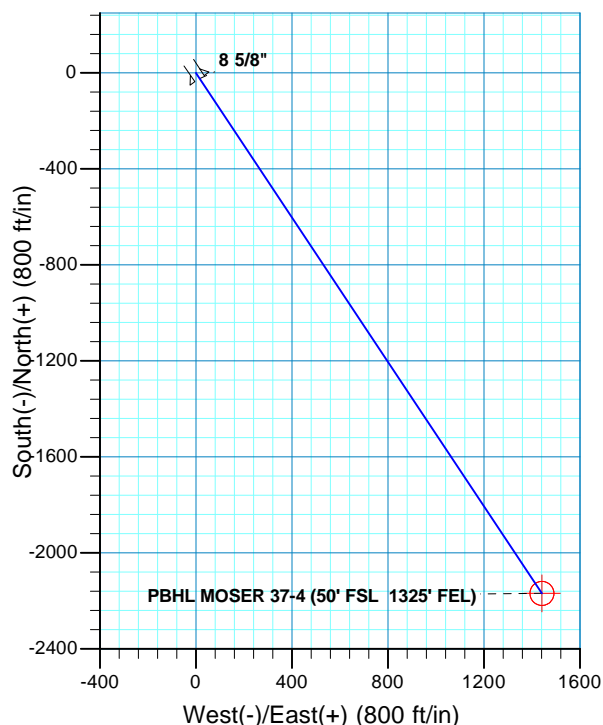
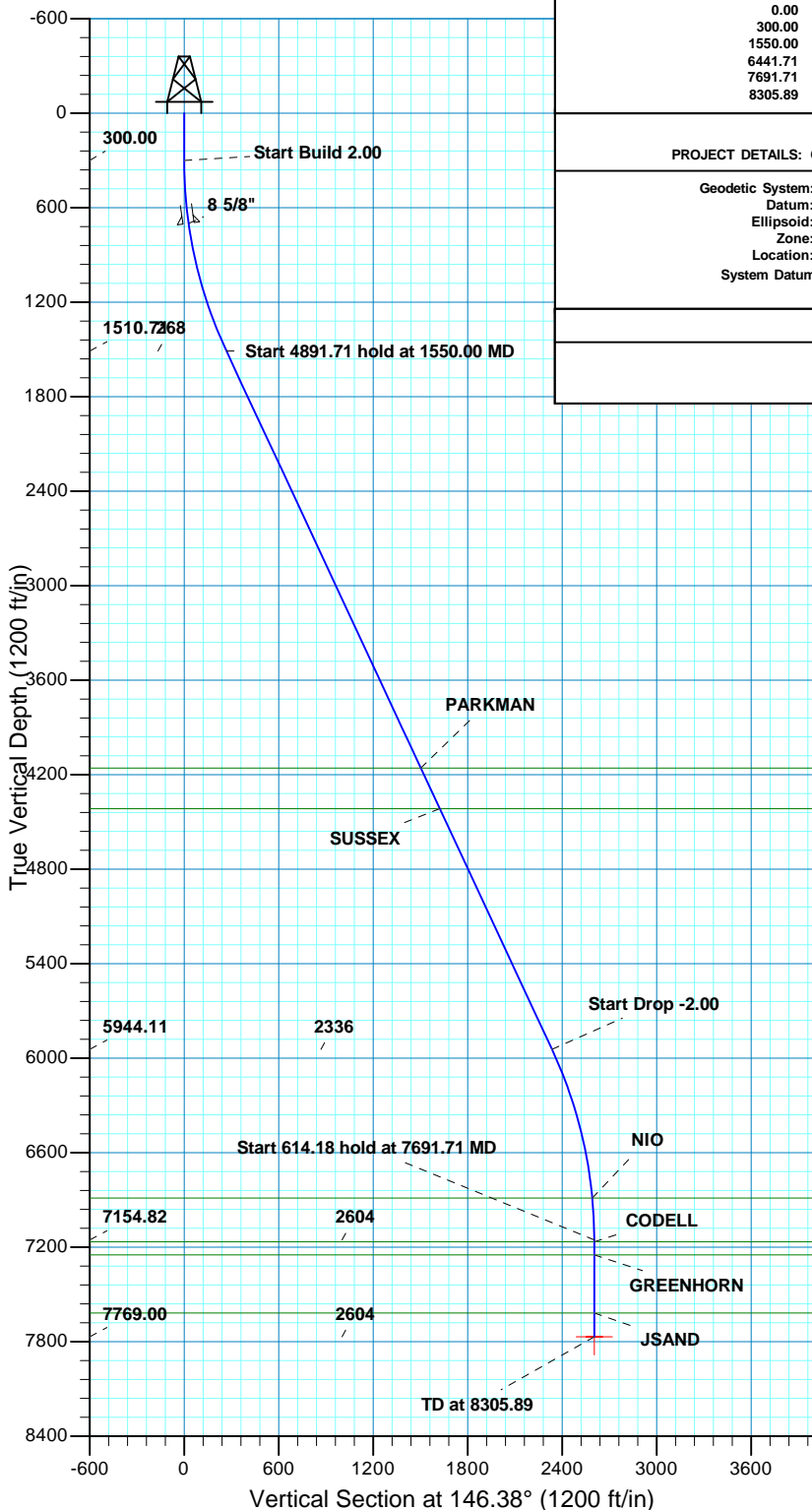


