

Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_STREAR 17-10  
 Well: STREAR 41-10  
 Wellbore: OH  
 Section: SECTION 10 T2N R67W  
 SHL:  
 Design: STREAR 41-10(wp01)  
 Latitude: 40° 9' 25.477 N  
 Longitude: 104° 52' 16.471 W  
 GL: 4924.00  
 KB: GL 4924' & KB 15' @ 4939.00ft (ASSUMED)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4264.00	4331.71	PARKMAN
4369.00	4438.69	SUSSEX
7192.00	7298.51	NIOBRARA
7454.00	7560.51	CODELL
7536.00	7642.51	GREENHORN
7914.00	8020.51	J-SAND



Azimuths to Grid North  
 True North: -0.41°  
 Magnetic North: 8.53°  
 Magnetic Field  
 Strength: 53017.1snT  
 Dip Angle: 66.84°  
 Date: 03/17/2011  
 Model: IGRF2010

#### WELL DETAILS: STREAR 41-10

+N/-S	+E/-W	Northing	Ground Level: Easting	4924.00 Latitude	Longitude	Slot
0.00	0.00	1300689.43	3175741.62	40° 9' 25.477 N	104° 52' 16.471 W	

#### CASING DETAILS

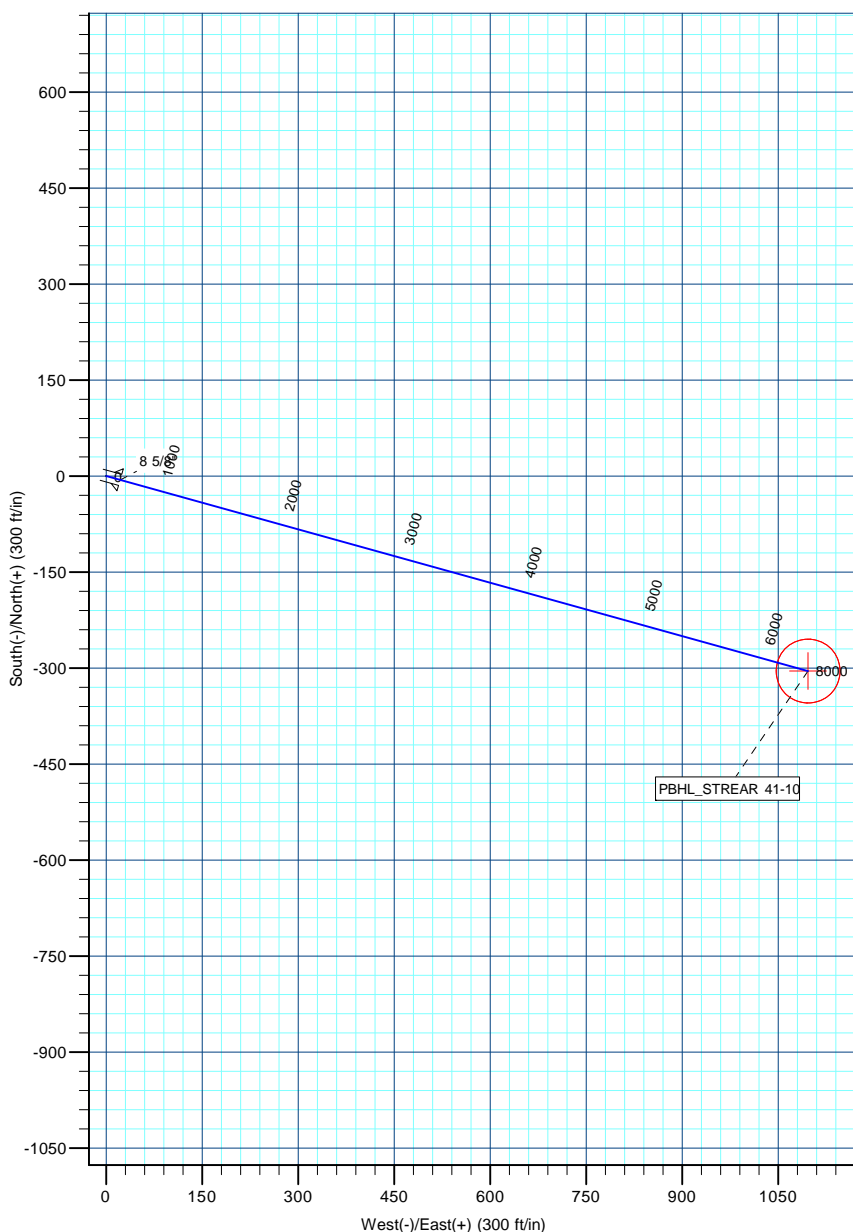
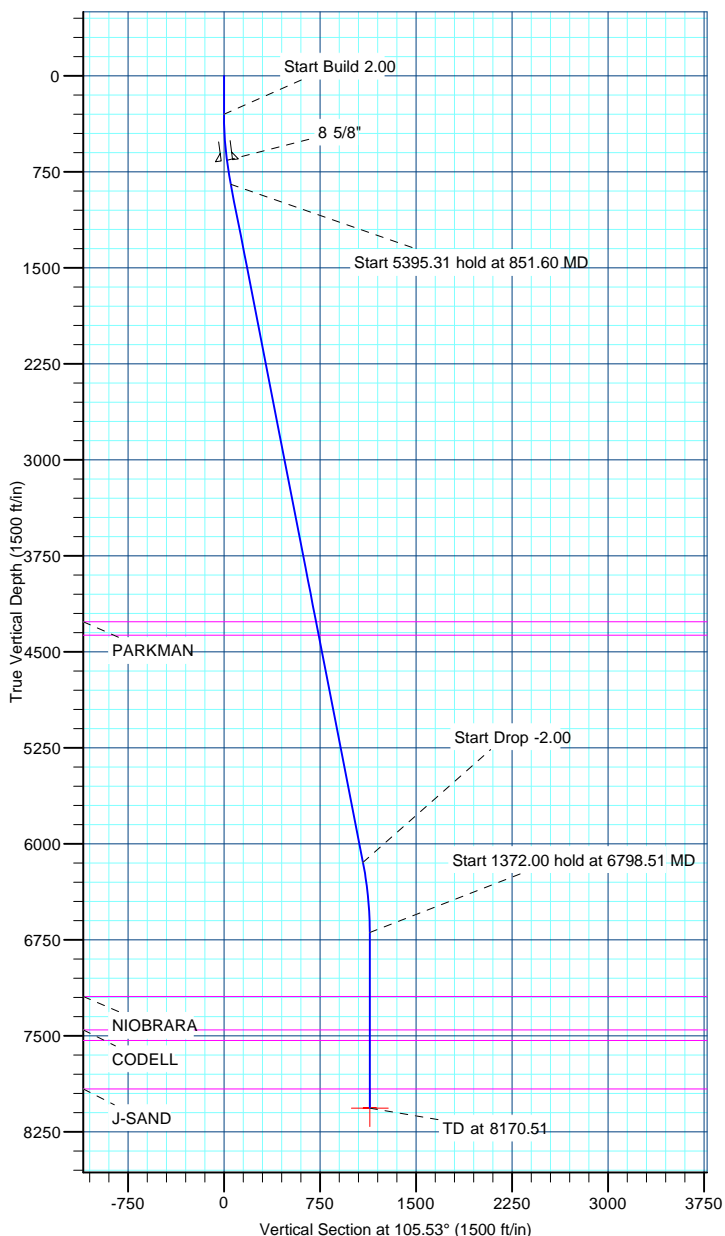
TVD	MD	Name	Size
660.00	660.95	8 5/8"	8.625

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_STREAR 41-10	8064.00	-304.75	1096.76	1300384.69	3176838.38	40° 9' 22.388 N	104° 52' 2.374 W	Circle (Radius: 50.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
851.60	11.03	105.53	848.20	-14.17	51.01	2.00	105.53	52.94
6246.91	11.03	105.53	6143.80	-290.57	1045.75	0.00	0.00	1085.37
6798.51	0.00	0.00	6692.00	-304.75	1096.76	2.00	180.00	1138.31
8170.51	0.00	0.00	8064.00	-304.75	1096.76	0.00	0.00	1138.31



