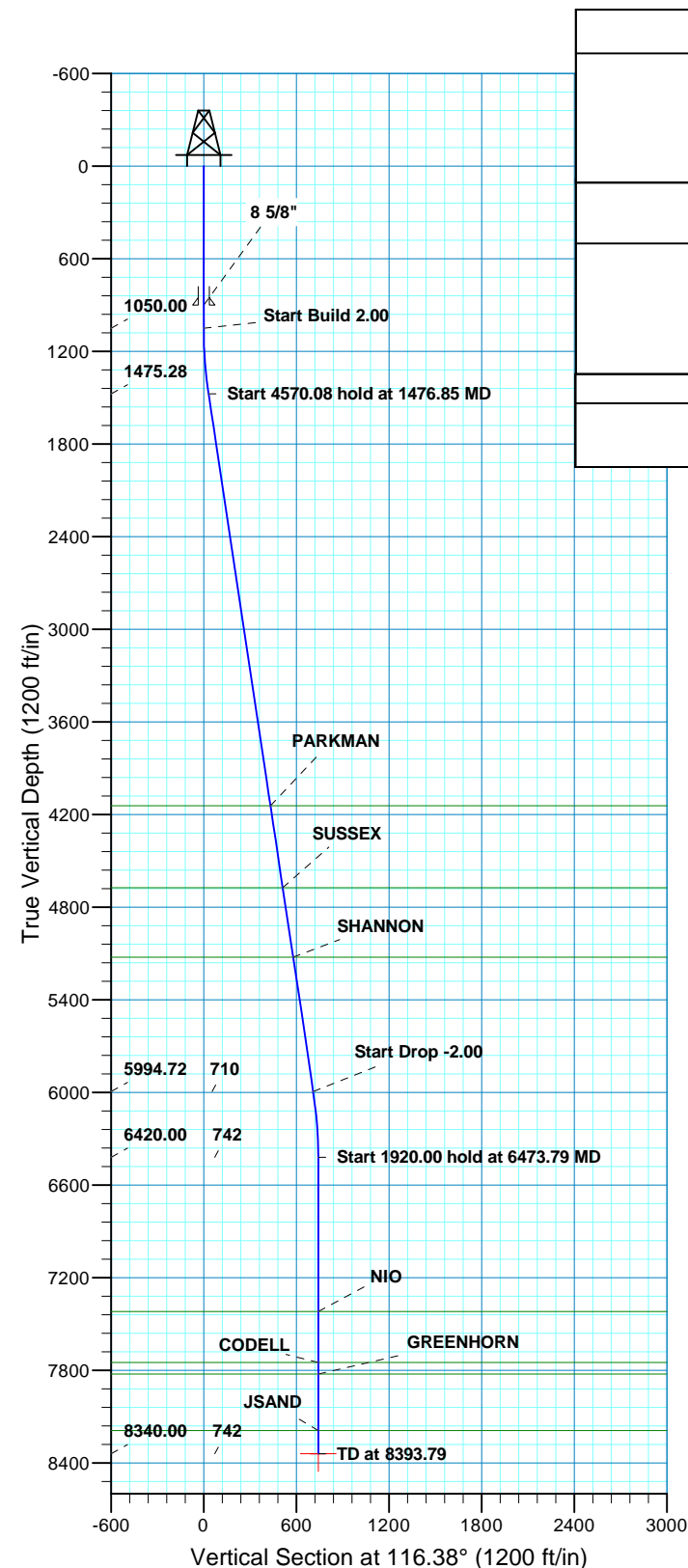


WELL DETAILS: P_Pinnacle 37-2					
GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1270310.28	3148822.48	40° 4' 27.001 N	104° 58' 5.524 W

