

Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_STREAR 17-10  
 Well: STREAR 27-10  
 Wellbore: OH  
 Section: SECTION 10 T2N R67W  
 SHL:  
 Design: STREAR 27-10(wp01)  
 Latitude: 40° 9' 25.675 N  
 Longitude: 104° 52' 16.471 W  
 GL: 4924.00  
 KB: GL 4924' & KB 15' @ 4939.00ft (ASSUMED)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4263.00	4310.45	PARKMAN
4368.00	4416.81	SUSSEX
7191.00	7265.98	NIOBRARA
7453.00	7527.98	CODELL
7535.00	7609.98	GREENHORN
7913.00	7987.98	J-SAND



Azimuths to Grid North  
 True North: -0.41°  
 Magnetic North: 8.53°  
 Magnetic Field  
 Strength: 53017.2snT  
 Dip Angle: 66.84°  
 Date: 03/17/2011  
 Model: IGRF2010

#### WELL DETAILS: STREAR 27-10

+N/-S	+E/-W	Northing	Easting	Ground Level: 4924.00	Latitude	Longitude	Slot
0.00	0.00	1300709.47	3175741.48		40° 9' 25.675 N	104° 52' 16.471 W	

#### CASING DETAILS

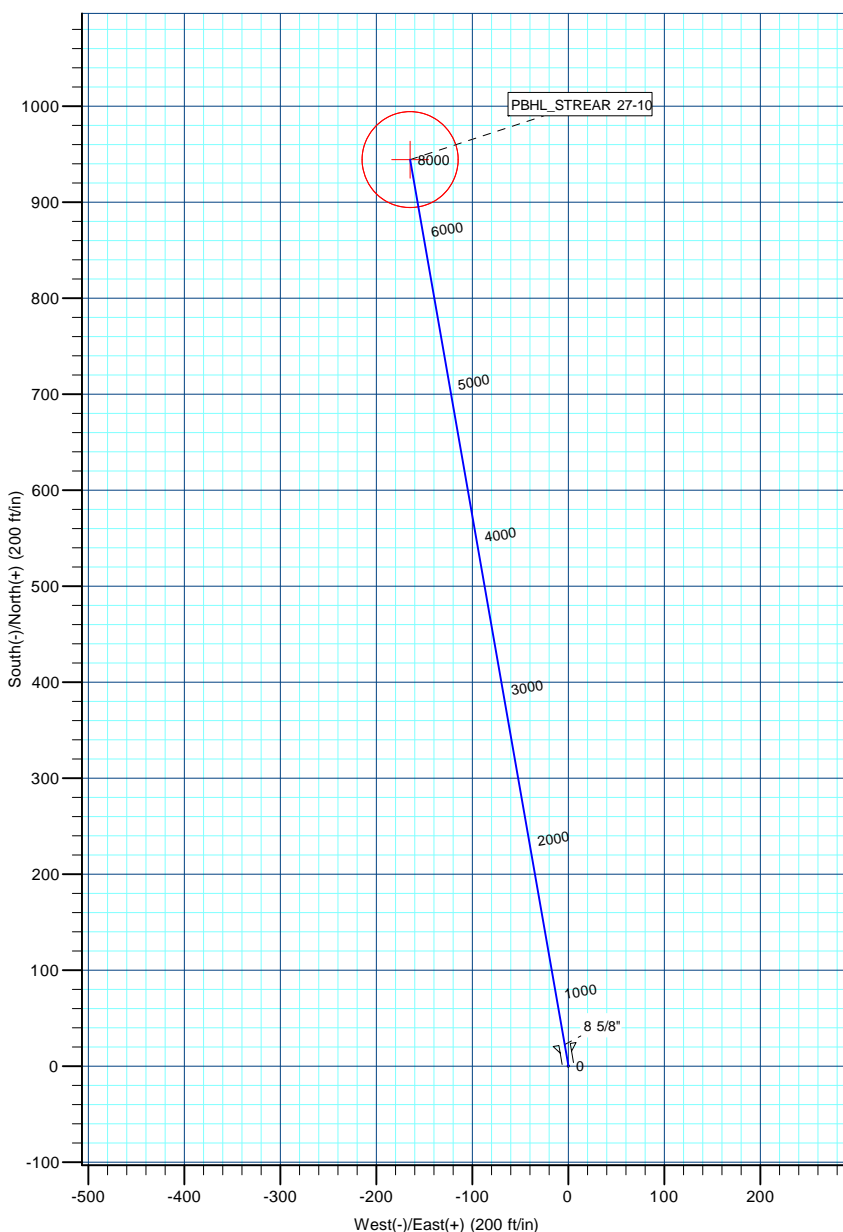
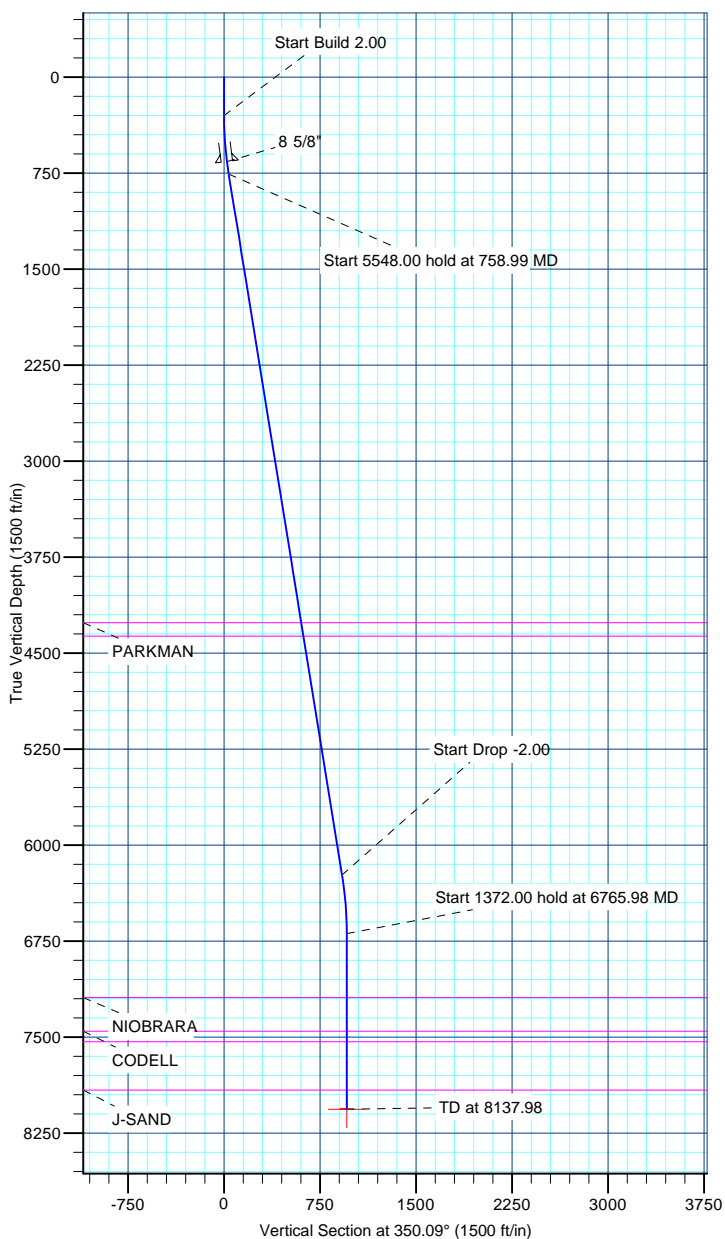
TVD	MD	Name	Size
660.00	660.95	8 5/8"	8.625

