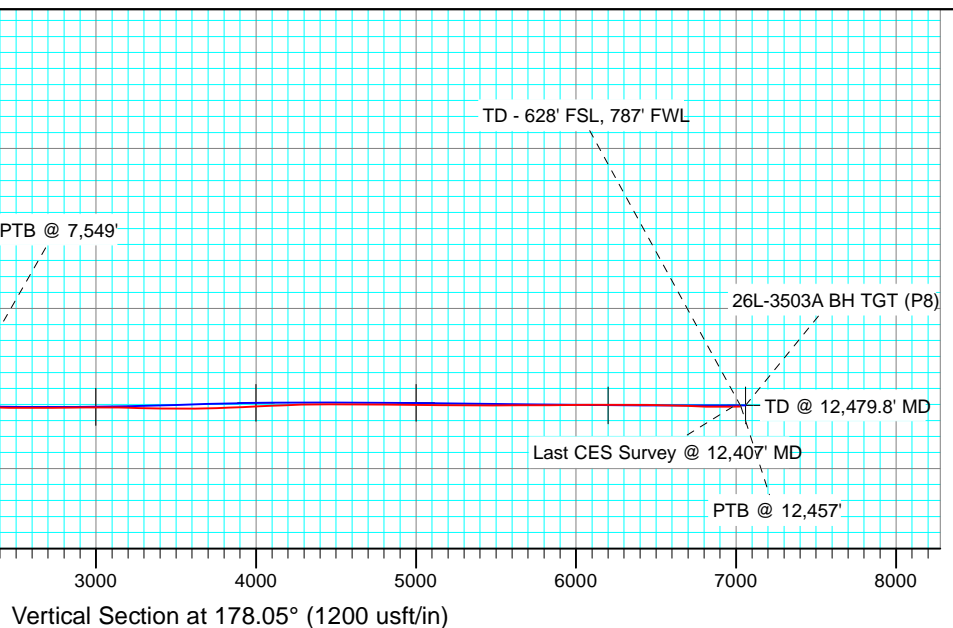
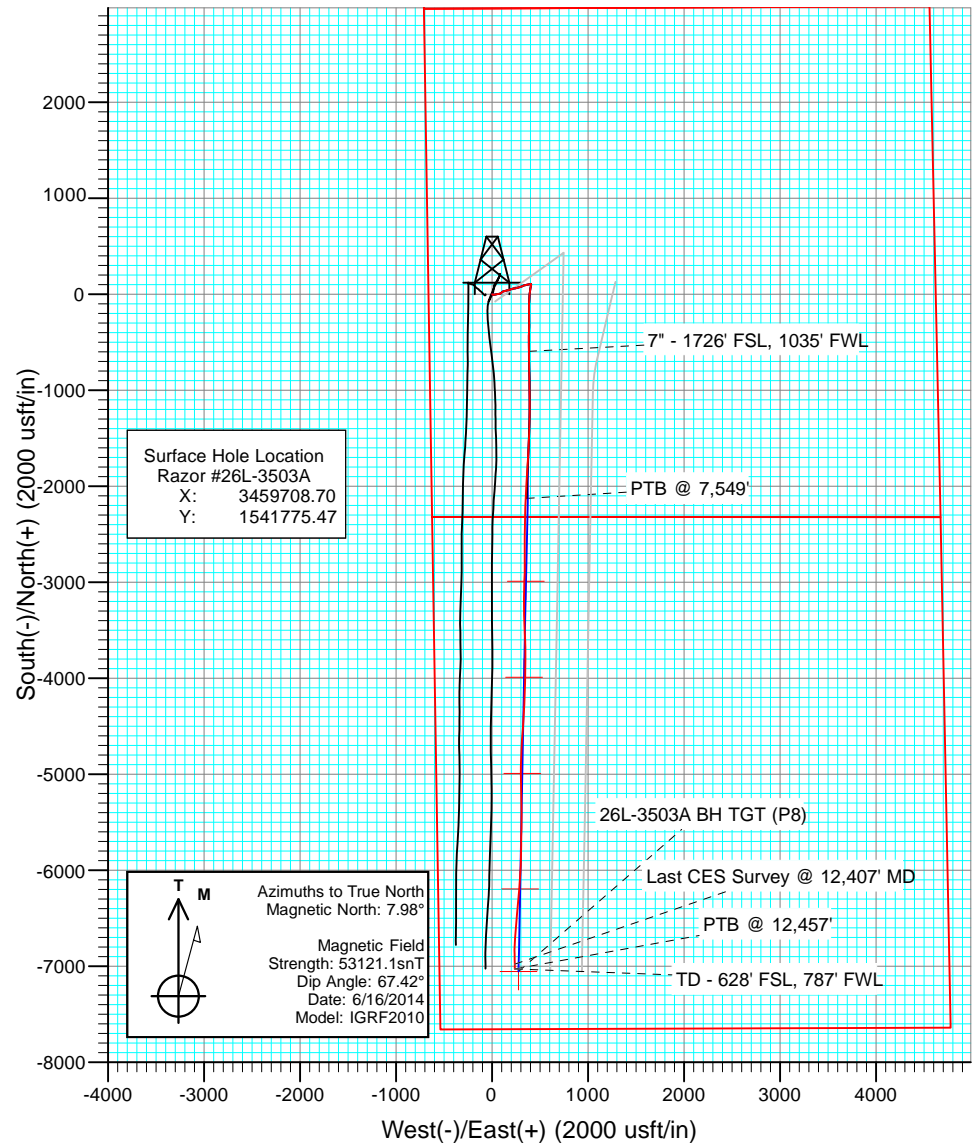