WELL DETAILS: P_MOSER 37-4					
GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1304619.75	3232174.33	40° 9' 59.727 N	104° 40' 9.188 W

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	7769.00	-2168.52	1441.91	1302464.85	3233636.49	40° 9' 38.297 N	104° 39' 50.616 W
- plan hits target center							
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			
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00			
	1550.00	25.00	146.38	1510.71	-223.51	148.62	2.00	146.38	268.41			
	6441.71	25.00	146.38	5944.11	-1945.01	1293.29	0.00	0.00	2335.74			
	7691.71	0.00	0.00	7154.82	-2168.52	1441.91	2.00	180.00	2604.14			
	8305.89	0.00	0.00	7769.00	-2168.52	1441.91	0.00	0.00	2604.14	PBHL MOSER 37-4 (50' FSL 1325' 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: SEC 4 T3N R65W System Datum: Mean Sea Level							4159.00		4472.06		PARKMAN	
							4416.00		4755.63		SUSSEX	
							6888.00		7424.50		NIO	
							7167.00		7703.89		CODELL	
							7250.00		7786.89		GREENHORN	
							7618.00		8154.89		JSAND	
CASING DETAILS												
				TVD	MD	Name	Size					
				700.00	701.31	8 5/8"	8.625					



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_MOSER 11-4 PAD

P_MOSER 37-4

P_MOSER 37-4

Plan: PLAN #1 9-1-10 RHS

Standard Planning Report

01 September, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 37-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Site:	WELD_MOSER 11-4 PAD	North Reference:	True
Well:	P_MOSER 37-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 37-4		
Design:	PLAN #1 9-1-10 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_MOSER 11-4 PAD, SEC 4 T3N R65W		
Site Position:		Northing:	1,304,665.78 usft
From:	Lat/Long	Easting:	3,232,109.06 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	40° 10' 0.188 N
		Longitude:	104° 40' 10.024 W
		Grid Convergence:	0.54 °

Well	P_MOSER 37-4, 2213' FSL 2503' FWL		
Well Position	+N/-S	-46.64 ft	Northing:
	+E/-W	64.84 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	40° 9' 59.727 N
		Longitude:	104° 40' 9.188 W
		Ground Level:	4,859.00 ft

Wellbore	P_MOSER 37-4				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/01/2010	8.90	66.90	53,102

Design	PLAN #1 9-1-10 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	146.38

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,550.00	25.00	146.38	1,510.71	-223.51	148.62	2.00	2.00	0.00	146.38	
6,441.71	25.00	146.38	5,944.11	-1,945.01	1,293.29	0.00	0.00	0.00	0.00	
7,691.71	0.00	0.00	7,154.82	-2,168.52	1,441.91	2.00	-2.00	0.00	180.00	
8,305.89	0.00	0.00	7,769.00	-2,168.52	1,441.91	0.00	0.00	0.00	0.00	PBHL MOSER 37-4 (I

