

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_STREAR 17-10
Well: STREAR 24-10
Wellbore: OH
Section: SECTION 10 T2N R67W
SHL:
Design: STREAR 24-10
Latitude: 40° 9' 25.279 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	4412.59	PARKMAN
4374.00	4527.38	SUSSEX
7217.00	7448.36	NIOBRARA
7474.00	7705.36	CODELL
7557.00	7788.36	GREENHORN
7914.00	8145.36	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 24-10

+N/-S	+E/-W	Northing	Ground Level: Easting	4924.00 Latitude	Longitude	Slot
0.00	0.00	1300669.40	3175741.76	40° 9' 25.279 N	104° 52' 16.471 W	

CASING DETAILS

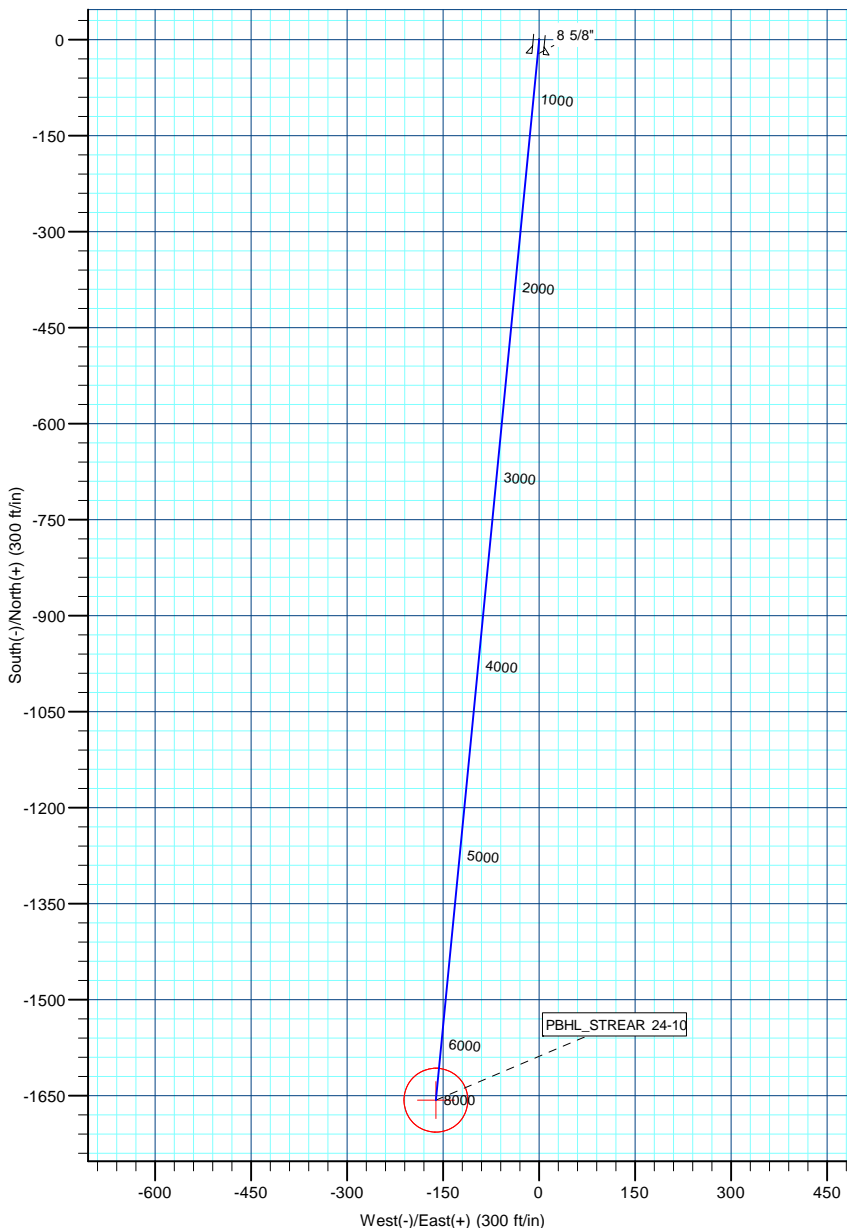
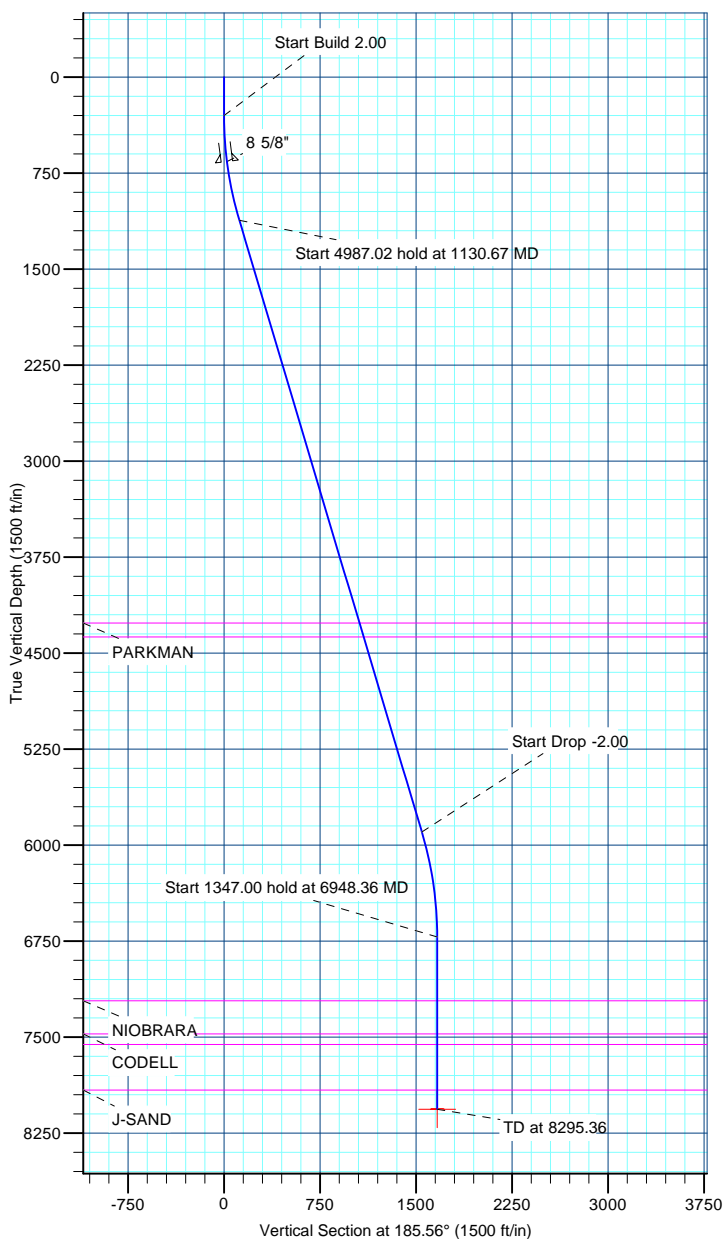
TVD	MD	Name	Size
660.00	660.95	8 5/8"	8.625

