

Whiting Oil & Gas

Well Name: **Razor #21C-2805A**

Surface Location: Razor 21C Pad Sec.21-T10N-R58W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

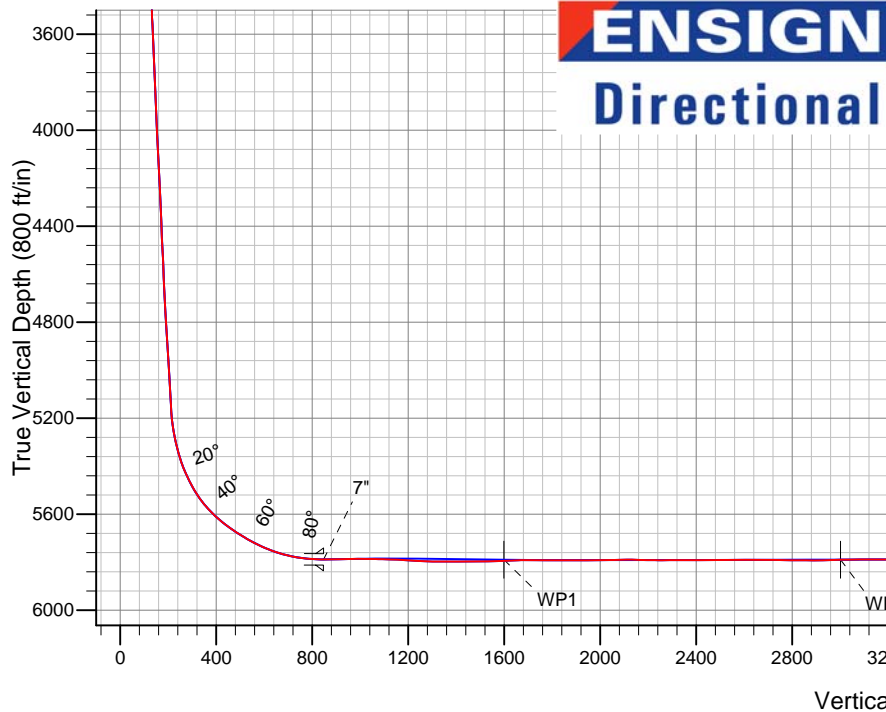
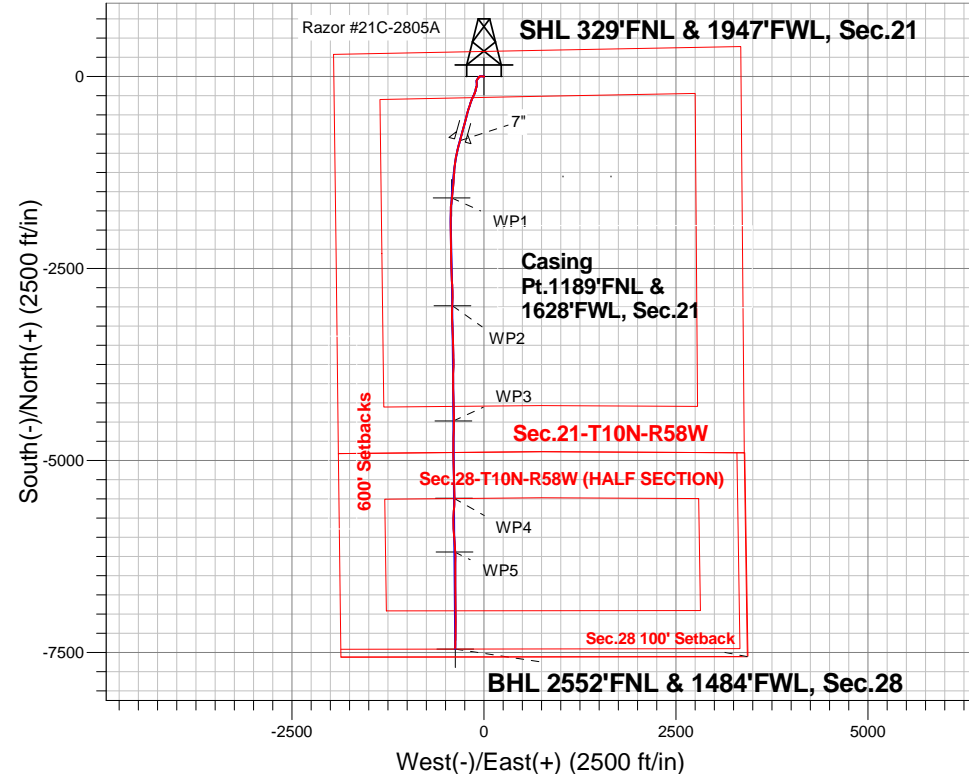
Ground Elevation: 4845.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1549394.28	3450186.64	40.830131	-103.873178	

RKB - 17.3' WELL @ 4862.3ft (RKB - 17.3')

FINAL SURVEY

Projected Bottom Hole Location
12805'MD 5762'TVD 7443'S & 375'W of SHL
88.9 degree Incl @ 181.8 degree AZM



Razor 21C Pad Sec.21-T10N-R58W
Razor #21C-2805A

8:12, January 10 2014

Wellbore #1

ANNOTATIONS

No annotation data is available.

