

WELL DETAILS: P_Sweetgrass 39-14

GL 5136' & RKB 15'

@ 5151.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1261248.13	3149988.54	40° 2' 57.376 N	104° 57' 51.228 W

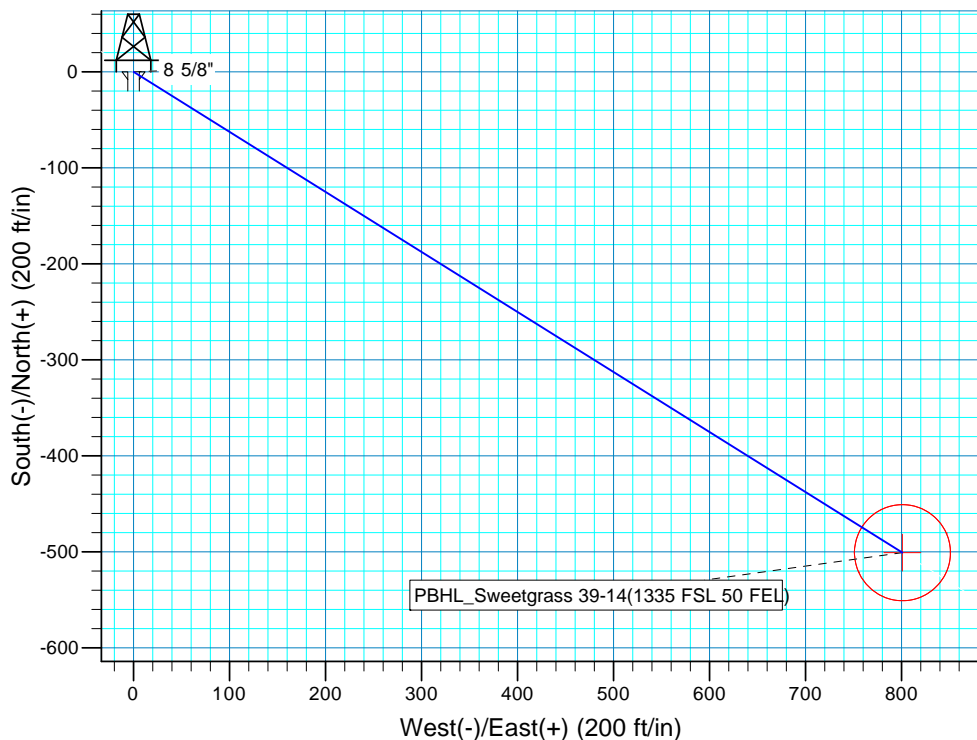
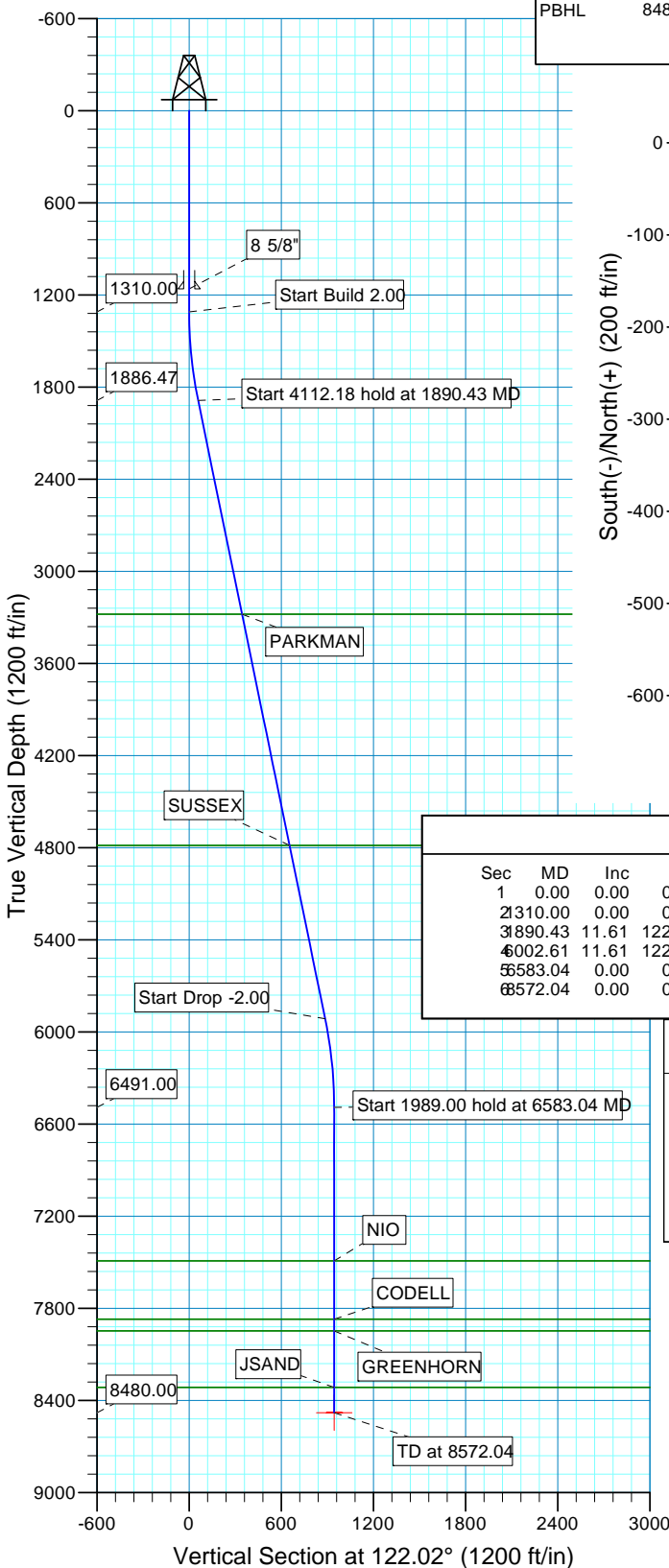