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_STREAR 17-10**

**STREAR 41-10**

**OH**

**Plan: STREAR 41-10(wp01)**

## **Standard Planning Report**

**22 March, 2011**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 41-10
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 17-10	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 41-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 41-10(wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
<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		

<b>Site</b>	WELD_STREAR 17-10, SECTION 10 T2N R67W			
<b>Site Position:</b>		<b>Northing:</b>	1,300,679.25 usft	<b>Latitude:</b> 40° 9' 25.376 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,175,741.69 usft	<b>Longitude:</b> 104° 52' 16.471 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.41 °

<b>Well</b>	STREAR 41-10			
<b>Well Position</b>	<b>+N/-S</b>	10.19 ft	<b>Northing:</b>	1,300,689.43 usft
	<b>+E/-W</b>	-0.07 ft	<b>Easting:</b>	3,175,741.62 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,924.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	03/17/2011	8.93	66.84	53,017

<b>Design</b>	STREAR 41-10(wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	105.53

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
851.60	11.03	105.53	848.20	-14.17	51.01	2.00	2.00	0.00	105.53	
6,246.91	11.03	105.53	6,143.80	-290.57	1,045.75	0.00	0.00	0.00	0.00	
6,798.51	0.00	0.00	6,692.00	-304.75	1,096.76	2.00	-2.00	0.00	180.00	
8,170.51	0.00	0.00	8,064.00	-304.75	1,096.76	0.00	0.00	0.00	0.00	PBHL_STREAR 41-10

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<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 17-10	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 41-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 41-10(wp01)		

