

SPERRY-SUN DRILLING SERVICES

CERTIFIED SURVEY WORK SHEET



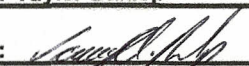
OPERATOR:	Whiting Oil and Gas
WELL:	Razor 11F-0205A
FIELD:	Red Tail
RIG:	Frontier 26
LEGALS:	Sec. 11-T10N-R58W
COUNTY:	Weld
STATE:	Colorado
CAL. METHOD:	Minimum Curvature
MAG. DECL. APPLIED:	7.46
VERTICAL SEC. DIR. :	356.15

SSDS Job Number :	901932192
Start Date of Job :	2/17/2015
End Date of Job :	2/27/2015
Lead Directional Driller:	Randy Bernatow
Directional Driller	Bogdan Cristian
Other SSDS DD's :	0
SSDS MWD Engineers :	Cody Wurdeman
MWD :	Taylor Dunlop
MWD	0

Geo Pilot Engineer :

	Main Hole =====>	1st Side Track =====>	2nd Side Track =====>	3rd Side Track =====>	4th Side Track =====>
First MWD Survey Depth	176.00	MWD	Tie On	Tie On	Tie On
		ESS	MWD		
Last Wireline Survey		Gyro			
	5563.00	KOP	KOP-ST1	KOP-ST2	KOP-ST3
		MWD	MWD	MWD	MWD
Last MWD Survey Depth	13618.00	MWD	MWD	MWD	MWD
Bit Extrapolation @ TD	13662.00	T.D.	T.D.	T.D.	T.D.

The following Sperry Drilling Services personnel, certify the above survey information to be accurate to the best of our knowledge:

Print Name : Randy Bernatow	Print Name : Cody Wurdeman	Print Name :
Sign Name : 	Sign Name : 	Sign Name :
Print Name : Bogdan Cristian	Print Name : Taylor Dunlop	Print Name :
Sign Name : BOGDAN CRISTIAN	Sign Name : 	Sign Name :

Examples of Survey Types:

TieOn	Tie On to Surface Casing (Assumed Vertical), Tie On to existing MWD Survey (prior drilled hole)
MWD	Sperry-Sun Drilling Services (SSDS) Measurement While Drilling (MWD) Survey's
ESS	Sperry-Sun Drilling Services (SSDS) Electronic Survey System (ESS) Survey's
Gyro	Gyro Survey's ; Provided by third party vendor, or by Sperry-Sun Drilling Services (SSDS)
SS	Single Shot (SS) Survey's ; Provided by Sperry-Sun Drilling Services (SSDS) or third party vendor.

Whiting Oil and Gas Corporation

Weld County, CO

Sec. 11-T10N-R58W (Razor 11F Pad)

Razor 11F-0205A

Plan C

Design: Actual Field Surveys

Sperry Drilling Services

Standard Report

06 March, 2015

Well Coordinates: 1,558,361.81 N, 3,460,454.94 E (40° 51' 15.18" N, 103° 50' 07.70" W)

Ground Level: 4,988.60 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 73

Centered on Well Razor 11F-0205A

KB 22 @ 5010.60usft (Frontier 26)