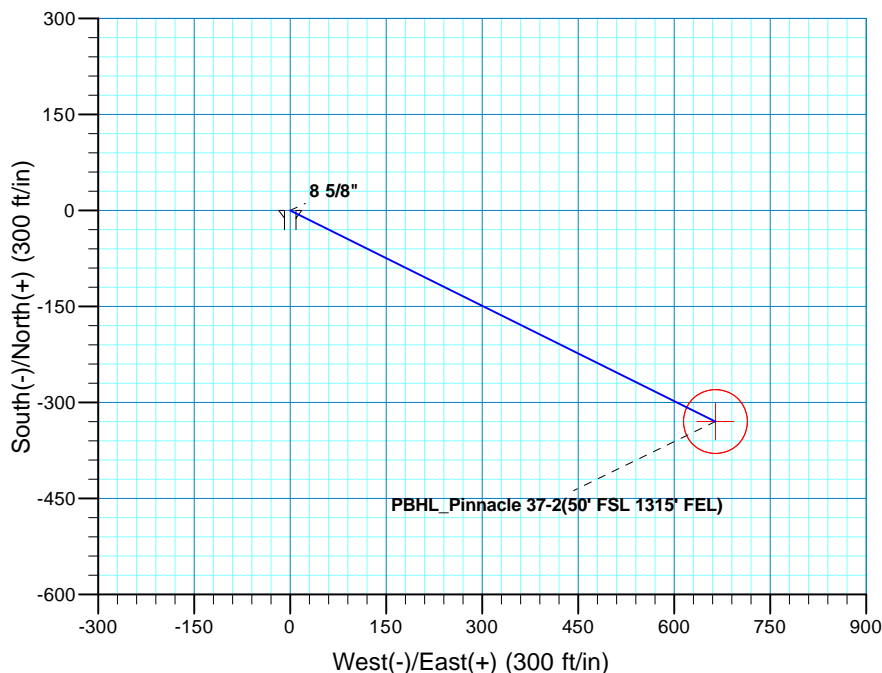
DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL	8340.00	-329.65	664.65	1269984.63	3149489.10	40° 4' 23.743 N	104° 57' 56.974 W	Circle (Radius: 50.00)	
- plan hits target center									



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			
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00			
1476.85	8.54	116.38	1475.28	-14.10	28.44	2.00	116.38	31.74			
6046.94	8.54	116.38	5994.72	-315.55	636.21	0.00	0.00	710.17			
6473.79	0.00	0.00	6420.00	-329.65	664.65	2.00	180.00	741.91			
8393.79	0.00	0.00	8340.00	-329.65	664.65	0.00	0.00	741.91	PBHL_Pinnacle 37-2(50' FSL 1315' FEL)		

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83						FORMATION TOP DETAILS					
Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: Colorado Northern Zone Location: SECTION 2 T1N R68W System Datum: Mean Sea Level						TVDPath	MDPath	Formation			
						4144.00	4175.48	PARKMAN			
						4674.00	4711.42	SUSSEX			
						5124.00	5166.46	SHANNON			
						7420.00	7473.79	NIO			
						7750.00	7803.79	CODELL			
						7825.00	7878.79	GREENHORN			
						8190.00	8243.79	JSAND			

CASING DETAILS				
TVD	MD	Name	Size	
900.00	900.00	8 5/8"	8.625	



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Pinnacle 15-2 Pad

P_Pinnacle 37-2

P_Pinnacle 37-2

Plan: PLAN #1 8-17-10 RHS

Standard Planning Report

10 September, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 37-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Site:	WELD_Pinnacle 15-2 Pad	North Reference:	True
Well:	P_Pinnacle 37-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 37-2		
Design:	PLAN #1 8-17-10 RHS		

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_Pinnacle 15-2 Pad, SECTION 2 T1N R68W		
Site Position:		Northing:	1,270,310.23 usft
From:	Lat/Long	Easting:	3,148,812.69 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Grid Convergence:	0.34 °

Well	P_Pinnacle 37-2, 386' FSL 1978' FEL		
Well Position	+N/-S	-0.01 ft	Northing: 1,270,310.28 usft
	+E/-W	9.79 ft	Easting: 3,148,822.48 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	40° 4' 27.001 N
		Longitude:	104° 58' 5.650 W
		Ground Level:	5,005.00 ft