LEGEND

- △ Razor #21C-2805A, Wellbore #1, Plan #4 (12-26-13) V0
- Wellbore #1
- Survey #1



Whiting Oil & Gas

SEC.21-T10N-R58W

Razor 21C Pad Sec.21-T10N-R58W

Razor #21C-2805A

Wellbore #1

Survey: Survey #1

Standard Survey Report

10 January, 2014

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor #21C-2805A
Project:	SEC.21-T10N-R58W	TVD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Site:	Razor 21C Pad Sec.21-T10N-R58W	MD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.21-T10N-R58W, Weld County, Colorado,		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Razor 21C Pad Sec.21-T10N-R58W		
Site Position:		Northing:	1,549,394.29 ft
From:	Lat/Long	Easting:	3,450,186.64 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.830131
		Longitude:	-103.873178
		Grid Convergence:	1.05 °

Well	Razor #21C-2805A		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40.830131
		Longitude:	-103.873178
		Ground Level:	4,845.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/26/2013	8.06	67.45	53,178

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	182.87	

Survey Program	Date	1/10/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
155.0	12,805.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1.0	0.00	135.90	1.0	0.0	0.0	0.0	0.26	0.26	0.00	
SHL 329'FNL & 1947'FWL, Sec.21										
155.0	0.40	135.90	155.0	-0.4	0.4	0.4	0.26	0.26	0.00	
217.0	0.40	56.20	217.0	-0.4	0.7	0.4	0.83	0.00	-128.55	
310.0	0.40	55.90	310.0	-0.1	1.2	0.0	0.00	0.00	-0.32	
403.0	0.50	56.90	403.0	0.3	1.9	-0.4	0.11	0.11	1.08	
496.0	0.50	24.40	496.0	0.9	2.4	-1.1	0.30	0.00	-34.95	
589.0	0.30	0.30	589.0	1.5	2.5	-1.7	0.28	-0.22	-25.91	
682.0	0.50	248.50	682.0	1.6	2.2	-1.7	0.72	0.22	-120.22	
777.0	1.70	261.00	777.0	1.3	0.4	-1.3	1.28	1.26	13.16	
872.0	2.60	266.50	871.9	0.9	-3.2	-0.8	0.97	0.95	5.79	
967.0	3.30	275.60	966.8	1.1	-8.0	-0.6	0.88	0.74	9.58	

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Site:	Razor 21C Pad Sec.21-T10N-R58W	MD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
1,062.0	3.50	277.40	1,061.6	1.7	-13.6	-1.0	0.24	0.21	1.89	
1,156.0	4.00	278.20	1,155.4	2.5	-19.7	-1.5	0.53	0.53	0.85	
1,251.0	4.50	277.90	1,250.1	3.5	-26.7	-2.2	0.53	0.53	-0.32	
1,347.0	4.50	272.80	1,345.8	4.2	-34.2	-2.5	0.42	0.00	-5.31	
1,441.0	4.80	262.60	1,439.5	3.9	-41.8	-1.8	0.93	0.32	-10.85	
1,536.0	5.00	255.20	1,534.2	2.3	-49.7	0.2	0.70	0.21	-7.79	
1,621.0	5.00	243.40	1,618.9	-0.3	-56.6	3.1	1.21	0.00	-13.88	
1,716.0	5.51	244.33	1,713.5	-4.1	-64.4	7.3	0.54	0.54	0.98	
1,809.0	5.26	192.86	1,806.1	-10.2	-69.4	13.7	5.03	-0.27	-55.34	
1,902.0	3.19	176.61	1,898.9	-16.9	-70.2	20.4	2.55	-2.23	-17.47	
1,995.0	3.45	229.19	1,991.7	-21.4	-72.2	24.9	3.17	0.28	56.54	
2,087.0	2.60	228.72	2,083.6	-24.5	-75.8	28.3	0.92	-0.92	-0.51	