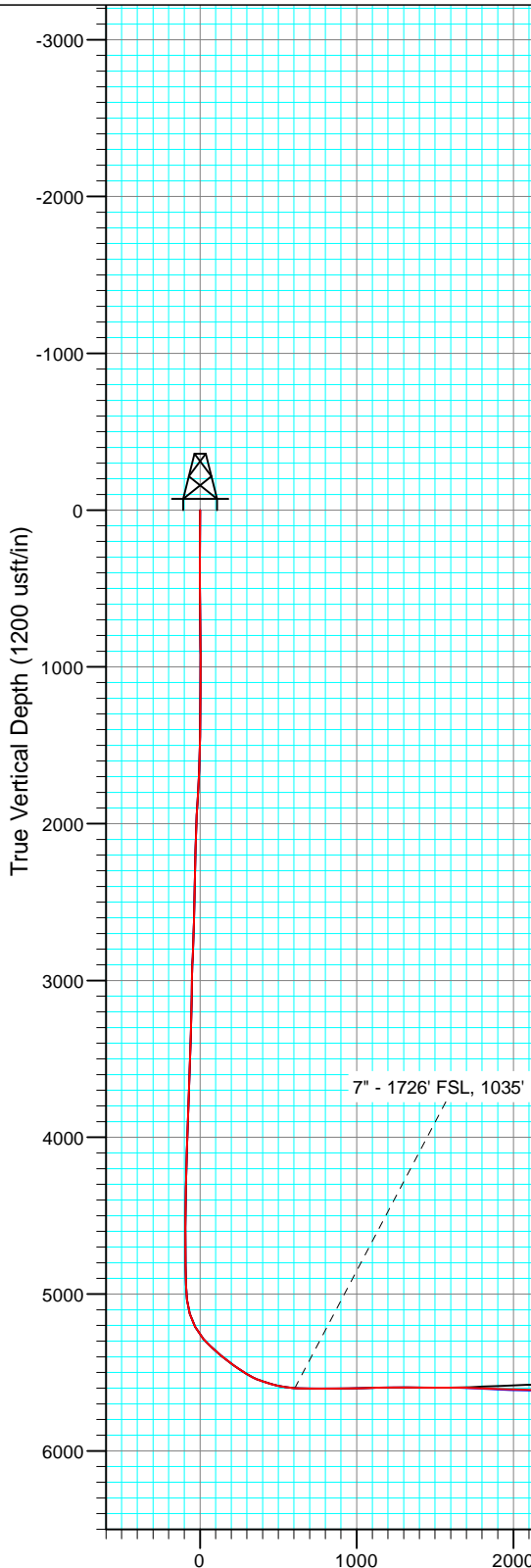