Azimuths to True North
Magnetic North: 9.05°

Magnetic Field
Strength: 53013.5nT
Dip Angle: 66.76°
Date: 08/02/2010
Model: IGRF2010

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8480.00	-500.87	800.96	1260752.11	3150792.50	40° 2' 52.426 N	104° 57' 40.928 W	Circle (Radius: 50.00)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1310.00	0.00	0.00	1310.00	0.00	0.00	0.00	0.00	0.00	
3	1886.47	11.61	122.02	1886.47	-31.07	49.68	2.00	122.02	58.60	
4	5914.53	11.61	122.02	5914.53	-469.80	751.27	0.00	0.00	886.07	
5	6491.00	0.00	0.00	6491.00	-500.87	800.96	2.00	180.00	944.67	
6	8480.00	0.00	0.00	8480.00	-500.87	800.96	0.00	0.00	944.67	PBHL_Sweetgrass 39-14(1335 FSL 50 FEL)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3279.00	3312.04	PARKMAN
4785.00	4849.49	SUSSEX
7491.00	7583.04	NIO
7871.00	7963.04	CODELL
7947.00	8039.04	GREENHORN
8315.00	8407.04	JSAND

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
Location: SECTION 14 T1N R68W
System Datum: Mean Sea Level
Local North: True

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_SWEETGRASS 9-14 Pad

P_Sweetgrass 39-14

P_Sweetgrass 39-14

Plan: PLAN #1 8-2-10 RHS

Standard Planning Report

02 August, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Sweetgrass 39-14
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Site:	WELD_SWEETGRASS 9-14 Pad	North Reference:	True
Well:	P_Sweetgrass 39-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 39-14		
Design:	PLAN #1 8-2-10 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_SWEETGRASS 9-14 Pad, SECTION 14 T1N R68W			
Site Position:		Northing:	1,261,248.13 usft	Latitude:	40° 2' 57.376 N
From:	Lat/Long	Easting:	3,149,988.54 usft	Longitude:	104° 57' 51.228 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.35 °

