

Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_STREAR 16-10 PAD  
 Well: STREAR 39-10  
 Wellbore: OH  
 Section: SECTION 36 T10N R67W  
 SHL:  
 Design: STREAR 39-10(wp01  
 Latitude: 40° 8' 49.182 N  
 Longitude: 104° 52' 10.783 W  
 GL: 4961.00  
 KB: GL 4961' & KB 15' @ 4976.00ft (ASSUMED)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4301.00	4357.39	PARKMAN
4456.00	4514.78	SUSSEX
7261.00	7342.41	NIOBRARA
7528.00	7609.41	CODELL
7608.00	7689.41	GREENHORN
7961.00	8042.41	J-SAND



Azimuths to Grid North  
 True North: -0.41°  
 Magnetic North: 8.52°

Magnetic Field  
 Strength: 53012.0snT  
 Dip Angle: 66.84°  
 Date: 03/16/2011  
 Model: IGRF2010

#### WELL DETAILS: STREAR 39-10

+N/-S	+E/-W	Northing	Easting	Ground Level: 4961.00	Latitude	Longitude	Slot
0.00	0.00	1297019.98	3176209.34		40° 8' 49.182 N	104° 52' 10.783 W	

#### CASING DETAILS

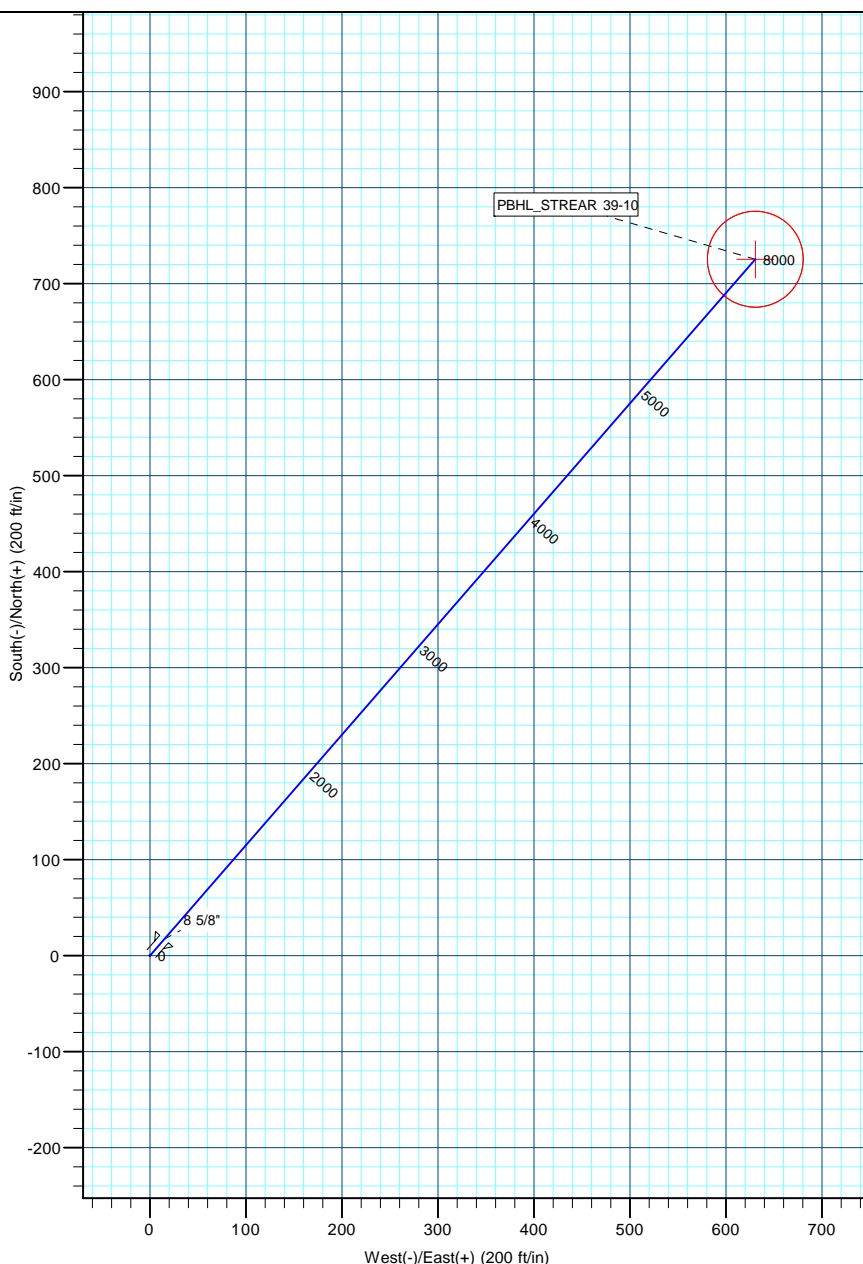
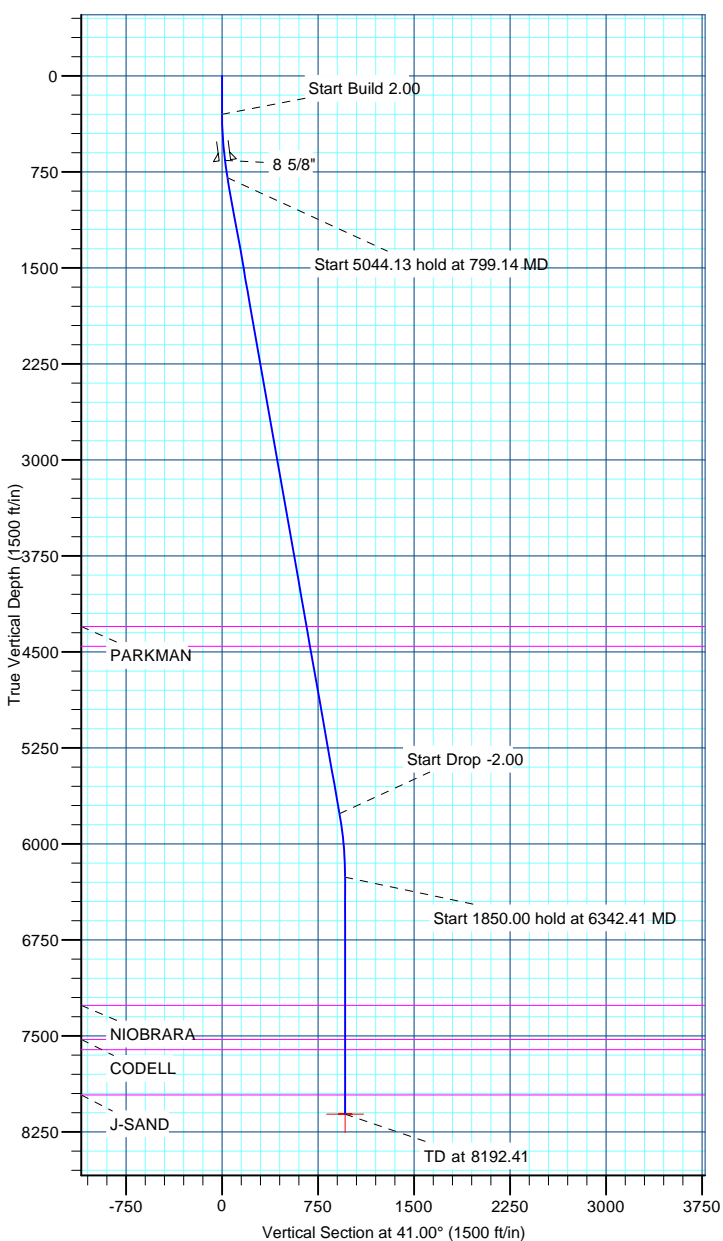
TVD	MD	Name	Size
660.00	660.95	8 5/8"	8.625

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_STREAR 39-10	8111.00	725.44	630.54	1297745.42	3176839.87	40° 8' 56.306 N	104° 52' 2.597 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
799.14	9.98	41.00	796.62	32.74	28.45	2.00	41.00	43.37
5843.27	9.98	41.00	5764.38	692.70	602.08	0.00	0.00	917.79
6342.41	0.00	0.00	6261.00	725.44	630.54	2.00	180.00	961.16
8192.41	0.00	0.00	8111.00	725.44	630.54	0.00	0.00	961.16



