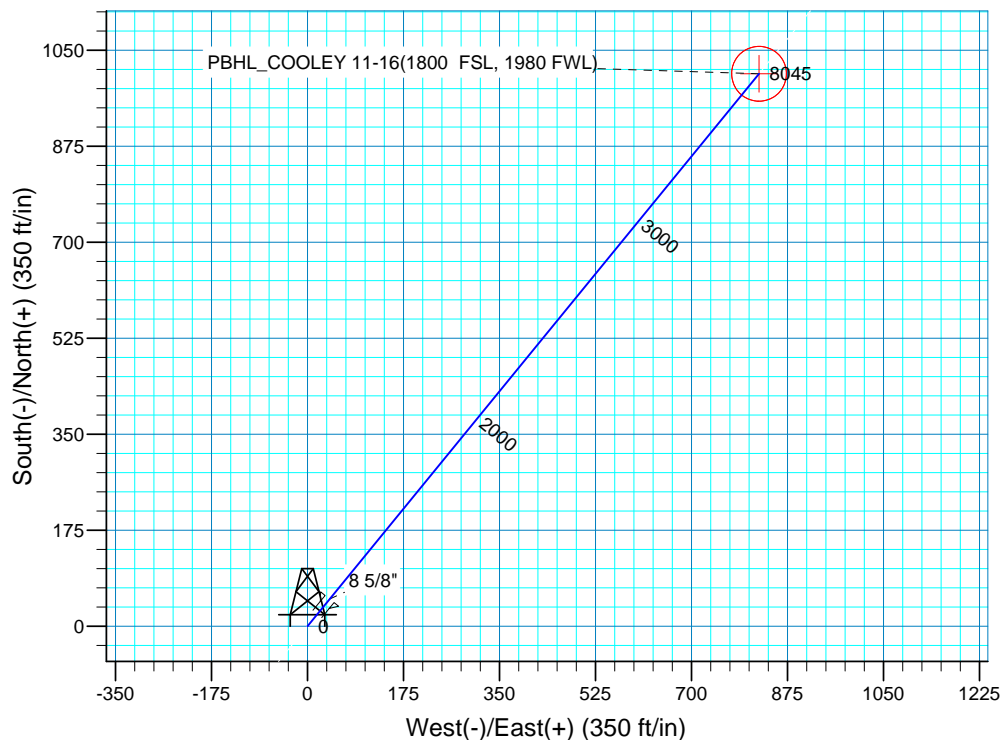
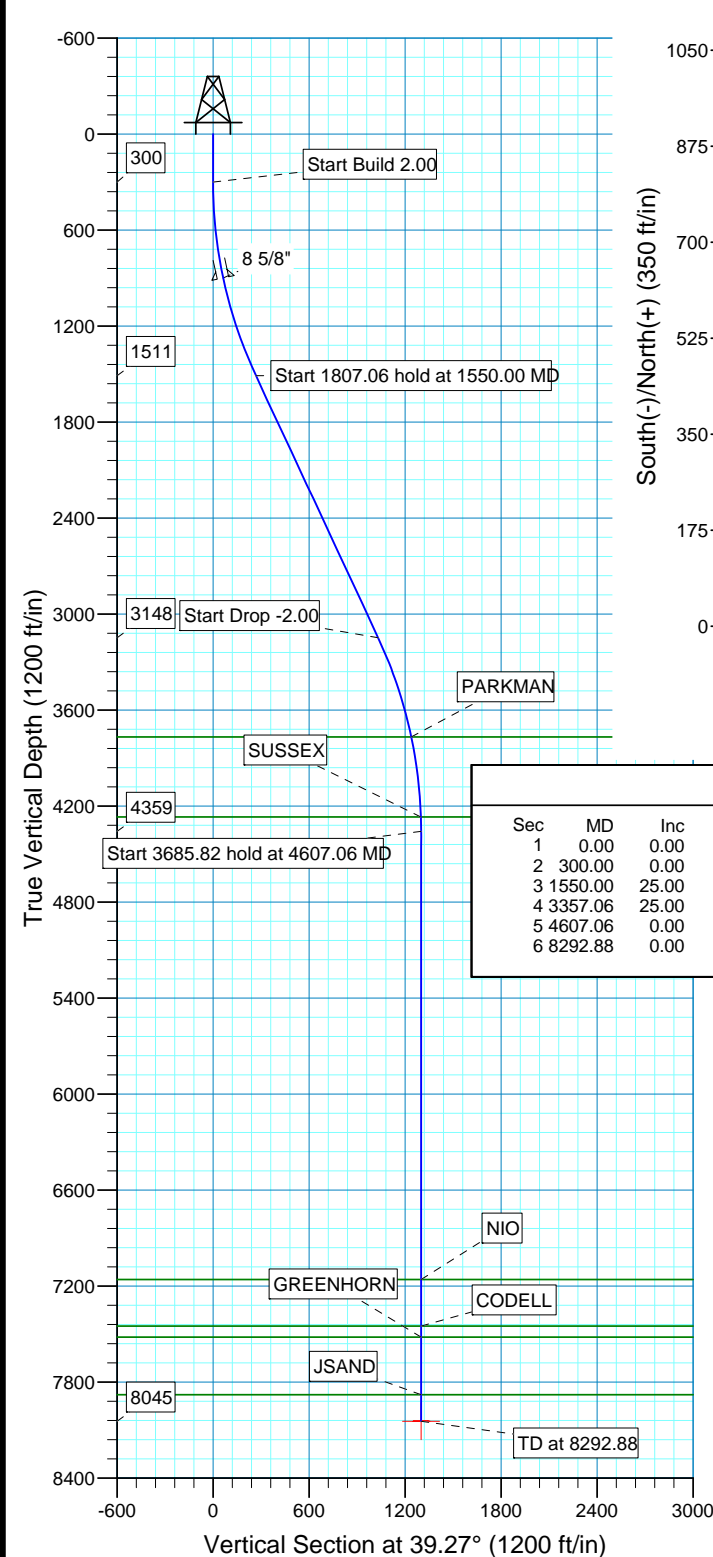
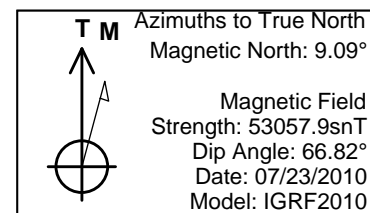


