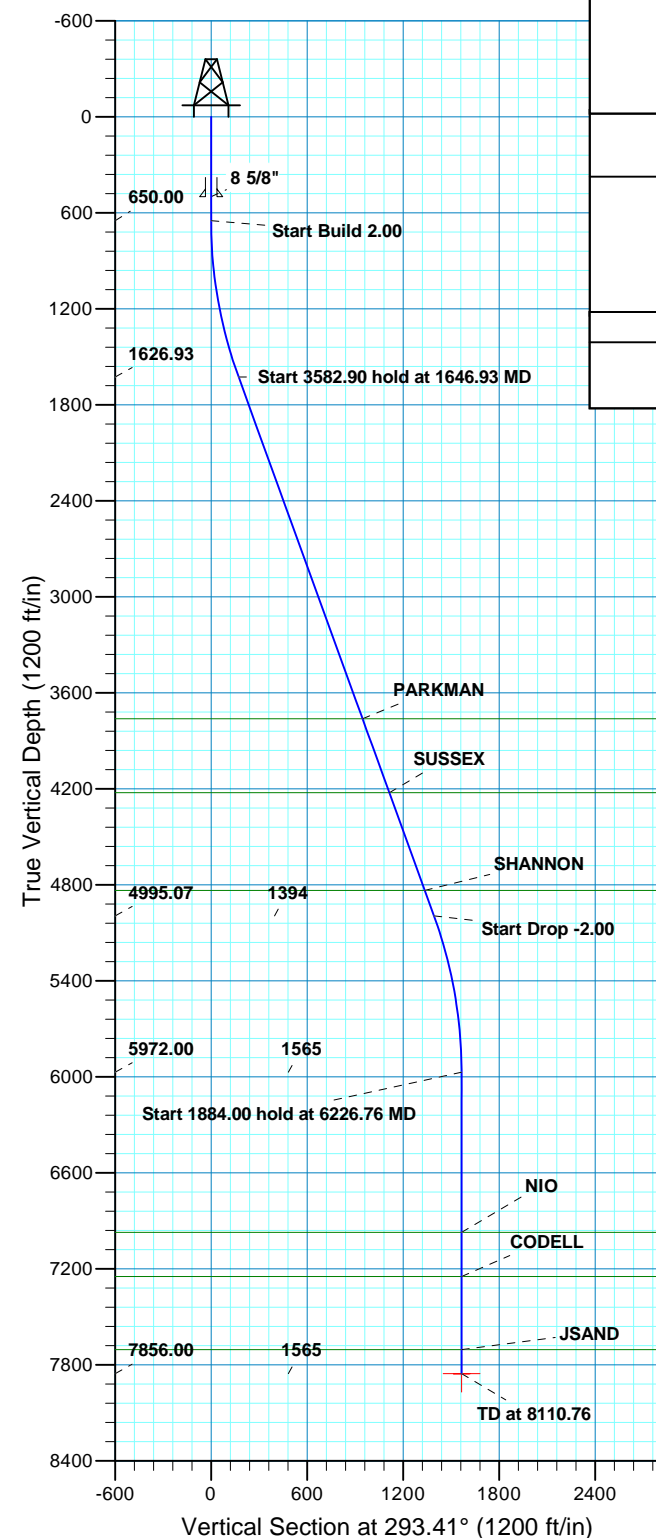
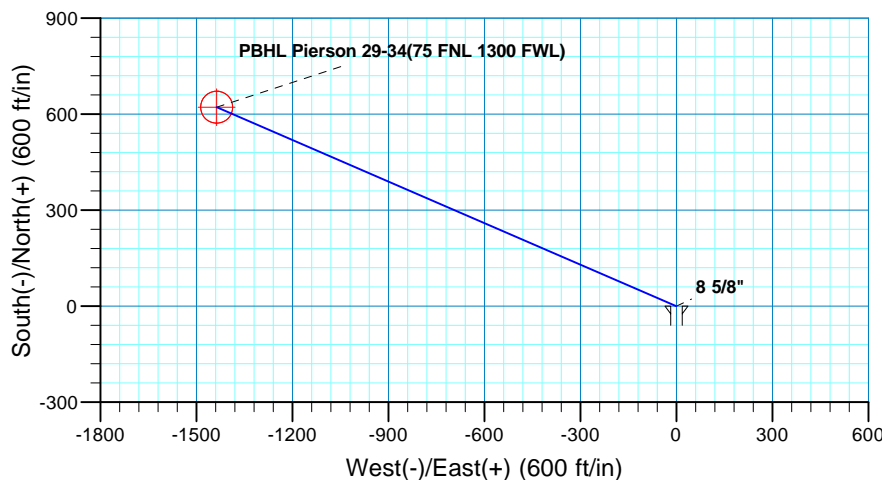