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
400.00	2.00	105.53	399.98	-0.47	1.68	1.75	2.00	2.00	0.00
500.00	4.00	105.53	499.84	-1.87	6.72	6.98	2.00	2.00	0.00
600.00	6.00	105.53	599.45	-4.20	15.12	15.69	2.00	2.00	0.00
660.95	7.22	105.53	660.00	-6.08	21.88	22.71	2.00	2.00	0.00
<b>8 5/8"</b>									
700.00	8.00	105.53	698.70	-7.46	26.86	27.88	2.00	2.00	0.00
800.00	10.00	105.53	797.47	-11.65	41.93	43.52	2.00	2.00	0.00
851.60	11.03	105.53	848.20	-14.17	51.01	52.94	2.00	2.00	0.00
<b>Start 5395.31 hold at 851.60 MD</b>									
900.00	11.03	105.53	895.70	-16.65	59.93	62.20	0.00	0.00	0.00
1,000.00	11.03	105.53	993.86	-21.78	78.37	81.34	0.00	0.00	0.00
1,100.00	11.03	105.53	1,092.01	-26.90	96.81	100.47	0.00	0.00	0.00
1,200.00	11.03	105.53	1,190.16	-32.02	115.24	119.61	0.00	0.00	0.00
1,300.00	11.03	105.53	1,288.31	-37.14	133.68	138.74	0.00	0.00	0.00
1,400.00	11.03	105.53	1,386.46	-42.27	152.12	157.88	0.00	0.00	0.00
1,500.00	11.03	105.53	1,484.62	-47.39	170.55	177.02	0.00	0.00	0.00
1,600.00	11.03	105.53	1,582.77	-52.51	188.99	196.15	0.00	0.00	0.00
1,700.00	11.03	105.53	1,680.92	-57.64	207.43	215.29	0.00	0.00	0.00
1,800.00	11.03	105.53	1,779.07	-62.76	225.87	234.42	0.00	0.00	0.00
1,900.00	11.03	105.53	1,877.22	-67.88	244.30	253.56	0.00	0.00	0.00
2,000.00	11.03	105.53	1,975.38	-73.01	262.74	272.69	0.00	0.00	0.00
2,100.00	11.03	105.53	2,073.53	-78.13	281.18	291.83	0.00	0.00	0.00
2,200.00	11.03	105.53	2,171.68	-83.25	299.61	310.97	0.00	0.00	0.00
2,300.00	11.03	105.53	2,269.83	-88.37	318.05	330.10	0.00	0.00	0.00
2,400.00	11.03	105.53	2,367.98	-93.50	336.49	349.24	0.00	0.00	0.00
2,500.00	11.03	105.53	2,466.14	-98.62	354.93	368.37	0.00	0.00	0.00
2,600.00	11.03	105.53	2,564.29	-103.74	373.36	387.51	0.00	0.00	0.00
2,700.00	11.03	105.53	2,662.44	-108.87	391.80	406.64	0.00	0.00	0.00
2,800.00	11.03	105.53	2,760.59	-113.99	410.24	425.78	0.00	0.00	0.00
2,900.00	11.03	105.53	2,858.74	-119.11	428.68	444.92	0.00	0.00	0.00
3,000.00	11.03	105.53	2,956.90	-124.24	447.11	464.05	0.00	0.00	0.00
3,100.00	11.03	105.53	3,055.05	-129.36	465.55	483.19	0.00	0.00	0.00
3,200.00	11.03	105.53	3,153.20	-134.48	483.99	502.32	0.00	0.00	0.00
3,300.00	11.03	105.53	3,251.35	-139.60	502.42	521.46	0.00	0.00	0.00
3,400.00	11.03	105.53	3,349.50	-144.73	520.86	540.59	0.00	0.00	0.00
3,500.00	11.03	105.53	3,447.66	-149.85	539.30	559.73	0.00	0.00	0.00
3,600.00	11.03	105.53	3,545.81	-154.97	557.74	578.87	0.00	0.00	0.00
3,700.00	11.03	105.53	3,643.96	-160.10	576.17	598.00	0.00	0.00	0.00
3,800.00	11.03	105.53	3,742.11	-165.22	594.61	617.14	0.00	0.00	0.00
3,900.00	11.03	105.53	3,840.27	-170.34	613.05	636.27	0.00	0.00	0.00
4,000.00	11.03	105.53	3,938.42	-175.47	631.48	655.41	0.00	0.00	0.00
4,100.00	11.03	105.53	4,036.57	-180.59	649.92	674.54	0.00	0.00	0.00
4,200.00	11.03	105.53	4,134.72	-185.71	668.36	693.68	0.00	0.00	0.00
4,300.00	11.03	105.53	4,232.87	-190.83	686.80	712.82	0.00	0.00	0.00
4,331.71	11.03	105.53	4,264.00	-192.46	692.64	718.88	0.00	0.00	0.00
<b>PARKMAN</b>									
4,400.00	11.03	105.53	4,331.03	-195.96	705.23	731.95	0.00	0.00	0.00
4,438.69	11.03	105.53	4,369.00	-197.94	712.37	739.36	0.00	0.00	0.00
<b>SUSSEX</b>									

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 17-10	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 41-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 41-10(wp01)		