WELL DETAILS: P_COOLEY 11-16								
GL 4885 & RKB 15' @ 4900.00ft (ASSUMED) 4885.00								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	1292095.29	3136019.18	40° 8' 3.016 N	105° 0' 48.686 W			
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8045.00	1006.88	823.12	1293106.67	3136836.76	40° 8' 12.966 N	105° 0' 38.088 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	1550.00	25.00	39.27	1510.71	207.81	169.88	2.00	39.27	268.41	
4	3357.06	25.00	39.27	3148.47	799.08	653.24	0.00	0.00	1032.11	
5	4607.06	0.00	0.00	4359.18	1006.88	823.12	2.00	180.00	1300.52	
6	8292.88	0.00	0.00	8045.00	1006.88	823.12	0.00	0.00	1300.52	PBHL_COOLEY 11-16(1800 FSL, 1980 FWL)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3769.00	4012.63	PARKMAN
4269.00	4516.87	SUSSEX
7160.00	7407.88	NIO
7450.00	7697.88	CODELL
7520.00	7767.88	GREENHORN
7880.00	8127.88	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 11-16

P_COOLEY 11-16

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 11-16
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 11-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 11-16		
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 11-16, 978 FSL 1154 FWL					
Well Position	+N-S	0.00 ft	Northing:	1,292,095.29 ft	Latitude:	40° 8' 3.016 N
	+E-W	0.00 ft	Easting:	3,136,019.18 ft	Longitude:	105° 0' 48.686 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,885.00 ft

Wellbore	P_COOLEY 11-16				
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	39.27

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	39.27	1,510.71	207.81	169.88	2.00	2.00	0.00	39.27	
3,357.06	25.00	39.27	3,148.47	799.08	653.24	0.00	0.00	0.00	0.00	
4,607.06	0.00	0.00	4,359.18	1,006.88	823.12	2.00	-2.00	0.00	180.00	
8,292.88	0.00	0.00	8,045.00	1,006.88	823.12	0.00	0.00	0.00	0.00	PBHL_COOLEY 11