FINAL - ST  
 Razor #26L-3503A  
 WELL @ 4751.0usft (Original Well Elev)  
 Ground Elevation @ 4734.5  
 North American Datum 1983  
 Well Razor #26L-3503A, True North



## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<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		S26-T10N-R58W			
Site Position:		Northing:	1,541,774.28 usft	Latitude:	40.808739
From:	Lat/Long	Easting:	3,459,642.55 usft	Longitude:	-103.839531
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.07 °

Well	Razor #26L-3503A					
Well Position	+N/-S	0.0 usft	Northing:	1,541,775.47 usft	Latitude:	40.808739
	+E/-W	0.0 usft	Easting:	3,459,708.70 usft	Longitude:	-103.839292
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,734.5 usft

<b>Wellbore</b>	ST				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/16/2014	7.98	67.42	53,121

<b>Design</b>	FINAL - ST				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	6,933.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	177.98	

<b>Survey Program</b>	<b>Date</b>	7/2/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
419.0	6,933.0	Survey #1 (HZ)	ISCWSA MWD	MWD - ISCWSA	
7,028.0	12,457.0	Survey #1 (ST)	ISCWSA MWD	MWD - ISCWSA	

<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>	
6,933.0	90.51	182.57	5,597.4	-1,509.1	385.7	1,521.7	0.00	0.00		
7,028.0	90.33	182.45	5,596.7	-1,604.0	381.6	1,616.4	0.23	-0.19		
7,122.0	88.13	183.65	5,598.0	-1,697.8	376.6	1,710.0	2.67	-2.34		
7,216.0	87.82	183.27	5,601.3	-1,791.6	370.9	1,803.5	0.52	-0.33		
7,311.0	87.87	183.33	5,604.8	-1,886.4	365.5	1,898.1	0.08	0.05		
7,406.0	88.18	183.40	5,608.1	-1,981.1	359.9	1,992.6	0.33	0.33		
7,498.0	88.66	183.16	5,610.7	-2,073.0	354.6	2,084.2	0.58	0.52		
7,591.0	88.75	183.33	5,612.8	-2,165.8	349.4	2,176.7	0.21	0.10		
7,683.0	87.65	180.40	5,615.6	-2,257.7	346.4	2,268.5	3.40	-1.20		
7,776.0	87.78	181.34	5,619.4	-2,350.6	344.9	2,361.3	1.02	0.14		
7,868.0	89.89	181.06	5,621.2	-2,442.6	343.0	2,453.1	2.31	2.29		
7,959.0	89.76	180.59	5,621.5	-2,533.5	341.7	2,544.0	0.54	-0.14		