WELL DETAILS: P_Pierson 29-34					
GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1343326.51	3205594.82	40° 16' 24.549 N	104° 45' 47.419 W

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL Pierson 29-34(75 FNL 1300 FWL) - plan hits target center	1565.26	0.00	-1436.41	1343936.44	3204153.30	40° 16' 30.695 N	104° 46' 5.952 W
				Shape: Circle (Radius: 50.00)			



SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00		
1646.93	19.94	293.41	1626.93	68.23	-157.58	2.00	293.41	171.72		
5229.83	19.94	293.41	4995.07	553.66	-1278.83	0.00	0.00	1393.54		
6226.76	0.00	0.00	5972.00	621.89	-1436.41	2.00	180.00	1565.26		
8110.76	0.00	0.00	7856.00	621.89	-1436.41	0.00	0.00	1565.26	PBHL Pierson 29-34(75 FNL 1300 FWL)	
PROJECT DETAILS: COLORADO NORTHERN ZONE - 83						FORMATION TOP DETAILS				
						TVDPath	MDPath	Formation		
Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone Location: SECTION 34 T4N R66W System Datum:Mean Sea Level						3762.00	3918.14	PARKMAN		
						4224.00	4409.60	SUSSEX		
						4835.00	5059.56	SHANNON		
						6972.00	7226.76	NIO		
						7248.00	7502.76	CODELL		
						7706.00	7960.76	JSAND		
						CASING DETAILS				
			TVD	MD	Name	Size				
			500.00	500.00	8 5/8"	8.625				



# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Pierson 21-34 Pad**

**P\_Pierson 29-34**

**P\_Pierson 29-34**

**Plan: PLAN #1 8-13-10 RHS**

## **Standard Planning Report**

**13 August, 2010**

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_Pierson 29-34
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Site:</b>	WELD_Pierson 21-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	P_Pierson 29-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_Pierson 29-34		
<b>Design:</b>	PLAN #1 8-13-10 RHS		

<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_Pierson 21-34 Pad, SECTION 34 T4N R66W		
<b>Site Position:</b>		<b>Northing:</b>	1,343,326.02 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,205,578.92 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	40° 16' 24.546 N
		<b>Longitude:</b>	104° 45' 47.624 W
		<b>Grid Convergence:</b>	0.48 °

<b>Well</b>	P_Pierson 29-34, 717 FNL 2597 FEL		
<b>Well Position</b>	<b>+N/-S</b>	0.36 ft	<b>Northing:</b>
	<b>+E/-W</b>	15.90 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	P_Pierson 29-34				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	08/13/2010	8.97	66.98	53,154

<b>Design</b>	PLAN #1 8-13-10 RHS			
<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	293.41

<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	
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,646.93	19.94	293.41	1,626.93	68.23	-157.58	2.00	2.00	0.00	293.41	
5,229.83	19.94	293.41	4,995.07	553.66	-1,278.83	0.00	0.00	0.00	0.00	
6,226.76	0.00	0.00	5,972.00	621.89	-1,436.41	2.00	-2.00	0.00	180.00	
8,110.76	0.00	0.00	7,856.00	621.89	-1,436.41	0.00	0.00	0.00	0.00	PBHL Pierson 29-34(

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_Pierson 29-34
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Site:</b>	WELD_Pierson 21-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	P_Pierson 29-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_Pierson 29-34		
<b>Design:</b>	PLAN #1 8-13-10 RHS		