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 11-16
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 11-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 11-16		
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	39.27	399.98	1.35	1.10	1.75	2.00	2.00	0.00
500.00	4.00	39.27	499.84	5.40	4.42	6.98	2.00	2.00	0.00
600.00	6.00	39.27	599.45	12.15	9.93	15.69	2.00	2.00	0.00
700.00	8.00	39.27	698.70	21.59	17.65	27.88	2.00	2.00	0.00
800.00	10.00	39.27	797.47	33.70	27.55	43.52	2.00	2.00	0.00
900.00	12.00	39.27	895.62	48.47	39.62	62.60	2.00	2.00	0.00
904.48	12.09	39.27	900.00	49.19	40.21	63.54	2.00	2.00	0.00
8 5/8"									
1,000.00	14.00	39.27	993.06	65.88	53.86	85.10	2.00	2.00	0.00
1,100.00	16.00	39.27	1,089.64	85.92	70.24	110.98	2.00	2.00	0.00
1,200.00	18.00	39.27	1,185.27	108.56	88.74	140.21	2.00	2.00	0.00
1,300.00	20.00	39.27	1,279.82	133.76	109.35	172.77	2.00	2.00	0.00
1,400.00	22.00	39.27	1,373.17	161.50	132.03	208.60	2.00	2.00	0.00
1,500.00	24.00	39.27	1,465.21	191.75	156.76	247.67	2.00	2.00	0.00
1,550.00	25.00	39.27	1,510.71	207.81	169.88	268.41	2.00	2.00	0.00
Start 1807.06 hold at 1550.00 MD									
1,600.00	25.00	39.27	1,556.03	224.17	183.25	289.54	0.00	0.00	0.00
1,700.00	25.00	39.27	1,646.66	256.89	210.00	331.80	0.00	0.00	0.00
1,800.00	25.00	39.27	1,737.29	289.61	236.75	374.06	0.00	0.00	0.00
1,900.00	25.00	39.27	1,827.92	322.33	263.50	416.32	0.00	0.00	0.00
2,000.00	25.00	39.27	1,918.55	355.05	290.25	458.59	0.00	0.00	0.00
2,100.00	25.00	39.27	2,009.18	387.77	317.00	500.85	0.00	0.00	0.00
2,200.00	25.00	39.27	2,099.81	420.49	343.74	543.11	0.00	0.00	0.00
2,300.00	25.00	39.27	2,190.44	453.21	370.49	585.37	0.00	0.00	0.00
2,400.00	25.00	39.27	2,281.07	485.93	397.24	627.63	0.00	0.00	0.00
2,500.00	25.00	39.27	2,371.70	518.65	423.99	669.90	0.00	0.00	0.00
2,600.00	25.00	39.27	2,462.34	551.37	450.74	712.16	0.00	0.00	0.00
2,700.00	25.00	39.27	2,552.97	584.09	477.48	754.42	0.00	0.00	0.00
2,800.00	25.00	39.27	2,643.60	616.81	504.23	796.68	0.00	0.00	0.00
2,900.00	25.00	39.27	2,734.23	649.53	530.98	838.94	0.00	0.00	0.00
3,000.00	25.00	39.27	2,824.86	682.25	557.73	881.20	0.00	0.00	0.00
3,100.00	25.00	39.27	2,915.49	714.97	584.48	923.47	0.00	0.00	0.00
3,200.00	25.00	39.27	3,006.12	747.69	611.23	965.73	0.00	0.00	0.00
3,300.00	25.00	39.27	3,096.75	780.41	637.97	1,007.99	0.00	0.00	0.00
3,357.06	25.00	39.27	3,148.47	799.08	653.24	1,032.11	0.00	0.00	0.00
Start Drop -2.00									
3,400.00	24.14	39.27	3,187.52	812.90	664.54	1,049.96	2.00	-2.00	0.00
3,500.00	22.14	39.27	3,279.47	843.33	689.41	1,089.26	2.00	-2.00	0.00
3,600.00	20.14	39.27	3,372.73	871.25	712.24	1,125.32	2.00	-2.00	0.00
3,700.00	18.14	39.27	3,467.20	896.63	732.99	1,158.11	2.00	-2.00	0.00
3,800.00	16.14	39.27	3,562.75	919.45	751.64	1,187.58	2.00	-2.00	0.00
3,900.00	14.14	39.27	3,659.27	939.67	768.17	1,213.70	2.00	-2.00	0.00
4,000.00	12.14	39.27	3,756.65	957.27	782.56	1,236.44	2.00	-2.00	0.00
4,012.63	11.89	39.27	3,769.00	959.31	784.22	1,239.06	2.00	-2.00	0.00
PARKMAN									
4,100.00	10.14	39.27	3,854.76	972.23	794.79	1,255.76	2.00	-2.00	0.00
4,200.00	8.14	39.27	3,953.48	984.53	804.84	1,271.64	2.00	-2.00	0.00
4,300.00	6.14	39.27	4,052.70	994.16	812.71	1,284.07	2.00	-2.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 11-16
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 11-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 11-16		
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	4.14	39.27	4,152.30	1,001.09	818.38	1,293.04	2.00	-2.00	0.00
4,500.00	2.14	39.27	4,252.14	1,005.34	821.85	1,298.51	2.00	-2.00	0.00
4,516.87	1.80	39.27	4,269.00	1,005.79	822.22	1,299.10	2.00	-2.00	0.00
SUSSEX									
4,600.00	0.14	39.27	4,352.12	1,006.88	823.11	1,300.51	2.00	-2.00	0.00
4,607.06	0.00	0.00	4,359.18	1,006.88	823.12	1,300.52	2.00	-2.00	0.00
Start 3685.82 hold at 4607.06 MD									
4,700.00	0.00	0.00	4,452.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
4,800.00	0.00	0.00	4,552.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
