

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_STREAR 19-10 PAD
Well: STREAR 35-10
Wellbore: OH
Section: SECTION 10 T2N R67W
SHL:
Design: STREAR 35-10(wp01)
Latitude: 40° 8' 55.986 N
Longitude: 104° 52' 51.780 W
GL: 4974.00
KB: GL 4974' & KB 15' @ 4989.00ft (ASSUMED)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4313.00	4387.41	PARKMAN
4470.00	4547.62	SUSSEX
7281.00	7398.14	NIOBRARA
7548.00	7665.14	CODELL
7621.00	7738.14	GREENHORN
7973.00	8090.14	J-SAND



Scientific Drilling
Rocky Mountain Operations



Azimuths to Grid North
True North: -0.40°
Magnetic North: 8.54°

Magnetic Field
Strength: 53011.6snT
Dip Angle: 66.84°
Date: 03/16/2011
Model: IGRF2010

WELL DETAILS: STREAR 35-10

+N/-S	+E/-W	Northing	Easting	Ground Level: 4974.00	Latitude	Longitude	Slot
0.00	0.00	1297686.03	3173021.10		40° 8' 55.986 N	104° 52' 51.780 W	

CASING DETAILS

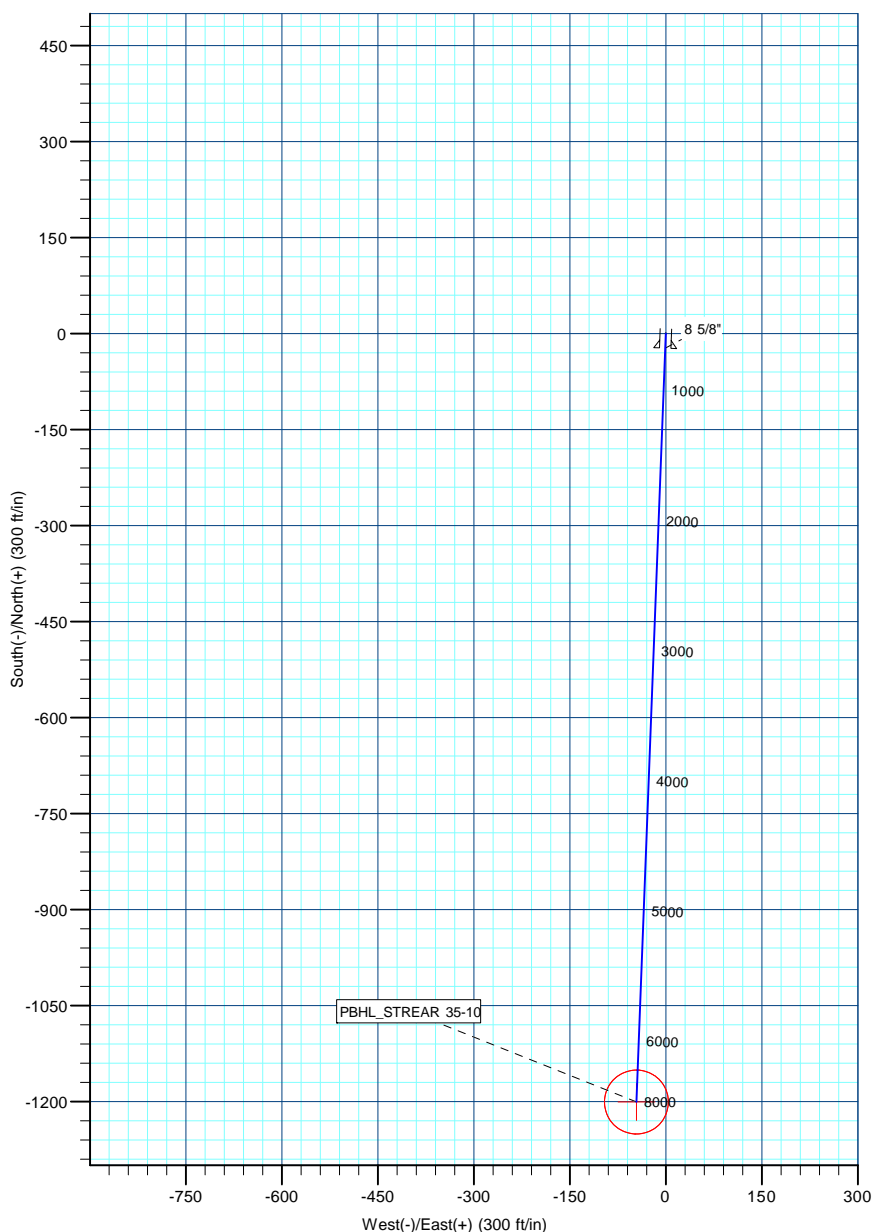
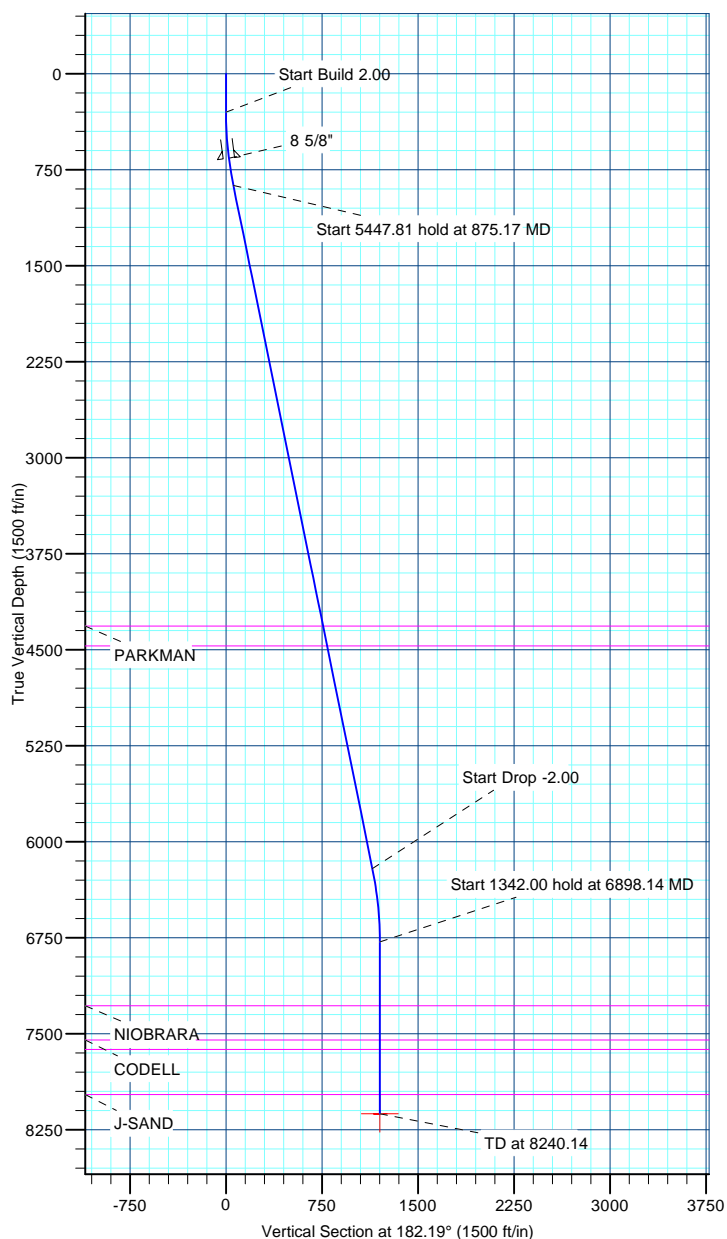
TVD	MD	Name	Size
660.00	660.95	8 5/8"	8.625

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_STREAR 35-10	8123.00	-1200.64	-45.85	1296485.39	3172975.24	40° 8' 44.124 N	104° 52' 52.478 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
875.17	11.50	182.19	871.31	-57.50	-2.20	2.00	182.19	57.54
6322.98	11.50	182.19	6209.69	-1143.14	-43.66	0.00	0.00	1143.97
6898.14	0.00	0.00	6781.00	-1200.64	-45.85	2.00	180.00	1201.52
8240.14	0.00	0.00	8123.00	-1200.64	-45.85	0.00	0.00	1201.52



