

WELL DETAILS: P_Sweetgrass 15-14

GL 5136' & RKB 15'

@ 5151.00ft (ASSUMED)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1261223.16	3149957.33	40° 2' 57.131 N	104° 57' 51.631 W

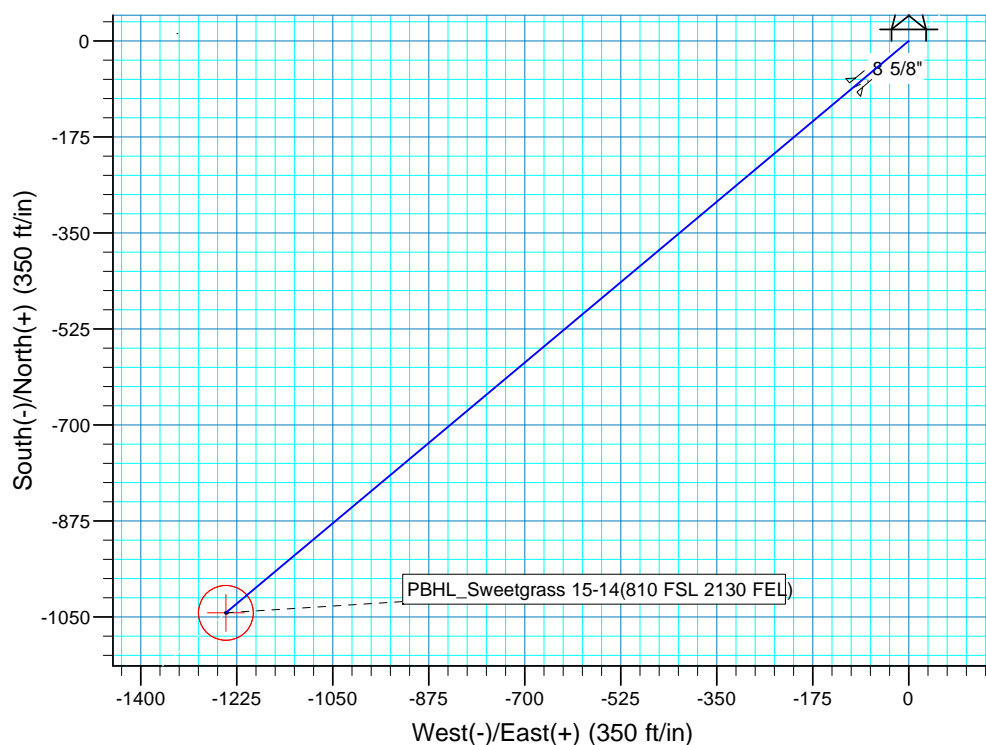
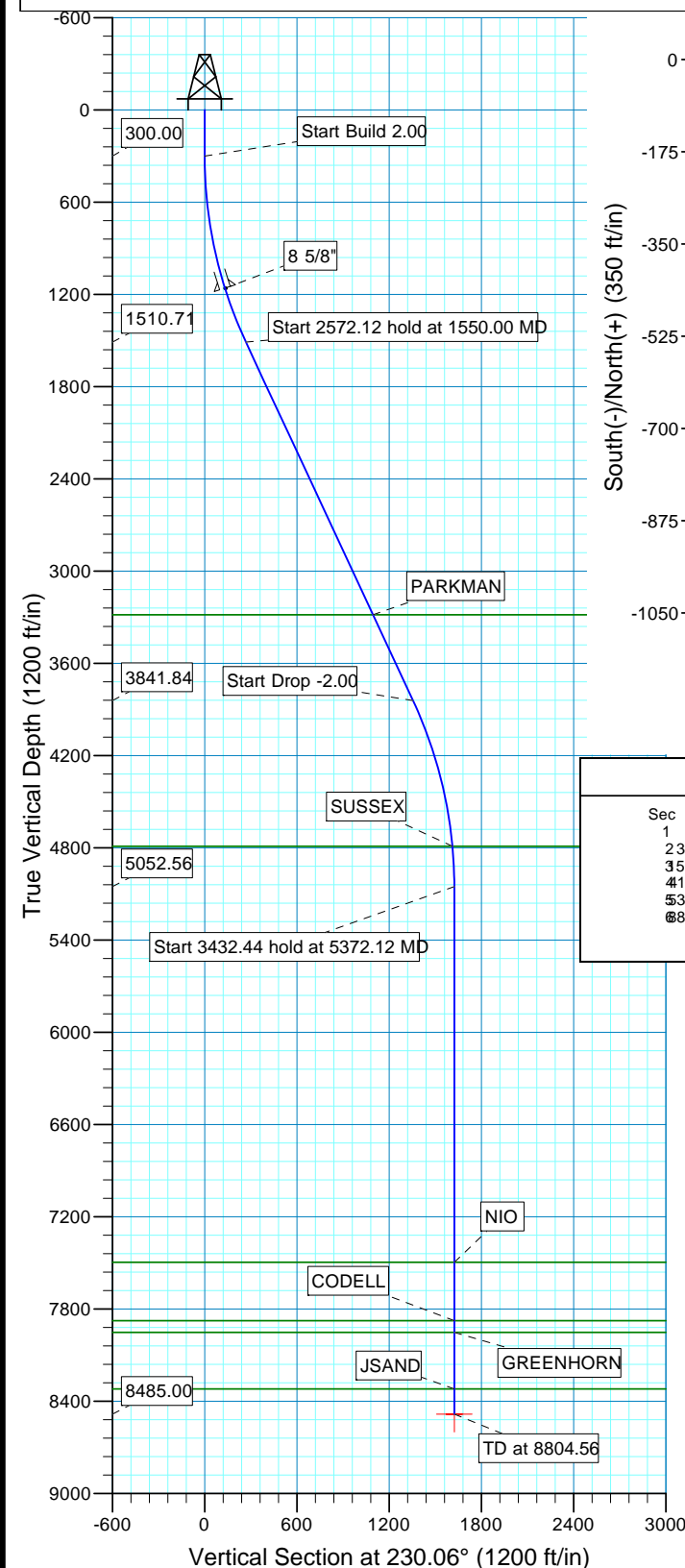
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8485.00	-1042.52	-1245.00	1260173.14	3148718.65	40° 2' 46.828 N	104° 58' 7.640 W	Circle (Radius: 50.00)