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<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
8,051.0	90.20	180.03	5,621.5	-2,625.5	341.2	2,635.9	0.77	0.48	
8,142.0	90.68	179.90	5,620.8	-2,716.5	341.3	2,726.9	0.55	0.53	
8,234.0	90.90	180.17	5,619.6	-2,808.5	341.2	2,818.8	0.38	0.24	
8,325.0	90.07	180.92	5,618.8	-2,899.5	340.3	2,909.7	1.23	-0.91	
8,417.0	89.89	181.58	5,618.8	-2,991.5	338.3	3,001.6	0.74	-0.20	
8,509.0	89.98	181.78	5,618.9	-3,083.5	335.6	3,093.4	0.24	0.10	
8,600.0	88.92	180.38	5,619.8	-3,174.4	333.9	3,184.2	1.93	-1.16	
8,691.0	88.62	179.40	5,621.8	-3,265.4	334.1	3,275.1	1.13	-0.33	
8,783.0	88.70	178.99	5,623.9	-3,357.4	335.4	3,367.1	0.45	0.09	
8,874.0	88.92	177.49	5,625.8	-3,448.3	338.2	3,458.1	1.67	0.24	
8,966.0	89.10	176.55	5,627.4	-3,540.2	343.0	3,550.1	1.04	0.20	
9,057.0	92.48	178.25	5,626.1	-3,631.1	347.1	3,641.0	4.16	3.71	
9,149.0	92.31	179.69	5,622.3	-3,723.0	348.8	3,732.9	1.57	-0.18	
9,241.0	91.52	180.28	5,619.2	-3,814.9	348.8	3,824.8	1.07	-0.86	
9,333.0	92.97	181.21	5,615.6	-3,906.8	347.6	3,916.6	1.87	1.58	
9,425.0	92.70	180.18	5,611.1	-3,998.7	346.5	4,008.4	1.16	-0.29	
9,517.0	92.09	182.86	5,607.2	-4,090.6	344.0	4,100.2	2.99	-0.66	
9,608.0	92.35	181.94	5,603.7	-4,181.4	340.2	4,190.8	1.05	0.29	
9,700.0	91.16	183.19	5,600.9	-4,273.3	336.1	4,282.5	1.88	-1.29	
9,791.0	91.60	182.94	5,598.7	-4,364.1	331.2	4,373.1	0.56	0.48	
9,882.0	89.45	182.71	5,597.9	-4,455.0	326.8	4,463.8	2.38	-2.36	
9,974.0	89.56	184.70	5,598.6	-4,546.8	320.8	4,555.3	2.17	0.12	
10,065.0	89.45	184.24	5,599.4	-4,637.5	313.7	4,645.7	0.52	-0.12	
10,157.0	88.97	181.71	5,600.7	-4,729.4	308.9	4,737.3	2.80	-0.52	
10,248.0	89.80	183.63	5,601.7	-4,820.3	304.7	4,828.0	2.30	0.91	
10,340.0	89.67	181.01	5,602.1	-4,912.2	301.0	4,919.8	2.85	-0.14	
10,431.0	89.45	179.72	5,602.8	-5,003.2	300.4	5,010.7	1.44	-0.24	
10,523.0	89.54	178.49	5,603.6	-5,095.2	301.8	5,102.6	1.34	0.10	
10,615.0	89.49	177.45	5,604.4	-5,187.1	305.1	5,194.6	1.13	-0.05	
10,707.0	90.02	179.72	5,604.8	-5,279.1	307.4	5,286.6	2.53	0.58	
10,798.0	90.07	178.88	5,604.7	-5,370.1	308.5	5,377.6	0.92	0.05	
10,889.0	89.49	181.03	5,605.1	-5,461.1	308.6	5,468.5	2.45	-0.64	
10,980.0	90.11	180.80	5,605.4	-5,552.1	307.1	5,559.4	0.73	0.68	
11,072.0	91.03	181.64	5,604.5	-5,644.0	305.1	5,651.3	1.35	1.00	
11,164.0	89.23	179.45	5,604.3	-5,736.0	304.3	5,743.2	3.08	-1.96	
11,255.0	90.59	182.57	5,604.4	-5,827.0	302.7	5,834.0	3.74	1.49	
11,347.0	91.52	182.78	5,602.7	-5,918.9	298.4	5,925.7	1.04	1.01	
11,439.0	90.07	182.66	5,601.4	-6,010.8	294.0	6,017.4	1.58	-1.58	
11,530.0	89.27	182.06	5,602.0	-6,101.7	290.3	6,108.1	1.10	-0.88	
11,620.0	89.63	184.45	5,602.8	-6,191.5	285.1	6,197.7	2.69	0.40	
11,712.0	89.76	183.56	5,603.3	-6,283.3	278.7	6,289.2	0.98	0.14	
11,804.0	90.11	185.37	5,603.4	-6,375.0	271.6	6,380.6	2.00	0.38	
11,895.0	89.89	187.29	5,603.4	-6,465.4	261.5	6,470.6	2.12	-0.24	
11,987.0	89.32	185.09	5,604.0	-6,556.9	251.6	6,561.7	2.47	-0.62	
12,078.0	87.08	185.23	5,606.9	-6,647.5	243.4	6,651.9	2.47	-2.46	
12,170.0	87.12	182.28	5,611.6	-6,739.2	237.4	6,743.3	3.20	0.04	
12,261.0	89.80	179.75	5,614.0	-6,830.1	235.8	6,834.1	4.05	2.95	
12,356.0	90.11	178.59	5,614.1	-6,925.1	237.2	6,929.1	1.26	0.33	
12,407.0	90.77	178.74	5,613.7	-6,976.1	238.4	6,980.1	1.33	1.29	Last CES Survey @ 12,407' MD
12,457.0	90.77	178.74	5,613.0	-7,026.0	239.5	7,030.1	0.00	0.00	PTB @ 12,457'