N

True

API - US Survey Feet - Custom

HALLIBURTON

Design Report for Razor 11F-0205A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176.00	2.26	225.45	175.95	-2.43	-2.47	-2.26	1.28
First Sperry MWD Survey @ 176.00 ft							
268.00	2.17	219.69	267.89	-5.05	-4.88	-4.71	0.26
360.00	2.52	227.06	359.81	-7.77	-7.47	-7.25	0.50
451.00	4.22	208.28	450.65	-12.08	-10.52	-11.34	2.20
543.00	6.68	209.07	542.23	-19.74	-14.73	-18.70	2.68
636.00	6.55	211.00	634.61	-29.01	-20.09	-27.59	0.28
728.00	6.02	212.14	726.06	-37.59	-25.36	-35.80	0.59
820.00	7.82	217.62	817.38	-46.64	-31.74	-44.40	2.08
912.00	7.90	216.89	908.52	-56.65	-39.36	-53.88	0.14
1,004.00	7.63	216.32	999.67	-66.63	-46.77	-63.33	0.31
1,094.00	7.58	216.35	1,088.88	-76.22	-53.83	-72.43	0.06
1,185.00	8.11	215.65	1,179.03	-86.27	-61.13	-81.97	0.59
1,278.00	7.69	217.85	1,271.15	-96.52	-68.77	-91.68	0.56
1,460.00	11.10	219.01	1,450.68	-119.75	-87.27	-113.62	1.88
1,552.00	11.51	220.94	1,540.90	-133.57	-98.86	-126.62	0.61
1,643.00	11.63	220.91	1,630.05	-147.36	-110.82	-139.58	0.13
1,734.00	11.90	222.10	1,719.14	-161.25	-123.12	-152.61	0.40
1,825.00	11.65	221.92	1,808.22	-175.05	-135.54	-165.54	0.28
1,917.00	11.42	220.05	1,898.36	-188.93	-147.61	-178.58	0.48
2,009.00	11.59	205.81	1,988.53	-204.23	-157.50	-193.18	3.09
2,100.00	10.79	201.41	2,077.80	-220.39	-164.59	-208.83	1.29
2,192.00	10.58	200.52	2,168.21	-236.32	-170.69	-224.31	0.29
2,283.00	10.29	198.84	2,257.70	-251.83	-176.24	-239.41	0.46
2,375.00	11.97	208.89	2,347.98	-267.97	-183.51	-255.02	2.78
2,466.00	11.38	207.89	2,437.09	-284.16	-192.27	-270.59	0.69
2,558.00	10.39	207.30	2,527.44	-299.56	-200.32	-285.41	1.08
2,649.00	9.96	205.31	2,617.01	-313.96	-207.45	-299.31	0.61
2,741.00	12.62	208.86	2,707.22	-329.96	-215.70	-314.71	2.99
2,833.00	12.42	209.15	2,797.03	-347.40	-225.37	-331.47	0.23
2,924.00	12.25	207.23	2,885.93	-364.53	-234.55	-347.94	0.49
3,016.00	12.23	204.74	2,975.84	-382.06	-243.10	-364.86	0.57
3,107.00	12.34	203.28	3,064.76	-399.75	-250.98	-381.97	0.36
3,199.00	12.66	212.79	3,154.59	-417.26	-260.32	-398.81	2.26
3,290.00	11.63	208.35	3,243.55	-433.71	-270.08	-414.58	1.53
3,382.00	9.67	200.31	3,333.97	-449.12	-277.16	-429.47	2.67
3,474.00	10.20	207.40	3,424.59	-463.60	-283.60	-443.49	1.45
3,565.00	10.02	205.94	3,514.18	-477.87	-290.77	-457.25	0.34
3,656.00	11.42	211.40	3,603.59	-492.68	-298.92	-471.47	1.90
3,748.00	11.86	211.07	3,693.70	-508.56	-308.55	-486.66	0.48
3,839.00	12.21	211.31	3,782.70	-524.79	-318.38	-502.20	0.39
3,930.00	11.30	210.87	3,871.79	-540.66	-327.95	-517.39	1.00
4,021.00	14.09	211.93	3,960.55	-557.72	-338.39	-533.71	3.08
4,113.00	13.42	206.55	4,049.92	-576.77	-349.08	-552.00	1.57
4,205.00	12.39	204.93	4,139.59	-595.27	-358.01	-569.86	1.19
4,296.00	14.09	216.37	4,228.19	-613.05	-368.70	-586.88	3.42
4,387.00	14.03	215.49	4,316.46	-630.95	-381.67	-603.87	0.24
4,479.00	13.53	214.39	4,405.81	-648.91	-394.22	-620.94	0.61
4,571.00	12.34	213.23	4,495.48	-666.02	-405.69	-637.24	1.32