Well	P_Sweetgrass 39-14, 1853' FSL 848' FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,261,248.13 usft	Latitude:	40° 2' 57.376 N
	+E/-W	0.00 ft	Easting:	3,149,988.54 usft	Longitude:	104° 57' 51.228 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,136.00 ft

Wellbore	P_Sweetgrass 39-14				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/02/2010	9.05	66.76	53,013

Design	PLAN #1 8-2-10 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	122.02	

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	
1,310.00	0.00	0.00	1,310.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,890.43	11.61	122.02	1,886.47	-31.07	49.68	2.00	2.00	0.00	122.02	
6,002.61	11.61	122.02	5,914.53	-469.80	751.27	0.00	0.00	0.00	0.00	
6,583.04	0.00	0.00	6,491.00	-500.87	800.96	2.00	-2.00	0.00	180.00	
8,572.04	0.00	0.00	8,480.00	-500.87	800.96	0.00	0.00	0.00	0.00	PBHL_Sweetgrass 39-14

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Sweetgrass 39-14
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Site:	WELD_SWEETGRASS 9-14 Pad	North Reference:	True
Well:	P_Sweetgrass 39-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 39-14		
Design:	PLAN #1 8-2-10 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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,160.00	0.00	0.00	1,160.00	0.00	0.00	0.00	0.00	0.00	0.00	
8 5/8"										
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,310.00	0.00	0.00	1,310.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
1,400.00	1.80	122.02	1,399.99	-0.75	1.20	1.41	2.00	2.00	0.00	
1,500.00	3.80	122.02	1,499.86	-3.34	5.34	6.30	2.00	2.00	0.00	
1,600.00	5.80	122.02	1,599.51	-7.78	12.43	14.67	2.00	2.00	0.00	
1,700.00	7.80	122.02	1,698.80	-14.05	22.47	26.51	2.00	2.00	0.00	
1,800.00	9.80	122.02	1,797.61	-22.16	35.44	41.80	2.00	2.00	0.00	
1,890.43	11.61	122.02	1,886.47	-31.07	49.68	58.60	2.00	2.00	0.00	
Start 4112.18 hold at 1890.43 MD										
1,900.00	11.61	122.02	1,895.84	-32.09	51.32	60.52	0.00	0.00	0.00	
2,000.00	11.61	122.02	1,993.80	-42.76	68.38	80.65	0.00	0.00	0.00	
2,100.00	11.61	122.02	2,091.75	-53.43	85.44	100.77	0.00	0.00	0.00	
2,200.00	11.61	122.02	2,189.70	-64.10	102.50	120.89	0.00	0.00	0.00	
2,300.00	11.61	122.02	2,287.66	-74.77	119.56	141.01	0.00	0.00	0.00	
2,400.00	11.61	122.02	2,385.61	-85.44	136.62	161.14	0.00	0.00	0.00	
2,500.00	11.61	122.02	2,483.57	-96.10	153.68	181.26	0.00	0.00	0.00	
2,600.00	11.61	122.02	2,581.52	-106.77	170.75	201.38	0.00	0.00	0.00	
2,700.00	11.61	122.02	2,679.48	-117.44	187.81	221.50	0.00	0.00	0.00	
2,800.00	11.61	122.02	2,777.43	-128.11	204.87	241.63	0.00	0.00	0.00	
2,900.00	11.61	122.02	2,875.39	-138.78	221.93	261.75	0.00	0.00	0.00	
3,000.00	11.61	122.02	2,973.34	-149.45	238.99	281.87	0.00	0.00	0.00	
3,100.00	11.61	122.02	3,071.30	-160.12	256.05	301.99	0.00	0.00	0.00	
3,200.00	11.61	122.02	3,169.25	-170.79	273.11	322.12	0.00	0.00	0.00	
3,300.00	11.61	122.02	3,267.20	-181.46	290.17	342.24	0.00	0.00	0.00	
3,312.04	11.61	122.02	3,279.00	-182.74	292.23	344.66	0.00	0.00	0.00	
PARKMAN										
3,400.00	11.61	122.02	3,365.16	-192.13	307.24	362.36	0.00	0.00	0.00	
3,500.00	11.61	122.02	3,463.11	-202.79	324.30	382.48	0.00	0.00	0.00	
3,600.00	11.61	122.02	3,561.07	-213.46	341.36	402.61	0.00	0.00	0.00	
3,700.00	11.61	122.02	3,659.02	-224.13	358.42	422.73	0.00	0.00	0.00	
3,800.00	11.61	122.02	3,756.98	-234.80	375.48	442.85	0.00	0.00	0.00	
3,900.00	11.61	122.02	3,854.93	-245.47	392.54	462.97	0.00	0.00	0.00	
4,000.00	11.61	122.02	3,952.89	-256.14	409.60	483.10	0.00	0.00	0.00	
4,100.00	11.61	122.02	4,050.84	-266.81	426.66	503.22	0.00	0.00	0.00	
4,200.00	11.61	122.02	4,148.80	-277.48	443.73	523.34	0.00	0.00	0.00	
4,300.00	11.61	122.02	4,246.75	-288.15	460.79	543.46	0.00	0.00	0.00	

