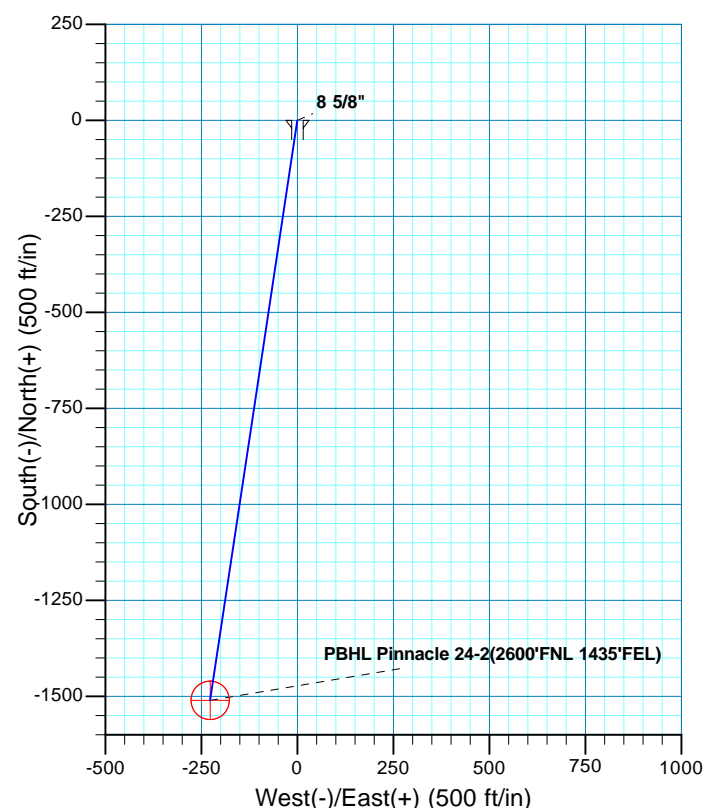
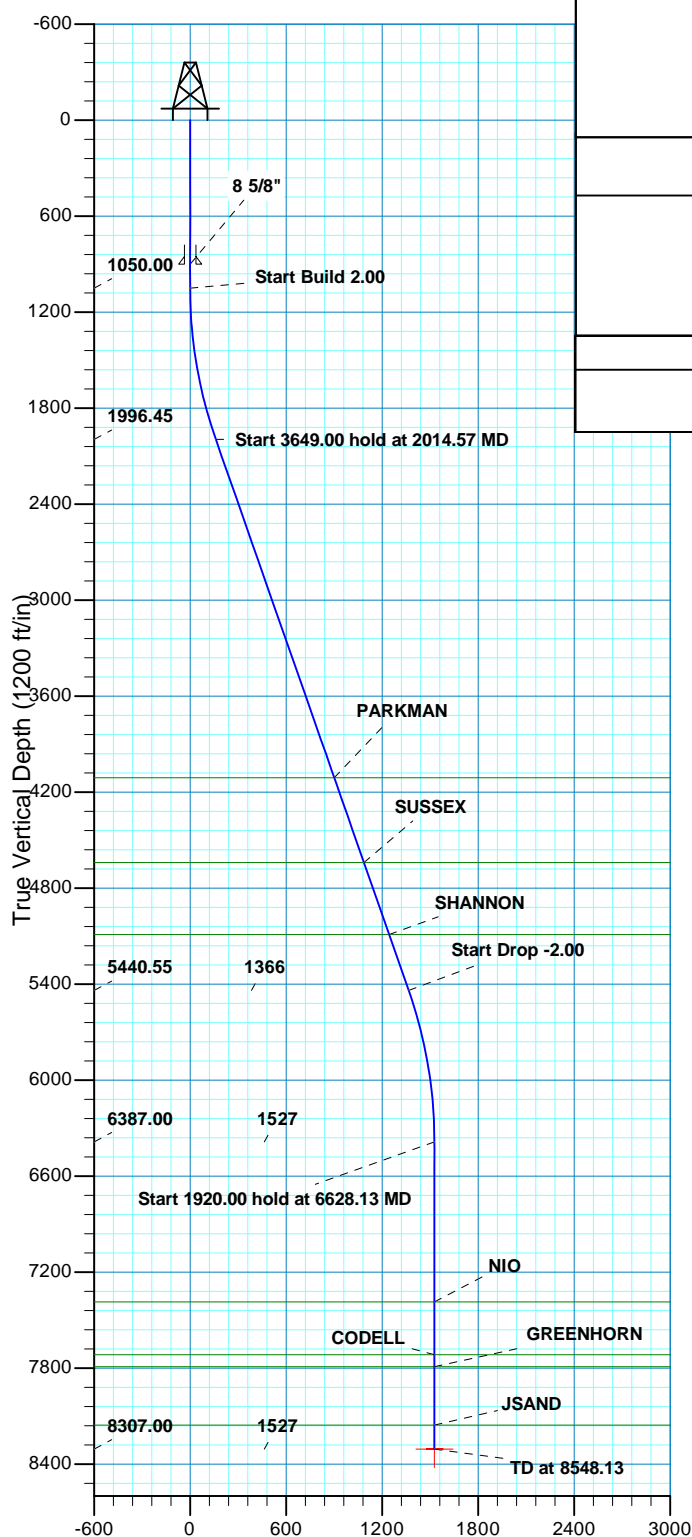


