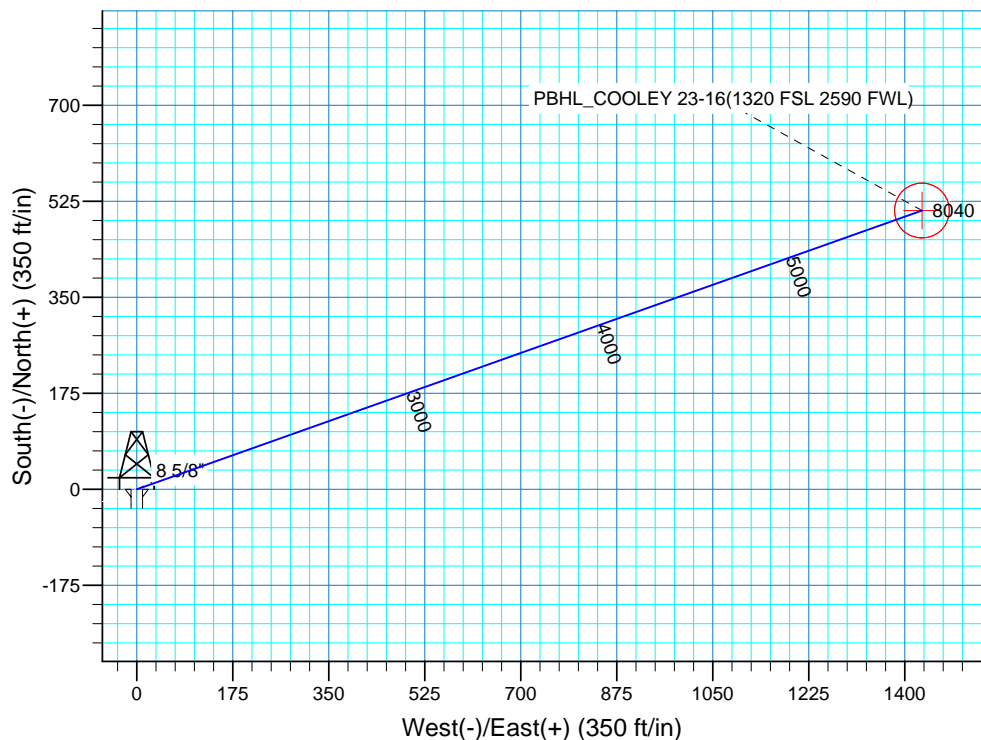
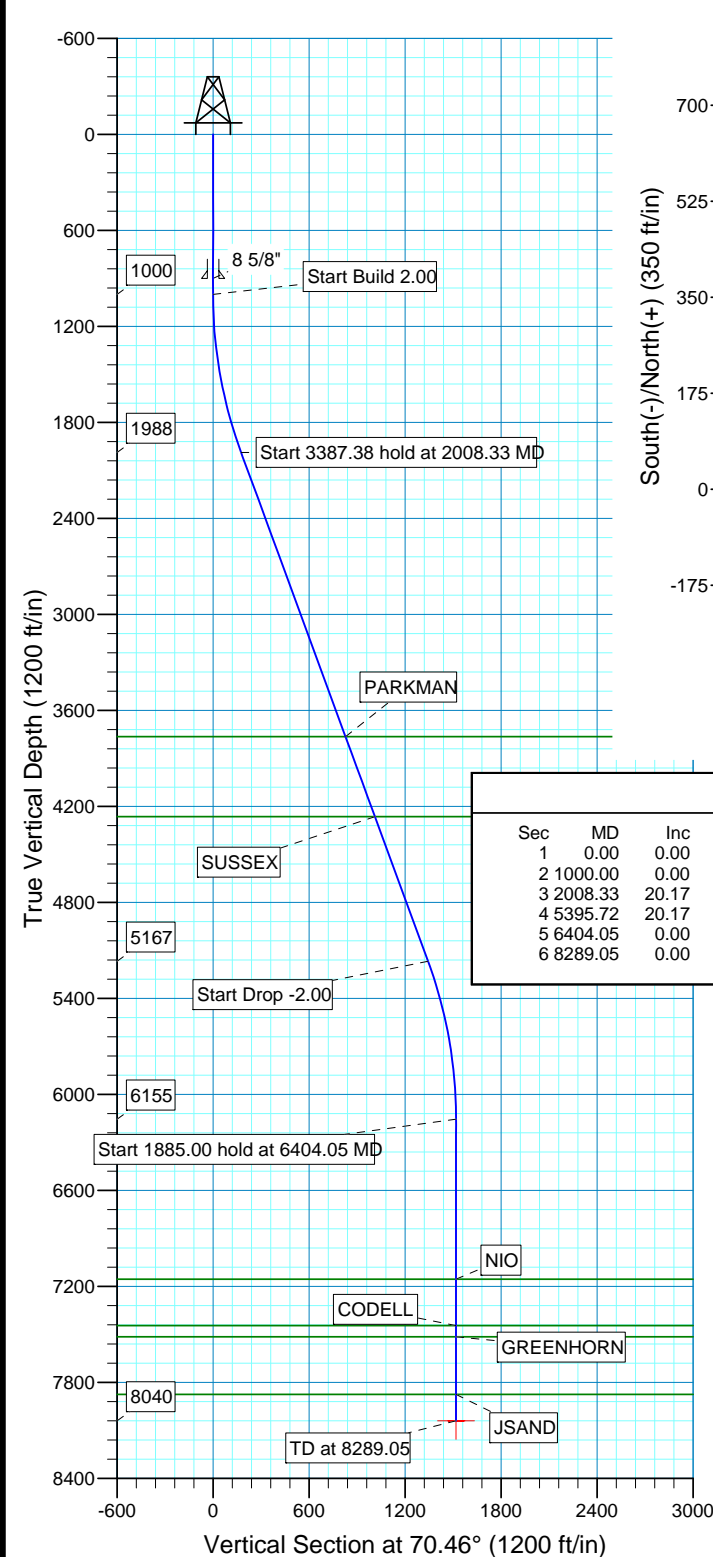
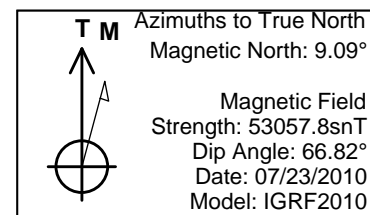