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Site:	WELD_SWEETGRASS 9-14 Pad	North Reference:	True
Well:	P_Sweetgrass 39-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 39-14		
Design:	PLAN #1 8-2-10 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)
4,400.00	11.61	122.02	4,344.70	-298.82	477.85	563.59	0.00	0.00	0.00
4,500.00	11.61	122.02	4,442.66	-309.48	494.91	583.71	0.00	0.00	0.00
4,600.00	11.61	122.02	4,540.61	-320.15	511.97	603.83	0.00	0.00	0.00
4,700.00	11.61	122.02	4,638.57	-330.82	529.03	623.95	0.00	0.00	0.00
4,800.00	11.61	122.02	4,736.52	-341.49	546.09	644.08	0.00	0.00	0.00
4,849.49	11.61	122.02	4,785.00	-346.77	554.54	654.03	0.00	0.00	0.00
SUSSEX									
4,900.00	11.61	122.02	4,834.48	-352.16	563.15	664.20	0.00	0.00	0.00
5,000.00	11.61	122.02	4,932.43	-362.83	580.22	684.32	0.00	0.00	0.00
5,100.00	11.61	122.02	5,030.39	-373.50	597.28	704.44	0.00	0.00	0.00
5,200.00	11.61	122.02	5,128.34	-384.17	614.34	724.57	0.00	0.00	0.00
5,300.00	11.61	122.02	5,226.29	-394.84	631.40	744.69	0.00	0.00	0.00
5,400.00	11.61	122.02	5,324.25	-405.51	648.46	764.81	0.00	0.00	0.00
5,500.00	11.61	122.02	5,422.20	-416.17	665.52	784.93	0.00	0.00	0.00
5,600.00	11.61	122.02	5,520.16	-426.84	682.58	805.06	0.00	0.00	0.00
5,700.00	11.61	122.02	5,618.11	-437.51	699.64	825.18	0.00	0.00	0.00
5,800.00	11.61	122.02	5,716.07	-448.18	716.71	845.30	0.00	0.00	0.00
5,900.00	11.61	122.02	5,814.02	-458.85	733.77	865.42	0.00	0.00	0.00
6,000.00	11.61	122.02	5,911.98	-469.52	750.83	885.55	0.00	0.00	0.00
6,002.61	11.61	122.02	5,914.53	-469.80	751.27	886.07	0.00	0.00	0.00
Start Drop -2.00									
6,100.00	9.66	122.02	6,010.25	-479.33	766.51	904.04	2.00	-2.00	0.00
6,200.00	7.66	122.02	6,109.10	-487.31	779.28	919.10	2.00	-2.00	0.00
6,300.00	5.66	122.02	6,208.42	-493.46	789.11	930.70	2.00	-2.00	0.00
6,400.00	3.66	122.02	6,308.08	-497.77	796.00	938.82	2.00	-2.00	0.00
6,500.00	1.66	122.02	6,407.97	-500.23	799.94	943.47	2.00	-2.00	0.00
6,583.04	0.00	0.00	6,491.00	-500.87	800.96	944.67	2.00	-2.00	0.00
Start 1989.00 hold at 6583.04 MD									
6,600.00	0.00	0.00	6,507.96	-500.87	800.96	944.67	0.00	0.00	0.00
6,700.00	0.00	0.00	6,607.96	-500.87	800.96	944.67	0.00	0.00	0.00
6,800.00	0.00	0.00	6,707.96	-500.87	800.96	944.67	0.00	0.00	0.00