WELL DETAILS: P_Pinnacle 24-2					
GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1274157.91	3149559.65	40° 5' 4.981 N	104° 57' 55.742 W

DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8307.00	-1510.28	-226.94	1272646.29	3149341.82	40° 4' 50.056 N	104° 57' 58.662 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		
2014.57	19.29	188.55	1996.45	-159.07	-23.90	2.00	188.55	160.86		
5663.56	19.29	188.55	5440.55	-1351.21	-203.03	0.00	0.00	1366.38		
6628.13	0.00	0.00	6387.00	-1510.28	-226.94	2.00	180.00	1527.24		
8548.13	0.00	0.00	8307.00	-1510.28	-226.94	0.00	0.00	1527.24	PBHL Pinnacle 24-2(2600'FNL 1435'FEL)	
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 2 T1N R68W System Datum: Mean Sea Level						4111.00	4254.92	PARKMAN		
						4641.00	4816.44	SUSSEX		
						5091.00	5293.22	SHANNON		
						7387.00	7628.13	NIO		
						7717.00	7958.13	CODELL		
						7792.00	8033.13	GREENHORN		
						8157.00	8398.13	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 17-2 Pad

P_Pinnacle 24-2

P_Pinnacle 24-2

Plan: Plan #2 9-8-10 RHS

Standard Planning Report

08 September, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 24-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Site:	WELD_Pinnacle 17-2 Pad	North Reference:	True
Well:	P_Pinnacle 24-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 24-2		
Design:	Plan #2 9-8-10 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 17-2 Pad, SECTION 2 T1N R68W			
Site Position:		Northing:	1,274,189.01 usft	Latitude:	40° 5' 5.291 N
From:	Lat/Long	Easting:	3,149,520.85 usft	Longitude:	104° 57' 56.239 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.35 °

Well	P_Pinnacle 24-2, 1091' FNL 1202' FEL					
Well Position	+N/-S	-31.34 ft	Northing:	1,274,157.91 usft	Latitude:	40° 5' 4.981 N
	+E/-W	38.61 ft	Easting:	3,149,559.65 usft	Longitude:	104° 57' 55.742 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,982.00 ft

Wellbore	P_Pinnacle 24-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/17/2010	9.05	66.79	53,029

Design	Plan #2 9-8-10 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	188.55

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	
2,014.57	19.29	188.55	1,996.45	-159.07	-23.90	2.00	2.00	0.00	188.55	
5,663.56	19.29	188.55	5,440.55	-1,351.21	-203.03	0.00	0.00	0.00	0.00	
6,628.13	0.00	0.00	6,387.00	-1,510.28	-226.94	2.00	-2.00	0.00	180.00	
8,548.13	0.00	0.00	8,307.00	-1,510.28	-226.94	0.00	0.00	0.00	0.00	PBHL Pinnacle 24-2(2