Planned 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)
4,500.00	11.03	105.53	4,429.18	-201.08	723.67	751.09	0.00	0.00	0.00
4,600.00	11.03	105.53	4,527.33	-206.20	742.11	770.22	0.00	0.00	0.00
4,700.00	11.03	105.53	4,625.48	-211.33	760.55	789.36	0.00	0.00	0.00
4,800.00	11.03	105.53	4,723.63	-216.45	778.98	808.49	0.00	0.00	0.00
4,900.00	11.03	105.53	4,821.79	-221.57	797.42	827.63	0.00	0.00	0.00
5,000.00	11.03	105.53	4,919.94	-226.70	815.86	846.77	0.00	0.00	0.00
5,100.00	11.03	105.53	5,018.09	-231.82	834.29	865.90	0.00	0.00	0.00
5,200.00	11.03	105.53	5,116.24	-236.94	852.73	885.04	0.00	0.00	0.00
5,300.00	11.03	105.53	5,214.39	-242.06	871.17	904.17	0.00	0.00	0.00
5,400.00	11.03	105.53	5,312.55	-247.19	889.61	923.31	0.00	0.00	0.00
5,500.00	11.03	105.53	5,410.70	-252.31	908.04	942.44	0.00	0.00	0.00
5,600.00	11.03	105.53	5,508.85	-257.43	926.48	961.58	0.00	0.00	0.00
5,700.00	11.03	105.53	5,607.00	-262.56	944.92	980.72	0.00	0.00	0.00
5,800.00	11.03	105.53	5,705.15	-267.68	963.35	999.85	0.00	0.00	0.00
5,900.00	11.03	105.53	5,803.31	-272.80	981.79	1,018.99	0.00	0.00	0.00
6,000.00	11.03	105.53	5,901.46	-277.93	1,000.23	1,038.12	0.00	0.00	0.00
6,100.00	11.03	105.53	5,999.61	-283.05	1,018.67	1,057.26	0.00	0.00	0.00
6,200.00	11.03	105.53	6,097.76	-288.17	1,037.10	1,076.39	0.00	0.00	0.00
6,246.91	11.03	105.53	6,143.80	-290.57	1,045.75	1,085.37	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
6,300.00	9.97	105.53	6,196.01	-293.17	1,055.07	1,095.05	2.00	-2.00	0.00
6,400.00	7.97	105.53	6,294.78	-297.34	1,070.10	1,110.64	2.00	-2.00	0.00
6,500.00	5.97	105.53	6,394.03	-300.59	1,081.79	1,122.77	2.00	-2.00	0.00
6,600.00	3.97	105.53	6,493.65	-302.91	1,090.14	1,131.44	2.00	-2.00	0.00
6,700.00	1.97	105.53	6,593.51	-304.29	1,095.13	1,136.62	2.00	-2.00	0.00
6,798.51	0.00	0.00	6,692.00	-304.75	1,096.76	1,138.31	2.00	-2.00	-107.13
<b>Start 1372.00 hold at 6798.51 MD</b>									
6,800.00	0.00	0.00	6,693.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
6,900.00	0.00	0.00	6,793.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,000.00	0.00	0.00	6,893.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,100.00	0.00	0.00	6,993.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,200.00	0.00	0.00	7,093.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,298.51	0.00	0.00	7,192.00	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
<b>NIOBRARA</b>									
7,300.00	0.00	0.00	7,193.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,400.00	0.00	0.00	7,293.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,500.00	0.00	0.00	7,393.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,560.51	0.00	0.00	7,454.00	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
<b>CODELL</b>									
7,600.00	0.00	0.00	7,493.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,642.51	0.00	0.00	7,536.00	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
<b>GREENHORN</b>									
7,700.00	0.00	0.00	7,593.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,800.00	0.00	0.00	7,693.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
7,900.00	0.00	0.00	7,793.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
8,000.00	0.00	0.00	7,893.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
8,020.51	0.00	0.00	7,914.00	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
<b>J-SAND</b>									
8,100.00	0.00	0.00	7,993.49	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
8,170.51	0.00	0.00	8,064.00	-304.75	1,096.76	1,138.31	0.00	0.00	0.00
<b>PBHL_STREAR 41-10</b>									

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<b>Well:</b>	STREAR 41-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 41-10(wp01)		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_STREAR 41-10	0.00	0.00	8,064.00	-304.75	1,096.76	1,300,384.68	3,176,838.38	40° 9' 22.388 N	104° 52' 2.374 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
660.95	660.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,331.71	4,264.00	PARKMAN				
4,438.69	4,369.00	SUSSEX				
7,298.51	7,192.00	NIOBRARA				
7,560.51	7,454.00	CODELL				
7,642.51	7,536.00	GREENHORN				
8,020.51	7,914.00	J-SAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
851.60	848.20	-14.17	51.01	Start 5395.31 hold at 851.60 MD	
6,246.91	6,143.80	-290.57	1,045.75	Start Drop -2.00	
6,798.51	6,692.00	-304.75	1,096.76	Start 1372.00 hold at 6798.51 MD	
8,170.51	8,064.00	-304.75	1,096.76	TD at 8170.51	