## Survey Report

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<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									
Waypoint #1 26L P8	0.00	0.00	5,600.0	-1,986.9	372.6	1,539,795.90	3,460,118.49	40.803285	-103.837946
- survey misses target center by 15.5usft at 7410.8usft MD (5608.3 TVD, -1985.9 N, 359.6 E)									
- Point									
Waypoint #3 26L p8	0.00	0.00	5,590.0	-3,990.0	335.1	1,537,792.50	3,460,118.49	40.797788	-103.838082
- survey misses target center by 24.3usft at 9417.4usft MD (5611.4 TVD, -3991.1 N, 346.5 E)									
- Point									
Waypoint #2 26L P8	0.00	0.00	5,615.0	-2,988.4	353.9	1,538,794.20	3,460,118.49	40.800537	-103.838014
- survey misses target center by 15.9usft at 8413.6usft MD (5618.8 TVD, -2988.1 N, 338.4 E)									
- Point									
Waypoint #4 26L p8	0.00	0.00	5,590.0	-4,991.4	316.4	1,536,790.90	3,460,118.49	40.795039	-103.838149
- survey misses target center by 20.4usft at 10419.0usft MD (5602.7 TVD, -4991.2 N, 300.4 E)									
- Point									
Fault Target VS 3500 ST	0.00	0.00	5,585.0	-3,483.0	344.4	1,538,299.53	3,460,118.27	40.799179	-103.838048
- survey misses target center by 41.7usft at 8908.3usft MD (5626.4 TVD, -3482.5 N, 339.8 E)									
- Point									
26L-3503A BH TGT (P8)	0.00	0.00	5,605.0	-7,053.9	277.7	1,534,728.02	3,460,118.49	40.789378	-103.838289
- survey misses target center by 48.0usft at 12457.0usft MD (5613.0 TVD, -7026.0 N, 239.5 E)									
- Point									
Waypoint #5 26L p8	0.00	0.00	5,605.0	-6,193.3	293.9	1,535,588.80	3,460,118.49	40.791740	-103.838231
- survey misses target center by 9.1usft at 11621.1usft MD (5602.8 TVD, -6192.7 N, 285.1 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
12,407.0	5,613.7	-6,976.1	238.4	Last CES Survey @ 12,407' MD
12,457.0	5,613.0	-7,026.0	239.5	PTB @ 12,457'

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

# **Whiting Petroleum Corporation**

**Weld County, CO**

**S26-T10N-R58W**

**Razor #26L-3503A**

**ST**

**Survey: Survey #1**

## **Survey Report - Geographic**

**02 July, 2014**

# Survey Report - Geographic

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<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	S26-T10N-R58W				
Site Position:		Northing:	1,541,774.28 usft	Latitude:	40.808739
From:	Lat/Long	Easting:	3,459,642.55 usft	Longitude:	-103.839531
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	1.07 °

Well		Razor #26L-3503A				
Well Position	+N/-S	0.0 usft	Northing:	1,541,775.48 usft	Latitude:	40.808739
	+E/-W	0.0 usft	Easting:	3,459,708.70 usft	Longitude:	-103.839292
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	4,734.5 usft