Wellbore	P_Pinnacle 37-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/17/2010	9.05	66.78	53,023

Design	PLAN #1 8-17-10 RHS			
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	116.38

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	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,476.85	8.54	116.38	1,475.28	-14.10	28.44	2.00	2.00	0.00	116.38	
6,046.94	8.54	116.38	5,994.72	-315.55	636.21	0.00	0.00	0.00	0.00	
6,473.79	0.00	0.00	6,420.00	-329.65	664.65	2.00	-2.00	0.00	180.00	
8,393.79	0.00	0.00	8,340.00	-329.65	664.65	0.00	0.00	0.00	0.00	PBHL_Pinnacle 37-2(

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 37-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Site:	WELD_Pinnacle 15-2 Pad	North Reference:	True
Well:	P_Pinnacle 37-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 37-2		
Design:	PLAN #1 8-17-10 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	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
8 5/8"										
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
1,100.00	1.00	116.38	1,100.00	-0.19	0.39	0.44	2.00	2.00	0.00	
1,200.00	3.00	116.38	1,199.93	-1.74	3.52	3.93	2.00	2.00	0.00	
1,300.00	5.00	116.38	1,299.68	-4.84	9.77	10.90	2.00	2.00	0.00	
1,400.00	7.00	116.38	1,399.13	-9.49	19.13	21.35	2.00	2.00	0.00	
1,476.85	8.54	116.38	1,475.28	-14.10	28.44	31.74	2.00	2.00	0.00	
Start 4570.08 hold at 1476.85 MD										
1,500.00	8.54	116.38	1,498.17	-15.63	31.51	35.18	0.00	0.00	0.00	
1,600.00	8.54	116.38	1,597.06	-22.23	44.81	50.02	0.00	0.00	0.00	
1,700.00	8.54	116.38	1,695.95	-28.82	58.11	64.87	0.00	0.00	0.00	
1,800.00	8.54	116.38	1,794.84	-35.42	71.41	79.71	0.00	0.00	0.00	
1,900.00	8.54	116.38	1,893.73	-42.01	84.71	94.56	0.00	0.00	0.00	
2,000.00	8.54	116.38	1,992.63	-48.61	98.01	109.40	0.00	0.00	0.00	
2,100.00	8.54	116.38	2,091.52	-55.21	111.31	124.25	0.00	0.00	0.00	
2,200.00	8.54	116.38	2,190.41	-61.80	124.61	139.09	0.00	0.00	0.00	
2,300.00	8.54	116.38	2,289.30	-68.40	137.91	153.94	0.00	0.00	0.00	
2,400.00	8.54	116.38	2,388.19	-74.99	151.21	168.78	0.00	0.00	0.00	
2,500.00	8.54	116.38	2,487.09	-81.59	164.51	183.63	0.00	0.00	0.00	
2,600.00	8.54	116.38	2,585.98	-88.19	177.80	198.47	0.00	0.00	0.00	
2,700.00	8.54	116.38	2,684.87	-94.78	191.10	213.32	0.00	0.00	0.00	
2,800.00	8.54	116.38	2,783.76	-101.38	204.40	228.16	0.00	0.00	0.00	
2,900.00	8.54	116.38	2,882.65	-107.97	217.70	243.01	0.00	0.00	0.00	
3,000.00	8.54	116.38	2,981.55	-114.57	231.00	257.85	0.00	0.00	0.00	
3,100.00	8.54	116.38	3,080.44	-121.17	244.30	272.70	0.00	0.00	0.00	
3,200.00	8.54	116.38	3,179.33	-127.76	257.60	287.54	0.00	0.00	0.00	
3,300.00	8.54	116.38	3,278.22	-134.36	270.90	302.39	0.00	0.00	0.00	
3,400.00	8.54	116.38	3,377.11	-140.95	284.20	317.23	0.00	0.00	0.00	
3,500.00	8.54	116.38	3,476.01	-147.55	297.50	332.08	0.00	0.00	0.00	
3,600.00	8.54	116.38	3,574.90	-154.15	310.80	346.92	0.00	0.00	0.00	