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 24-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Site:	WELD_Pinnacle 17-2 Pad	North Reference:	True
Well:	P_Pinnacle 24-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 24-2		
Design:	Plan #2 9-8-10 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	188.55	1,100.00	-0.43	-0.06	0.44	2.00	2.00	0.00
1,200.00	3.00	188.55	1,199.93	-3.88	-0.58	3.93	2.00	2.00	0.00
1,300.00	5.00	188.55	1,299.68	-10.78	-1.62	10.90	2.00	2.00	0.00
1,400.00	7.00	188.55	1,399.13	-21.12	-3.17	21.35	2.00	2.00	0.00
1,500.00	9.00	188.55	1,498.15	-34.88	-5.24	35.27	2.00	2.00	0.00
1,600.00	11.00	188.55	1,596.63	-52.05	-7.82	52.63	2.00	2.00	0.00
1,700.00	13.00	188.55	1,694.44	-72.61	-10.91	73.42	2.00	2.00	0.00
1,800.00	15.00	188.55	1,791.46	-96.53	-14.50	97.62	2.00	2.00	0.00
1,900.00	17.00	188.55	1,887.58	-123.79	-18.60	125.18	2.00	2.00	0.00
2,000.00	19.00	188.55	1,982.68	-154.35	-23.19	156.08	2.00	2.00	0.00
2,014.57	19.29	188.55	1,996.45	-159.07	-23.90	160.86	2.00	2.00	0.00
Start 3649.00 hold at 2014.57 MD									
2,100.00	19.29	188.55	2,077.08	-186.98	-28.10	189.08	0.00	0.00	0.00
2,200.00	19.29	188.55	2,171.47	-219.65	-33.01	222.12	0.00	0.00	0.00
2,300.00	19.29	188.55	2,265.85	-252.32	-37.91	255.15	0.00	0.00	0.00
2,400.00	19.29	188.55	2,360.24	-284.99	-42.82	288.19	0.00	0.00	0.00
2,500.00	19.29	188.55	2,454.62	-317.66	-47.73	321.23	0.00	0.00	0.00
2,600.00	19.29	188.55	2,549.01	-350.33	-52.64	354.27	0.00	0.00	0.00
2,700.00	19.29	188.55	2,643.39	-383.00	-57.55	387.30	0.00	0.00	0.00
2,800.00	19.29	188.55	2,737.78	-415.67	-62.46	420.34	0.00	0.00	0.00
2,900.00	19.29	188.55	2,832.16	-448.34	-67.37	453.38	0.00	0.00	0.00
3,000.00	19.29	188.55	2,926.55	-481.01	-72.28	486.41	0.00	0.00	0.00
3,100.00	19.29	188.55	3,020.93	-513.69	-77.19	519.45	0.00	0.00	0.00
3,200.00	19.29	188.55	3,115.32	-546.36	-82.10	552.49	0.00	0.00	0.00
3,300.00	19.29	188.55	3,209.70	-579.03	-87.01	585.53	0.00	0.00	0.00
3,400.00	19.29	188.55	3,304.09	-611.70	-91.91	618.56	0.00	0.00	0.00
3,500.00	19.29	188.55	3,398.47	-644.37	-96.82	651.60	0.00	0.00	0.00
3,600.00	19.29	188.55	3,492.86	-677.04	-101.73	684.64	0.00	0.00	0.00
3,700.00	19.29	188.55	3,587.24	-709.71	-106.64	717.68	0.00	0.00	0.00
3,800.00	19.29	188.55	3,681.63	-742.38	-111.55	750.71	0.00	0.00	0.00
3,900.00	19.29	188.55	3,776.01	-775.05	-116.46	783.75	0.00	0.00	0.00
4,000.00	19.29	188.55	3,870.40	-807.72	-121.37	816.79	0.00	0.00	0.00
4,100.00	19.29	188.55	3,964.78	-840.39	-126.28	849.82	0.00	0.00	0.00
4,200.00	19.29	188.55	4,059.17	-873.06	-131.19	882.86	0.00	0.00	0.00
4,254.92	19.29	188.55	4,111.00	-891.00	-133.88	901.00	0.00	0.00	0.00
PARKMAN									
4,300.00	19.29	188.55	4,153.55	-905.73	-136.10	915.90	0.00	0.00	0.00
4,400.00	19.29	188.55	4,247.94	-938.40	-141.01	948.94	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 24-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Site:	WELD_Pinnacle 17-2 Pad	North Reference:	True
Well:	P_Pinnacle 24-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 24-2		
Design:	Plan #2 9-8-10 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	19.29	188.55	4,342.32	-971.07	-145.91	981.97	0.00	0.00	0.00
4,600.00	19.29	188.55	4,436.71	-1,003.74	-150.82	1,015.01	0.00	0.00	0.00
4,700.00	19.29	188.55	4,531.09	-1,036.41	-155.73	1,048.05	0.00	0.00	0.00
4,800.00	19.29	188.55	4,625.48	-1,069.08	-160.64	1,081.08	0.00	0.00	0.00
4,816.44	19.29	188.55	4,641.00	-1,074.46	-161.45	1,086.52	0.00	0.00	0.00
SUSSEX									
4,900.00	19.29	188.55	4,719.86	-1,101.75	-165.55	1,114.12	0.00	0.00	0.00
5,000.00	19.29	188.55	4,814.25	-1,134.42	-170.46	1,147.16	0.00	0.00	0.00
5,100.00	19.29	188.55	4,908.63	-1,167.09	-175.37	1,180.20	0.00	0.00	0.00
5,200.00	19.29	188.55	5,003.02	-1,199.76	-180.28	1,213.23	0.00	0.00	0.00
5,293.22	19.29	188.55	5,091.00	-1,230.22	-184.85	1,244.03	0.00	0.00	0.00
SHANNON									
5,300.00	19.29	188.55	5,097.40	-1,232.43	-185.19	1,246.27	0.00	0.00	0.00
5,400.00	19.29	188.55	5,191.79	-1,265.11	-190.10	1,279.31	0.00	0.00	0.00
5,500.00	19.29	188.55	5,286.17	-1,297.78	-195.01	1,312.34	0.00	0.00	0.00