<b>Wellbore</b>	ST				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	6/16/2014	7.98	67.42	53,121

<b>Design</b>	FINAL - ST				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	6,933.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	177.98	

<b>Survey Program</b>	<b>Date</b>	7/2/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
419.0	6,933.0	Survey #1 (HZ)	ISCWSA MWD	MWD - ISCWSA	
7,028.0	12,457.0	Survey #1 (ST)	ISCWSA MWD	MWD - ISCWSA	

<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>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>
6,933.0	90.51	182.57	5,597.4	-1,509.1	385.7	1,540,273.90	3,460,122.64	40.804597	-103.837899
7,028.0	90.33	182.45	5,596.7	-1,604.0	381.6	1,540,178.93	3,460,120.26	40.804337	-103.837914
7,122.0	88.13	183.65	5,598.0	-1,697.8	376.6	1,540,085.00	3,460,117.01	40.804079	-103.837932
7,216.0	87.82	183.27	5,601.3	-1,791.6	370.9	1,539,991.14	3,460,113.10	40.803822	-103.837952
7,311.0	87.87	183.33	5,604.8	-1,886.4	365.5	1,539,896.28	3,460,109.41	40.803561	-103.837972
7,406.0	88.18	183.40	5,608.1	-1,981.1	359.9	1,539,801.42	3,460,105.62	40.803301	-103.837992
7,498.0	88.66	183.16	5,610.7	-2,073.0	354.6	1,539,709.52	3,460,102.07	40.803049	-103.838011
7,591.0	88.75	183.33	5,612.8	-2,165.8	349.4	1,539,616.61	3,460,098.55	40.802795	-103.838030
7,683.0	87.65	180.40	5,615.6	-2,257.7	346.4	1,539,524.68	3,460,097.28	40.802542	-103.838041
7,776.0	87.78	181.34	5,619.4	-2,350.6	344.9	1,539,431.75	3,460,097.61	40.802287	-103.838046
7,868.0	89.89	181.06	5,621.2	-2,442.6	343.0	1,539,339.78	3,460,097.40	40.802035	-103.838053