3,700.00	8.54	116.38	3,673.79	-160.74	324.09	361.77	0.00	0.00	0.00	
3,800.00	8.54	116.38	3,772.68	-167.34	337.39	376.61	0.00	0.00	0.00	
3,900.00	8.54	116.38	3,871.57	-173.93	350.69	391.46	0.00	0.00	0.00	
4,000.00	8.54	116.38	3,970.47	-180.53	363.99	406.30	0.00	0.00	0.00	
4,100.00	8.54	116.38	4,069.36	-187.13	377.29	421.15	0.00	0.00	0.00	
4,175.48	8.54	116.38	4,144.00	-192.10	387.33	432.35	0.00	0.00	0.00	
PARKMAN										
4,200.00	8.54	116.38	4,168.25	-193.72	390.59	435.99	0.00	0.00	0.00	
4,300.00	8.54	116.38	4,267.14	-200.32	403.89	450.84	0.00	0.00	0.00	
4,400.00	8.54	116.38	4,366.03	-206.91	417.19	465.68	0.00	0.00	0.00	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 37-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Site:	WELD_Pinnacle 15-2 Pad	North Reference:	True
Well:	P_Pinnacle 37-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 37-2		
Design:	PLAN #1 8-17-10 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)
4,500.00	8.54	116.38	4,464.93	-213.51	430.49	480.53	0.00	0.00	0.00
4,600.00	8.54	116.38	4,563.82	-220.11	443.79	495.37	0.00	0.00	0.00
4,700.00	8.54	116.38	4,662.71	-226.70	457.08	510.22	0.00	0.00	0.00
4,711.42	8.54	116.38	4,674.00	-227.46	458.60	511.91	0.00	0.00	0.00
SUSSEX									
4,800.00	8.54	116.38	4,761.60	-233.30	470.38	525.06	0.00	0.00	0.00
4,900.00	8.54	116.38	4,860.49	-239.89	483.68	539.91	0.00	0.00	0.00
5,000.00	8.54	116.38	4,959.39	-246.49	496.98	554.75	0.00	0.00	0.00
5,100.00	8.54	116.38	5,058.28	-253.09	510.28	569.60	0.00	0.00	0.00
5,166.46	8.54	116.38	5,124.00	-257.47	519.12	579.46	0.00	0.00	0.00
SHANNON									
5,200.00	8.54	116.38	5,157.17	-259.68	523.58	584.44	0.00	0.00	0.00
5,300.00	8.54	116.38	5,256.06	-266.28	536.88	599.29	0.00	0.00	0.00
5,400.00	8.54	116.38	5,354.95	-272.87	550.18	614.13	0.00	0.00	0.00
5,500.00	8.54	116.38	5,453.85	-279.47	563.48	628.98	0.00	0.00	0.00
5,600.00	8.54	116.38	5,552.74	-286.07	576.78	643.82	0.00	0.00	0.00
5,700.00	8.54	116.38	5,651.63	-292.66	590.08	658.67	0.00	0.00	0.00
5,800.00	8.54	116.38	5,750.52	-299.26	603.37	673.51	0.00	0.00	0.00
5,900.00	8.54	116.38	5,849.41	-305.85	616.67	688.36	0.00	0.00	0.00
6,000.00	8.54	116.38	5,948.31	-312.45	629.97	703.20	0.00	0.00	0.00
6,046.94	8.54	116.38	5,994.72	-315.55	636.21	710.17	0.00	0.00	0.00
Start Drop -2.00									
6,100.00	7.48	116.38	6,047.27	-318.83	642.84	717.56	2.00	-2.00	0.00
6,200.00	5.48	116.38	6,146.62	-323.84	652.94	728.84	2.00	-2.00	0.00
6,300.00	3.48	116.38	6,246.31	-327.31	659.93	736.64	2.00	-2.00	0.00
6,400.00	1.48	116.38	6,346.22	-329.23	663.80	740.96	2.00	-2.00	0.00
6,473.79	0.00	0.00	6,420.00	-329.65	664.65	741.91	2.00	-2.00	-157.71
Start 1920.00 hold at 6473.79 MD									
6,500.00	0.00	0.00	6,446.21	-329.65	664.65	741.91	0.00	0.00	0.00
6,600.00	0.00	0.00	6,546.21	-329.65	664.65	741.91	0.00	0.00	0.00