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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>8 5/8"</b>										
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Start Build 2.00</b>										
700.00	1.00	293.41	700.00	0.17	-0.40	0.44	2.00	2.00	0.00	
800.00	3.00	293.41	799.93	1.56	-3.60	3.93	2.00	2.00	0.00	
900.00	5.00	293.41	899.68	4.33	-10.00	10.90	2.00	2.00	0.00	
1,000.00	7.00	293.41	999.13	8.48	-19.60	21.35	2.00	2.00	0.00	
1,100.00	9.00	293.41	1,098.15	14.01	-32.37	35.27	2.00	2.00	0.00	
1,200.00	11.00	293.41	1,196.63	20.91	-48.30	52.63	2.00	2.00	0.00	
1,300.00	13.00	293.41	1,294.44	29.17	-67.38	73.42	2.00	2.00	0.00	
1,400.00	15.00	293.41	1,391.46	38.78	-89.58	97.62	2.00	2.00	0.00	
1,500.00	17.00	293.41	1,487.58	49.73	-114.87	125.18	2.00	2.00	0.00	
1,600.00	19.00	293.41	1,582.68	62.01	-143.23	156.08	2.00	2.00	0.00	
1,646.93	19.94	293.41	1,626.93	68.23	-157.58	171.72	2.00	2.00	0.00	
<b>Start 3582.90 hold at 1646.93 MD</b>										
1,700.00	19.94	293.41	1,676.82	75.42	-174.19	189.82	0.00	0.00	0.00	
1,800.00	19.94	293.41	1,770.82	88.96	-205.49	223.92	0.00	0.00	0.00	
1,900.00	19.94	293.41	1,864.83	102.51	-236.78	258.02	0.00	0.00	0.00	
2,000.00	19.94	293.41	1,958.84	116.06	-268.08	292.12	0.00	0.00	0.00	
2,100.00	19.94	293.41	2,052.84	129.61	-299.37	326.22	0.00	0.00	0.00	
2,200.00	19.94	293.41	2,146.85	143.16	-330.66	360.32	0.00	0.00	0.00	
2,300.00	19.94	293.41	2,240.85	156.71	-361.96	394.42	0.00	0.00	0.00	
2,400.00	19.94	293.41	2,334.86	170.26	-393.25	428.53	0.00	0.00	0.00	
2,500.00	19.94	293.41	2,428.87	183.80	-424.55	462.63	0.00	0.00	0.00	
2,600.00	19.94	293.41	2,522.87	197.35	-455.84	496.73	0.00	0.00	0.00	
2,700.00	19.94	293.41	2,616.88	210.90	-487.14	530.83	0.00	0.00	0.00	
2,800.00	19.94	293.41	2,710.88	224.45	-518.43	564.93	0.00	0.00	0.00	
2,900.00	19.94	293.41	2,804.89	238.00	-549.72	599.03	0.00	0.00	0.00	
3,000.00	19.94	293.41	2,898.90	251.55	-581.02	633.13	0.00	0.00	0.00	
3,100.00	19.94	293.41	2,992.90	265.10	-612.31	667.24	0.00	0.00	0.00	
3,200.00	19.94	293.41	3,086.91	278.65	-643.61	701.34	0.00	0.00	0.00	
3,300.00	19.94	293.41	3,180.91	292.19	-674.90	735.44	0.00	0.00	0.00	
3,400.00	19.94	293.41	3,274.92	305.74	-706.20	769.54	0.00	0.00	0.00	
3,500.00	19.94	293.41	3,368.92	319.29	-737.49	803.64	0.00	0.00	0.00	
3,600.00	19.94	293.41	3,462.93	332.84	-768.78	837.74	0.00	0.00	0.00	
3,700.00	19.94	293.41	3,556.94	346.39	-800.08	871.84	0.00	0.00	0.00	
3,800.00	19.94	293.41	3,650.94	359.94	-831.37	905.94	0.00	0.00	0.00	
3,900.00	19.94	293.41	3,744.95	373.49	-862.67	940.05	0.00	0.00	0.00	
3,918.14	19.94	293.41	3,762.00	375.94	-868.34	946.23	0.00	0.00	0.00	
<b>PARKMAN</b>										
4,000.00	19.94	293.41	3,838.95	387.03	-893.96	974.15	0.00	0.00	0.00	
4,100.00	19.94	293.41	3,932.96	400.58	-925.26	1,008.25	0.00	0.00	0.00	
4,200.00	19.94	293.41	4,026.97	414.13	-956.55	1,042.35	0.00	0.00	0.00	
4,300.00	19.94	293.41	4,120.97	427.68	-987.84	1,076.45	0.00	0.00	0.00	
4,400.00	19.94	293.41	4,214.98	441.23	-1,019.14	1,110.55	0.00	0.00	0.00	

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_Pierson 29-34
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Site:</b>	WELD_Pierson 21-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	P_Pierson 29-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_Pierson 29-34		
<b>Design:</b>	PLAN #1 8-13-10 RHS		