# Survey Report - Geographic

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,959.0	89.76	180.59	5,621.5	-2,533.5	341.7	1,539,248.78	3,460,097.80	40.801785	-103.838058
8,051.0	90.20	180.03	5,621.5	-2,625.5	341.2	1,539,156.79	3,460,099.02	40.801533	-103.838060
8,142.0	90.68	179.90	5,620.8	-2,716.5	341.3	1,539,065.81	3,460,100.78	40.801283	-103.838060
8,234.0	90.90	180.17	5,619.6	-2,808.5	341.2	1,538,973.83	3,460,102.45	40.801030	-103.838060
8,325.0	90.07	180.92	5,618.8	-2,899.5	340.3	1,538,882.84	3,460,103.29	40.800781	-103.838063
8,417.0	89.89	181.58	5,618.8	-2,991.5	338.3	1,538,790.84	3,460,103.00	40.800528	-103.838070
8,509.0	89.98	181.78	5,618.9	-3,083.5	335.6	1,538,698.84	3,460,102.03	40.800276	-103.838080
8,600.0	88.92	180.38	5,619.8	-3,174.4	333.9	1,538,607.85	3,460,102.02	40.800026	-103.838086
8,691.0	88.62	179.40	5,621.8	-3,265.4	334.1	1,538,516.89	3,460,103.90	40.799776	-103.838086
8,783.0	88.70	178.99	5,623.9	-3,357.4	335.4	1,538,424.97	3,460,106.91	40.799524	-103.838081
8,874.0	88.92	177.49	5,625.8	-3,448.3	338.2	1,538,334.10	3,460,111.41	40.799274	-103.838071
8,966.0	89.10	176.55	5,627.4	-3,540.2	343.0	1,538,242.35	3,460,117.91	40.799022	-103.838054
9,057.0	92.48	178.25	5,626.1	-3,631.1	347.1	1,538,151.56	3,460,123.74	40.798773	-103.838039
9,149.0	92.31	179.69	5,622.3	-3,723.0	348.8	1,538,059.70	3,460,127.11	40.798521	-103.838033
9,241.0	91.52	180.28	5,619.2	-3,814.9	348.8	1,537,967.77	3,460,128.86	40.798268	-103.838033
9,333.0	92.97	181.21	5,615.6	-3,906.8	347.6	1,537,875.85	3,460,129.38	40.798016	-103.838037
9,425.0	92.70	180.18	5,611.1	-3,998.7	346.5	1,537,783.96	3,460,129.99	40.797764	-103.838041
9,517.0	92.09	182.86	5,607.2	-4,090.6	344.0	1,537,692.06	3,460,129.27	40.797512	-103.838050
9,608.0	92.35	181.94	5,603.7	-4,181.4	340.2	1,537,601.15	3,460,127.17	40.797262	-103.838063
9,700.0	91.16	183.19	5,600.9	-4,273.3	336.1	1,537,509.23	3,460,124.77	40.797010	-103.838078
9,791.0	91.60	182.94	5,598.7	-4,364.1	331.2	1,537,418.31	3,460,121.61	40.796761	-103.838096
9,882.0	89.45	182.71	5,597.9	-4,455.0	326.8	1,537,327.36	3,460,118.83	40.796511	-103.838112
9,974.0	89.56	184.70	5,598.6	-4,546.8	320.8	1,537,235.47	3,460,114.60	40.796259	-103.838134
10,065.0	89.45	184.24	5,599.4	-4,637.5	313.7	1,537,144.63	3,460,109.21	40.796010	-103.838159
10,157.0	88.97	181.71	5,600.7	-4,729.4	308.9	1,537,052.70	3,460,106.16	40.795758	-103.838176
10,248.0	89.80	183.63	5,601.7	-4,820.3	304.7	1,536,961.74	3,460,103.62	40.795509	-103.838192
10,340.0	89.67	181.01	5,602.1	-4,912.2	301.0	1,536,869.77	3,460,101.62	40.795256	-103.838205
10,431.0	89.45	179.72	5,602.8	-5,003.2	300.4	1,536,778.79	3,460,102.75	40.795007	-103.838207
10,523.0	89.54	178.49	5,603.6	-5,095.2	301.8	1,536,686.85	3,460,105.90	40.794754	-103.838202
10,615.0	89.49	177.45	5,604.4	-5,187.1	305.1	1,536,594.98	3,460,110.88	40.794502	-103.838190
10,707.0	90.02	179.72	5,604.8	-5,279.1	307.4	1,536,503.08	3,460,114.88	40.794249	-103.838182
10,798.0	90.07	178.88	5,604.7	-5,370.1	308.5	1,536,412.12	3,460,117.69	40.794000	-103.838178
10,889.0	89.49	181.03	5,605.1	-5,461.1	308.6	1,536,321.15	3,460,119.47	40.793750	-103.838178
10,980.0	90.11	180.80	5,605.4	-5,552.1	307.1	1,536,230.15	3,460,119.72	40.793500	-103.838183
11,072.0	91.03	181.64	5,604.5	-5,644.0	305.1	1,536,138.15	3,460,119.48	40.793248	-103.838190
11,164.0	89.23	179.45	5,604.3	-5,736.0	304.3	1,536,046.17	3,460,120.33	40.792995	-103.838193
11,255.0	90.59	182.57	5,604.4	-5,827.0	302.7	1,535,955.18	3,460,120.43	40.792746	-103.838199
11,347.0	91.52	182.78	5,602.7	-5,918.9	298.4	1,535,863.23	3,460,117.86	40.792493	-103.838215
11,439.0	90.07	182.66	5,601.4	-6,010.8	294.0	1,535,771.28	3,460,115.22	40.792241	-103.838230
11,530.0	89.27	182.06	5,602.0	-6,101.7	290.3	1,535,680.31	3,460,113.17	40.791992	-103.838244
11,620.0	89.63	184.45	5,602.8	-6,191.5	285.1	1,535,590.39	3,460,109.75	40.791745	-103.838262
11,712.0	89.76	183.56	5,603.3	-6,283.3	278.7	1,535,498.51	3,460,105.04	40.791493	-103.838286
11,804.0	90.11	185.37	5,603.4	-6,375.0	271.6	1,535,406.67	3,460,099.60	40.791241	-103.838312
11,895.0	89.89	187.29	5,603.4	-6,465.4	261.5	1,535,316.06	3,460,091.26	40.790993	-103.838348
11,987.0	89.32	185.09	5,604.0	-6,556.9	251.6	1,535,224.44	3,460,083.06	40.790742	-103.838384
12,078.0	87.08	185.23	5,606.9	-6,647.5	243.4	1,535,133.72	3,460,076.57	40.790494	-103.838413
12,170.0	87.12	182.28	5,611.6	-6,739.2	237.4	1,535,041.95	3,460,072.27	40.790242	-103.838435
12,261.0	89.80	179.75	5,614.0	-6,830.1	235.8	1,534,951.02	3,460,072.37	40.789992	-103.838441
12,356.0	90.11	178.59	5,614.1	-6,925.1	237.2	1,534,856.07	3,460,075.52	40.789732	-103.838436
12,407.0	90.77	178.74	5,613.7	-6,976.1	238.4	1,534,805.10	3,460,077.67	40.789592	-103.838431
Last CES Survey @ 12,407' MD									
12,457.0	90.77	178.74	5,613.0	-7,026.0	239.5	1,534,755.17	3,460,079.70	40.789455	-103.838427
PTB @ 12,457'									