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_STREAR 16-10 PAD**

**STREAR 39-10**

**OH**

**Plan: STREAR 39-10(wp01**

## **Standard Planning Report**

**16 March, 2011**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 39-10
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4961' & KB 15' @ 4976.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4961' & KB 15' @ 4976.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 16-10 PAD	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 39-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 39-10(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		

Site		WELD_STREAR 16-10 PAD, SECTION 36 T10N R67W			
Site Position:		Northing:	1,296,996.08 usft	Latitude:	40° 8' 48.944 N
From:	Lat/Long	Easting:	3,176,227.40 usft	Longitude:	104° 52' 10.553 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.41 °

Well	STREAR 39-10					
Well Position	+N/-S	23.90 ft	Northing:	1,297,019.98 usft	Latitude:	40° 8' 49.182 N
	+E/-W	-18.06 ft	Easting:	3,176,209.34 usft	Longitude:	104° 52' 10.783 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,961.00 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	03/16/2011	8.93	66.84	53,012

<b>Design</b>	STREAR 39-10(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	41.00

<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	
799.14	9.98	41.00	796.62	32.74	28.45	2.00	2.00	0.00	41.00	
5,843.27	9.98	41.00	5,764.38	692.70	602.08	0.00	0.00	0.00	0.00	
6,342.41	0.00	0.00	6,261.00	725.44	630.54	2.00	-2.00	0.00	180.00	
8,192.41	0.00	0.00	8,111.00	725.44	630.54	0.00	0.00	0.00	0.00	PBHL_STREAR 39-10

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 39-10
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4961' & KB 15' @ 4976.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4961' & KB 15' @ 4976.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 16-10 PAD	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 39-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 39-10(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	41.00	399.98	1.32	1.14	1.75	2.00	2.00	0.00
500.00	4.00	41.00	499.84	5.27	4.58	6.98	2.00	2.00	0.00
600.00	6.00	41.00	599.45	11.84	10.30	15.69	2.00	2.00	0.00
660.95	7.22	41.00	660.00	17.14	14.90	22.71	2.00	2.00	0.00
<b>8 5/8"</b>									
700.00	8.00	41.00	698.70	21.04	18.29	27.88	2.00	2.00	0.00
799.14	9.98	41.00	796.62	32.74	28.45	43.37	2.00	2.00	0.00
<b>Start 5044.13 hold at 799.14 MD</b>									
800.00	9.98	41.00	797.47	32.85	28.55	43.52	0.00	0.00	0.00