Azimuths to True North
Magnetic North: 9.05°

Magnetic Field
Strength: 53013.4snT
Dip Angle: 66.76°
Date: 08/02/2010
Model: IGRF2010



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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	550.00	25.00	230.06	1510.71	-172.32	-205.79	2.00	230.06	268.41	
4	122.12	25.00	230.06	3841.84	-870.20	-1039.21	0.00	0.001355.43		
5	372.12	0.00	0.00	5052.56	-1042.52	-1245.00	2.00	180.001623.84		
6	804.56	0.00	0.00	8485.00	-1042.52	-1245.00	0.00	0.001623.84		PBHL_Sweetgrass 15-14(810 FSL 2130 FEL)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3284.00	3506.61	PARKMAN
4790.00	5109.19	SUSSEX
7496.00	7815.56	NIO
7876.00	8195.56	CODELL
7952.00	8271.56	GREENHORN
8320.00	8639.56	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 15-14

P_Sweetgrass 15-14

Plan: PLAN #1 8-2-10 RHS

Standard Planning Report

02 August, 2010

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Sweetgrass 15-14
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 15-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 15-14		
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
From:	Lat/Long	Easting:	3,149,988.54 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	40° 2' 57.376 N
		Longitude:	104° 57' 51.228 W
		Grid Convergence:	0.35 °

Well	P_Sweetgrass 15-14, 1827' FSL 880' FEL		
Well Position	+N/-S	-24.78 ft	Northing:
	+E/-W	-31.35 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	40° 2' 57.131 N
		Longitude:	104° 57' 51.631 W
		Ground Level:	5,136.00 ft

Wellbore	P_Sweetgrass 15-14				
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	230.06

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	230.06	1,510.71	-172.32	-205.79	2.00	2.00	0.00	230.06	
4,122.12	25.00	230.06	3,841.84	-870.20	-1,039.21	0.00	0.00	0.00	0.00	
5,372.12	0.00	0.00	5,052.56	-1,042.52	-1,245.00	2.00	-2.00	0.00	180.00	
8,804.56	0.00	0.00	8,485.00	-1,042.52	-1,245.00	0.00	0.00	0.00	0.00	PBHL_Sweetgrass 15