5,600.00	19.29	188.55	5,380.56	-1,330.45	-199.91	1,345.38	0.00	0.00	0.00
5,663.56	19.29	188.55	5,440.55	-1,351.21	-203.03	1,366.38	0.00	0.00	0.00
Start Drop -2.00									
5,700.00	18.56	188.55	5,475.02	-1,362.90	-204.79	1,378.20	2.00	-2.00	0.00
5,800.00	16.56	188.55	5,570.35	-1,392.74	-209.27	1,408.37	2.00	-2.00	0.00
5,900.00	14.56	188.55	5,666.68	-1,419.27	-213.26	1,435.20	2.00	-2.00	0.00
6,000.00	12.56	188.55	5,763.89	-1,442.46	-216.75	1,458.65	2.00	-2.00	0.00
6,100.00	10.56	188.55	5,861.85	-1,462.28	-219.72	1,478.69	2.00	-2.00	0.00
6,200.00	8.56	188.55	5,960.46	-1,478.71	-222.19	1,495.31	2.00	-2.00	0.00
6,300.00	6.56	188.55	6,059.59	-1,491.72	-224.15	1,508.47	2.00	-2.00	0.00
6,400.00	4.56	188.55	6,159.11	-1,501.30	-225.59	1,518.16	2.00	-2.00	0.00
6,500.00	2.56	188.55	6,258.91	-1,507.45	-226.51	1,524.37	2.00	-2.00	0.00
6,600.00	0.56	188.55	6,358.87	-1,510.15	-226.92	1,527.10	2.00	-2.00	0.00
6,628.13	0.00	0.00	6,387.00	-1,510.28	-226.94	1,527.24	2.00	-2.00	0.00
Start 1920.00 hold at 6628.13 MD									
6,700.00	0.00	0.00	6,458.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
6,800.00	0.00	0.00	6,558.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
6,900.00	0.00	0.00	6,658.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,000.00	0.00	0.00	6,758.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,100.00	0.00	0.00	6,858.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,200.00	0.00	0.00	6,958.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,300.00	0.00	0.00	7,058.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,400.00	0.00	0.00	7,158.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,500.00	0.00	0.00	7,258.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,600.00	0.00	0.00	7,358.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,628.13	0.00	0.00	7,387.00	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
NIO									
7,700.00	0.00	0.00	7,458.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,800.00	0.00	0.00	7,558.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,900.00	0.00	0.00	7,658.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
7,958.13	0.00	0.00	7,717.00	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
CODELL									
8,000.00	0.00	0.00	7,758.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
8,033.13	0.00	0.00	7,792.00	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00
GREENHORN									
8,100.00	0.00	0.00	7,858.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pinnacle 24-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4982' & RKB 15' @ 4997.00ft (ASSUMED)
Site:	WELD_Pinnacle 17-2 Pad	North Reference:	True
Well:	P_Pinnacle 24-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pinnacle 24-2		
Design:	Plan #2 9-8-10 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	7,958.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,058.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
8,398.13	0.00	0.00	8,157.00	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
JSAND										
8,400.00	0.00	0.00	8,158.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,258.87	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
8,548.13	0.00	0.00	8,307.00	-1,510.28	-226.94	1,527.24	0.00	0.00	0.00	
PBHL Pinnacle 24-2(2600'FNL 1435'FEL)										

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 Pinnacle 24-2(2600'FNL 1435'FEL)	0.00	0.00	8,307.00	-1,510.28	-226.94	1,272,646.29	3,149,341.82	40° 4' 50.056 N	104° 57' 58.662 W	
- plan hits target center										
- Circle (radius 50.00)										

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 (°)	
4,254.92	4,111.00	PARKMAN				
4,816.44	4,641.00	SUSSEX				
5,293.22	5,091.00	SHANNON				
7,628.13	7,387.00	NIO				
7,958.13	7,717.00	CODELL				
8,033.13	7,792.00	GREENHORN				
8,398.13	8,157.00	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	
2,014.57	1,996.45	-159.07	-23.90	Start 3649.00 hold at 2014.57 MD	
5,663.56	5,440.55	-1,351.21	-203.03	Start Drop -2.00	
6,628.13	6,387.00	-1,510.28	-226.94	Start 1920.00 hold at 6628.13 MD	
8,548.13	8,307.00	-1,510.28	-226.94	TD at 8548.13	