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_STREAR 27-10	8063.00	944.18	-164.89	1301653.64	3175576.58	40° 9' 35.017 N	104° 52' 18.509 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
758.99	9.18	350.09	757.03	36.14	-6.31	2.00	350.09	36.69
6306.99	9.18	350.09	6233.97	908.03	-158.58	0.00	0.00	921.78
6765.98	0.00	0.00	6691.00	944.18	-164.89	2.00	180.00	958.47
8137.98	0.00	0.00	8063.00	944.18	-164.89	0.00	0.00	958.47



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_STREAR 17-10**

**STREAR 27-10**

**OH**

**Plan: STREAR 27-10(wp01)**

## **Standard Planning Report**

**17 March, 2011**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 27-10
<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 27-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 27-10(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 27-10			
<b>Well Position</b>	<b>+N/-S</b>	30.22 ft	<b>Northing:</b>	1,300,709.47 usft
	<b>+E/-W</b>	-0.21 ft	<b>Easting:</b>	3,175,741.48 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 27-10(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	350.09

<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	
758.99	9.18	350.09	757.03	36.14	-6.31	2.00	2.00	0.00	350.09	
6,306.99	9.18	350.09	6,233.97	908.03	-158.58	0.00	0.00	0.00	0.00	
6,765.98	0.00	0.00	6,691.00	944.18	-164.89	2.00	-2.00	0.00	180.00	
8,137.98	0.00	0.00	8,063.00	944.18	-164.89	0.00	0.00	0.00	0.00	PBHL_STREAR 27-10

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 27-10
<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 27-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 27-10(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	350.09	399.98	1.72	-0.30	1.75	2.00	2.00	0.00
500.00	4.00	350.09	499.84	6.87	-1.20	6.98	2.00	2.00	0.00
600.00	6.00	350.09	599.45	15.46	-2.70	15.69	2.00	2.00	0.00
660.95	7.22	350.09	660.00	22.37	-3.91	22.71	2.00	2.00	0.00
<b>8 5/8"</b>									
700.00	8.00	350.09	698.70	27.46	-4.80	27.88	2.00	2.00	0.00
758.99	9.18	350.09	757.03	36.14	-6.31	36.69	2.00	2.00	0.00
<b>Start 5548.00 hold at 758.99 MD</b>									
800.00	9.18	350.09	797.51	42.59	-7.44	43.23	0.00	0.00	0.00
900.00	9.18	350.09	896.23	58.30	-10.18	59.19	0.00	0.00	0.00
1,000.00	9.18	350.09	994.95	74.02	-12.93	75.14	0.00	0.00	0.00
1,100.00	9.18	350.09	1,093.67	89.73	-15.67	91.09	0.00	0.00	0.00