WELL DETAILS: P_COOLEY 23-16								
GL 4885 & RKB 15' @ 4900.00ft (ASSUMED) 4885.00								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	1292075.63	3136022.65	40° 8' 2.821 N	105° 0' 48.643 W			
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8040.00	508.20	1431.54	1292591.67	3137451.37	40° 8' 7.843 N	105° 0' 30.211 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	1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	
3	2008.33	20.17	70.46	1987.64	58.76	165.51	2.00	70.46	175.63	
4	5395.72	20.17	70.46	5167.36	449.44	1266.03	0.00	0.00	1343.44	
5	6404.05	0.00	0.00	6155.00	508.20	1431.54	2.00	180.00	1519.07	
6	8289.05	0.00	0.00	8040.00	508.20	1431.54	0.00	0.00	1519.07	PBHL_COOLEY 23-16(1320 FSL 2590 FWL)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3764.00	3900.71	PARKMAN
4264.00	4433.36	SUSSEX
7155.00	7404.05	NIO
7445.00	7694.05	CODELL
7515.00	7764.05	GREENHORN
7875.00	8124.05	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 23-16

P_COOLEY 23-16

Plan: Plan #1 7-23-10 RHS

Standard Planning Report

25 July, 2010

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 23-16
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 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 23-16		
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:	1,292,095.29 ft	Latitude:	40° 8' 3.016 N
From:	Lat/Long	Easting:	3,136,019.18 ft	Longitude:	105° 0' 48.686 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.31 °

Well	P_COOLEY 23-16, 958 FSL 1157 FWL					
Well Position	+N-S	0.00 ft	Northing:	1,292,075.63 ft	Latitude:	40° 8' 2.821 N
	+E-W	0.00 ft	Easting:	3,136,022.65 ft	Longitude:	105° 0' 48.643 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,885.00 ft

Wellbore	P_COOLEY 23-16				
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	70.46

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	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,008.33	20.17	70.46	1,987.64	58.76	165.51	2.00	2.00	0.00	70.46	
5,395.72	20.17	70.46	5,167.36	449.44	1,266.03	0.00	0.00	0.00	0.00	
6,404.05	0.00	0.00	6,155.00	508.20	1,431.54	2.00	-2.00	0.00	180.00	
8,289.05	0.00	0.00	8,040.00	508.20	1,431.54	0.00	0.00	0.00	0.00	PBHL_COOLEY 23