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Sweetgrass 15-14
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 15-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 15-14		
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
Start Build 2.00									
400.00	2.00	230.06	399.98	-1.12	-1.34	1.75	2.00	2.00	0.00
500.00	4.00	230.06	499.84	-4.48	-5.35	6.98	2.00	2.00	0.00
600.00	6.00	230.06	599.45	-10.08	-12.03	15.69	2.00	2.00	0.00
700.00	8.00	230.06	698.70	-17.90	-21.38	27.88	2.00	2.00	0.00
800.00	10.00	230.06	797.47	-27.94	-33.37	43.52	2.00	2.00	0.00
900.00	12.00	230.06	895.62	-40.19	-48.00	62.60	2.00	2.00	0.00
1,000.00	14.00	230.06	993.06	-54.63	-65.24	85.10	2.00	2.00	0.00
1,100.00	16.00	230.06	1,089.64	-71.25	-85.09	110.98	2.00	2.00	0.00
1,173.47	17.47	230.06	1,160.00	-84.83	-101.31	132.13	2.00	2.00	0.00
8 5/8"									
1,200.00	18.00	230.06	1,185.27	-90.02	-107.50	140.21	2.00	2.00	0.00
1,300.00	20.00	230.06	1,279.82	-110.92	-132.46	172.77	2.00	2.00	0.00
1,400.00	22.00	230.06	1,373.17	-133.92	-159.94	208.60	2.00	2.00	0.00
1,500.00	24.00	230.06	1,465.21	-159.01	-189.89	247.67	2.00	2.00	0.00
1,550.00	25.00	230.06	1,510.71	-172.32	-205.79	268.41	2.00	2.00	0.00
Start 2572.12 hold at 1550.00 MD									
1,600.00	25.00	230.06	1,556.03	-185.89	-221.99	289.54	0.00	0.00	0.00
1,700.00	25.00	230.06	1,646.66	-213.02	-254.39	331.80	0.00	0.00	0.00
1,800.00	25.00	230.06	1,737.29	-240.15	-286.79	374.06	0.00	0.00	0.00
1,900.00	25.00	230.06	1,827.92	-267.28	-319.20	416.32	0.00	0.00	0.00
2,000.00	25.00	230.06	1,918.55	-294.42	-351.60	458.59	0.00	0.00	0.00
2,100.00	25.00	230.06	2,009.18	-321.55	-384.00	500.85	0.00	0.00	0.00
2,200.00	25.00	230.06	2,099.81	-348.68	-416.40	543.11	0.00	0.00	0.00
2,300.00	25.00	230.06	2,190.44	-375.81	-448.80	585.37	0.00	0.00	0.00
2,400.00	25.00	230.06	2,281.07	-402.94	-481.21	627.63	0.00	0.00	0.00
2,500.00	25.00	230.06	2,371.70	-430.08	-513.61	669.90	0.00	0.00	0.00
2,600.00	25.00	230.06	2,462.34	-457.21	-546.01	712.16	0.00	0.00	0.00
2,700.00	25.00	230.06	2,552.97	-484.34	-578.41	754.42	0.00	0.00	0.00
2,800.00	25.00	230.06	2,643.60	-511.47	-610.82	796.68	0.00	0.00	0.00
2,900.00	25.00	230.06	2,734.23	-538.61	-643.22	838.94	0.00	0.00	0.00
3,000.00	25.00	230.06	2,824.86	-565.74	-675.62	881.20	0.00	0.00	0.00
3,100.00	25.00	230.06	2,915.49	-592.87	-708.02	923.47	0.00	0.00	0.00
3,200.00	25.00	230.06	3,006.12	-620.00	-740.42	965.73	0.00	0.00	0.00
3,300.00	25.00	230.06	3,096.75	-647.14	-772.83	1,007.99	0.00	0.00	0.00
3,400.00	25.00	230.06	3,187.38	-674.27	-805.23	1,050.25	0.00	0.00	0.00
3,500.00	25.00	230.06	3,278.01	-701.40	-837.63	1,092.51	0.00	0.00	0.00
3,506.61	25.00	230.06	3,284.00	-703.19	-839.77	1,095.31	0.00	0.00	0.00
PARKMAN									
3,600.00	25.00	230.06	3,368.64	-728.53	-870.03	1,134.78	0.00	0.00	0.00
3,700.00	25.00	230.06	3,459.27	-755.66	-902.43	1,177.04	0.00	0.00	0.00
3,800.00	25.00	230.06	3,549.90	-782.80	-934.84	1,219.30	0.00	0.00	0.00
3,900.00	25.00	230.06	3,640.54	-809.93	-967.24	1,261.56	0.00	0.00	0.00
4,000.00	25.00	230.06	3,731.17	-837.06	-999.64	1,303.82	0.00	0.00	0.00
4,100.00	25.00	230.06	3,821.80	-864.19	-1,032.04	1,346.09	0.00	0.00	0.00
4,122.12	25.00	230.06	3,841.84	-870.20	-1,039.21	1,355.43	0.00	0.00	0.00
Start Drop -2.00									

