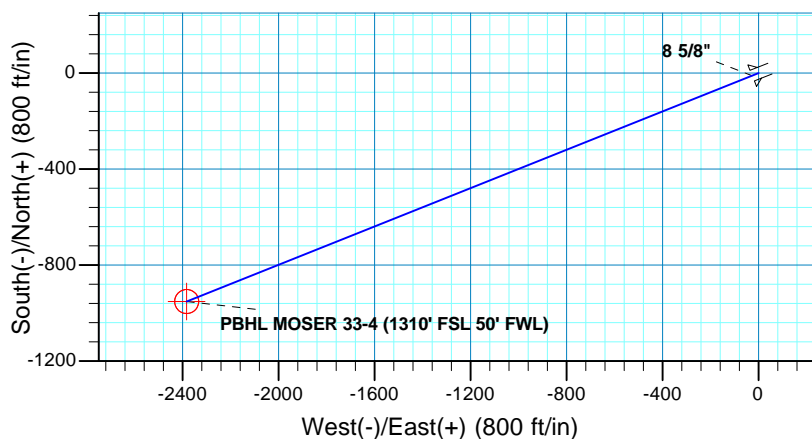
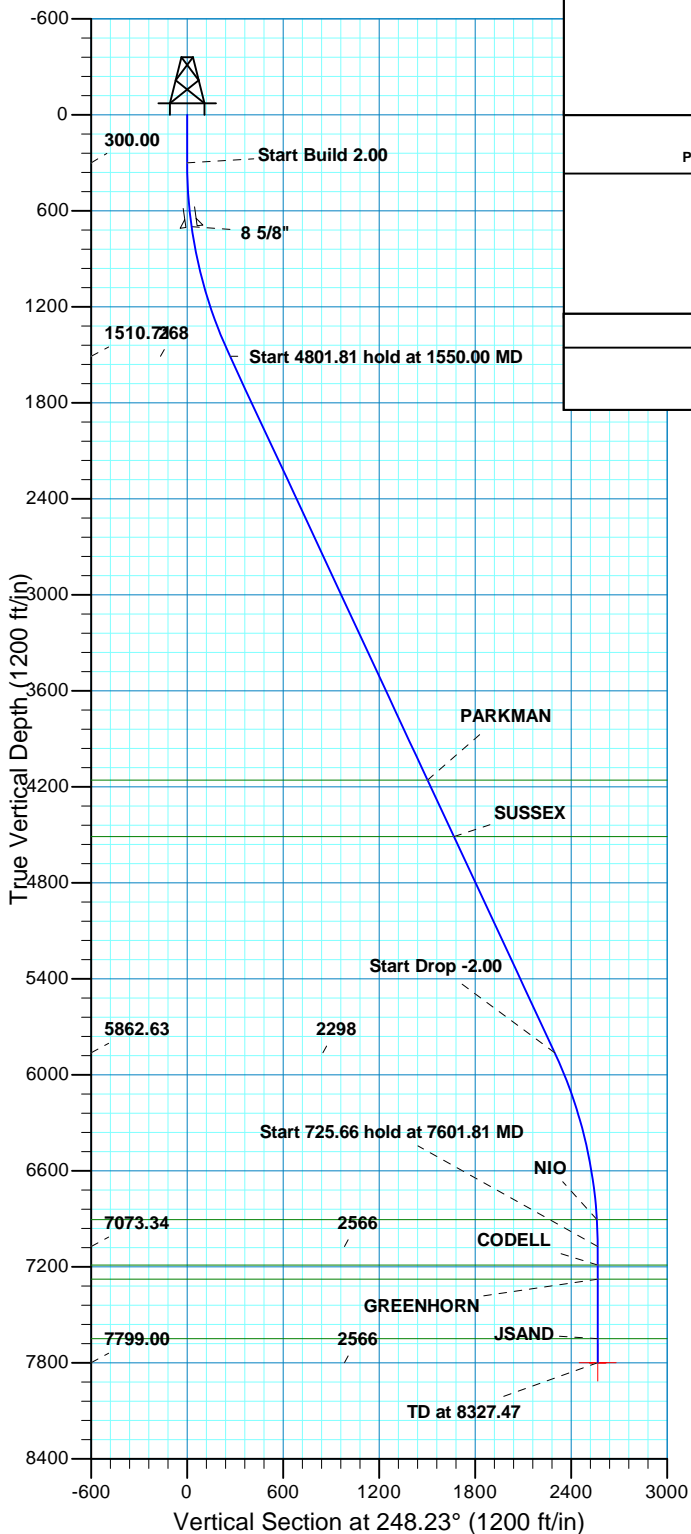