900.00	9.98	41.00	895.95	45.93	39.92	60.86	0.00	0.00	0.00
1,000.00	9.98	41.00	994.44	59.02	51.30	78.19	0.00	0.00	0.00
1,100.00	9.98	41.00	1,092.92	72.10	62.67	95.53	0.00	0.00	0.00
1,200.00	9.98	41.00	1,191.41	85.18	74.04	112.86	0.00	0.00	0.00
1,300.00	9.98	41.00	1,289.90	98.27	85.41	130.20	0.00	0.00	0.00
1,400.00	9.98	41.00	1,388.38	111.35	96.78	147.53	0.00	0.00	0.00
1,500.00	9.98	41.00	1,486.87	124.44	108.16	164.87	0.00	0.00	0.00
1,600.00	9.98	41.00	1,585.35	137.52	119.53	182.21	0.00	0.00	0.00
1,700.00	9.98	41.00	1,683.84	150.60	130.90	199.54	0.00	0.00	0.00
1,800.00	9.98	41.00	1,782.33	163.69	142.27	216.88	0.00	0.00	0.00
1,900.00	9.98	41.00	1,880.81	176.77	153.65	234.21	0.00	0.00	0.00
2,000.00	9.98	41.00	1,979.30	189.85	165.02	251.55	0.00	0.00	0.00
2,100.00	9.98	41.00	2,077.78	202.94	176.39	268.88	0.00	0.00	0.00
2,200.00	9.98	41.00	2,176.27	216.02	187.76	286.22	0.00	0.00	0.00
2,300.00	9.98	41.00	2,274.75	229.11	199.13	303.55	0.00	0.00	0.00
2,400.00	9.98	41.00	2,373.24	242.19	210.51	320.89	0.00	0.00	0.00
2,500.00	9.98	41.00	2,471.73	255.27	221.88	338.22	0.00	0.00	0.00
2,600.00	9.98	41.00	2,570.21	268.36	233.25	355.56	0.00	0.00	0.00
2,700.00	9.98	41.00	2,668.70	281.44	244.62	372.89	0.00	0.00	0.00
2,800.00	9.98	41.00	2,767.18	294.52	256.00	390.23	0.00	0.00	0.00
2,900.00	9.98	41.00	2,865.67	307.61	267.37	407.56	0.00	0.00	0.00
3,000.00	9.98	41.00	2,964.16	320.69	278.74	424.90	0.00	0.00	0.00
3,100.00	9.98	41.00	3,062.64	333.78	290.11	442.24	0.00	0.00	0.00
3,200.00	9.98	41.00	3,161.13	346.86	301.49	459.57	0.00	0.00	0.00
3,300.00	9.98	41.00	3,259.61	359.94	312.86	476.91	0.00	0.00	0.00
3,400.00	9.98	41.00	3,358.10	373.03	324.23	494.24	0.00	0.00	0.00
3,500.00	9.98	41.00	3,456.59	386.11	335.60	511.58	0.00	0.00	0.00
3,600.00	9.98	41.00	3,555.07	399.20	346.97	528.91	0.00	0.00	0.00
3,700.00	9.98	41.00	3,653.56	412.28	358.35	546.25	0.00	0.00	0.00
3,800.00	9.98	41.00	3,752.04	425.36	369.72	563.58	0.00	0.00	0.00
3,900.00	9.98	41.00	3,850.53	438.45	381.09	580.92	0.00	0.00	0.00
4,000.00	9.98	41.00	3,949.02	451.53	392.46	598.25	0.00	0.00	0.00
4,100.00	9.98	41.00	4,047.50	464.61	403.84	615.59	0.00	0.00	0.00
4,200.00	9.98	41.00	4,145.99	477.70	415.21	632.92	0.00	0.00	0.00
4,300.00	9.98	41.00	4,244.47	490.78	426.58	650.26	0.00	0.00	0.00
4,357.39	9.98	41.00	4,301.00	498.29	433.11	660.21	0.00	0.00	0.00
<b>PARKMAN</b>									
4,400.00	9.98	41.00	4,342.96	503.87	437.95	667.60	0.00	0.00	0.00
4,500.00	9.98	41.00	4,441.45	516.95	449.32	684.93	0.00	0.00	0.00
4,514.78	9.98	41.00	4,456.00	518.88	451.00	687.49	0.00	0.00	0.00