Design Report for Razor 11F-0205A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
4,664.00	11.61	210.76	4,586.45	-682.37	-415.92	-652.87	0.96
4,754.00	10.77	206.47	4,674.74	-697.68	-424.30	-667.58	1.31
4,847.00	9.08	200.87	4,766.35	-712.32	-430.79	-681.75	2.09
4,939.00	8.45	196.11	4,857.28	-725.60	-435.25	-694.69	1.04
5,031.00	6.71	192.43	4,948.47	-737.34	-438.29	-706.21	1.96
5,123.00	3.36	194.18	5,040.10	-745.21	-440.10	-713.93	3.64
5,215.00	1.63	217.73	5,132.01	-748.85	-441.57	-717.48	2.15
5,307.00	1.50	1.88	5,224.00	-748.69	-442.33	-717.26	3.24
5,398.00	1.20	17.10	5,314.97	-746.58	-442.01	-715.18	0.51
5,489.00	1.09	23.52	5,405.96	-744.88	-441.38	-713.52	0.19
5,581.00	2.99	351.42	5,497.90	-741.70	-441.39	-710.35	2.33
5,628.00	9.67	335.05	5,544.59	-736.91	-443.24	-705.44	14.58
5,676.00	15.88	338.76	5,591.37	-727.12	-447.32	-695.41	13.04
5,723.00	20.63	344.22	5,636.00	-713.15	-451.91	-681.16	10.73
5,771.00	25.79	349.20	5,680.10	-694.74	-456.17	-662.51	11.49
5,818.00	30.21	351.46	5,721.59	-673.00	-459.84	-640.56	9.67
5,866.00	33.13	352.86	5,762.44	-648.03	-463.27	-615.42	6.27
5,913.00	36.82	355.08	5,800.95	-621.25	-466.07	-588.51	8.30
5,961.00	39.76	357.09	5,838.62	-591.58	-468.08	-558.77	6.65
6,008.00	41.75	357.68	5,874.22	-560.93	-469.48	-528.10	4.31
6,056.00	45.31	357.43	5,909.02	-527.91	-470.89	-495.06	7.43
6,103.00	49.59	358.55	5,940.79	-493.31	-472.10	-460.46	9.27
6,151.00	54.40	359.40	5,970.34	-455.51	-472.76	-422.69	10.12
6,198.00	58.06	359.59	5,996.46	-416.45	-473.11	-383.70	7.79
6,246.00	62.93	359.62	6,020.09	-374.68	-473.39	-342.01	10.15
6,293.00	67.85	0.94	6,039.66	-331.97	-473.18	-299.41	10.77
6,341.00	70.60	1.23	6,056.69	-287.10	-472.33	-254.70	5.76
6,388.00	74.94	0.37	6,070.60	-242.23	-471.70	-209.97	9.40
6,436.00	78.62	0.42	6,081.58	-195.51	-471.38	-163.38	7.67
6,483.00	83.02	359.31	6,089.08	-149.12	-471.49	-117.09	9.65
6,531.00	86.52	358.16	6,093.45	-101.34	-472.55	-69.34	7.67
6,543.00	87.33	357.96	6,094.09	-89.37	-472.95	-57.37	6.95
6,568.00	89.22	357.85	6,094.85	-64.39	-473.87	-32.39	7.57
6,663.00	90.51	358.06	6,095.07	30.54	-477.26	62.56	1.38
6,758.00	89.10	358.70	6,095.39	125.50	-479.94	157.48	1.63
6,853.00	90.64	1.94	6,095.61	220.48	-479.41	252.21	3.78
6,947.00	89.78	1.79	6,095.27	314.43	-476.35	345.74	0.93
7,042.00	88.90	3.04	6,096.36	409.34	-472.35	440.17	1.61
7,137.00	88.31	2.37	6,098.67	504.20	-467.87	534.52	0.94
7,233.00	88.68	1.87	6,101.19	600.10	-464.32	629.96	0.65
7,328.00	88.83	1.68	6,103.26	695.04	-461.38	724.48	0.25
7,422.00	88.68	1.05	6,105.30	788.99	-459.14	818.07	0.69
7,517.00	88.61	0.99	6,107.55	883.95	-457.45	912.70	0.10
7,612.00	88.46	1.21	6,109.98	978.90	-455.62	1,007.31	0.28
7,707.00	88.27	359.45	6,112.69	1,073.85	-455.08	1,102.02	1.86
7,802.00	90.28	358.38	6,113.89	1,168.82	-456.88	1,196.89	2.40
7,896.00	90.52	357.57	6,113.23	1,262.76	-460.20	1,290.84	0.90
7,991.00	90.86	357.72	6,112.09	1,357.67	-464.10	1,385.80	0.39
8,086.00	90.80	356.70	6,110.71	1,452.55	-468.72	1,480.77	1.08
8,181.00	89.94	358.87	6,110.10	1,547.47	-472.40	1,575.73	2.46
8,276.00	90.49	358.62	6,109.74	1,642.45	-474.48	1,670.63	0.64