WELL DETAILS: P_MOSER 33-4					
GL 4859' & RKB 15' @ 4874.00ft (ASSUMED)					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1304675.12	3232095.84	40° 10' 0.282 N	104° 40' 10.193 W

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL	7799.00	-951.75	-2383.13	1303701.10	3229721.74	40° 9' 50.875 N	104° 40' 40.890 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	248.23	1510.71	-99.55	-249.27	2.00	248.23	268.41	
	6351.80	25.00	248.23	5862.62	-852.20	-2133.86	0.00	0.00	2297.74	
	7601.80	0.00	0.00	7073.33	-951.75	-2383.13	2.00	180.00	2566.15	
	8327.47	0.00	0.00	7799.00	-951.75	-2383.13	0.00	0.00	2566.15	PBHL MOSER 33-4 (1310' FSL 50' 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: SEC 4 T3N R65W System Datum: Mean Sea Level							4159.00	4472.06	PARKMAN	
							4511.00	4860.45	SUSSEX	
							6905.00	7433.37	NIO	
							7190.00	7718.47	CODELL	
							7277.00	7805.47	GREENHORN	
							7649.00	8177.47	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 33-4

P_MOSER 33-4

Plan: PLAN #1 9-1-10 RHS

Standard Planning Report

01 September, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 33-4
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 33-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 33-4		
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 33-4, 2270' FSL 2423' FWL		
Well Position	+N/-S	9.46 ft	Northing:
	+E/-W	-13.14 ft	Easting:
Position Uncertainty	0.00 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	P_MOSER 33-4				
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	248.23

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	248.23	1,510.71	-99.55	-249.27	2.00	2.00	0.00	248.23	
6,351.80	25.00	248.23	5,862.62	-852.20	-2,133.86	0.00	0.00	0.00	0.00	
7,601.80	0.00	0.00	7,073.33	-951.75	-2,383.13	2.00	-2.00	0.00	180.00	
8,327.47	0.00	0.00	7,799.00	-951.75	-2,383.13	0.00	0.00	0.00	0.00	PBHL MOSER 33-4 (

