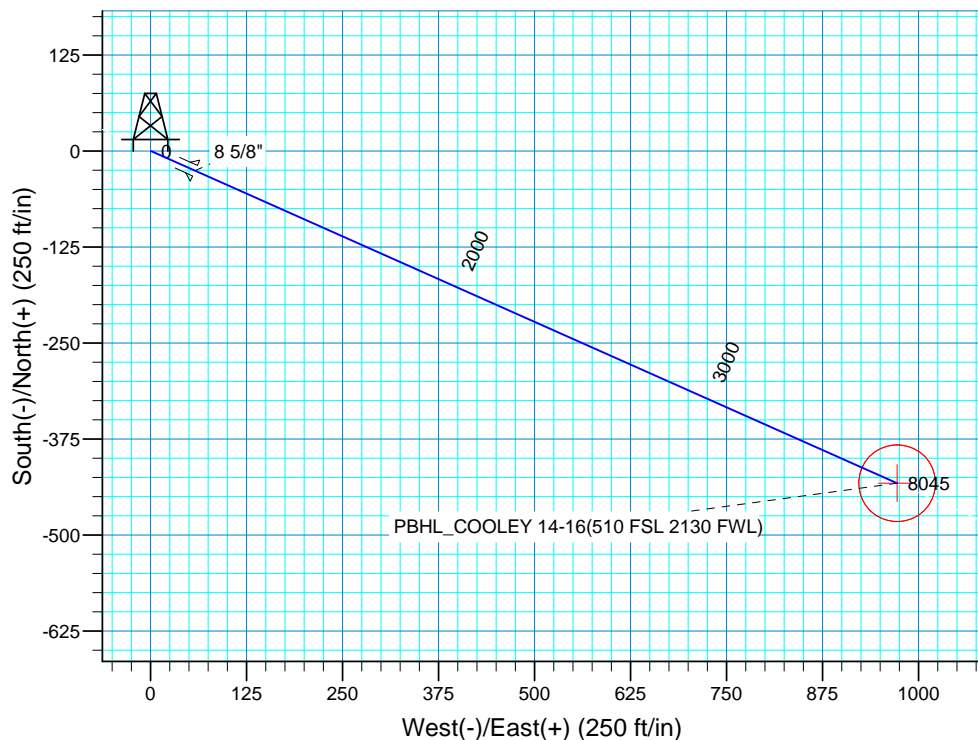
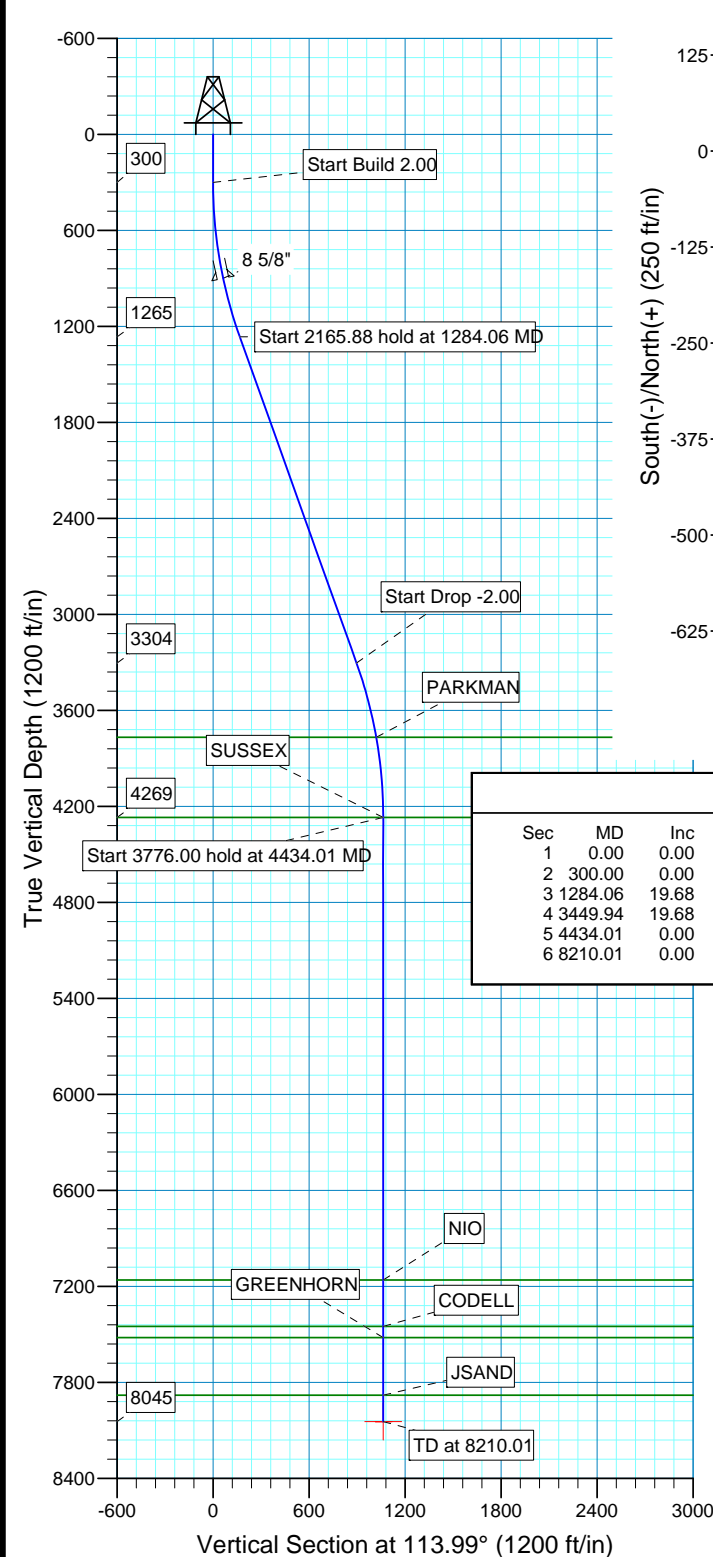
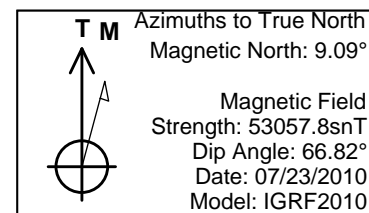