## Survey Report - Geographic

<b>Company:</b>	Whiting Petroleum Corporation	<b>Local Co-ordinate Reference:</b>	Well Razor #26L-3503A
<b>Project:</b>	Weld County, CO	<b>TVD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Site:</b>	S26-T10N-R58W	<b>MD Reference:</b>	WELL @ 4751.0usft (Original Well Elev)
<b>Well:</b>	Razor #26L-3503A	<b>North Reference:</b>	True
<b>Wellbore:</b>	ST	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	FINAL - ST	<b>Database:</b>	USA EDM 5000 Multi Users DB

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
Waypoint #3 26L p8	0.00	0.00	5,590.0	-3,990.0	335.1	1,537,792.50	3,460,118.49	40.797788	-103.838082
- survey misses target center by 24.3usft at 9417.4usft MD (5611.4 TVD, -3991.1 N, 346.5 E)									
- Point									
Waypoint #4 26L p8	0.00	0.00	5,590.0	-4,991.4	316.4	1,536,790.90	3,460,118.49	40.795039	-103.838150
- survey misses target center by 20.4usft at 10419.0usft MD (5602.7 TVD, -4991.2 N, 300.4 E)									
- Point									
26L-3503A BH TGT (P8)	0.00	0.00	5,605.0	-7,053.9	277.7	1,534,728.02	3,460,118.49	40.789378	-103.838289
- survey misses target center by 48.0usft at 12457.0usft MD (5613.0 TVD, -7026.0 N, 239.5 E)									
- Point									
Waypoint #5 26L p8	0.00	0.00	5,605.0	-6,193.3	293.9	1,535,588.80	3,460,118.49	40.791740	-103.838231
- survey misses target center by 9.1usft at 11621.1usft MD (5602.8 TVD, -6192.7 N, 285.1 E)									
- Point									
Waypoint #2 26L P8	0.00	0.00	5,615.0	-2,988.4	353.9	1,538,794.20	3,460,118.49	40.800537	-103.838014
- survey misses target center by 15.9usft at 8413.6usft MD (5618.8 TVD, -2988.1 N, 338.4 E)									
- Point									

Survey Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
12,407.0	5,613.7	-6,976.1	238.4	Last CES Survey @ 12,407' MD	
12,457.0	5,613.0	-7,026.0	239.5	PTB @ 12,457'	

Checked By: _____	Approved By: _____	Date: _____
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