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<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4961' & KB 15' @ 4976.00ft (ASSUMED)
<b>Site:</b>	WELD_STREAR 16-10 PAD	<b>North Reference:</b>	Grid
<b>Well:</b>	STREAR 39-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 39-10(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)
<b>SUSSEX</b>									
4,600.00	9.98	41.00	4,539.93	530.03	460.70	702.27	0.00	0.00	0.00
4,700.00	9.98	41.00	4,638.42	543.12	472.07	719.60	0.00	0.00	0.00
4,800.00	9.98	41.00	4,736.90	556.20	483.44	736.94	0.00	0.00	0.00
4,900.00	9.98	41.00	4,835.39	569.29	494.81	754.27	0.00	0.00	0.00
5,000.00	9.98	41.00	4,933.88	582.37	506.19	771.61	0.00	0.00	0.00
5,100.00	9.98	41.00	5,032.36	595.45	517.56	788.94	0.00	0.00	0.00
5,200.00	9.98	41.00	5,130.85	608.54	528.93	806.28	0.00	0.00	0.00
5,300.00	9.98	41.00	5,229.33	621.62	540.30	823.61	0.00	0.00	0.00
5,400.00	9.98	41.00	5,327.82	634.70	551.67	840.95	0.00	0.00	0.00
5,500.00	9.98	41.00	5,426.31	647.79	563.05	858.28	0.00	0.00	0.00
5,600.00	9.98	41.00	5,524.79	660.87	574.42	875.62	0.00	0.00	0.00
5,700.00	9.98	41.00	5,623.28	673.96	585.79	892.95	0.00	0.00	0.00
5,800.00	9.98	41.00	5,721.76	687.04	597.16	910.29	0.00	0.00	0.00
5,843.27	9.98	41.00	5,764.38	692.70	602.08	917.79	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,900.00	8.85	41.00	5,820.34	699.71	608.17	927.07	2.00	-2.00	0.00
6,000.00	6.85	41.00	5,919.40	710.01	617.13	940.73	2.00	-2.00	0.00
6,100.00	4.85	41.00	6,018.88	717.70	623.81	950.91	2.00	-2.00	0.00
6,200.00	2.85	41.00	6,118.65	722.77	628.22	957.63	2.00	-2.00	0.00
6,300.00	0.85	41.00	6,218.59	725.20	630.33	960.85	2.00	-2.00	0.00
6,342.41	0.00	0.00	6,261.00	725.44	630.54	961.16	2.00	-2.00	0.00
<b>Start 1850.00 hold at 6342.41 MD</b>									
6,400.00	0.00	0.00	6,318.59	725.44	630.54	961.16	0.00	0.00	0.00
6,500.00	0.00	0.00	6,418.59	725.44	630.54	961.16	0.00	0.00	0.00
6,600.00	0.00	0.00	6,518.59	725.44	630.54	961.16	0.00	0.00	0.00
6,700.00	0.00	0.00	6,618.59	725.44	630.54	961.16	0.00	0.00	0.00
6,800.00	0.00	0.00	6,718.59	725.44	630.54	961.16	0.00	0.00	0.00
6,900.00	0.00	0.00	6,818.59	725.44	630.54	961.16	0.00	0.00	0.00
7,000.00	0.00	0.00	6,918.59	725.44	630.54	961.16	0.00	0.00	0.00
7,100.00	0.00	0.00	7,018.59	725.44	630.54	961.16	0.00	0.00	0.00
7,200.00	0.00	0.00	7,118.59	725.44	630.54	961.16	0.00	0.00	0.00
7,300.00	0.00	0.00	7,218.59	725.44	630.54	961.16	0.00	0.00	0.00
7,342.41	0.00	0.00	7,261.00	725.44	630.54	961.16	0.00	0.00	0.00
<b>NIOBRARA</b>									
7,400.00	0.00	0.00	7,318.59	725.44	630.54	961.16	0.00	0.00	0.00
7,500.00	0.00	0.00	7,418.59	725.44	630.54	961.16	0.00	0.00	0.00
7,600.00	0.00	0.00	7,518.59	725.44	630.54	961.16	0.00	0.00	0.00
7,609.41	0.00	0.00	7,528.00	725.44	630.54	961.16	0.00	0.00	0.00
<b>CODELL</b>									
7,689.41	0.00	0.00	7,608.00	725.44	630.54	961.16	0.00	0.00	0.00
<b>GREENHORN</b>									
7,700.00	0.00	0.00	7,618.59	725.44	630.54	961.16	0.00	0.00	0.00
7,800.00	0.00	0.00	7,718.59	725.44	630.54	961.16	0.00	0.00	0.00
7,900.00	0.00	0.00	7,818.59	725.44	630.54	961.16	0.00	0.00	0.00
8,000.00	0.00	0.00	7,918.59	725.44	630.54	961.16	0.00	0.00	0.00
8,042.41	0.00	0.00	7,961.00	725.44	630.54	961.16	0.00	0.00	0.00
<b>J-SAND</b>									
8,100.00	0.00	0.00	8,018.59	725.44	630.54	961.16	0.00	0.00	0.00
8,192.41	0.00	0.00	8,111.00	725.44	630.54	961.16	0.00	0.00	0.00
<b>PBHL_STREAR 39-10</b>									

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<b>Well:</b>	STREAR 39-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 39-10(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 39-10	0.00	0.00	8,111.00	725.44	630.54	1,297,745.42	3,176,839.87	40° 8' 56.306 N	104° 52' 2.597 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 (°)	
4,357.39	4,301.00	PARKMAN				
4,514.78	4,456.00	SUSSEX				
7,342.41	7,261.00	NIOBRARA				
7,609.41	7,528.00	CODELL				
7,689.41	7,608.00	GREENHORN				
8,042.41	7,961.00	J-SAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
799.14	796.62	32.74	28.45	Start 5044.13 hold at 799.14 MD	
5,843.27	5,764.38	692.70	602.08	Start Drop -2.00	
6,342.41	6,261.00	725.44	630.54	Start 1850.00 hold at 6342.41 MD	
8,192.41	8,111.00	725.44	630.54	TD at 8192.41	