WELL DETAILS: P_COOLEY 14-16								
GL 4885 & RKB 15' @ 4900.00ft (ASSUMED) 4885.00								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	1292065.81	3136024.38	40° 8' 2.724 N	105° 0' 48.622 W			
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8045.00	-432.74	972.20	1291638.41	3136998.93	40° 7' 58.447 N	105° 0' 36.104 W	Circle (Radius: 50.00)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	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	1284.06	19.68	113.99	1264.82	-68.06	152.90	2.00	113.99	167.36	
4	3449.94	19.68	113.99	3304.18	-364.69	819.30	0.00	0.00	896.80	
5	4434.01	0.00	0.00	4269.00	-432.74	972.20	2.00	180.00	1064.16	
6	8210.01	0.00	0.00	8045.00	-432.74	972.20	0.00	0.00	1064.16	PBHL_COOLEY 14-16(510 FSL 2130 FWL)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3769.00	3931.43	PARKMAN
4269.00	4434.01	SUSSEX
7160.00	7325.01	NIO
7450.00	7615.01	CODELL
7520.00	7685.01	GREENHORN
7880.00	8045.01	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 16 T2N R68W
System Datum:	Mean Sea Level
Local North:	No north reference data is available

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_COOLEY 19-16 Pad

P_COOLEY 14-16

P_COOLEY 14-16

Plan: Plan #1 7-23-10 RHS

Standard Planning Report

23 July, 2010

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 14-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Site:	WELD_COOLEY 19-16 Pad	North Reference:	True
Well:	P_COOLEY 14-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 14-16		
Design:	Plan #1 7-23-10 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_COOLEY 19-16 Pad, SECTION 16 T2N R68W			
Site Position:		Northing:	1,292,095.29ft	Latitude:	40° 8' 3.016 N
From:	Lat/Long	Easting:	3,136,019.18ft	Longitude:	105° 0' 48.686 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.31 °

Well	P_COOLEY 14-16, 949 FSL 1159 FWL					
Well Position	+N-S	0.00 ft	Northing:	1,292,065.81 ft	Latitude:	40° 8' 2.724 N
	+E-W	0.00 ft	Easting:	3,136,024.38 ft	Longitude:	105° 0' 48.622 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,885.00 ft

Wellbore	P_COOLEY 14-16				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	07/23/2010	9.09	66.82	53,058

Design	Plan #1 7-23-10 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	113.99

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	
1,284.06	19.68	113.99	1,264.82	-68.06	152.90	2.00	2.00	0.00	113.99	
3,449.94	19.68	113.99	3,304.18	-364.69	819.30	0.00	0.00	0.00	0.00	
4,434.01	0.00	0.00	4,269.00	-432.74	972.20	2.00	-2.00	0.00	180.00	
8,210.01	0.00	0.00	8,045.00	-432.74	972.20	0.00	0.00	0.00	0.00	PBHL_COOLEY 14