6,900.00	0.00	0.00	6,807.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,000.00	0.00	0.00	6,907.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,100.00	0.00	0.00	7,007.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,200.00	0.00	0.00	7,107.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,300.00	0.00	0.00	7,207.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,400.00	0.00	0.00	7,307.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,500.00	0.00	0.00	7,407.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,583.04	0.00	0.00	7,491.00	-500.87	800.96	944.67	0.00	0.00	0.00
NIO									
7,600.00	0.00	0.00	7,507.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,700.00	0.00	0.00	7,607.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,800.00	0.00	0.00	7,707.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,900.00	0.00	0.00	7,807.96	-500.87	800.96	944.67	0.00	0.00	0.00
7,963.04	0.00	0.00	7,871.00	-500.87	800.96	944.67	0.00	0.00	0.00
CODELL									
8,000.00	0.00	0.00	7,907.96	-500.87	800.96	944.67	0.00	0.00	0.00
8,039.04	0.00	0.00	7,947.00	-500.87	800.96	944.67	0.00	0.00	0.00
GREENHORN									
8,100.00	0.00	0.00	8,007.96	-500.87	800.96	944.67	0.00	0.00	0.00
8,200.00	0.00	0.00	8,107.96	-500.87	800.96	944.67	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 5136' & RKB 15' @ 5151.00ft (ASSUMED)
Site:	WELD_SWEETGRASS 9-14 Pad	North Reference:	True
Well:	P_Sweetgrass 39-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 39-14		
Design:	PLAN #1 8-2-10 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)	
8,300.00	0.00	0.00	8,207.96	-500.87	800.96	944.67	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,307.96	-500.87	800.96	944.67	0.00	0.00	0.00	
8,407.04	0.00	0.00	8,315.00	-500.87	800.96	944.67	0.00	0.00	0.00	
JSAND										
8,500.00	0.00	0.00	8,407.96	-500.87	800.96	944.67	0.00	0.00	0.00	
8,572.04	0.00	0.00	8,480.00	-500.87	800.96	944.67	0.00	0.00	0.00	
PBHL_Sweetgrass 39-14(1335 FSL 50 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_Sweetgrass 39-1-	0.00	0.35	8,480.00	-500.87	800.96	1,260,752.11	3,150,792.50	40° 2' 52.426 N	104° 57' 40.928 W	
- plan hits target center										
- Circle (radius 50.00)										

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,160.00	1,160.00	8 5/8"	8.625	11.000	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,312.04	3,279.00	PARKMAN				
4,849.49	4,785.00	SUSSEX				
7,583.04	7,491.00	NIO				
7,963.04	7,871.00	CODELL				
8,039.04	7,947.00	GREENHORN				
8,407.04	8,315.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,310.00	1,310.00	0.00	0.00	Start Build 2.00	
1,890.43	1,886.47	-31.07	49.68	Start 4112.18 hold at 1890.43 MD	
6,002.61	5,914.53	-469.80	751.27	Start Drop -2.00	
6,583.04	6,491.00	-500.87	800.96	Start 1989.00 hold at 6583.04 MD	
8,572.04	8,480.00	-500.87	800.96	TD at 8572.04	