2,180.0	6.36	229.27	2,176.3	-29.3	-81.3	33.3	4.04	4.04	0.59	
2,273.0	7.41	206.14	2,268.6	-38.0	-87.9	42.4	3.16	1.13	-24.87	
2,368.0	6.04	208.49	2,363.0	-47.9	-92.9	52.5	1.47	-1.44	2.47	
2,463.0	5.74	185.11	2,457.5	-57.1	-95.8	61.8	2.53	-0.32	-24.61	
2,558.0	5.26	175.77	2,552.1	-66.1	-95.9	70.9	1.07	-0.51	-9.83	
2,653.0	5.20	169.80	2,646.7	-74.7	-94.8	79.4	0.58	-0.06	-6.28	
2,748.0	4.55	165.62	2,741.3	-82.6	-93.1	87.2	0.78	-0.68	-4.40	
2,843.0	4.08	181.13	2,836.1	-89.6	-92.2	94.1	1.32	-0.49	16.33	
2,938.0	4.16	173.35	2,930.8	-96.4	-91.9	100.9	0.59	0.08	-8.19	
3,033.0	3.28	201.30	3,025.6	-102.4	-92.5	106.9	2.09	-0.93	29.42	
3,128.0	2.56	188.47	3,120.5	-107.0	-93.8	111.6	1.02	-0.76	-13.51	
3,223.0	2.03	171.37	3,215.4	-110.8	-93.8	115.3	0.91	-0.56	-18.00	
3,318.0	4.03	183.61	3,310.3	-115.8	-93.8	120.3	2.20	2.11	12.88	
3,413.0	4.25	183.00	3,405.0	-122.6	-94.2	127.2	0.24	0.23	-0.64	
3,508.0	1.99	182.46	3,499.9	-127.8	-94.4	132.4	2.38	-2.38	-0.57	
3,603.0	3.43	221.81	3,594.8	-131.6	-96.4	136.2	2.39	1.52	41.42	
3,698.0	2.63	194.22	3,689.7	-135.8	-98.8	140.6	1.73	-0.84	-29.04	
3,792.0	2.61	194.21	3,783.6	-140.0	-99.9	144.8	0.02	-0.02	-0.01	
3,887.0	1.84	205.07	3,878.5	-143.4	-101.1	148.3	0.92	-0.81	11.43	
3,982.0	3.06	199.89	3,973.4	-147.2	-102.6	152.2	1.30	1.28	-5.45	
4,077.0	3.00	198.33	4,068.3	-151.9	-104.2	157.0	0.11	-0.06	-1.64	
4,172.0	2.73	189.97	4,163.1	-156.5	-105.4	161.6	0.52	-0.28	-8.80	
4,266.0	2.72	190.45	4,257.0	-160.9	-106.2	166.0	0.03	-0.01	0.51	
4,361.0	2.72	193.94	4,351.9	-165.3	-107.1	170.5	0.17	0.00	3.67	
4,456.0	2.04	197.54	4,446.8	-169.1	-108.2	174.3	0.73	-0.72	3.79	
4,551.0	3.14	180.14	4,541.8	-173.3	-108.7	178.6	1.41	1.16	-18.32	
4,646.0	1.85	168.86	4,636.7	-177.5	-108.4	182.7	1.45	-1.36	-11.87	
4,741.0	3.22	183.56	4,731.6	-181.6	-108.3	186.8	1.58	1.44	15.47	
4,835.0	4.16	207.33	4,825.4	-187.3	-110.0	192.6	1.89	1.00	25.29	
4,930.0	3.92	202.82	4,920.1	-193.3	-112.8	198.8	0.42	-0.25	-4.75	
5,025.0	3.58	199.94	5,014.9	-199.1	-115.1	204.6	0.41	-0.36	-3.03	
5,119.0	3.26	194.48	5,108.8	-204.5	-116.8	210.1	0.49	-0.34	-5.81	
5,151.0	3.18	194.52	5,140.7	-206.2	-117.2	211.8	0.25	-0.25	0.13	
5,182.0	3.10	195.24	5,171.7	-207.9	-117.7	213.5	0.29	-0.26	2.32	
5,214.0	5.45	195.36	5,203.6	-210.2	-118.3	215.8	7.34	7.34	0.38	
5,246.0	8.66	198.05	5,235.3	-213.9	-119.4	219.6	10.08	10.03	8.41	
5,277.0	11.27	201.61	5,265.9	-218.9	-121.3	224.7	8.65	8.42	11.48	
5,309.0	13.51	205.71	5,297.1	-225.2	-124.1	231.2	7.52	7.00	12.81	
5,341.0	14.97	205.79	5,328.1	-232.3	-127.5	238.4	4.56	4.56	0.25	
5,372.0	17.90	204.95	5,357.9	-240.2	-131.2	246.5	9.48	9.45	-2.71	
5,404.0	21.55	204.85	5,388.0	-250.0	-135.8	256.5	11.41	11.41	-0.31	
5,436.0	24.96	207.12	5,417.4	-261.4	-141.3	268.1	11.02	10.66	7.09	