1,200.00	9.18	350.09	1,192.39	105.45	-18.42	107.05	0.00	0.00	0.00
1,300.00	9.18	350.09	1,291.11	121.17	-21.16	123.00	0.00	0.00	0.00
1,400.00	9.18	350.09	1,389.83	136.88	-23.91	138.95	0.00	0.00	0.00
1,500.00	9.18	350.09	1,488.55	152.60	-26.65	154.91	0.00	0.00	0.00
1,600.00	9.18	350.09	1,587.27	168.31	-29.39	170.86	0.00	0.00	0.00
1,700.00	9.18	350.09	1,685.99	184.03	-32.14	186.81	0.00	0.00	0.00
1,800.00	9.18	350.09	1,784.71	199.74	-34.88	202.77	0.00	0.00	0.00
1,900.00	9.18	350.09	1,883.43	215.46	-37.63	218.72	0.00	0.00	0.00
2,000.00	9.18	350.09	1,982.14	231.17	-40.37	234.67	0.00	0.00	0.00
2,100.00	9.18	350.09	2,080.86	246.89	-43.12	250.63	0.00	0.00	0.00
2,200.00	9.18	350.09	2,179.58	262.60	-45.86	266.58	0.00	0.00	0.00
2,300.00	9.18	350.09	2,278.30	278.32	-48.61	282.53	0.00	0.00	0.00
2,400.00	9.18	350.09	2,377.02	294.04	-51.35	298.49	0.00	0.00	0.00
2,500.00	9.18	350.09	2,475.74	309.75	-54.10	314.44	0.00	0.00	0.00
2,600.00	9.18	350.09	2,574.46	325.47	-56.84	330.39	0.00	0.00	0.00
2,700.00	9.18	350.09	2,673.18	341.18	-59.59	346.35	0.00	0.00	0.00
2,800.00	9.18	350.09	2,771.90	356.90	-62.33	362.30	0.00	0.00	0.00
2,900.00	9.18	350.09	2,870.62	372.61	-65.07	378.25	0.00	0.00	0.00
3,000.00	9.18	350.09	2,969.34	388.33	-67.82	394.21	0.00	0.00	0.00
3,100.00	9.18	350.09	3,068.06	404.04	-70.56	410.16	0.00	0.00	0.00
3,200.00	9.18	350.09	3,166.78	419.76	-73.31	426.11	0.00	0.00	0.00
3,300.00	9.18	350.09	3,265.50	435.47	-76.05	442.07	0.00	0.00	0.00
3,400.00	9.18	350.09	3,364.21	451.19	-78.80	458.02	0.00	0.00	0.00
3,500.00	9.18	350.09	3,462.93	466.90	-81.54	473.97	0.00	0.00	0.00
3,600.00	9.18	350.09	3,561.65	482.62	-84.29	489.93	0.00	0.00	0.00
3,700.00	9.18	350.09	3,660.37	498.34	-87.03	505.88	0.00	0.00	0.00
3,800.00	9.18	350.09	3,759.09	514.05	-89.78	521.83	0.00	0.00	0.00
3,900.00	9.18	350.09	3,857.81	529.77	-92.52	537.78	0.00	0.00	0.00
4,000.00	9.18	350.09	3,956.53	545.48	-95.26	553.74	0.00	0.00	0.00
4,100.00	9.18	350.09	4,055.25	561.20	-98.01	569.69	0.00	0.00	0.00
4,200.00	9.18	350.09	4,153.97	576.91	-100.75	585.64	0.00	0.00	0.00
4,300.00	9.18	350.09	4,252.69	592.63	-103.50	601.60	0.00	0.00	0.00
4,310.45	9.18	350.09	4,263.00	594.27	-103.79	603.26	0.00	0.00	0.00
<b>PARKMAN</b>									
4,400.00	9.18	350.09	4,351.41	608.34	-106.24	617.55	0.00	0.00	0.00
4,416.81	9.18	350.09	4,368.00	610.99	-106.70	620.23	0.00	0.00	0.00
<b>SUSSEX</b>									