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL_STREAR 24-10	8064.00	-1657.20	-161.28	1299012.21	3175580.48	40° 9' 8.914 N	104° 52' 18.700 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
1130.67	16.61	185.56	1119.08	-119.03	-11.58	2.00	185.56	119.59
6117.69	16.61	185.56	5897.92	-1538.17	-149.70	0.00	0.00	1545.44
6948.36	0.00	0.00	6717.00	-1657.20	-161.28	2.00	180.00	1665.02
8295.36	0.00	0.00	8064.00	-1657.20	-161.28	0.00	0.00	1665.02



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_STREAR 17-10

STREAR 24-10

OH

Plan: STREAR 24-10

Standard Planning Report

17 March, 2011

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 24-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
Site:	WELD_STREAR 17-10	North Reference:	Grid
Well:	STREAR 24-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 24-10		

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

Well	STREAR 24-10			
Well Position	+N/-S	-9.85 ft	Northing:	1,300,669.40 usft
	+E/-W	0.07 ft	Easting:	3,175,741.76 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Ground Level: 4,924.00 ft

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

Design	STREAR 24-10			
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	185.56

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	
1,130.67	16.61	185.56	1,119.08	-119.03	-11.58	2.00	2.00	0.00	185.56	
6,117.69	16.61	185.56	5,897.92	-1,538.17	-149.70	0.00	0.00	0.00	0.00	
6,948.36	0.00	0.00	6,717.00	-1,657.20	-161.28	2.00	-2.00	0.00	180.00	
8,295.36	0.00	0.00	8,064.00	-1,657.20	-161.28	0.00	0.00	0.00	0.00	PBHL_STREAR 24-10

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well STREAR 24-10
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
Site:	WELD_STREAR 17-10	North Reference:	Grid
Well:	STREAR 24-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 24-10		

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	185.56	399.98	-1.74	-0.17	1.75	2.00	2.00	0.00
500.00	4.00	185.56	499.84	-6.95	-0.68	6.98	2.00	2.00	0.00
600.00	6.00	185.56	599.45	-15.62	-1.52	15.69	2.00	2.00	0.00
660.95	7.22	185.56	660.00	-22.60	-2.20	22.71	2.00	2.00	0.00
8 5/8"									
700.00	8.00	185.56	698.70	-27.75	-2.70	27.88	2.00	2.00	0.00
800.00	10.00	185.56	797.47	-43.32	-4.22	43.52	2.00	2.00	0.00
900.00	12.00	185.56	895.62	-62.31	-6.06	62.60	2.00	2.00	0.00
1,000.00	14.00	185.56	993.06	-84.70	-8.24	85.10	2.00	2.00	0.00
1,100.00	16.00	185.56	1,089.64	-110.46	-10.75	110.98	2.00	2.00	0.00
1,130.67	16.61	185.56	1,119.08	-119.03	-11.58	119.59	2.00	2.00	0.00
Start 4987.02 hold at 1130.67 MD									
1,200.00	16.61	185.56	1,185.51	-138.76	-13.50	139.41	0.00	0.00	0.00