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Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,468.0	27.17	205.56	5,446.1	-274.0	-147.6	281.0	7.23	6.91	-4.88
5,499.0	29.36	202.68	5,473.4	-287.4	-153.5	294.7	8.32	7.06	-9.29
5,531.0	31.57	201.38	5,501.0	-302.4	-159.6	310.0	7.21	6.91	-4.06
5,563.0	35.45	199.70	5,527.7	-319.0	-165.8	326.9	12.47	12.13	-5.25
5,594.0	39.24	197.99	5,552.3	-336.8	-171.9	344.9	12.67	12.23	-5.52
5,626.0	43.08	198.50	5,576.4	-356.8	-178.5	365.2	12.05	12.00	1.59
5,658.0	46.32	197.75	5,599.2	-378.1	-185.5	387.0	10.26	10.13	-2.34
5,689.0	50.10	198.06	5,619.8	-400.1	-192.6	409.3	12.22	12.19	1.00
5,721.0	53.27	198.06	5,639.6	-424.0	-200.4	433.5	9.91	9.91	0.00
5,753.0	55.27	196.78	5,658.3	-448.8	-208.1	458.6	7.04	6.25	-4.00
5,784.0	57.81	195.83	5,675.4	-473.6	-215.4	483.8	8.58	8.19	-3.06
5,816.0	58.89	194.48	5,692.2	-499.9	-222.5	510.4	4.93	3.38	-4.22
5,847.0	60.96	194.25	5,707.7	-525.9	-229.2	536.7	6.71	6.68	-0.74
5,879.0	63.80	194.66	5,722.6	-553.3	-236.2	564.5	8.95	8.88	1.28
5,911.0	66.17	194.58	5,736.1	-581.4	-243.6	592.9	7.41	7.41	-0.25
5,942.0	68.90	195.04	5,748.0	-609.1	-250.9	620.9	8.91	8.81	1.48
5,974.0	72.21	195.53	5,758.6	-638.2	-258.8	650.4	10.44	10.34	1.53
6,006.0	75.22	195.76	5,767.6	-667.8	-267.1	680.3	9.43	9.41	0.72
6,037.0	78.03	194.71	5,774.8	-696.9	-275.0	709.8	9.64	9.06	-3.39
6,069.0	80.99	194.95	5,780.6	-727.3	-283.1	740.5	9.28	9.25	0.75
6,100.0	83.66	194.89	5,784.7	-757.0	-291.0	770.6	8.62	8.61	-0.19
6,132.0	86.18	194.62	5,787.6	-787.8	-299.1	801.8	7.92	7.88	-0.84
6,164.0	89.08	195.23	5,788.9	-818.7	-307.3	833.0	9.26	9.06	1.91
6,179.0	89.85	195.67	5,789.0	-833.1	-311.3	847.7	5.95	5.16	2.95
7"									
6,207.0	91.30	196.50	5,788.7	-860.0	-319.1	874.9	5.95	5.16	2.95
6,239.0	91.97	194.85	5,787.8	-890.8	-327.7	906.1	5.56	2.09	-5.16
6,271.0	91.17	193.90	5,786.9	-921.8	-335.7	937.5	3.88	-2.50	-2.97
6,302.0	90.18	193.72	5,786.6	-951.9	-343.1	967.9	3.25	-3.19	-0.58
6,334.0	89.93	193.55	5,786.5	-983.0	-350.6	999.3	0.94	-0.78	-0.53
6,366.0	89.56	191.55	5,786.7	-1,014.2	-357.6	1,030.9	6.36	-1.16	-6.25
6,397.0	89.11	189.71	5,787.0	-1,044.7	-363.3	1,061.6	6.11	-1.45	-5.94
6,428.0	88.09	189.91	5,787.8	-1,075.2	-368.6	1,092.4	3.35	-3.29	0.65
6,460.0	87.91	188.94	5,788.9	-1,106.8	-373.8	1,124.1	3.08	-0.56	-3.03
6,491.0	87.30	187.48	5,790.2	-1,137.5	-378.2	1,155.0	5.10	-1.97	-4.71
6,523.0	86.52	185.29	5,791.9	-1,169.2	-381.8	1,186.9	7.26	-2.44	-6.84
6,554.0	86.22	183.74	5,793.9	-1,200.0	-384.2	1,217.8	5.08	-0.97	-5.00
6,586.0	86.82	184.59	5,795.8	-1,231.9	-386.5	1,249.7	3.25	1.88	2.66
6,617.0	88.03	185.13	5,797.2	-1,262.8	-389.2	1,280.7	4.27	3.90	1.74
6,649.0	89.41	183.25	5,798.0	-1,294.7	-391.5	1,312.6	7.29	4.31	-5.88
6,680.0	89.93	184.12	5,798.1	-1,325.6	-393.5	1,343.6	3.27	1.68	2.81
6,712.0	90.06	183.46	5,798.1	-1,357.5	-395.6	1,375.6	2.10	0.41	-2.06
6,743.0	90.29	183.00	5,798.0	-1,388.5	-397.4	1,406.6	1.66	0.74	-1.48
6,775.0	90.32	184.16	5,797.9	-1,420.4	-399.4	1,438.6	3.63	0.09	3.63
6,807.0	90.25	185.68	5,797.7	-1,452.3	-402.1	1,470.6	4.75	-0.22	4.75
6,838.0	90.66	185.84	5,797.5	-1,483.1	-405.2	1,501.6	1.42	1.32	0.52
6,870.0	91.55	186.76	5,796.8	-1,514.9	-408.7	1,533.5	4.00	2.78	2.88
6,902.0	91.63	186.98	5,796.0	-1,546.7	-412.6	1,565.4	0.73	0.25	0.69
6,933.0	91.73	186.55	5,795.1	-1,577.5	-416.2	1,596.3	1.42	0.32	-1.39
6,936.3	91.80	186.62	5,795.0	-1,580.7	-416.6	1,599.6	3.10	2.28	2.09
WP1									
6,965.0	92.46	187.22	5,793.9	-1,609.2	-420.0	1,628.2	3.10	2.28	2.09
6,997.0	92.72	187.18	5,792.4	-1,640.9	-424.0	1,660.1	0.82	0.81	-0.13
7,028.0	91.27	185.54	5,791.4	-1,671.7	-427.5	1,691.0	7.06	-4.68	-5.29