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 37-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Site:	WELD_MOSER 11-4 PAD	North Reference:	True
Well:	P_MOSER 37-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 37-4		
Design:	PLAN #1 9-1-10 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	
Start Build 2.00										
400.00	2.00	146.38	399.98	-1.45	0.97	1.75	2.00	2.00	0.00	
500.00	4.00	146.38	499.84	-5.81	3.86	6.98	2.00	2.00	0.00	
600.00	6.00	146.38	599.45	-13.07	8.69	15.69	2.00	2.00	0.00	
700.00	8.00	146.38	698.70	-23.22	15.44	27.88	2.00	2.00	0.00	
701.31	8.03	146.38	700.00	-23.37	15.54	28.06	2.00	2.00	0.00	
8 5/8"										
800.00	10.00	146.38	797.47	-36.24	24.10	43.52	2.00	2.00	0.00	
900.00	12.00	146.38	895.62	-52.13	34.66	62.60	2.00	2.00	0.00	
1,000.00	14.00	146.38	993.06	-70.86	47.12	85.10	2.00	2.00	0.00	
1,100.00	16.00	146.38	1,089.64	-92.41	61.45	110.98	2.00	2.00	0.00	
1,200.00	18.00	146.38	1,185.27	-116.76	77.64	140.21	2.00	2.00	0.00	
1,300.00	20.00	146.38	1,279.82	-143.87	95.66	172.77	2.00	2.00	0.00	
1,400.00	22.00	146.38	1,373.17	-173.71	115.50	208.60	2.00	2.00	0.00	
1,500.00	24.00	146.38	1,465.21	-206.24	137.14	247.67	2.00	2.00	0.00	
1,550.00	25.00	146.38	1,510.71	-223.51	148.62	268.41	2.00	2.00	0.00	
Start 4891.71 hold at 1550.00 MD										
1,600.00	25.00	146.38	1,556.03	-241.10	160.32	289.54	0.00	0.00	0.00	
1,700.00	25.00	146.38	1,646.66	-276.30	183.72	331.80	0.00	0.00	0.00	
1,800.00	25.00	146.38	1,737.29	-311.49	207.12	374.06	0.00	0.00	0.00	
1,900.00	25.00	146.38	1,827.92	-346.68	230.52	416.32	0.00	0.00	0.00	
2,000.00	25.00	146.38	1,918.55	-381.87	253.92	458.59	0.00	0.00	0.00	
2,100.00	25.00	146.38	2,009.18	-417.07	277.32	500.85	0.00	0.00	0.00	
2,200.00	25.00	146.38	2,099.81	-452.26	300.72	543.11	0.00	0.00	0.00	
2,300.00	25.00	146.38	2,190.44	-487.45	324.12	585.37	0.00	0.00	0.00	
2,400.00	25.00	146.38	2,281.07	-522.64	347.52	627.63	0.00	0.00	0.00	
2,500.00	25.00	146.38	2,371.70	-557.83	370.92	669.90	0.00	0.00	0.00	
2,600.00	25.00	146.38	2,462.34	-593.03	394.32	712.16	0.00	0.00	0.00	
2,700.00	25.00	146.38	2,552.97	-628.22	417.72	754.42	0.00	0.00	0.00	
2,800.00	25.00	146.38	2,643.60	-663.41	441.12	796.68	0.00	0.00	0.00	
2,900.00	25.00	146.38	2,734.23	-698.60	464.52	838.94	0.00	0.00	0.00	
3,000.00	25.00	146.38	2,824.86	-733.79	487.92	881.20	0.00	0.00	0.00	
3,100.00	25.00	146.38	2,915.49	-768.99	511.32	923.47	0.00	0.00	0.00	
3,200.00	25.00	146.38	3,006.12	-804.18	534.72	965.73	0.00	0.00	0.00	
3,300.00	25.00	146.38	3,096.75	-839.37	558.12	1,007.99	0.00	0.00	0.00	
3,400.00	25.00	146.38	3,187.38	-874.56	581.52	1,050.25	0.00	0.00	0.00	
3,500.00	25.00	146.38	3,278.01	-909.76	604.92	1,092.51	0.00	0.00	0.00	
3,600.00	25.00	146.38	3,368.64	-944.95	628.32	1,134.78	0.00	0.00	0.00	
3,700.00	25.00	146.38	3,459.27	-980.14	651.72	1,177.04	0.00	0.00	0.00	
3,800.00	25.00	146.38	3,549.90	-1,015.33	675.12	1,219.30	0.00	0.00	0.00	
3,900.00	25.00	146.38	3,640.54	-1,050.52	698.52	1,261.56	0.00	0.00	0.00	
4,000.00	25.00	146.38	3,731.17	-1,085.72	721.93	1,303.82	0.00	0.00	0.00	
4,100.00	25.00	146.38	3,821.80	-1,120.91	745.33	1,346.09	0.00	0.00	0.00	
4,200.00	25.00	146.38	3,912.43	-1,156.10	768.73	1,388.35	0.00	0.00	0.00	
4,300.00	25.00	146.38	4,003.06	-1,191.29	792.13	1,430.61	0.00	0.00	0.00	
4,400.00	25.00	146.38	4,093.69	-1,226.48	815.53	1,472.87	0.00	0.00	0.00	
4,472.06	25.00	146.38	4,159.00	-1,251.84	832.39	1,503.33	0.00	0.00	0.00	
PARKMAN										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 37-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Site:	WELD_MOSER 11-4 PAD	North Reference:	True