Design Report for Razor 11F-0205A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
8,371.00	90.03	358.41	6,109.31	1,737.41	-476.94	1,765.54	0.53
8,465.00	90.15	358.16	6,109.16	1,831.37	-479.75	1,859.48	0.30
8,556.00	90.31	359.45	6,108.80	1,922.35	-481.65	1,950.38	1.43
8,648.00	90.28	359.67	6,108.32	2,014.34	-482.36	2,042.21	0.24
8,739.00	89.38	357.95	6,108.59	2,105.32	-484.25	2,133.11	2.13
8,831.00	89.45	359.39	6,109.53	2,197.29	-486.38	2,225.01	1.57
8,922.00	89.48	0.69	6,110.38	2,288.28	-486.32	2,315.80	1.43
9,014.00	89.97	2.94	6,110.82	2,380.23	-483.40	2,407.34	2.50
9,106.00	89.98	3.43	6,110.86	2,472.09	-478.29	2,498.65	0.53
9,197.00	89.58	1.65	6,111.21	2,562.99	-474.26	2,589.08	2.00
9,289.00	90.50	359.40	6,111.15	2,654.98	-473.42	2,680.80	2.64
9,380.00	90.80	358.77	6,110.12	2,745.96	-474.87	2,771.67	0.77
9,472.00	90.47	358.47	6,109.10	2,837.93	-477.09	2,863.58	0.48
9,564.00	90.90	356.76	6,108.00	2,929.84	-480.91	2,955.54	1.92
9,657.00	91.23	358.26	6,106.27	3,022.73	-484.95	3,048.50	1.65
9,748.00	90.86	1.14	6,104.61	3,113.71	-485.43	3,139.30	3.19
9,840.00	90.40	1.94	6,103.60	3,205.67	-482.96	3,230.88	1.00
9,932.00	89.51	2.03	6,103.67	3,297.61	-479.77	3,322.40	0.97
10,024.00	89.41	1.55	6,104.54	3,389.56	-476.90	3,413.95	0.53
10,116.00	89.20	1.54	6,105.65	3,481.52	-474.42	3,505.54	0.23
10,208.00	89.66	2.12	6,106.57	3,573.47	-471.48	3,597.08	0.80
10,300.00	89.23	2.27	6,107.46	3,665.40	-467.96	3,688.56	0.50
10,391.00	88.09	1.12	6,109.59	3,756.33	-465.26	3,779.11	1.78
10,482.00	89.53	0.58	6,111.48	3,847.30	-463.91	3,869.78	1.69
10,574.00	88.77	359.25	6,112.84	3,939.29	-464.05	3,961.57	1.66
10,665.00	89.83	357.89	6,113.95	4,030.25	-466.32	4,052.48	1.89
10,757.00	90.43	358.41	6,113.75	4,122.20	-469.29	4,144.42	0.86
10,847.00	90.12	357.71	6,113.31	4,212.14	-472.34	4,234.37	0.85
10,938.00	89.81	358.02	6,113.37	4,303.08	-475.73	4,325.33	0.48
11,030.00	89.66	359.28	6,113.79	4,395.05	-477.90	4,417.24	1.38
11,121.00	90.46	0.60	6,113.70	4,486.05	-477.99	4,508.03	1.70
11,212.00	90.73	1.56	6,112.75	4,577.03	-476.28	4,598.69	1.10
11,305.00	89.63	0.65	6,112.46	4,670.01	-474.48	4,691.34	1.54
11,396.00	89.54	5.58	6,113.12	4,760.84	-469.54	4,781.64	5.42
11,487.00	87.94	2.94	6,115.12	4,851.56	-462.78	4,871.69	3.39
11,579.00	88.09	0.47	6,118.31	4,943.45	-460.05	4,963.20	2.69
11,670.00	89.46	358.59	6,120.26	5,034.42	-460.79	5,054.01	2.56
11,762.00	90.09	359.66	6,120.62	5,126.41	-462.20	5,145.89	1.35
11,853.00	90.89	356.05	6,119.84	5,217.33	-465.60	5,236.83	4.06
11,945.00	90.06	354.68	6,119.08	5,309.02	-473.04	5,328.81	1.74
12,036.00	90.15	356.11	6,118.91	5,399.73	-480.34	5,419.80	1.57
12,128.00	90.89	0.04	6,118.07	5,491.65	-483.43	5,511.73	4.35
12,219.00	91.76	0.13	6,115.97	5,582.63	-483.30	5,602.49	0.96
12,312.00	91.41	358.97	6,113.40	5,675.59	-484.03	5,695.29	1.30
12,403.00	89.91	359.01	6,112.35	5,766.56	-485.63	5,786.16	1.65
12,494.00	89.24	359.88	6,113.02	5,857.55	-486.51	5,877.01	1.21
12,586.00	88.86	0.59	6,114.55	5,949.54	-486.14	5,968.76	0.88
12,677.00	90.03	2.65	6,115.43	6,040.49	-483.56	6,059.34	2.60
12,769.00	90.06	5.22	6,115.36	6,132.27	-477.25	6,150.48	2.79
12,860.00	89.81	4.10	6,115.46	6,222.97	-469.86	6,240.48	1.26