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7,060.0	89.24	184.04	5,791.2	-1,703.6	-430.1	1,723.0	7.89	-6.34	-4.69
7,091.0	88.73	182.76	5,791.8	-1,734.5	-432.0	1,754.0	4.44	-1.65	-4.13
7,123.0	88.92	181.17	5,792.4	-1,766.5	-433.1	1,786.0	5.00	0.59	-4.97
7,154.0	89.59	179.76	5,792.8	-1,797.5	-433.3	1,817.0	5.04	2.16	-4.55
7,186.0	89.86	179.70	5,793.0	-1,829.5	-433.2	1,848.9	0.86	0.84	-0.19
7,217.0	89.69	178.79	5,793.1	-1,860.5	-432.8	1,879.8	2.99	-0.55	-2.94
7,249.0	90.20	179.23	5,793.1	-1,892.5	-432.2	1,911.8	2.10	1.59	1.38
7,281.0	91.01	179.24	5,792.8	-1,924.5	-431.8	1,943.7	2.53	2.53	0.03
7,312.0	91.10	179.35	5,792.2	-1,955.5	-431.4	1,974.6	0.46	0.29	0.35
7,344.0	91.57	178.78	5,791.5	-1,987.5	-430.9	2,006.6	2.31	1.47	-1.78
7,375.0	90.38	180.37	5,790.9	-2,018.5	-430.7	2,037.5	6.41	-3.84	5.13
7,407.0	90.61	180.43	5,790.7	-2,050.5	-430.9	2,069.5	0.74	0.72	0.19
7,439.0	90.76	181.17	5,790.3	-2,082.5	-431.3	2,101.4	2.36	0.47	2.31
7,470.0	89.11	179.57	5,790.3	-2,113.5	-431.5	2,132.4	7.41	-5.32	-5.16
7,502.0	88.97	179.87	5,790.9	-2,145.5	-431.4	2,164.4	1.03	-0.44	0.94
7,533.0	89.15	179.73	5,791.4	-2,176.5	-431.3	2,195.3	0.74	0.58	-0.45
7,565.0	89.00	179.10	5,791.9	-2,208.4	-430.9	2,227.3	2.02	-0.47	-1.97
7,597.0	90.30	178.78	5,792.1	-2,240.4	-430.3	2,259.2	4.18	4.06	-1.00
7,628.0	90.77	179.71	5,791.8	-2,271.4	-429.9	2,290.1	3.36	1.52	3.00
7,660.0	90.70	179.11	5,791.4	-2,303.4	-429.6	2,322.1	1.89	-0.22	-1.88
7,692.0	89.59	177.75	5,791.3	-2,335.4	-428.7	2,354.0	5.49	-3.47	-4.25
7,723.0	89.53	177.31	5,791.5	-2,366.4	-427.4	2,384.8	1.43	-0.19	-1.42
7,755.0	89.74	177.53	5,791.7	-2,398.4	-426.0	2,416.7	0.95	0.66	0.69
7,787.0	90.31	178.12	5,791.7	-2,430.3	-424.7	2,448.5	2.56	1.78	1.84
7,818.0	90.38	178.19	5,791.5	-2,461.3	-423.7	2,479.4	0.32	0.23	0.23
7,850.0	90.38	177.74	5,791.3	-2,493.3	-422.6	2,511.3	1.41	0.00	-1.41
7,881.0	90.57	177.71	5,791.1	-2,524.3	-421.4	2,542.2	0.62	0.61	-0.10
7,913.0	90.86	178.15	5,790.7	-2,556.2	-420.2	2,574.1	1.65	0.91	1.38
7,944.0	90.93	177.88	5,790.2	-2,587.2	-419.1	2,605.0	0.90	0.23	-0.87
7,976.0	89.64	178.11	5,790.0	-2,619.2	-418.0	2,636.8	4.09	-4.03	0.72
8,007.0	88.94	177.38	5,790.4	-2,650.2	-416.8	2,667.7	3.26	-2.26	-2.35
8,039.0	89.10	177.64	5,791.0	-2,682.1	-415.4	2,699.6	0.95	0.50	0.81
8,071.0	88.91	177.43	5,791.5	-2,714.1	-414.0	2,731.4	0.88	-0.59	-0.66
8,102.0	88.94	177.55	5,792.1	-2,745.1	-412.7	2,762.3	0.40	0.10	0.39
8,134.0	89.97	177.41	5,792.4	-2,777.0	-411.3	2,794.1	3.25	3.22	-0.44
8,166.0	89.98	177.70	5,792.4	-2,809.0	-409.9	2,826.0	0.91	0.03	0.91
8,197.0	89.17	178.38	5,792.6	-2,840.0	-408.9	2,856.9	3.41	-2.61	2.19
8,229.0	89.72	180.66	5,793.0	-2,872.0	-408.6	2,888.8	7.33	1.72	7.13
8,261.0	91.30	182.32	5,792.7	-2,904.0	-409.4	2,920.8	7.16	4.94	5.19
8,292.0	91.72	182.69	5,791.9	-2,934.9	-410.8	2,951.8	1.81	1.35	1.19
8,324.0	91.66	183.37	5,790.9	-2,966.9	-412.5	2,983.8	2.13	-0.19	2.13
8,341.8	91.27	182.34	5,790.5	-2,984.7	-413.4	3,001.6	6.18	-2.19	-5.77
WP2									
8,355.0	90.98	181.58	5,790.2	-2,997.8	-413.8	3,014.8	6.18	-2.19	-5.77
8,387.0	90.36	181.64	5,789.8	-3,029.8	-414.7	3,046.8	1.95	-1.94	0.19
8,419.0	90.62	180.71	5,789.5	-3,061.8	-415.4	3,078.8	3.02	0.81	-2.91
8,450.0	90.08	179.84	5,789.4	-3,092.8	-415.5	3,109.7	3.30	-1.74	-2.81
8,482.0	90.17	178.43	5,789.3	-3,124.8	-415.0	3,141.7	4.42	0.28	-4.41
8,514.0	89.99	178.42	5,789.2	-3,156.8	-414.1	3,173.6	0.56	-0.56	-0.03
8,545.0	89.42	178.21	5,789.4	-3,187.8	-413.2	3,204.5	1.96	-1.84	-0.68
8,577.0	88.99	177.83	5,789.8	-3,219.8	-412.1	3,236.3	1.79	-1.34	-1.19
8,609.0	89.07	177.22	5,790.4	-3,251.7	-410.7	3,268.2	1.92	0.25	-1.91
8,640.0	88.92	177.02	5,790.9	-3,282.7	-409.2	3,299.0	0.81	-0.48	-0.65
8,672.0	89.20	177.67	5,791.5	-3,314.6	-407.7	3,330.9	2.21	0.88	2.03