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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 15-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 15-14		
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)
4,200.00	23.44	230.06	3,912.87	-890.71	-1,063.71	1,387.38	2.00	-2.00	0.00
4,300.00	21.44	230.06	4,005.29	-915.22	-1,092.97	1,425.56	2.00	-2.00	0.00
4,400.00	19.44	230.06	4,098.99	-937.64	-1,119.75	1,460.48	2.00	-2.00	0.00
4,500.00	17.44	230.06	4,193.85	-957.95	-1,144.00	1,492.12	2.00	-2.00	0.00
4,600.00	15.44	230.06	4,289.75	-976.12	-1,165.70	1,520.42	2.00	-2.00	0.00
4,700.00	13.44	230.06	4,386.59	-992.13	-1,184.83	1,545.36	2.00	-2.00	0.00
4,800.00	11.44	230.06	4,484.23	-1,005.96	-1,201.34	1,566.90	2.00	-2.00	0.00
4,900.00	9.44	230.06	4,582.57	-1,017.60	-1,215.24	1,585.03	2.00	-2.00	0.00
5,000.00	7.44	230.06	4,681.48	-1,027.02	-1,226.50	1,599.71	2.00	-2.00	0.00
5,100.00	5.44	230.06	4,780.85	-1,034.22	-1,235.10	1,610.93	2.00	-2.00	0.00
5,109.19	5.26	230.06	4,790.00	-1,034.77	-1,235.75	1,611.78	2.00	-2.00	0.00
SUSSEX									
5,200.00	3.44	230.06	4,880.54	-1,039.20	-1,241.04	1,618.67	2.00	-2.00	0.00
5,300.00	1.44	230.06	4,980.44	-1,041.93	-1,244.30	1,622.93	2.00	-2.00	0.00
5,372.12	0.00	0.00	5,052.56	-1,042.52	-1,245.00	1,623.84	2.00	-2.00	0.00
Start 3432.44 hold at 5372.12 MD									
5,400.00	0.00	0.00	5,080.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
5,500.00	0.00	0.00	5,180.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
5,600.00	0.00	0.00	5,280.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
5,700.00	0.00	0.00	5,380.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
5,800.00	0.00	0.00	5,480.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
5,900.00	0.00	0.00	5,580.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,000.00	0.00	0.00	5,680.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,100.00	0.00	0.00	5,780.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,200.00	0.00	0.00	5,880.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,300.00	0.00	0.00	5,980.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,400.00	0.00	0.00	6,080.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,500.00	0.00	0.00	6,180.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,600.00	0.00	0.00	6,280.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,700.00	0.00	0.00	6,380.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,800.00	0.00	0.00	6,480.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
6,900.00	0.00	0.00	6,580.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,000.00	0.00	0.00	6,680.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,100.00	0.00	0.00	6,780.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,200.00	0.00	0.00	6,880.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,300.00	0.00	0.00	6,980.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,400.00	0.00	0.00	7,080.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,500.00	0.00	0.00	7,180.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,600.00	0.00	0.00	7,280.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,700.00	0.00	0.00	7,380.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,800.00	0.00	0.00	7,480.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
7,815.56	0.00	0.00	7,496.00	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
NIO									
7,900.00	0.00	0.00	7,580.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
8,000.00	0.00	0.00	7,680.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
8,100.00	0.00	0.00	7,780.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
8,195.56	0.00	0.00	7,876.00	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
CODELL									
8,200.00	0.00	0.00	7,880.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
8,271.56	0.00	0.00	7,952.00	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00
GREENHORN									

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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 15-14	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Sweetgrass 15-14		
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	7,980.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,080.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,180.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,280.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,639.56	0.00	0.00	8,320.00	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
JSAND										
8,700.00	0.00	0.00	8,380.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,480.44	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
8,804.56	0.00	0.00	8,485.00	-1,042.52	-1,245.00	1,623.84	0.00	0.00	0.00	
PBHL_Sweetgrass 15-14(810 FSL 2130 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_Sweetgrass 15-1 - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,485.00	-1,042.52	-1,245.00	1,260,173.14	3,148,718.65	40° 2' 46.828 N		104° 58' 7.640 W

Casing Points								
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (in)	Hole Diameter (in)		
1,173.47	1,160.00	8 5/8"			8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,506.61	3,284.00	PARKMAN				
5,109.19	4,790.00	SUSSEX				
7,815.56	7,496.00	NIO				
8,195.56	7,876.00	CODELL				
8,271.56	7,952.00	GREENHORN				
8,639.56	8,320.00	JSAND				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
1,550.00	1,510.71	-172.32	-205.79	Start 2572.12 hold at 1550.00 MD	
4,122.12	3,841.84	-870.20	-1,039.21	Start Drop -2.00	
5,372.12	5,052.56	-1,042.52	-1,245.00	Start 3432.44 hold at 5372.12 MD	
8,804.56	8,485.00	-1,042.52	-1,245.00	TD at 8804.56	