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_STREAR 19-10 PAD

STREAR 35-10

OH

Plan: STREAR 35-10(wp01)

Standard Planning Report

16 March, 2011

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 35-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Site:	WELD_STREAR 19-10 PAD	North Reference:	Grid
Well:	STREAR 35-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 35-10(wp01)		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	WELD_STREAR 19-10 PAD, SECTION 10 T2N R67W			
Site Position:		Northing:	1,297,696.24 usft	Latitude: 40° 8' 56.087 N
From:	Lat/Long	Easting:	3,173,021.03 usft	Longitude: 104° 52' 51.780 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.40 °

Well	STREAR 35-10			
Well Position	+N/-S	-10.21 ft	Northing:	1,297,686.03 usft
	+E/-W	0.07 ft	Easting:	3,173,021.10 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,974.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/16/2011	8.94	66.84	53,012

Design	STREAR 35-10(wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	182.19

Plan Sections										
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	
875.17	11.50	182.19	871.31	-57.50	-2.20	2.00	2.00	0.00	182.19	
6,322.98	11.50	182.19	6,209.69	-1,143.14	-43.66	0.00	0.00	0.00	0.00	
6,898.14	0.00	0.00	6,781.00	-1,200.64	-45.85	2.00	-2.00	0.00	180.00	
8,240.14	0.00	0.00	8,123.00	-1,200.64	-45.85	0.00	0.00	0.00	0.00	PBHL_STREAR 35-10