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor #21C-2805A
Project:	SEC.21-T10N-R58W	TVD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Site:	Razor 21C Pad Sec.21-T10N-R58W	MD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,704.0	89.91	178.41	5,791.7	-3,346.6	-406.6	3,362.8	3.20	2.22	2.31	
8,735.0	89.56	178.35	5,791.9	-3,377.6	-405.7	3,393.7	1.15	-1.13	-0.19	
8,767.0	89.26	177.41	5,792.2	-3,409.6	-404.5	3,425.6	3.08	-0.94	-2.94	
8,799.0	89.34	177.71	5,792.6	-3,441.5	-403.2	3,457.4	0.97	0.25	0.94	
8,830.0	90.09	178.02	5,792.7	-3,472.5	-402.0	3,488.3	2.62	2.42	1.00	
8,861.0	90.82	177.90	5,792.5	-3,503.5	-400.9	3,519.2	2.39	2.35	-0.39	
8,893.0	91.31	179.08	5,791.9	-3,535.5	-400.1	3,551.1	3.99	1.53	3.69	
8,925.0	91.65	179.07	5,791.1	-3,567.5	-399.6	3,583.0	1.06	1.06	-0.03	
8,956.0	91.55	179.18	5,790.2	-3,598.5	-399.1	3,613.9	0.48	-0.32	0.35	
8,987.0	91.00	179.12	5,789.5	-3,629.4	-398.6	3,644.9	1.78	-1.77	-0.19	
9,019.0	90.38	177.90	5,789.1	-3,661.4	-397.8	3,676.8	4.28	-1.94	-3.81	
9,051.0	89.60	178.29	5,789.1	-3,693.4	-396.7	3,708.6	2.73	-2.44	1.22	
9,082.0	88.97	178.18	5,789.5	-3,724.4	-395.8	3,739.5	2.06	-2.03	-0.35	
9,114.0	88.58	179.70	5,790.2	-3,756.4	-395.2	3,771.5	4.90	-1.22	4.75	
9,146.0	87.80	181.36	5,791.2	-3,788.4	-395.5	3,803.4	5.73	-2.44	5.19	
9,177.0	88.57	183.09	5,792.2	-3,819.3	-396.7	3,834.4	6.11	2.48	5.58	
9,209.0	89.08	183.05	5,792.8	-3,851.3	-398.4	3,866.4	1.60	1.59	-0.13	
9,243.0	89.64	183.35	5,793.2	-3,885.2	-400.3	3,900.4	1.87	1.65	0.88	
9,274.0	89.84	181.60	5,793.4	-3,916.2	-401.6	3,931.4	5.68	0.65	-5.65	
9,304.0	90.58	180.41	5,793.3	-3,946.2	-402.2	3,961.4	4.67	2.47	-3.97	
9,335.0	91.30	178.54	5,792.7	-3,977.2	-401.9	3,992.3	6.46	2.32	-6.03	
9,366.0	91.69	179.10	5,791.9	-4,008.2	-401.2	4,023.2	2.20	1.26	1.81	
9,397.0	91.79	178.61	5,791.0	-4,039.1	-400.6	4,054.1	1.61	0.32	-1.58	
9,428.0	91.86	178.95	5,790.0	-4,070.1	-400.0	4,085.0	1.12	0.23	1.10	
9,458.0	91.89	179.08	5,789.0	-4,100.1	-399.5	4,114.9	0.44	0.10	0.43	
9,489.0	92.00	178.33	5,788.0	-4,131.1	-398.8	4,145.8	2.44	0.35	-2.42	
9,519.0	92.15	177.44	5,786.9	-4,161.0	-397.6	4,175.7	3.01	0.50	-2.97	
9,550.0	92.26	178.16	5,785.7	-4,192.0	-396.5	4,206.6	2.35	0.35	2.32	
9,580.0	92.63	178.18	5,784.4	-4,221.9	-395.5	4,236.4	1.24	1.23	0.07	
9,611.0	92.69	177.84	5,783.0	-4,252.9	-394.4	4,267.3	1.11	0.19	-1.10	
9,642.0	92.31	178.23	5,781.6	-4,283.8	-393.4	4,298.2	1.76	-1.23	1.26	
9,673.0	91.15	178.39	5,780.7	-4,314.8	-392.4	4,329.0	3.78	-3.74	0.52	
9,704.0	90.99	178.79	5,780.1	-4,345.8	-391.7	4,360.0	1.39	-0.52	1.29	
9,735.0	89.51	179.01	5,780.0	-4,376.8	-391.1	4,390.9	4.83	-4.77	0.71	
9,766.0	89.35	178.52	5,780.3	-4,407.8	-390.4	4,421.8	1.66	-0.52	-1.58	
9,796.0	89.29	179.77	5,780.6	-4,437.8	-390.0	4,451.7	4.17	-0.20	4.17	
9,827.0	89.43	180.88	5,781.0	-4,468.8	-390.2	4,482.7	3.61	0.45	3.58	
9,843.3	89.07	179.83	5,781.2	-4,485.0	-390.3	4,499.0	6.84	-2.23	-6.47	
WP3										
9,857.0	88.76	178.94	5,781.5	-4,498.8	-390.1	4,512.7	6.84	-2.23	-6.47	
9,888.0	88.68	180.22	5,782.2	-4,529.8	-389.9	4,543.6	4.14	-0.26	4.13	
9,919.0	88.86	181.43	5,782.8	-4,560.7	-390.3	4,574.6	3.95	0.58	3.90	
9,950.0	89.05	182.05	5,783.4	-4,591.7	-391.3	4,605.6	2.09	0.61	2.00	
9,981.0	89.73	182.05	5,783.7	-4,622.7	-392.4	4,636.5	2.19	2.19	0.00	
10,012.0	90.04	182.13	5,783.8	-4,653.7	-393.5	4,667.5	1.03	1.00	0.26	
10,042.0	89.94	181.82	5,783.8	-4,683.7	-394.5	4,697.5	1.09	-0.33	-1.03	
10,073.0	90.28	182.29	5,783.7	-4,714.6	-395.6	4,728.5	1.87	1.10	1.52	
10,104.0	91.30	181.69	5,783.3	-4,745.6	-396.7	4,759.5	3.82	3.29	-1.94	
10,135.0	92.08	181.60	5,782.4	-4,776.6	-397.6	4,790.5	2.53	2.52	-0.29	
10,166.0	91.97	181.20	5,781.3	-4,807.6	-398.4	4,821.5	1.34	-0.35	-1.29	
10,196.0	92.08	181.19	5,780.2	-4,837.5	-399.0	4,851.4	0.37	0.37	-0.03	
10,227.0	91.89	180.25	5,779.1	-4,868.5	-399.4	4,882.4	3.09	-0.61	-3.03	
10,258.0	91.80	179.22	5,778.2	-4,899.5	-399.2	4,913.3	3.33	-0.29	-3.32	
10,288.0	91.76	178.71	5,777.2	-4,929.5	-398.7	4,943.3	1.70	-0.13	-1.70	