Design Report for Razor 11F-0205A - Actual Field Surveys

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)
12,952.00	89.51	2.77	6,116.01	6,314.80	-464.35	6,331.73	1.48
13,044.00	87.47	358.63	6,118.43	6,406.73	-463.22	6,423.38	5.02
13,135.00	88.05	358.21	6,121.99	6,497.63	-465.73	6,514.24	0.79
13,227.00	89.88	358.56	6,123.65	6,589.57	-468.32	6,606.15	2.03
13,318.00	90.65	359.22	6,123.23	6,680.55	-470.08	6,697.04	1.11
13,409.00	91.26	359.76	6,121.71	6,771.54	-470.89	6,787.87	0.90
13,500.00	90.18	359.91	6,120.57	6,862.53	-471.15	6,878.68	1.20
13,591.00	90.25	0.64	6,120.23	6,953.53	-470.72	6,969.44	0.81
13,618.00	90.18	0.94	6,120.13	6,980.52	-470.35	6,996.35	1.14
Final Sperry MWD Survey @ 13618.00 ft							
13,662.00	90.18	0.94	6,119.99	7,024.52	-469.62	7,040.20	0.00
Straight Line Projection to TD @ 13662.00 ft							

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
176.00	175.95	-2.43	-2.47	First Sperry MWD Survey @ 176.00 ft
13,618.00	6,120.13	6,980.52	-470.35	Final Sperry MWD Survey @ 13618.00 ft
13,662.00	6,119.99	7,024.52	-469.62	Straight Line Projection to TD @ 13662.00 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
Target	Razor 11F-0205A_Rev C1_BHL Tgt	356.15	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
176.00	1,825.00	Surface_Sperry_MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
1,917.00	6,543.00	Vertical+Build_Sperry_MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
6,568.00	13,618.00	Lateral_Sperry_MWD+IFR1+MS+sag	MWD+IFR1+MS+sag
13,662.00	13,662.00	Projection to Bit_BLIND	BLIND

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,880.00		9 5/8"	9-5/8	13-1/2
6,550.00		7" Casing Pt.	7	8-3/4