4,900.00	0.00	0.00	4,652.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,000.00	0.00	0.00	4,752.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,100.00	0.00	0.00	4,852.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,200.00	0.00	0.00	4,952.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,300.00	0.00	0.00	5,052.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,400.00	0.00	0.00	5,152.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,500.00	0.00	0.00	5,252.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,600.00	0.00	0.00	5,352.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,700.00	0.00	0.00	5,452.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,800.00	0.00	0.00	5,552.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
5,900.00	0.00	0.00	5,652.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,000.00	0.00	0.00	5,752.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,100.00	0.00	0.00	5,852.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,200.00	0.00	0.00	5,952.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,300.00	0.00	0.00	6,052.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,400.00	0.00	0.00	6,152.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,500.00	0.00	0.00	6,252.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,600.00	0.00	0.00	6,352.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,700.00	0.00	0.00	6,452.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,800.00	0.00	0.00	6,552.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
6,900.00	0.00	0.00	6,652.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,000.00	0.00	0.00	6,752.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,100.00	0.00	0.00	6,852.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,200.00	0.00	0.00	6,952.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,300.00	0.00	0.00	7,052.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,400.00	0.00	0.00	7,152.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,407.88	0.00	0.00	7,160.00	1,006.88	823.12	1,300.52	0.00	0.00	0.00
NIO									
7,500.00	0.00	0.00	7,252.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,600.00	0.00	0.00	7,352.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,697.88	0.00	0.00	7,450.00	1,006.88	823.12	1,300.52	0.00	0.00	0.00
CODELL									
7,700.00	0.00	0.00	7,452.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,767.88	0.00	0.00	7,520.00	1,006.88	823.12	1,300.52	0.00	0.00	0.00
GREENHORN									
7,800.00	0.00	0.00	7,552.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
7,900.00	0.00	0.00	7,652.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
8,000.00	0.00	0.00	7,752.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
8,100.00	0.00	0.00	7,852.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
8,127.88	0.00	0.00	7,880.00	1,006.88	823.12	1,300.52	0.00	0.00	0.00
JSAND									
8,200.00	0.00	0.00	7,952.12	1,006.88	823.12	1,300.52	0.00	0.00	0.00
8,292.88	0.00	0.00	8,045.00	1,006.88	823.12	1,300.52	0.00	0.00	0.00
TD at 8292.88 - PBHL_COOLEY 11-16(1800 FSL, 1980 FWL)									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 11-16
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 11-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 11-16		
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)

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude Longitude
PBHL_COOLEY 11-11	- plan hits target center - Circle (radius 50.00)	0.00	0.00	8,045.00	1,006.88	823.12	1,293,106.67	3,136,836.76	40° 8' 12.966 N 105° 0' 38.088 W

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 (°)	
7,407.88	7,160.00	NIO				
8,127.88	7,880.00	JSAND				
4,012.63	3,769.00	PARKMAN				
7,767.88	7,520.00	GREENHORN				
4,516.87	4,269.00	SUSSEX				
7,697.88	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
1,550.00	1,510.71	207.81	169.88	Start 1807.06 hold at 1550.00 MD
3,357.06	3,148.47	799.08	653.24	Start Drop -2.00
4,607.06	4,359.18	1,006.88	823.12	Start 3685.82 hold at 4607.06 MD
8,292.88	8,045.00	1,006.88	823.12	TD at 8292.88