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor #21C-2805A
Project:	SEC.21-T10N-R58W	TVD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Site:	Razor 21C Pad Sec.21-T10N-R58W	MD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,319.0	91.84	178.55	5,776.2	-4,960.5	-398.0	4,974.2	0.58	0.26	-0.52
10,350.0	92.06	178.28	5,775.2	-4,991.4	-397.1	5,005.0	1.12	0.71	-0.87
10,381.0	91.85	177.79	5,774.1	-5,022.4	-396.0	5,035.9	1.72	-0.68	-1.58
10,412.0	92.00	177.96	5,773.1	-5,053.4	-394.9	5,066.8	0.73	0.48	0.55
10,443.0	91.40	179.54	5,772.2	-5,084.3	-394.2	5,097.7	5.45	-1.94	5.10
10,473.0	91.18	179.21	5,771.5	-5,114.3	-393.9	5,127.6	1.32	-0.73	-1.10
10,504.0	91.42	179.45	5,770.8	-5,145.3	-393.5	5,158.6	1.09	0.77	0.77
10,534.0	91.79	179.31	5,770.0	-5,175.3	-393.2	5,188.5	1.32	1.23	-0.47
10,565.0	91.14	179.11	5,769.2	-5,206.3	-392.8	5,219.4	2.19	-2.10	-0.65
10,596.0	90.40	176.54	5,768.7	-5,237.3	-391.6	5,250.3	8.63	-2.39	-8.29
10,626.0	90.15	175.65	5,768.6	-5,267.2	-389.6	5,280.1	3.08	-0.83	-2.97
10,657.0	89.95	175.54	5,768.6	-5,298.1	-387.2	5,310.8	0.74	-0.65	-0.35
10,688.0	90.06	176.96	5,768.6	-5,329.0	-385.1	5,341.6	4.59	0.35	4.58
10,718.0	90.49	178.59	5,768.4	-5,359.0	-384.0	5,371.5	5.62	1.43	5.43
10,749.0	91.11	179.84	5,768.0	-5,390.0	-383.6	5,402.4	4.50	2.00	4.03
10,780.0	90.51	179.74	5,767.6	-5,421.0	-383.4	5,433.4	1.96	-1.94	-0.32
10,811.0	89.49	180.54	5,767.6	-5,452.0	-383.5	5,464.4	4.18	-3.29	2.58
10,841.0	89.38	180.35	5,767.9	-5,482.0	-383.8	5,494.3	0.73	-0.37	-0.63
10,848.1	89.26	180.68	5,767.9	-5,489.1	-383.8	5,501.5	4.86	-1.61	4.58
WP4									
10,872.0	88.88	181.77	5,768.3	-5,513.0	-384.3	5,525.3	4.86	-1.61	4.58
10,903.0	88.82	181.44	5,768.9	-5,544.0	-385.2	5,556.3	1.08	-0.19	-1.06
10,934.0	88.48	182.23	5,769.7	-5,574.9	-386.2	5,587.3	2.77	-1.10	2.55
10,965.0	89.32	182.74	5,770.3	-5,605.9	-387.5	5,618.3	3.17	2.71	1.65
10,995.0	90.03	183.88	5,770.4	-5,635.8	-389.3	5,648.3	4.48	2.37	3.80
11,026.0	90.55	184.47	5,770.3	-5,666.8	-391.5	5,679.3	2.54	1.68	1.90
11,057.0	91.00	184.35	5,769.9	-5,697.7	-393.9	5,710.2	1.50	1.45	-0.39
11,087.0	90.92	183.51	5,769.4	-5,727.6	-396.0	5,740.2	2.81	-0.27	-2.80
11,118.0	90.24	181.41	5,769.0	-5,758.6	-397.3	5,771.2	7.12	-2.19	-6.77
11,149.0	90.63	181.73	5,768.8	-5,789.6	-398.1	5,802.2	1.63	1.26	1.03
11,180.0	90.17	180.68	5,768.6	-5,820.5	-398.8	5,833.2	3.70	-1.48	-3.39
11,210.0	90.77	179.37	5,768.3	-5,850.5	-398.8	5,863.2	4.80	2.00	-4.37
11,241.0	90.59	177.21	5,768.0	-5,881.5	-397.9	5,894.1	6.99	-0.58	-6.97
11,272.0	91.02	175.83	5,767.5	-5,912.5	-396.0	5,924.9	4.66	1.39	-4.45
11,302.0	90.96	174.27	5,767.0	-5,942.3	-393.4	5,954.6	5.20	-0.20	-5.20
11,332.0	90.76	173.73	5,766.6	-5,972.2	-390.3	5,984.2	1.92	-0.67	-1.80
11,363.0	91.50	173.23	5,766.0	-6,003.0	-386.8	6,014.8	2.88	2.39	-1.61
11,394.0	92.58	174.16	5,764.9	-6,033.8	-383.4	6,045.4	4.60	3.48	3.00
11,425.0	93.66	174.43	5,763.2	-6,064.6	-380.3	6,076.0	3.59	3.48	0.87
11,456.0	94.05	176.02	5,761.1	-6,095.4	-377.7	6,106.7	5.27	1.26	5.13
11,486.0	93.95	177.01	5,759.0	-6,125.3	-375.9	6,136.4	3.31	-0.33	3.30
11,516.0	93.60	176.96	5,757.0	-6,155.2	-374.3	6,166.2	1.18	-1.17	-0.17
11,547.0	93.47	178.28	5,755.1	-6,186.1	-373.0	6,197.0	4.27	-0.42	4.26
11,550.7	93.36	178.45	5,754.9	-6,189.8	-372.9	6,200.7	5.57	-3.03	4.68
WP5									
11,578.0	92.53	179.73	5,753.5	-6,217.0	-372.5	6,227.9	5.57	-3.03	4.68
11,609.0	91.58	180.29	5,752.4	-6,248.0	-372.5	6,258.8	3.56	-3.06	1.81
11,639.0	91.06	180.14	5,751.7	-6,278.0	-372.6	6,288.8	1.80	-1.73	-0.50
11,670.0	91.18	180.13	5,751.1	-6,309.0	-372.7	6,319.7	0.39	0.39	-0.03
11,699.0	91.49	179.67	5,750.4	-6,338.0	-372.6	6,348.7	1.91	1.07	-1.59
11,730.0	91.51	179.40	5,749.6	-6,369.0	-372.4	6,379.6	0.87	0.06	-0.87
11,761.0	90.41	179.24	5,749.1	-6,400.0	-372.0	6,410.6	3.59	-3.55	-0.52
11,792.0	89.58	178.52	5,749.1	-6,430.9	-371.4	6,441.5	3.54	-2.68	-2.32
11,822.0	89.65	178.34	5,749.3	-6,460.9	-370.6	6,471.4	0.64	0.23	-0.60