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 33-4
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 33-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 33-4		
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	248.23	399.98	-0.65	-1.62	1.75	2.00	2.00	0.00	
500.00	4.00	248.23	499.84	-2.59	-6.48	6.98	2.00	2.00	0.00	
600.00	6.00	248.23	599.45	-5.82	-14.57	15.69	2.00	2.00	0.00	
700.00	8.00	248.23	698.70	-10.34	-25.89	27.88	2.00	2.00	0.00	
701.31	8.03	248.23	700.00	-10.41	-26.06	28.06	2.00	2.00	0.00	
8 5/8"										
800.00	10.00	248.23	797.47	-16.14	-40.42	43.52	2.00	2.00	0.00	
900.00	12.00	248.23	895.62	-23.22	-58.14	62.60	2.00	2.00	0.00	
1,000.00	14.00	248.23	993.06	-31.56	-79.03	85.10	2.00	2.00	0.00	
1,100.00	16.00	248.23	1,089.64	-41.16	-103.06	110.98	2.00	2.00	0.00	
1,200.00	18.00	248.23	1,185.27	-52.00	-130.21	140.21	2.00	2.00	0.00	
1,300.00	20.00	248.23	1,279.82	-64.08	-160.45	172.77	2.00	2.00	0.00	
1,400.00	22.00	248.23	1,373.17	-77.37	-193.73	208.60	2.00	2.00	0.00	
1,500.00	24.00	248.23	1,465.21	-91.86	-230.01	247.67	2.00	2.00	0.00	
1,550.00	25.00	248.23	1,510.71	-99.55	-249.27	268.41	2.00	2.00	0.00	
Start 4801.81 hold at 1550.00 MD										
1,600.00	25.00	248.23	1,556.03	-107.39	-268.89	289.54	0.00	0.00	0.00	
1,700.00	25.00	248.23	1,646.66	-123.06	-308.14	331.80	0.00	0.00	0.00	
1,800.00	25.00	248.23	1,737.29	-138.73	-347.38	374.06	0.00	0.00	0.00	
1,900.00	25.00	248.23	1,827.92	-154.41	-386.63	416.32	0.00	0.00	0.00	
2,000.00	25.00	248.23	1,918.55	-170.08	-425.88	458.59	0.00	0.00	0.00	
2,100.00	25.00	248.23	2,009.18	-185.76	-465.13	500.85	0.00	0.00	0.00	
2,200.00	25.00	248.23	2,099.81	-201.43	-504.37	543.11	0.00	0.00	0.00	
2,300.00	25.00	248.23	2,190.44	-217.11	-543.62	585.37	0.00	0.00	0.00	
2,400.00	25.00	248.23	2,281.07	-232.78	-582.87	627.63	0.00	0.00	0.00	
2,500.00	25.00	248.23	2,371.70	-248.45	-622.12	669.90	0.00	0.00	0.00	
2,600.00	25.00	248.23	2,462.34	-264.13	-661.37	712.16	0.00	0.00	0.00	
2,700.00	25.00	248.23	2,552.97	-279.80	-700.61	754.42	0.00	0.00	0.00	
2,800.00	25.00	248.23	2,643.60	-295.48	-739.86	796.68	0.00	0.00	0.00	
2,900.00	25.00	248.23	2,734.23	-311.15	-779.11	838.94	0.00	0.00	0.00	
3,000.00	25.00	248.23	2,824.86	-326.83	-818.36	881.20	0.00	0.00	0.00	
3,100.00	25.00	248.23	2,915.49	-342.50	-857.60	923.47	0.00	0.00	0.00	
3,200.00	25.00	248.23	3,006.12	-358.17	-896.85	965.73	0.00	0.00	0.00	
3,300.00	25.00	248.23	3,096.75	-373.85	-936.10	1,007.99	0.00	0.00	0.00	
3,400.00	25.00	248.23	3,187.38	-389.52	-975.35	1,050.25	0.00	0.00	0.00	
3,500.00	25.00	248.23	3,278.01	-405.20	-1,014.59	1,092.51	0.00	0.00	0.00	
3,600.00	25.00	248.23	3,368.64	-420.87	-1,053.84	1,134.78	0.00	0.00	0.00	
3,700.00	25.00	248.23	3,459.27	-436.55	-1,093.09	1,177.04	0.00	0.00	0.00	
3,800.00	25.00	248.23	3,549.90	-452.22	-1,132.34	1,219.30	0.00	0.00	0.00	
3,900.00	25.00	248.23	3,640.54	-467.89	-1,171.59	1,261.56	0.00	0.00	0.00	
4,000.00	25.00	248.23	3,731.17	-483.57	-1,210.83	1,303.82	0.00	0.00	0.00	
4,100.00	25.00	248.23	3,821.80	-499.24	-1,250.08	1,346.09	0.00	0.00	0.00	
4,200.00	25.00	248.23	3,912.43	-514.92	-1,289.33	1,388.35	0.00	0.00	0.00	
4,300.00	25.00	248.23	4,003.06	-530.59	-1,328.58	1,430.61	0.00	0.00	0.00	
4,400.00	25.00	248.23	4,093.69	-546.27	-1,367.82	1,472.87	0.00	0.00	0.00	
4,472.06	25.00	248.23	4,159.00	-557.56	-1,396.11	1,503.33	0.00	0.00	0.00	
PARKMAN										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 33-4
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 33-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 33-4		
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	248.23	4,184.32	-561.94	-1,407.07	1,515.13	0.00	0.00	0.00	
4,600.00	25.00	248.23	4,274.95	-577.61	-1,446.32	1,557.39	0.00	0.00	0.00	
4,700.00	25.00	248.23	4,365.58	-593.29	-1,485.57	1,599.66	0.00	0.00	0.00	
4,800.00	25.00	248.23	4,456.21	-608.96	-1,524.81	1,641.92	0.00	0.00	0.00	
4,860.45	25.00	248.23	4,511.00	-618.44	-1,548.54	1,667.47	0.00	0.00	0.00	
SUSSEX										
4,900.00	25.00	248.23	4,546.84	-624.64	-1,564.06	1,684.18	0.00	0.00	0.00	
5,000.00	25.00	248.23	4,637.47	-640.31	-1,603.31	1,726.44	0.00	0.00	0.00	