1,300.00	16.61	185.56	1,281.34	-167.21	-16.27	168.00	0.00	0.00	0.00
1,400.00	16.61	185.56	1,377.17	-195.67	-19.04	196.59	0.00	0.00	0.00
1,500.00	16.61	185.56	1,472.99	-224.13	-21.81	225.18	0.00	0.00	0.00
1,600.00	16.61	185.56	1,568.82	-252.58	-24.58	253.78	0.00	0.00	0.00
1,700.00	16.61	185.56	1,664.64	-281.04	-27.35	282.37	0.00	0.00	0.00
1,800.00	16.61	185.56	1,760.47	-309.50	-30.12	310.96	0.00	0.00	0.00
1,900.00	16.61	185.56	1,856.29	-337.95	-32.89	339.55	0.00	0.00	0.00
2,000.00	16.61	185.56	1,952.12	-366.41	-35.66	368.14	0.00	0.00	0.00
2,100.00	16.61	185.56	2,047.95	-394.87	-38.43	396.73	0.00	0.00	0.00
2,200.00	16.61	185.56	2,143.77	-423.32	-41.20	425.32	0.00	0.00	0.00
2,300.00	16.61	185.56	2,239.60	-451.78	-43.97	453.91	0.00	0.00	0.00
2,400.00	16.61	185.56	2,335.42	-480.24	-46.74	482.50	0.00	0.00	0.00
2,500.00	16.61	185.56	2,431.25	-508.69	-49.51	511.10	0.00	0.00	0.00
2,600.00	16.61	185.56	2,527.07	-537.15	-52.28	539.69	0.00	0.00	0.00
2,700.00	16.61	185.56	2,622.90	-565.61	-55.05	568.28	0.00	0.00	0.00
2,800.00	16.61	185.56	2,718.72	-594.06	-57.82	596.87	0.00	0.00	0.00
2,900.00	16.61	185.56	2,814.55	-622.52	-60.58	625.46	0.00	0.00	0.00
3,000.00	16.61	185.56	2,910.38	-650.98	-63.35	654.05	0.00	0.00	0.00
3,100.00	16.61	185.56	3,006.20	-679.43	-66.12	682.64	0.00	0.00	0.00
3,200.00	16.61	185.56	3,102.03	-707.89	-68.89	711.23	0.00	0.00	0.00
3,300.00	16.61	185.56	3,197.85	-736.35	-71.66	739.83	0.00	0.00	0.00
3,400.00	16.61	185.56	3,293.68	-764.80	-74.43	768.42	0.00	0.00	0.00
3,500.00	16.61	185.56	3,389.50	-793.26	-77.20	797.01	0.00	0.00	0.00
3,600.00	16.61	185.56	3,485.33	-821.72	-79.97	825.60	0.00	0.00	0.00
3,700.00	16.61	185.56	3,581.15	-850.17	-82.74	854.19	0.00	0.00	0.00
3,800.00	16.61	185.56	3,676.98	-878.63	-85.51	882.78	0.00	0.00	0.00
3,900.00	16.61	185.56	3,772.81	-907.09	-88.28	911.37	0.00	0.00	0.00
4,000.00	16.61	185.56	3,868.63	-935.54	-91.05	939.96	0.00	0.00	0.00
4,100.00	16.61	185.56	3,964.46	-964.00	-93.82	968.55	0.00	0.00	0.00
4,200.00	16.61	185.56	4,060.28	-992.46	-96.59	997.15	0.00	0.00	0.00
4,300.00	16.61	185.56	4,156.11	-1,020.91	-99.36	1,025.74	0.00	0.00	0.00
4,400.00	16.61	185.56	4,251.93	-1,049.37	-102.13	1,054.33	0.00	0.00	0.00
4,412.59	16.61	185.56	4,264.00	-1,052.95	-102.48	1,057.93	0.00	0.00	0.00
PARKMAN									
4,500.00	16.61	185.56	4,347.76	-1,077.83	-104.90	1,082.92	0.00	0.00	0.00
4,527.38	16.61	185.56	4,374.00	-1,085.62	-105.65	1,090.75	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4924' & KB 15' @ 4939.00ft (ASSUMED)
Site:	WELD_STREAR 17-10	North Reference:	Grid
Well:	STREAR 24-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 24-10		