Company:	Whiting Oil & Gas	Local Co-ordinate Reference:	Well Razor #21C-2805A
Project:	SEC.21-T10N-R58W	TVD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Site:	Razor 21C Pad Sec.21-T10N-R58W	MD Reference:	WELL @ 4862.3ft (RKB - 17.3')
Well:	Razor #21C-2805A	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,853.0	89.53	179.61	5,749.5	-6,491.9	-370.0	6,502.3	4.11	-0.39	4.10
11,884.0	89.27	180.17	5,749.8	-6,522.9	-370.0	6,533.3	1.99	-0.84	1.81
11,914.0	88.18	180.61	5,750.5	-6,552.9	-370.2	6,563.2	3.92	-3.63	1.47
11,945.0	88.05	180.50	5,751.5	-6,583.9	-370.5	6,594.2	0.55	-0.42	-0.35
11,976.0	87.80	179.53	5,752.6	-6,614.9	-370.5	6,625.1	3.23	-0.81	-3.13
12,006.0	88.29	180.17	5,753.7	-6,644.9	-370.4	6,655.1	2.69	1.63	2.13
12,037.0	88.77	181.44	5,754.5	-6,675.8	-370.8	6,686.0	4.38	1.55	4.10
12,068.0	89.77	181.65	5,754.8	-6,706.8	-371.7	6,717.0	3.30	3.23	0.68
12,099.0	89.55	181.81	5,755.0	-6,737.8	-372.6	6,748.0	0.88	-0.71	0.52
12,129.0	90.12	181.66	5,755.1	-6,767.8	-373.5	6,778.0	1.96	1.90	-0.50
12,160.0	90.82	178.76	5,754.9	-6,798.8	-373.6	6,809.0	9.62	2.26	-9.35
12,191.0	90.23	178.96	5,754.6	-6,829.8	-373.0	6,839.9	2.01	-1.90	0.65
12,222.0	90.08	179.56	5,754.5	-6,860.8	-372.6	6,870.8	2.00	-0.48	1.94
12,252.0	90.57	179.13	5,754.3	-6,890.8	-372.3	6,900.8	2.17	1.63	-1.43
12,283.0	90.74	179.08	5,754.0	-6,921.8	-371.8	6,931.7	0.57	0.55	-0.16
12,313.0	90.55	178.34	5,753.6	-6,951.8	-371.1	6,961.6	2.55	-0.63	-2.47
12,344.0	90.47	177.57	5,753.4	-6,982.8	-370.0	6,992.5	2.50	-0.26	-2.48
12,375.0	89.82	176.93	5,753.3	-7,013.7	-368.5	7,023.4	2.94	-2.10	-2.06
12,406.0	89.08	177.54	5,753.6	-7,044.7	-367.0	7,054.2	3.09	-2.39	1.97
12,436.0	89.30	179.34	5,754.0	-7,074.7	-366.2	7,084.1	6.04	0.73	6.00
12,467.0	88.67	179.11	5,754.5	-7,105.7	-365.8	7,115.1	2.16	-2.03	-0.74
12,498.0	88.63	180.24	5,755.3	-7,136.6	-365.6	7,146.0	3.65	-0.13	3.65
12,529.0	88.88	181.16	5,756.0	-7,167.6	-366.0	7,177.0	3.07	0.81	2.97
12,560.0	88.75	181.98	5,756.6	-7,198.6	-366.8	7,208.0	2.68	-0.42	2.65
12,591.0	88.45	182.08	5,757.4	-7,229.6	-367.9	7,238.9	1.02	-0.97	0.32
12,621.0	88.37	181.95	5,758.2	-7,259.6	-369.0	7,268.9	0.51	-0.27	-0.43
12,652.0	88.50	181.57	5,759.0	-7,290.5	-369.9	7,299.9	1.30	0.42	-1.23
12,683.0	88.48	182.23	5,759.8	-7,321.5	-371.0	7,330.9	2.13	-0.06	2.13
12,714.0	88.63	181.17	5,760.6	-7,352.5	-371.9	7,361.9	3.45	0.48	-3.42
12,745.0	88.89	181.87	5,761.3	-7,383.5	-372.7	7,392.9	2.41	0.84	2.26
12,755.0	88.92	181.77	5,761.5	-7,393.5	-373.0	7,402.9	1.04	0.30	-1.00
12,805.0	88.90	181.77	5,762.4	-7,443.4	-374.6	7,452.8	0.04	-0.04	0.00

BHL 2563'FNL & 1485'FWL, Sec.28

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
6,179.0	5,789.0	7"	7	7-1/2

Checked By: _____ Approved By: _____ Date: _____