6,700.00	0.00	0.00	6,646.21	-329.65	664.65	741.91	0.00	0.00	0.00
6,800.00	0.00	0.00	6,746.21	-329.65	664.65	741.91	0.00	0.00	0.00
6,900.00	0.00	0.00	6,846.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,000.00	0.00	0.00	6,946.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,100.00	0.00	0.00	7,046.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,200.00	0.00	0.00	7,146.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,300.00	0.00	0.00	7,246.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,400.00	0.00	0.00	7,346.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,473.79	0.00	0.00	7,420.00	-329.65	664.65	741.91	0.00	0.00	0.00
NIO									
7,500.00	0.00	0.00	7,446.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,600.00	0.00	0.00	7,546.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,700.00	0.00	0.00	7,646.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,800.00	0.00	0.00	7,746.21	-329.65	664.65	741.91	0.00	0.00	0.00
7,803.79	0.00	0.00	7,750.00	-329.65	664.65	741.91	0.00	0.00	0.00
CODELL									
7,878.79	0.00	0.00	7,825.00	-329.65	664.65	741.91	0.00	0.00	0.00
GREENHORN									
7,900.00	0.00	0.00	7,846.21	-329.65	664.65	741.91	0.00	0.00	0.00
8,000.00	0.00	0.00	7,946.21	-329.65	664.65	741.91	0.00	0.00	0.00
8,100.00	0.00	0.00	8,046.21	-329.65	664.65	741.91	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 37-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5005' & RKB 15' @ 5020.00ft (ASSUMED)
Site:	WELD_Pinnacle 15-2 Pad	North Reference:	True
Well:	P_Pinnacle 37-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 37-2		
Design:	PLAN #1 8-17-10 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)
8,200.00	0.00	0.00	8,146.21	-329.65	664.65	741.91	0.00	0.00	0.00
8,243.79	0.00	0.00	8,190.00	-329.65	664.65	741.91	0.00	0.00	0.00
JSAND									
8,300.00	0.00	0.00	8,246.21	-329.65	664.65	741.91	0.00	0.00	0.00
8,393.79	0.00	0.00	8,340.00	-329.65	664.65	741.91	0.00	0.00	0.00
PBHL_Pinnacle 37-2(50' FSL 1315' FEL)									

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_Pinnacle 37-2(50 - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,340.00	-329.65	664.65	1,269,984.62	3,149,489.10	40° 4' 23.743 N	104° 57' 56.974 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
900.00	900.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,175.48	4,144.00	PARKMAN				
4,711.42	4,674.00	SUSSEX				
5,166.46	5,124.00	SHANNON				
7,473.79	7,420.00	NIO				
7,803.79	7,750.00	CODELL				
7,878.79	7,825.00	GREENHORN				
8,243.79	8,190.00	JSAND				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
1,050.00	1,050.00	0.00	0.00	Start Build 2.00
1,476.85	1,475.28	-14.10	28.44	Start 4570.08 hold at 1476.85 MD
6,046.94	5,994.72	-315.55	636.21	Start Drop -2.00
6,473.79	6,420.00	-329.65	664.65	Start 1920.00 hold at 6473.79 MD
8,393.79	8,340.00	-329.65	664.65	TD at 8393.79