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	16.61	185.56	4,443.59	-1,106.28	-107.67	1,111.51	0.00	0.00	0.00
4,700.00	16.61	185.56	4,539.41	-1,134.74	-110.44	1,140.10	0.00	0.00	0.00
4,800.00	16.61	185.56	4,635.24	-1,163.20	-113.20	1,168.69	0.00	0.00	0.00
4,900.00	16.61	185.56	4,731.06	-1,191.65	-115.97	1,197.28	0.00	0.00	0.00
5,000.00	16.61	185.56	4,826.89	-1,220.11	-118.74	1,225.88	0.00	0.00	0.00
5,100.00	16.61	185.56	4,922.71	-1,248.57	-121.51	1,254.47	0.00	0.00	0.00
5,200.00	16.61	185.56	5,018.54	-1,277.02	-124.28	1,283.06	0.00	0.00	0.00
5,300.00	16.61	185.56	5,114.36	-1,305.48	-127.05	1,311.65	0.00	0.00	0.00
5,400.00	16.61	185.56	5,210.19	-1,333.94	-129.82	1,340.24	0.00	0.00	0.00
5,500.00	16.61	185.56	5,306.02	-1,362.39	-132.59	1,368.83	0.00	0.00	0.00
5,600.00	16.61	185.56	5,401.84	-1,390.85	-135.36	1,397.42	0.00	0.00	0.00
5,700.00	16.61	185.56	5,497.67	-1,419.31	-138.13	1,426.01	0.00	0.00	0.00
5,800.00	16.61	185.56	5,593.49	-1,447.76	-140.90	1,454.61	0.00	0.00	0.00
5,900.00	16.61	185.56	5,689.32	-1,476.22	-143.67	1,483.20	0.00	0.00	0.00
6,000.00	16.61	185.56	5,785.14	-1,504.68	-146.44	1,511.79	0.00	0.00	0.00
6,100.00	16.61	185.56	5,880.97	-1,533.14	-149.21	1,540.38	0.00	0.00	0.00
6,117.69	16.61	185.56	5,897.92	-1,538.17	-149.70	1,545.44	0.00	0.00	0.00
Start Drop -2.00									
6,200.00	14.97	185.56	5,977.12	-1,560.46	-151.87	1,567.83	2.00	-2.00	0.00
6,300.00	12.97	185.56	6,074.16	-1,584.48	-154.20	1,591.97	2.00	-2.00	0.00
6,400.00	10.97	185.56	6,171.98	-1,605.12	-156.21	1,612.70	2.00	-2.00	0.00
6,500.00	8.97	185.56	6,270.47	-1,622.35	-157.89	1,630.01	2.00	-2.00	0.00
6,600.00	6.97	185.56	6,369.50	-1,636.14	-159.23	1,643.87	2.00	-2.00	0.00
6,700.00	4.97	185.56	6,468.95	-1,646.49	-160.24	1,654.27	2.00	-2.00	0.00
6,800.00	2.97	185.56	6,568.71	-1,653.37	-160.91	1,661.18	2.00	-2.00	0.00
6,900.00	0.97	185.56	6,668.64	-1,656.79	-161.24	1,664.62	2.00	-2.00	0.00
6,948.36	0.00	0.00	6,717.00	-1,657.20	-161.28	1,665.03	2.00	-2.00	0.00
Start 1347.00 hold at 6948.36 MD									
7,000.00	0.00	0.00	6,768.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,100.00	0.00	0.00	6,868.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,200.00	0.00	0.00	6,968.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,300.00	0.00	0.00	7,068.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,400.00	0.00	0.00	7,168.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,448.36	0.00	0.00	7,217.00	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
NIOBRARA									
7,500.00	0.00	0.00	7,268.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,600.00	0.00	0.00	7,368.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,700.00	0.00	0.00	7,468.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,705.36	0.00	0.00	7,474.00	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
CODELL									
7,788.36	0.00	0.00	7,557.00	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
GREENHORN									
7,800.00	0.00	0.00	7,568.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
7,900.00	0.00	0.00	7,668.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
8,000.00	0.00	0.00	7,768.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
8,100.00	0.00	0.00	7,868.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
8,145.36	0.00	0.00	7,914.00	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
J-SAND									
8,200.00	0.00	0.00	7,968.64	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
8,295.36	0.00	0.00	8,064.00	-1,657.20	-161.28	1,665.03	0.00	0.00	0.00
PBHL_STREAR 24-10									

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Well:	STREAR 24-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	STREAR 24-10		

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 24-10	0.00	0.00	8,064.00	-1,657.20	-161.28	1,299,012.21	3,175,580.48	40° 9' 8.914 N	104° 52' 18.700 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 (°)	
4,412.59	4,264.00	PARKMAN				
4,527.38	4,374.00	SUSSEX				
7,448.36	7,217.00	NIOBRARA				
7,705.36	7,474.00	CODELL				
7,788.36	7,557.00	GREENHORN				
8,145.36	7,914.00	J-SAND		0.00		

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	
1,130.67	1,119.08	-119.03	-11.58	Start 4987.02 hold at 1130.67 MD	
6,117.69	5,897.92	-1,538.17	-149.70	Start Drop -2.00	
6,948.36	6,717.00	-1,657.20	-161.28	Start 1347.00 hold at 6948.36 MD	
8,295.36	8,064.00	-1,657.20	-161.28	TD at 8295.36	