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)
4,409.60	19.94	293.41	4,224.00	442.53	-1,022.14	1,113.83	0.00	0.00	0.00
<b>SUSSEX</b>									
4,500.00	19.94	293.41	4,308.98	454.78	-1,050.43	1,144.65	0.00	0.00	0.00
4,600.00	19.94	293.41	4,402.99	468.33	-1,081.73	1,178.76	0.00	0.00	0.00
4,700.00	19.94	293.41	4,496.99	481.88	-1,113.02	1,212.86	0.00	0.00	0.00
4,800.00	19.94	293.41	4,591.00	495.42	-1,144.32	1,246.96	0.00	0.00	0.00
4,900.00	19.94	293.41	4,685.01	508.97	-1,175.61	1,281.06	0.00	0.00	0.00
5,000.00	19.94	293.41	4,779.01	522.52	-1,206.90	1,315.16	0.00	0.00	0.00
5,059.56	19.94	293.41	4,835.00	530.59	-1,225.54	1,335.47	0.00	0.00	0.00
<b>SHANNON</b>									
5,100.00	19.94	293.41	4,873.02	536.07	-1,238.20	1,349.26	0.00	0.00	0.00
5,200.00	19.94	293.41	4,967.02	549.62	-1,269.49	1,383.36	0.00	0.00	0.00
5,229.83	19.94	293.41	4,995.07	553.66	-1,278.83	1,393.54	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,300.00	18.54	293.41	5,061.32	562.85	-1,300.04	1,416.65	2.00	-2.00	0.00
5,400.00	16.54	293.41	5,156.66	574.82	-1,327.69	1,446.78	2.00	-2.00	0.00
5,500.00	14.54	293.41	5,253.01	585.46	-1,352.27	1,473.56	2.00	-2.00	0.00
5,600.00	12.54	293.41	5,350.22	594.75	-1,373.75	1,496.97	2.00	-2.00	0.00
5,700.00	10.54	293.41	5,448.20	602.70	-1,392.10	1,516.96	2.00	-2.00	0.00
5,800.00	8.54	293.41	5,546.81	609.28	-1,407.30	1,533.53	2.00	-2.00	0.00
5,900.00	6.54	293.41	5,645.94	614.49	-1,419.33	1,546.64	2.00	-2.00	0.00
6,000.00	4.54	293.41	5,745.47	618.32	-1,428.18	1,556.29	2.00	-2.00	0.00
6,100.00	2.54	293.41	5,845.28	620.77	-1,433.84	1,562.45	2.00	-2.00	0.00
6,200.00	0.54	293.41	5,945.24	621.84	-1,436.30	1,565.13	2.00	-2.00	0.00
6,226.76	0.00	0.00	5,972.00	621.89	-1,436.41	1,565.26	2.00	-2.00	0.00
<b>Start 1884.00 hold at 6226.76 MD</b>									
6,300.00	0.00	0.00	6,045.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,400.00	0.00	0.00	6,145.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,500.00	0.00	0.00	6,245.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,600.00	0.00	0.00	6,345.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,700.00	0.00	0.00	6,445.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,800.00	0.00	0.00	6,545.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
6,900.00	0.00	0.00	6,645.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,000.00	0.00	0.00	6,745.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,100.00	0.00	0.00	6,845.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,200.00	0.00	0.00	6,945.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,226.76	0.00	0.00	6,972.00	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
<b>NIO</b>									
7,300.00	0.00	0.00	7,045.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,400.00	0.00	0.00	7,145.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,500.00	0.00	0.00	7,245.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,502.76	0.00	0.00	7,248.00	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
<b>CODELL</b>									
7,600.00	0.00	0.00	7,345.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,700.00	0.00	0.00	7,445.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,800.00	0.00	0.00	7,545.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,900.00	0.00	0.00	7,645.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
7,960.76	0.00	0.00	7,706.00	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
<b>JSAND</b>									
8,000.00	0.00	0.00	7,745.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
8,100.00	0.00	0.00	7,845.24	621.89	-1,436.41	1,565.26	0.00	0.00	0.00

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_Pierson 29-34
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
<b>Site:</b>	WELD_Pierson 21-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	P_Pierson 29-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_Pierson 29-34		
<b>Design:</b>	PLAN #1 8-13-10 RHS		

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)
8,110.76	0.00	0.00	7,856.00	621.89	-1,436.41	1,565.26	0.00	0.00	0.00
PBHL Pierson 29-34(75 FNL 1300 FWL)									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Pierson 29-34(75 - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,856.00	621.89	-1,436.41	1,343,936.44	3,204,153.30	40° 16' 30.695 N	104° 46' 5.952 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
500.00	500.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,918.14	3,762.00	PARKMAN				
4,409.60	4,224.00	SUSSEX				
5,059.56	4,835.00	SHANNON				
7,226.76	6,972.00	NIO				
7,502.76	7,248.00	CODELL				
7,960.76	7,706.00	JSAND				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
650.00	650.00	0.00	0.00	Start Build 2.00
1,646.93	1,626.93	68.23	-157.58	Start 3582.90 hold at 1646.93 MD
5,229.83	4,995.07	553.66	-1,278.83	Start Drop -2.00
6,226.76	5,972.00	621.89	-1,436.41	Start 1884.00 hold at 6226.76 MD
8,110.76	7,856.00	621.89	-1,436.41	TD at 8110.76