Well:	P_MOSER 37-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 37-4		
Design:	PLAN #1 9-1-10 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	25.00	146.38	4,184.32	-1,261.68	838.93	1,515.13	0.00	0.00	0.00
4,600.00	25.00	146.38	4,274.95	-1,296.87	862.33	1,557.39	0.00	0.00	0.00
4,700.00	25.00	146.38	4,365.58	-1,332.06	885.73	1,599.66	0.00	0.00	0.00
4,755.63	25.00	146.38	4,416.00	-1,351.64	898.74	1,623.17	0.00	0.00	0.00
SUSSEX									
4,800.00	25.00	146.38	4,456.21	-1,367.25	909.13	1,641.92	0.00	0.00	0.00
4,900.00	25.00	146.38	4,546.84	-1,402.45	932.53	1,684.18	0.00	0.00	0.00
5,000.00	25.00	146.38	4,637.47	-1,437.64	955.93	1,726.44	0.00	0.00	0.00
5,100.00	25.00	146.38	4,728.10	-1,472.83	979.33	1,768.70	0.00	0.00	0.00
5,200.00	25.00	146.38	4,818.74	-1,508.02	1,002.73	1,810.97	0.00	0.00	0.00
5,300.00	25.00	146.38	4,909.37	-1,543.21	1,026.13	1,853.23	0.00	0.00	0.00
5,400.00	25.00	146.38	5,000.00	-1,578.41	1,049.53	1,895.49	0.00	0.00	0.00
5,500.00	25.00	146.38	5,090.63	-1,613.60	1,072.93	1,937.75	0.00	0.00	0.00
5,600.00	25.00	146.38	5,181.26	-1,648.79	1,096.33	1,980.01	0.00	0.00	0.00
5,700.00	25.00	146.38	5,271.89	-1,683.98	1,119.73	2,022.27	0.00	0.00	0.00
5,800.00	25.00	146.38	5,362.52	-1,719.17	1,143.13	2,064.54	0.00	0.00	0.00
5,900.00	25.00	146.38	5,453.15	-1,754.37	1,166.53	2,106.80	0.00	0.00	0.00
6,000.00	25.00	146.38	5,543.78	-1,789.56	1,189.93	2,149.06	0.00	0.00	0.00
6,100.00	25.00	146.38	5,634.41	-1,824.75	1,213.33	2,191.32	0.00	0.00	0.00
6,200.00	25.00	146.38	5,725.04	-1,859.94	1,236.73	2,233.58	0.00	0.00	0.00
6,300.00	25.00	146.38	5,815.67	-1,895.14	1,260.13	2,275.85	0.00	0.00	0.00
6,400.00	25.00	146.38	5,906.31	-1,930.33	1,283.53	2,318.11	0.00	0.00	0.00
6,441.71	25.00	146.38	5,944.11	-1,945.01	1,293.29	2,335.74	0.00	0.00	0.00
Start Drop -2.00									
6,500.00	23.83	146.38	5,997.18	-1,965.07	1,306.63	2,359.83	2.00	-2.00	0.00
6,600.00	21.83	146.38	6,089.34	-1,997.38	1,328.12	2,398.63	2.00	-2.00	0.00
6,700.00	19.83	146.38	6,182.80	-2,027.00	1,347.81	2,434.20	2.00	-2.00	0.00
6,800.00	17.83	146.38	6,277.44	-2,053.88	1,365.69	2,466.48	2.00	-2.00	0.00
6,900.00	15.83	146.38	6,373.15	-2,078.00	1,381.72	2,495.44	2.00	-2.00	0.00
7,000.00	13.83	146.38	6,469.81	-2,099.31	1,395.90	2,521.04	2.00	-2.00	0.00
7,100.00	11.83	146.38	6,567.31	-2,117.81	1,408.20	2,543.25	2.00	-2.00	0.00
7,200.00	9.83	146.38	6,665.52	-2,133.46	1,418.60	2,562.05	2.00	-2.00	0.00
7,300.00	7.83	146.38	6,764.33	-2,146.25	1,427.11	2,577.41	2.00	-2.00	0.00
7,400.00	5.83	146.38	6,863.61	-2,156.16	1,433.69	2,589.30	2.00	-2.00	0.00
7,424.50	5.34	146.38	6,888.00	-2,158.15	1,435.02	2,591.69	2.00	-2.00	0.00
NIO									
7,500.00	3.83	146.38	6,963.25	-2,163.18	1,438.36	2,597.73	2.00	-2.00	0.00
7,600.00	1.83	146.38	7,063.12	-2,167.29	1,441.10	2,602.68	2.00	-2.00	0.00
7,691.71	0.00	0.00	7,154.82	-2,168.52	1,441.91	2,604.14	2.00	-2.00	0.00
Start 614.18 hold at 7691.71 MD									
7,700.00	0.00	0.00	7,163.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
7,703.89	0.00	0.00	7,167.00	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
CODELL									
7,786.89	0.00	0.00	7,250.00	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
GREENHORN									
7,800.00	0.00	0.00	7,263.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
7,900.00	0.00	0.00	7,363.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
8,000.00	0.00	0.00	7,463.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
8,100.00	0.00	0.00	7,563.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
8,154.89	0.00	0.00	7,618.00	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00
JSAND									