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 35-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Site:	WELD_STREAR 19-10 PAD	North Reference:	Grid
Well:	STREAR 35-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 35-10(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
Start Build 2.00									
400.00	2.00	182.19	399.98	-1.74	-0.07	1.75	2.00	2.00	0.00
500.00	4.00	182.19	499.84	-6.97	-0.27	6.98	2.00	2.00	0.00
600.00	6.00	182.19	599.45	-15.68	-0.60	15.69	2.00	2.00	0.00
660.95	7.22	182.19	660.00	-22.69	-0.87	22.71	2.00	2.00	0.00
8 5/8"									
700.00	8.00	182.19	698.70	-27.86	-1.06	27.88	2.00	2.00	0.00
800.00	10.00	182.19	797.47	-43.49	-1.66	43.52	2.00	2.00	0.00
875.17	11.50	182.19	871.31	-57.50	-2.20	57.54	2.00	2.00	0.00
Start 5447.81 hold at 875.17 MD									
900.00	11.50	182.19	895.64	-62.45	-2.39	62.50	0.00	0.00	0.00
1,000.00	11.50	182.19	993.64	-82.38	-3.15	82.44	0.00	0.00	0.00
1,100.00	11.50	182.19	1,091.63	-102.31	-3.91	102.38	0.00	0.00	0.00
1,200.00	11.50	182.19	1,189.62	-122.24	-4.67	122.32	0.00	0.00	0.00
1,300.00	11.50	182.19	1,287.61	-142.16	-5.43	142.27	0.00	0.00	0.00
1,400.00	11.50	182.19	1,385.60	-162.09	-6.19	162.21	0.00	0.00	0.00
1,500.00	11.50	182.19	1,483.59	-182.02	-6.95	182.15	0.00	0.00	0.00
1,600.00	11.50	182.19	1,581.58	-201.95	-7.71	202.09	0.00	0.00	0.00
1,700.00	11.50	182.19	1,679.58	-221.88	-8.47	222.04	0.00	0.00	0.00
1,800.00	11.50	182.19	1,777.57	-241.80	-9.23	241.98	0.00	0.00	0.00
1,900.00	11.50	182.19	1,875.56	-261.73	-10.00	261.92	0.00	0.00	0.00
2,000.00	11.50	182.19	1,973.55	-281.66	-10.76	281.86	0.00	0.00	0.00
2,100.00	11.50	182.19	2,071.54	-301.59	-11.52	301.81	0.00	0.00	0.00
2,200.00	11.50	182.19	2,169.53	-321.52	-12.28	321.75	0.00	0.00	0.00
2,300.00	11.50	182.19	2,267.52	-341.44	-13.04	341.69	0.00	0.00	0.00
2,400.00	11.50	182.19	2,365.51	-361.37	-13.80	361.63	0.00	0.00	0.00
2,500.00	11.50	182.19	2,463.51	-381.30	-14.56	381.58	0.00	0.00	0.00
2,600.00	11.50	182.19	2,561.50	-401.23	-15.32	401.52	0.00	0.00	0.00
2,700.00	11.50	182.19	2,659.49	-421.15	-16.08	421.46	0.00	0.00	0.00
2,800.00	11.50	182.19	2,757.48	-441.08	-16.85	441.40	0.00	0.00	0.00
2,900.00	11.50	182.19	2,855.47	-461.01	-17.61	461.35	0.00	0.00	0.00
3,000.00	11.50	182.19	2,953.46	-480.94	-18.37	481.29	0.00	0.00	0.00
3,100.00	11.50	182.19	3,051.45	-500.87	-19.13	501.23	0.00	0.00	0.00
3,200.00	11.50	182.19	3,149.45	-520.79	-19.89	521.17	0.00	0.00	0.00
3,300.00	11.50	182.19	3,247.44	-540.72	-20.65	541.12	0.00	0.00	0.00
3,400.00	11.50	182.19	3,345.43	-560.65	-21.41	561.06	0.00	0.00	0.00
3,500.00	11.50	182.19	3,443.42	-580.58	-22.17	581.00	0.00	0.00	0.00
3,600.00	11.50	182.19	3,541.41	-600.51	-22.93	600.94	0.00	0.00	0.00
3,700.00	11.50	182.19	3,639.40	-620.43	-23.70	620.89	0.00	0.00	0.00
3,800.00	11.50	182.19	3,737.39	-640.36	-24.46	640.83	0.00	0.00	0.00
3,900.00	11.50	182.19	3,835.38	-660.29	-25.22	660.77	0.00	0.00	0.00
4,000.00	11.50	182.19	3,933.38	-680.22	-25.98	680.71	0.00	0.00	0.00
4,100.00	11.50	182.19	4,031.37	-700.15	-26.74	700.66	0.00	0.00	0.00
4,200.00	11.50	182.19	4,129.36	-720.07	-27.50	720.60	0.00	0.00	0.00
4,300.00	11.50	182.19	4,227.35	-740.00	-28.26	740.54	0.00	0.00	0.00
4,387.41	11.50	182.19	4,313.00	-757.42	-28.93	757.97	0.00	0.00	0.00
PARKMAN									
4,400.00	11.50	182.19	4,325.34	-759.93	-29.02	760.48	0.00	0.00	0.00
4,500.00	11.50	182.19	4,423.33	-779.86	-29.78	780.43	0.00	0.00	0.00
4,547.62	11.50	182.19	4,470.00	-789.35	-30.15	789.92	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 35-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Site:	WELD_STREAR 19-10 PAD	North Reference:	Grid
Well:	STREAR 35-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 35-10(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)
SUSSEX									
4,600.00	11.50	182.19	4,521.32	-799.79	-30.55	800.37	0.00	0.00	0.00
4,700.00	11.50	182.19	4,619.31	-819.71	-31.31	820.31	0.00	0.00	0.00
4,800.00	11.50	182.19	4,717.31	-839.64	-32.07	840.25	0.00	0.00	0.00
4,900.00	11.50	182.19	4,815.30	-859.57	-32.83	860.20	0.00	0.00	0.00
5,000.00	11.50	182.19	4,913.29	-879.50	-33.59	880.14	0.00	0.00	0.00
