1.59	
12,910.00	89.48	182.37	6,115.84	-6,243.15	177.98	6,245.66	1.60	-1.59	-0.23	
13,005.00	91.43	183.02	6,115.09	-6,338.03	173.51	6,340.40	2.16	2.05	0.68	
13,100.00	90.21	182.61	6,113.73	-6,432.91	168.85	6,435.12	1.35	-1.28	-0.43	
13,194.00	91.45	181.65	6,112.37	-6,526.83	165.35	6,528.92	1.67	1.32	-1.02	
13,289.00	90.73	181.73	6,110.56	-6,621.77	162.55	6,623.76	0.76	-0.76	0.08	
13,383.00	90.50	180.00	6,109.55	-6,715.75	161.13	6,717.67	1.86	-0.24	-1.84	
13,478.00	90.28	178.96	6,108.90	-6,810.74	162.00	6,812.66	1.12	-0.23	-1.09	
13,573.00	89.25	177.58	6,109.29	-6,905.70	164.86	6,907.65	1.81	-1.08	-1.45	
13,668.00	93.90	178.29	6,106.68	-7,000.57	168.29	7,002.58	4.95	4.89	0.75	
13,762.00	93.96	178.08	6,100.24	-7,094.30	171.26	7,096.36	0.23	0.06	-0.22	
13,857.00	93.83	177.97	6,093.79	-7,189.03	174.52	7,191.14	0.18	-0.14	-0.12	
13,951.00	94.30	177.82	6,087.12	-7,282.73	177.97	7,284.90	0.52	0.50	-0.16	
14,004.00	94.30	177.82	6,083.15	-7,335.54	179.98	7,337.74	0.00	0.00	0.00	
300' Exit										
14,010.00	94.30	177.82	6,082.70	-7,341.52	180.20	7,343.72	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Surface #30J-3143 - hit/miss target - Shape - Point	0.00	0.00	0.00	0.00	0.00	1,541,355.41	3,441,234.89	40.808517°N	103.906042°W	
BHL #30J-3143 - actual wellpath hits target center - Point	0.00	0.00	6,082.70	-7,341.52	180.20	1,534,018.32	3,441,547.02	40.788366°N	103.905391°W	
300' Exit #30J-3143 - actual wellpath hits target center - Point	0.00	0.00	6,083.15	-7,335.54	179.98	1,534,024.29	3,441,546.69	40.788383°N	103.905392°W	
100' ML Entry #30J-3 - actual wellpath hits target center - Point	0.00	0.00	6,108.14	178.50	188.70	1,541,537.28	3,441,420.35	40.809007°N	103.905360°W	
7" Casing Point #30J- - actual wellpath hits target center - Point	0.00	0.00	6,109.97	146.59	187.33	1,541,505.34	3,441,419.55	40.808919°N	103.905365°W	
PBHL #30J-3143 - actual wellpath misses target center by 33.37usft at 14002.77usft MD (6083.24 TVD, -7334.31 N, 179.93 E) - Point	0.00	0.00	6,115.00	-7,336.32	189.99	1,534,023.69	3,441,556.71	40.788381°N	103.905356°W	
Walker #1 - actual wellpath misses target center by 564.84usft at 9676.09usft MD (6122.52 TVD, -3011.41 N, 191.33 E) - Circle (radius 1,550.00)	0.00	0.00	6,682.00	-3,020.59	114.25	1,538,337.37	3,441,403.41	40.800226°N	103.905629°W	

Precision Drilling Corporation
Survey Report

Company:	WHITING PETROLEUM CORP.	Local Co-ordinate Reference:	Well Razor #30J-3143
Project:	Weld County, CO	TVD Reference:	4838'GL+21'KB @ 4859.00usft
Site:	Sec 30-T10N-R58W	MD Reference:	4838'GL+21'KB @ 4859.00usft
Well:	Razor #30J-3143	North Reference:	True
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	LocalDatabase

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,484.00	6,108.14	178.50	188.70	100' ML Entry
6,516.00	6,109.97	146.59	187.33	7" Casing Point
8,136.00	6,120.15	-1,472.32	190.19	Walker #1 Entry
11,234.00	6,113.78	-4,568.74	195.30	Walker #1 Exit
14,004.00	6,083.15	-7,335.54	179.98	300' Exit

Checked By: _____ Approved By: _____ Date: _____