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 37-4
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)
Site:	WELD_MOSER 11-4 PAD	North Reference:	True
Well:	P_MOSER 37-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 37-4		
Design:	PLAN #1 9-1-10 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	7,663.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,763.11	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00	
8,305.89	0.00	0.00	7,769.00	-2,168.52	1,441.91	2,604.14	0.00	0.00	0.00	
PBHL MOSER 37-4 (50' FSL 1325' 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 MOSER 37-4 (50' - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,769.00	-2,168.52	1,441.91	1,302,464.85	3,233,636.50	40° 9' 38.297 N	104° 39' 50.616 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
701.31	700.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,472.06	4,159.00	PARKMAN				
4,755.63	4,416.00	SUSSEX				
7,424.50	6,888.00	NIO				
7,703.89	7,167.00	CODELL				
7,786.89	7,250.00	GREENHORN				
8,154.89	7,618.00	JSAND				

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	
1,550.00	1,510.71	-223.51	148.62	Start 4891.71 hold at 1550.00 MD	
6,441.71	5,944.11	-1,945.01	1,293.29	Start Drop -2.00	
7,691.71	7,154.82	-2,168.52	1,441.91	Start 614.18 hold at 7691.71 MD	
8,305.89	7,769.00	-2,168.52	1,441.91	TD at 8305.89	