Design Report for Razor 11F-0205A - Actual Field Surveys**Wellbore 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
Razor 11F-0205A_Mid	0.00	0.00	0.00	0.01	0.00	1,558,361.82	3,460,454.94	40° 51' 15.180 N	103° 50' 7.700 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	-344.09	1,557,982.04	3,458,557.35		
Point 2				0.00	-306.41	1,558,119.11	3,463,851.31		
Razor 11F-0205A_Mid	0.00	0.00	0.00	0.01	0.00	1,558,361.82	3,460,454.94	40° 51' 15.180 N	103° 50' 7.700 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	-244.09	1,558,082.02	3,458,555.47		
Point 2				0.00	-206.41	1,558,219.10	3,463,849.43		
Razor 11F-0205A_SB	0.00	0.00	0.00	0.01	0.00	1,558,361.82	3,460,454.94	40° 51' 15.180 N	103° 50' 7.700 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	7,026.97	-1,865.14	1,565,352.63	3,458,458.21	
Point 2				0.00	7,052.26	3,233.37	1,565,473.62	3,463,555.41	
Razor 11F-0205A_SL	0.00	0.00	0.00	0.01	0.00	1,558,361.82	3,460,454.94	40° 51' 15.180 N	103° 50' 7.700 W
- actual wellpath misses target center by 0.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1				0.00	2,305.39	-1,908.58	1,560,631.01	3,458,503.40	
Point 2				0.00	2,343.07	3,369.22	1,560,767.75	3,463,779.63	
Point 3				0.00	-2,954.79	3,413.11	1,555,471.58	3,463,922.95	
Point 4				0.00	-2,993.58	-1,900.69	1,555,333.06	3,458,610.75	
Point 5				0.00	2,305.39	-1,908.58	1,560,631.01	3,458,503.40	
Point 6				0.00	7,626.97	-1,965.14	1,565,950.66	3,458,346.96	
Point 7				0.00	7,652.26	3,333.37	1,566,075.40	3,463,644.13	
Point 8				0.00	2,343.07	3,369.22	1,560,767.75	3,463,779.63	
Razor 11F-0205A_Rev	0.00	0.00	6,094.00	7,034.85	-474.00	1,565,386.61	3,459,848.98	40° 52' 24.690 N	103° 50' 13.870 W
- actual wellpath misses target center by 28.31usft at 13662.00usft MD (6119.99 TVD, 7024.52 N, -469.62 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	1.95 °/100usft	Maximum Dogleg over Survey:	14.58 °/100usft at 5,628.00 usft
Net Tortosity applicable to Plans:	1.11 °/100usft	Directional Difficulty Index:	6.712

Audit Info

North Reference Sheet for Sec. 11-T10N-R58W (Razor 11F Pad) - Razor 11F-0205A - Plan C

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to KB 22 @ 5010.60usft (Frontier 26). Northing and Easting are relative to Razor 11F-0205A

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is 105° 30' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:40° 47' 0.000 N°

False Easting: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 1.00001227

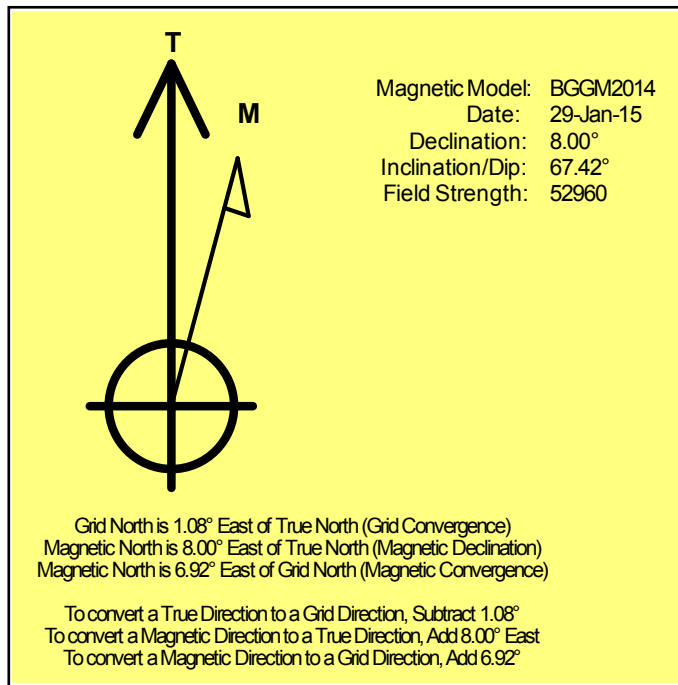
Grid Coordinates of Well: 1,558,361.81 usft N, 3,460,454.94 usft E