5,100.00	25.00	248.23	4,728.10	-655.99	-1,642.56	1,768.70	0.00	0.00	0.00	
5,200.00	25.00	248.23	4,818.74	-671.66	-1,681.80	1,810.97	0.00	0.00	0.00	
5,300.00	25.00	248.23	4,909.37	-687.33	-1,721.05	1,853.23	0.00	0.00	0.00	
5,400.00	25.00	248.23	5,000.00	-703.01	-1,760.30	1,895.49	0.00	0.00	0.00	
5,500.00	25.00	248.23	5,090.63	-718.68	-1,799.55	1,937.75	0.00	0.00	0.00	
5,600.00	25.00	248.23	5,181.26	-734.36	-1,838.80	1,980.01	0.00	0.00	0.00	
5,700.00	25.00	248.23	5,271.89	-750.03	-1,878.04	2,022.27	0.00	0.00	0.00	
5,800.00	25.00	248.23	5,362.52	-765.71	-1,917.29	2,064.54	0.00	0.00	0.00	
5,900.00	25.00	248.23	5,453.15	-781.38	-1,956.54	2,106.80	0.00	0.00	0.00	
6,000.00	25.00	248.23	5,543.78	-797.05	-1,995.79	2,149.06	0.00	0.00	0.00	
6,100.00	25.00	248.23	5,634.41	-812.73	-2,035.03	2,191.32	0.00	0.00	0.00	
6,200.00	25.00	248.23	5,725.04	-828.40	-2,074.28	2,233.58	0.00	0.00	0.00	
6,300.00	25.00	248.23	5,815.67	-844.08	-2,113.53	2,275.85	0.00	0.00	0.00	
6,351.81	25.00	248.23	5,862.63	-852.20	-2,133.86	2,297.74	0.00	0.00	0.00	
Start Drop -2.00										
6,400.00	24.04	248.23	5,906.47	-859.62	-2,152.43	2,317.74	2.00	-2.00	0.00	
6,500.00	22.04	248.23	5,998.50	-874.13	-2,188.77	2,356.87	2.00	-2.00	0.00	
6,600.00	20.04	248.23	6,091.83	-887.44	-2,222.11	2,392.76	2.00	-2.00	0.00	
6,700.00	18.04	248.23	6,186.35	-899.54	-2,252.39	2,425.38	2.00	-2.00	0.00	
6,800.00	16.04	248.23	6,281.96	-910.40	-2,279.60	2,454.67	2.00	-2.00	0.00	
6,900.00	14.04	248.23	6,378.53	-920.02	-2,303.69	2,480.61	2.00	-2.00	0.00	
7,000.00	12.04	248.23	6,475.95	-928.39	-2,324.64	2,503.17	2.00	-2.00	0.00	
7,100.00	10.04	248.23	6,574.10	-935.49	-2,342.42	2,522.31	2.00	-2.00	0.00	
7,200.00	8.04	248.23	6,672.85	-941.31	-2,357.00	2,538.01	2.00	-2.00	0.00	
7,300.00	6.04	248.23	6,772.09	-945.86	-2,368.38	2,550.26	2.00	-2.00	0.00	
7,400.00	4.04	248.23	6,871.70	-949.11	-2,376.53	2,559.04	2.00	-2.00	0.00	
7,433.37	3.37	248.23	6,905.00	-949.91	-2,378.53	2,561.20	2.00	-2.00	0.00	
NIO										
7,500.00	2.04	248.23	6,971.55	-951.08	-2,381.45	2,564.34	2.00	-2.00	0.00	
7,600.00	0.04	248.23	7,071.53	-951.75	-2,383.12	2,566.15	2.00	-2.00	0.00	
7,601.81	0.00	0.00	7,073.34	-951.75	-2,383.13	2,566.15	2.00	-2.00	0.00	
Start 725.66 hold at 7601.81 MD										
7,700.00	0.00	0.00	7,171.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
7,718.47	0.00	0.00	7,190.00	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
CODELL										
7,800.00	0.00	0.00	7,271.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
7,805.47	0.00	0.00	7,277.00	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
GREENHORN										
7,900.00	0.00	0.00	7,371.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,471.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,571.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
8,177.47	0.00	0.00	7,649.00	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
JSAND										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_MOSER 33-4
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 33-4	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_MOSER 33-4		
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	7,671.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
8,300.00	0.00	0.00	7,771.53	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
8,327.47	0.00	0.00	7,799.00	-951.75	-2,383.13	2,566.15	0.00	0.00	0.00	
PBHL MOSER 33-4 (1310' FSL 50' 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 MOSER 33-4 (1310' FSL 50' FWL) - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,799.00	-951.75	-2,383.13	1,303,701.10	3,229,721.74	40° 9' 50.875 N	104° 40' 40.890 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				
4,860.45	4,511.00	SUSSEX				
7,433.37	6,905.00	NIO				
7,718.47	7,190.00	CODELL				
7,805.47	7,277.00	GREENHORN				
8,177.47	7,649.00	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	-99.55	-249.27	Start 4801.81 hold at 1550.00 MD	
6,351.81	5,862.63	-852.20	-2,133.86	Start Drop -2.00	
7,601.81	7,073.34	-951.75	-2,383.13	Start 725.66 hold at 7601.81 MD	
8,327.47	7,799.00	-951.75	-2,383.13	TD at 8327.47	