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 23-16
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 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 23-16		
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
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
8 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,100.00	2.00	70.46	1,099.98	0.58	1.64	1.75	2.00	2.00	0.00
1,200.00	4.00	70.46	1,199.84	2.33	6.58	6.98	2.00	2.00	0.00
1,300.00	6.00	70.46	1,299.45	5.25	14.79	15.69	2.00	2.00	0.00
1,400.00	8.00	70.46	1,398.70	9.33	26.27	27.88	2.00	2.00	0.00
1,500.00	10.00	70.46	1,497.47	14.56	41.01	43.52	2.00	2.00	0.00
1,600.00	12.00	70.46	1,595.62	20.94	59.00	62.60	2.00	2.00	0.00
1,700.00	14.00	70.46	1,693.06	28.47	80.19	85.10	2.00	2.00	0.00
1,800.00	16.00	70.46	1,789.64	37.13	104.58	110.98	2.00	2.00	0.00
1,900.00	18.00	70.46	1,885.27	46.91	132.13	140.21	2.00	2.00	0.00
2,000.00	20.00	70.46	1,979.82	57.80	162.81	172.77	2.00	2.00	0.00
2,008.33	20.17	70.46	1,987.64	58.76	165.51	175.63	2.00	2.00	0.00
Start 3387.38 hold at 2008.33 MD									
2,100.00	20.17	70.46	2,073.69	69.33	195.29	207.23	0.00	0.00	0.00
2,200.00	20.17	70.46	2,167.56	80.86	227.78	241.71	0.00	0.00	0.00
2,300.00	20.17	70.46	2,261.43	92.40	260.27	276.18	0.00	0.00	0.00
2,400.00	20.17	70.46	2,355.30	103.93	292.76	310.66	0.00	0.00	0.00
2,500.00	20.17	70.46	2,449.17	115.46	325.25	345.13	0.00	0.00	0.00
2,600.00	20.17	70.46	2,543.04	127.00	357.73	379.61	0.00	0.00	0.00
2,700.00	20.17	70.46	2,636.91	138.53	390.22	414.08	0.00	0.00	0.00
2,800.00	20.17	70.46	2,730.77	150.06	422.71	448.56	0.00	0.00	0.00
2,900.00	20.17	70.46	2,824.64	161.60	455.20	483.03	0.00	0.00	0.00
3,000.00	20.17	70.46	2,918.51	173.13	487.69	517.51	0.00	0.00	0.00
3,100.00	20.17	70.46	3,012.38	184.66	520.18	551.98	0.00	0.00	0.00
3,200.00	20.17	70.46	3,106.25	196.20	552.67	586.46	0.00	0.00	0.00
3,300.00	20.17	70.46	3,200.12	207.73	585.16	620.93	0.00	0.00	0.00
3,400.00	20.17	70.46	3,293.99	219.26	617.65	655.41	0.00	0.00	0.00
3,500.00	20.17	70.46	3,387.86	230.80	650.13	689.89	0.00	0.00	0.00
3,600.00	20.17	70.46	3,481.73	242.33	682.62	724.36	0.00	0.00	0.00
3,700.00	20.17	70.46	3,575.60	253.86	715.11	758.84	0.00	0.00	0.00
3,800.00	20.17	70.46	3,669.47	265.40	747.60	793.31	0.00	0.00	0.00
3,900.00	20.17	70.46	3,763.34	276.93	780.09	827.79	0.00	0.00	0.00
3,900.71	20.17	70.46	3,764.00	277.01	780.32	828.03	0.00	0.00	0.00
PARKMAN									
4,000.00	20.17	70.46	3,857.21	288.47	812.58	862.26	0.00	0.00	0.00
4,100.00	20.17	70.46	3,951.08	300.00	845.07	896.74	0.00	0.00	0.00
4,200.00	20.17	70.46	4,044.95	311.53	877.56	931.21	0.00	0.00	0.00
4,300.00	20.17	70.46	4,138.82	323.07	910.04	965.69	0.00	0.00	0.00
4,400.00	20.17	70.46	4,232.68	334.60	942.53	1,000.16	0.00	0.00	0.00
4,433.36	20.17	70.46	4,264.00	338.45	953.37	1,011.66	0.00	0.00	0.00
SUSSEX									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 23-16
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 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 23-16		
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)
4,500.00	20.17	70.46	4,326.55	346.13	975.02	1,034.64	0.00	0.00	0.00
4,600.00	20.17	70.46	4,420.42	357.67	1,007.51	1,069.11	0.00	0.00	0.00
4,700.00	20.17	70.46	4,514.29	369.20	1,040.00	1,103.59	0.00	0.00	0.00
4,800.00	20.17	70.46	4,608.16	380.73	1,072.49	1,138.06	0.00	0.00	0.00
4,900.00	20.17	70.46	4,702.03	392.27	1,104.98	1,172.54	0.00	0.00	0.00
5,000.00	20.17	70.46	4,795.90	403.80	1,137.47	1,207.01	0.00	0.00	0.00
5,100.00	20.17	70.46	4,889.77	415.33	1,169.95	1,241.49	0.00	0.00	0.00
5,200.00	20.17	70.46	4,983.64	426.87	1,202.44	1,275.96	0.00	0.00	0.00
5,300.00	20.17	70.46	5,077.51	438.40	1,234.93	1,310.44	0.00	0.00	0.00