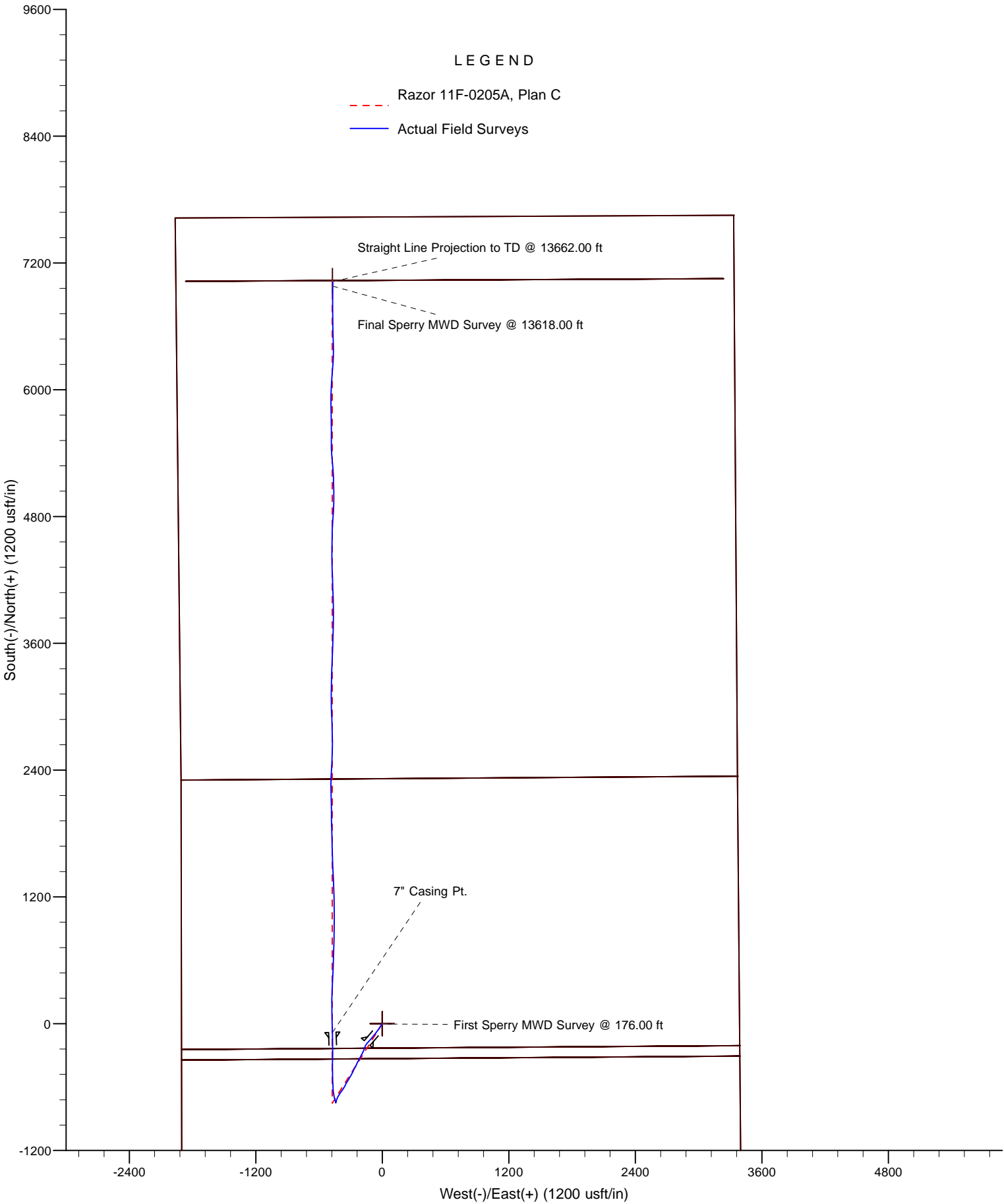
Geographical Coordinates of Well: 40° 51' 15.18" N, 103° 50' 07.70" W

Grid Convergence at Surface is: 1.08°

Based upon Minimum Curvature type calculations, at a Measured Depth of 13,662.00usft
the Bottom Hole Displacement is 7,040.20usft in the Direction of 356.18° (True).

Magnetic Convergence at surface is: -6.92° (29 January 2015, , BGGM2014)





Project: Weld County, CO
Site: Sec. 11-T10N-R58W (Razor 11F Pad)
Well: Razor 11F-0205A

Whiting Oil and Gas Corporation