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 14-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Site:	WELD_COOLEY 19-16 Pad	North Reference:	True
Well:	P_COOLEY 14-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 14-16		
Design:	Plan #1 7-23-10 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	113.99	399.98	-0.71	1.59	1.75	2.00	2.00	0.00
500.00	4.00	113.99	499.84	-2.84	6.38	6.98	2.00	2.00	0.00
600.00	6.00	113.99	599.45	-6.38	14.34	15.69	2.00	2.00	0.00
700.00	8.00	113.99	698.70	-11.34	25.47	27.88	2.00	2.00	0.00
800.00	10.00	113.99	797.47	-17.70	39.76	43.52	2.00	2.00	0.00
900.00	12.00	113.99	895.62	-25.46	57.19	62.60	2.00	2.00	0.00
904.48	12.09	113.99	900.00	-25.84	58.05	63.54	2.00	2.00	0.00
8 5/8"									
1,000.00	14.00	113.99	993.06	-34.60	77.74	85.10	2.00	2.00	0.00
1,100.00	16.00	113.99	1,089.64	-45.13	101.39	110.98	2.00	2.00	0.00
1,200.00	18.00	113.99	1,185.27	-57.02	128.10	140.21	2.00	2.00	0.00
1,284.06	19.68	113.99	1,264.82	-68.06	152.90	167.36	2.00	2.00	0.00
Start 2165.88 hold at 1284.06 MD									
1,300.00	19.68	113.99	1,279.83	-70.24	157.80	172.73	0.00	0.00	0.00
1,400.00	19.68	113.99	1,373.99	-83.93	188.57	206.40	0.00	0.00	0.00
1,500.00	19.68	113.99	1,468.15	-97.63	219.34	240.08	0.00	0.00	0.00
1,600.00	19.68	113.99	1,562.30	-111.33	250.10	273.76	0.00	0.00	0.00
1,700.00	19.68	113.99	1,656.46	-125.02	280.87	307.44	0.00	0.00	0.00
1,800.00	19.68	113.99	1,750.62	-138.72	311.64	341.12	0.00	0.00	0.00
1,900.00	19.68	113.99	1,844.78	-152.41	342.41	374.80	0.00	0.00	0.00
2,000.00	19.68	113.99	1,938.94	-166.11	373.18	408.48	0.00	0.00	0.00
2,100.00	19.68	113.99	2,033.10	-179.80	403.95	442.16	0.00	0.00	0.00
2,200.00	19.68	113.99	2,127.25	-193.50	434.71	475.83	0.00	0.00	0.00
2,300.00	19.68	113.99	2,221.41	-207.19	465.48	509.51	0.00	0.00	0.00
2,400.00	19.68	113.99	2,315.57	-220.89	496.25	543.19	0.00	0.00	0.00
2,500.00	19.68	113.99	2,409.73	-234.59	527.02	576.87	0.00	0.00	0.00
2,600.00	19.68	113.99	2,503.89	-248.28	557.79	610.55	0.00	0.00	0.00
2,700.00	19.68	113.99	2,598.04	-261.98	588.56	644.23	0.00	0.00	0.00
2,800.00	19.68	113.99	2,692.20	-275.67	619.32	677.91	0.00	0.00	0.00
2,900.00	19.68	113.99	2,786.36	-289.37	650.09	711.59	0.00	0.00	0.00
3,000.00	19.68	113.99	2,880.52	-303.06	680.86	745.26	0.00	0.00	0.00
3,100.00	19.68	113.99	2,974.68	-316.76	711.63	778.94	0.00	0.00	0.00
3,200.00	19.68	113.99	3,068.83	-330.45	742.40	812.62	0.00	0.00	0.00
3,300.00	19.68	113.99	3,162.99	-344.15	773.17	846.30	0.00	0.00	0.00
3,400.00	19.68	113.99	3,257.15	-357.85	803.93	879.98	0.00	0.00	0.00
3,449.94	19.68	113.99	3,304.18	-364.69	819.30	896.80	0.00	0.00	0.00
Start Drop -2.00									
3,500.00	18.68	113.99	3,351.45	-371.37	834.33	913.25	2.00	-2.00	0.00
3,600.00	16.68	113.99	3,446.72	-383.72	862.07	943.61	2.00	-2.00	0.00
3,700.00	14.68	113.99	3,543.00	-394.71	886.76	970.64	2.00	-2.00	0.00
3,800.00	12.68	113.99	3,640.16	-404.33	908.37	994.29	2.00	-2.00	0.00
3,900.00	10.68	113.99	3,738.08	-412.56	926.86	1,014.53	2.00	-2.00	0.00
3,931.43	10.05	113.99	3,769.00	-414.86	932.03	1,020.19	2.00	-2.00	0.00
PARKMAN									
4,000.00	8.68	113.99	3,836.65	-419.40	942.22	1,031.35	2.00	-2.00	0.00
4,100.00	6.68	113.99	3,935.75	-424.83	954.43	1,044.71	2.00	-2.00	0.00
4,200.00	4.68	113.99	4,035.25	-428.86	963.47	1,054.61	2.00	-2.00	0.00
4,300.00	2.68	113.99	4,135.04	-431.47	969.33	1,061.03	2.00	-2.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 14-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Site:	WELD_COOLEY 19-16 Pad	North Reference:	True
Well:	P_COOLEY 14-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 14-16		
Design:	Plan #1 7-23-10 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	0.68	113.99	4,234.99	-432.66	972.01	1,063.96	2.00	-2.00	0.00
4,434.01	0.00	0.00	4,269.00	-432.74	972.20	1,064.16	2.00	-2.00	-335.22
Start 3776.00 hold at 4434.01 MD - SUSSEX									
4,500.00	0.00	0.00	4,334.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
4,600.00	0.00	0.00	4,434.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
4,700.00	0.00	0.00	4,534.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
4,800.00	0.00	0.00	4,634.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