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 27-10
<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 27-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 27-10(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	9.18	350.09	4,450.13	624.06	-108.99	633.50	0.00	0.00	0.00
4,600.00	9.18	350.09	4,548.85	639.77	-111.73	649.46	0.00	0.00	0.00
4,700.00	9.18	350.09	4,647.56	655.49	-114.48	665.41	0.00	0.00	0.00
4,800.00	9.18	350.09	4,746.28	671.21	-117.22	681.36	0.00	0.00	0.00
4,900.00	9.18	350.09	4,845.00	686.92	-119.97	697.32	0.00	0.00	0.00
5,000.00	9.18	350.09	4,943.72	702.64	-122.71	713.27	0.00	0.00	0.00
5,100.00	9.18	350.09	5,042.44	718.35	-125.46	729.22	0.00	0.00	0.00
5,200.00	9.18	350.09	5,141.16	734.07	-128.20	745.18	0.00	0.00	0.00
5,300.00	9.18	350.09	5,239.88	749.78	-130.94	761.13	0.00	0.00	0.00
5,400.00	9.18	350.09	5,338.60	765.50	-133.69	777.08	0.00	0.00	0.00
5,500.00	9.18	350.09	5,437.32	781.21	-136.43	793.04	0.00	0.00	0.00
5,600.00	9.18	350.09	5,536.04	796.93	-139.18	808.99	0.00	0.00	0.00
5,700.00	9.18	350.09	5,634.76	812.64	-141.92	824.94	0.00	0.00	0.00
5,800.00	9.18	350.09	5,733.48	828.36	-144.67	840.90	0.00	0.00	0.00
5,900.00	9.18	350.09	5,832.20	844.07	-147.41	856.85	0.00	0.00	0.00
6,000.00	9.18	350.09	5,930.92	859.79	-150.16	872.80	0.00	0.00	0.00
6,100.00	9.18	350.09	6,029.63	875.51	-152.90	888.76	0.00	0.00	0.00
6,200.00	9.18	350.09	6,128.35	891.22	-155.65	904.71	0.00	0.00	0.00
6,300.00	9.18	350.09	6,227.07	906.94	-158.39	920.66	0.00	0.00	0.00
6,306.99	9.18	350.09	6,233.97	908.03	-158.58	921.78	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
6,400.00	7.32	350.09	6,326.02	921.18	-160.88	935.12	2.00	-2.00	0.00
6,500.00	5.32	350.09	6,425.40	932.02	-162.77	946.13	2.00	-2.00	0.00
6,600.00	3.32	350.09	6,525.12	939.44	-164.07	953.66	2.00	-2.00	0.00
6,700.00	1.32	350.09	6,625.03	943.43	-164.76	957.71	2.00	-2.00	0.00
6,765.98	0.00	0.00	6,691.00	944.18	-164.89	958.47	2.00	-2.00	15.01
<b>Start 1372.00 hold at 6765.98 MD</b>									
6,800.00	0.00	0.00	6,725.02	944.18	-164.89	958.47	0.00	0.00	0.00
6,900.00	0.00	0.00	6,825.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,000.00	0.00	0.00	6,925.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,100.00	0.00	0.00	7,025.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,200.00	0.00	0.00	7,125.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,265.98	0.00	0.00	7,191.00	944.18	-164.89	958.47	0.00	0.00	0.00
<b>NIOBRARA</b>									
7,300.00	0.00	0.00	7,225.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,400.00	0.00	0.00	7,325.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,500.00	0.00	0.00	7,425.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,527.98	0.00	0.00	7,453.00	944.18	-164.89	958.47	0.00	0.00	0.00
<b>CODELL</b>									
7,600.00	0.00	0.00	7,525.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,609.98	0.00	0.00	7,535.00	944.18	-164.89	958.47	0.00	0.00	0.00
<b>GREENHORN</b>									
7,700.00	0.00	0.00	7,625.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,800.00	0.00	0.00	7,725.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,900.00	0.00	0.00	7,825.02	944.18	-164.89	958.47	0.00	0.00	0.00
7,987.98	0.00	0.00	7,913.00	944.18	-164.89	958.47	0.00	0.00	0.00
<b>J-SAND</b>									
8,000.00	0.00	0.00	7,925.02	944.18	-164.89	958.47	0.00	0.00	0.00
8,100.00	0.00	0.00	8,025.02	944.18	-164.89	958.47	0.00	0.00	0.00
8,137.98	0.00	0.00	8,063.00	944.18	-164.89	958.47	0.00	0.00	0.00
<b>PBHL_STREAR 27-10</b>									

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well STREAR 27-10
<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 27-10	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	STREAR 27-10(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 27-10	0.00	0.00	8,063.00	944.18	-164.89	1,301,653.64	3,175,576.58	40° 9' 35.017 N	104° 52' 18.509 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 (°)	
4,310.45	4,263.00	PARKMAN				
4,416.81	4,368.00	SUSSEX				
7,265.98	7,191.00	NIOBRARA				
7,527.98	7,453.00	CODELL				
7,609.98	7,535.00	GREENHORN				
7,987.98	7,913.00	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	
758.99	757.03	36.14	-6.31	Start 5548.00 hold at 758.99 MD	
6,306.99	6,233.97	908.03	-158.58	Start Drop -2.00	
6,765.98	6,691.00	944.18	-164.89	Start 1372.00 hold at 6765.98 MD	
8,137.98	8,063.00	944.18	-164.89	TD at 8137.98	