5,100.00	11.50	182.19	5,011.28	-899.43	-34.35	900.08	0.00	0.00	0.00
5,200.00	11.50	182.19	5,109.27	-919.35	-35.11	920.02	0.00	0.00	0.00
5,300.00	11.50	182.19	5,207.26	-939.28	-35.87	939.97	0.00	0.00	0.00
5,400.00	11.50	182.19	5,305.25	-959.21	-36.63	959.91	0.00	0.00	0.00
5,500.00	11.50	182.19	5,403.25	-979.14	-37.39	979.85	0.00	0.00	0.00
5,600.00	11.50	182.19	5,501.24	-999.07	-38.16	999.79	0.00	0.00	0.00
5,700.00	11.50	182.19	5,599.23	-1,018.99	-38.92	1,019.74	0.00	0.00	0.00
5,800.00	11.50	182.19	5,697.22	-1,038.92	-39.68	1,039.68	0.00	0.00	0.00
5,900.00	11.50	182.19	5,795.21	-1,058.85	-40.44	1,059.62	0.00	0.00	0.00
6,000.00	11.50	182.19	5,893.20	-1,078.78	-41.20	1,079.56	0.00	0.00	0.00
6,100.00	11.50	182.19	5,991.19	-1,098.71	-41.96	1,099.51	0.00	0.00	0.00
6,200.00	11.50	182.19	6,089.18	-1,118.63	-42.72	1,119.45	0.00	0.00	0.00
6,300.00	11.50	182.19	6,187.18	-1,138.56	-43.48	1,139.39	0.00	0.00	0.00
6,322.98	11.50	182.19	6,209.69	-1,143.14	-43.66	1,143.97	0.00	0.00	0.00
Start Drop -2.00									
6,400.00	9.96	182.19	6,285.36	-1,157.47	-44.21	1,158.32	2.00	-2.00	0.00
6,500.00	7.96	182.19	6,384.14	-1,173.04	-44.80	1,173.90	2.00	-2.00	0.00
6,600.00	5.96	182.19	6,483.40	-1,185.15	-45.26	1,186.02	2.00	-2.00	0.00
6,700.00	3.96	182.19	6,583.02	-1,193.80	-45.59	1,194.67	2.00	-2.00	0.00
6,800.00	1.96	182.19	6,682.88	-1,198.96	-45.79	1,199.84	2.00	-2.00	0.00
6,898.14	0.00	0.00	6,781.00	-1,200.64	-45.85	1,201.52	2.00	-2.00	0.00
Start 1342.00 hold at 6898.14 MD									
6,900.00	0.00	0.00	6,782.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,000.00	0.00	0.00	6,882.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,100.00	0.00	0.00	6,982.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,200.00	0.00	0.00	7,082.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,300.00	0.00	0.00	7,182.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,398.14	0.00	0.00	7,281.00	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
NIORARA									
7,400.00	0.00	0.00	7,282.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,500.00	0.00	0.00	7,382.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,600.00	0.00	0.00	7,482.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,665.14	0.00	0.00	7,548.00	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
CODELL									
7,700.00	0.00	0.00	7,582.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,738.14	0.00	0.00	7,621.00	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
GREENHORN									
7,800.00	0.00	0.00	7,682.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
7,900.00	0.00	0.00	7,782.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
8,000.00	0.00	0.00	7,882.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
8,090.14	0.00	0.00	7,973.00	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
J-SAND									
8,100.00	0.00	0.00	7,982.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
8,200.00	0.00	0.00	8,082.86	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
8,240.14	0.00	0.00	8,123.00	-1,200.64	-45.85	1,201.52	0.00	0.00	0.00
PBHL_STREAR 35-10									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 35-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4974' & KB 15' @ 4989.00ft (ASSUMED)
Site:	WELD_STREAR 19-10 PAD	North Reference:	Grid
Well:	STREAR 35-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 35-10(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 35-10	0.00	0.00	8,123.00	-1,200.64	-45.85	1,296,485.39	3,172,975.24	40° 8' 44.124 N	104° 52' 52.478 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 (°)	
4,387.41	4,313.00	PARKMAN				
4,547.62	4,470.00	SUSSEX				
7,398.14	7,281.00	NIOBRARA				
7,665.14	7,548.00	CODELL				
7,738.14	7,621.00	GREENHORN				
8,090.14	7,973.00	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	
875.17	871.31	-57.50	-2.20	Start 5447.81 hold at 875.17 MD	
6,322.98	6,209.69	-1,143.14	-43.66	Start Drop -2.00	
6,898.14	6,781.00	-1,200.64	-45.85	Start 1342.00 hold at 6898.14 MD	
8,240.14	8,123.00	-1,200.64	-45.85	TD at 8240.14	