4,900.00	0.00	0.00	4,734.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,000.00	0.00	0.00	4,834.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,100.00	0.00	0.00	4,934.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,200.00	0.00	0.00	5,034.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,300.00	0.00	0.00	5,134.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,400.00	0.00	0.00	5,234.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,500.00	0.00	0.00	5,334.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,600.00	0.00	0.00	5,434.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,700.00	0.00	0.00	5,534.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,800.00	0.00	0.00	5,634.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
5,900.00	0.00	0.00	5,734.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,000.00	0.00	0.00	5,834.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,100.00	0.00	0.00	5,934.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,200.00	0.00	0.00	6,034.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,300.00	0.00	0.00	6,134.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,400.00	0.00	0.00	6,234.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,500.00	0.00	0.00	6,334.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,600.00	0.00	0.00	6,434.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,700.00	0.00	0.00	6,534.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,800.00	0.00	0.00	6,634.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
6,900.00	0.00	0.00	6,734.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,000.00	0.00	0.00	6,834.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,100.00	0.00	0.00	6,934.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,200.00	0.00	0.00	7,034.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,300.00	0.00	0.00	7,134.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,325.01	0.00	0.00	7,160.00	-432.74	972.20	1,064.16	0.00	0.00	0.00
NIO									
7,400.00	0.00	0.00	7,234.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,500.00	0.00	0.00	7,334.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,600.00	0.00	0.00	7,434.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,615.01	0.00	0.00	7,450.00	-432.74	972.20	1,064.16	0.00	0.00	0.00
CODELL									
7,685.01	0.00	0.00	7,520.00	-432.74	972.20	1,064.16	0.00	0.00	0.00
GREENHORN									
7,700.00	0.00	0.00	7,534.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,800.00	0.00	0.00	7,634.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
7,900.00	0.00	0.00	7,734.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
8,000.00	0.00	0.00	7,834.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
8,045.01	0.00	0.00	7,880.00	-432.74	972.20	1,064.16	0.00	0.00	0.00
JSAND									
8,100.00	0.00	0.00	7,934.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
8,200.00	0.00	0.00	8,034.99	-432.74	972.20	1,064.16	0.00	0.00	0.00
8,210.01	0.00	0.00	8,045.00	-432.74	972.20	1,064.16	0.00	0.00	0.00
PBHL_COOLEY 14-16(510 FSL 2130 FWL)									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 14-16
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4885 & RKB 15' @ 4900.00ft (ASSUMED)
Site:	WELD_COOLEY 19-16 Pad	North Reference:	True
Well:	P_COOLEY 14-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 14-16		
Design:	Plan #1 7-23-10 RHS		

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL_COOLEY 14-16	0.00	0.00	8,045.00	-432.74	972.20	1,291,638.41	3,136,998.93	40° 7' 58.447 N	105° 0' 36.104 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
904.48	900.00	8 5/8"	8.625	11.000

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,685.01	7,520.00	GREENHORN			
3,931.43	3,769.00	PARKMAN			
8,045.01	7,880.00	JSAND			
4,434.01	4,269.00	SUSSEX			
7,325.01	7,160.00	NIO			
7,615.01	7,450.00	CODELL			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,284.06	1,264.82	-68.06	152.90	Start 2165.88 hold at 1284.06 MD
3,449.94	3,304.18	-364.69	819.30	Start Drop -2.00
4,434.01	4,269.00	-432.74	972.20	Start 3776.00 hold at 4434.01 MD
8,210.01	8,045.00	-432.74	972.20	TD at 8210.01