5,395.72	20.17	70.46	5,167.36	449.44	1,266.03	1,343.44	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	20.08	70.46	5,171.38	449.93	1,267.42	1,344.91	2.00	-2.00	0.00
5,500.00	18.08	70.46	5,265.88	460.87	1,298.22	1,377.60	2.00	-2.00	0.00
5,600.00	16.08	70.46	5,361.46	470.70	1,325.90	1,406.97	2.00	-2.00	0.00
5,700.00	14.08	70.46	5,458.02	479.40	1,350.42	1,432.99	2.00	-2.00	0.00
5,800.00	12.08	70.46	5,555.42	486.97	1,371.75	1,455.62	2.00	-2.00	0.00
5,900.00	10.08	70.46	5,653.55	493.40	1,389.86	1,474.84	2.00	-2.00	0.00
6,000.00	8.08	70.46	5,752.29	498.68	1,404.73	1,490.62	2.00	-2.00	0.00
6,100.00	6.08	70.46	5,851.52	502.80	1,416.35	1,502.95	2.00	-2.00	0.00
6,200.00	4.08	70.46	5,951.12	505.77	1,424.69	1,511.80	2.00	-2.00	0.00
6,300.00	2.08	70.46	6,050.97	507.56	1,429.76	1,517.18	2.00	-2.00	0.00
6,400.00	0.08	70.46	6,150.95	508.20	1,431.54	1,519.07	2.00	-2.00	0.00
6,404.05	0.00	0.00	6,155.00	508.20	1,431.54	1,519.07	2.00	-2.00	0.00
Start 1885.00 hold at 6404.05 MD									
6,500.00	0.00	0.00	6,250.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
6,600.00	0.00	0.00	6,350.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
6,700.00	0.00	0.00	6,450.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
6,800.00	0.00	0.00	6,550.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
6,900.00	0.00	0.00	6,650.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,000.00	0.00	0.00	6,750.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,100.00	0.00	0.00	6,850.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,200.00	0.00	0.00	6,950.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,300.00	0.00	0.00	7,050.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,400.00	0.00	0.00	7,150.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,404.05	0.00	0.00	7,155.00	508.20	1,431.54	1,519.07	0.00	0.00	0.00
NIO									
7,500.00	0.00	0.00	7,250.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,600.00	0.00	0.00	7,350.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,694.05	0.00	0.00	7,445.00	508.20	1,431.54	1,519.07	0.00	0.00	0.00
CODELL									
7,700.00	0.00	0.00	7,450.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,764.05	0.00	0.00	7,515.00	508.20	1,431.54	1,519.07	0.00	0.00	0.00
GREENHORN									
7,800.00	0.00	0.00	7,550.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
7,900.00	0.00	0.00	7,650.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
8,000.00	0.00	0.00	7,750.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
8,100.00	0.00	0.00	7,850.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
8,124.05	0.00	0.00	7,875.00	508.20	1,431.54	1,519.07	0.00	0.00	0.00
JSAND									
8,200.00	0.00	0.00	7,950.95	508.20	1,431.54	1,519.07	0.00	0.00	0.00
8,289.05	0.00	0.00	8,040.00	508.20	1,431.54	1,519.07	0.00	0.00	0.00
TD at 8289.05 - PBHL_COOLEY 23-16(1320 FSL 2590 FWL)									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 23-16
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 23-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 23-16		
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 23-1	0.00	0.00	8,040.00	508.20	1,431.54	1,292,591.67	3,137,451.37	40° 8' 7.843 N	105° 0' 30.211 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points

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

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,764.05	7,515.00	GREENHORN			
4,433.36	4,264.00	SUSSEX			
7,694.05	7,445.00	CODELL			
3,900.71	3,764.00	PARKMAN			
8,124.05	7,875.00	JSAND			
7,404.05	7,155.00	NIO			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.00	1,000.00	0.00	0.00	Start Build 2.00
2,008.33	1,987.64	58.76	165.51	Start 3387.38 hold at 2008.33 MD
5,395.72	5,167.36	449.44	1,266.03	Start Drop -2.00
6,404.05	6,155.00	508.20	1,431.54	Start 1885.00 hold at 6404.05 MD
8,289.05	8,040.00	508.20	1,431.54	TD at 8289.05