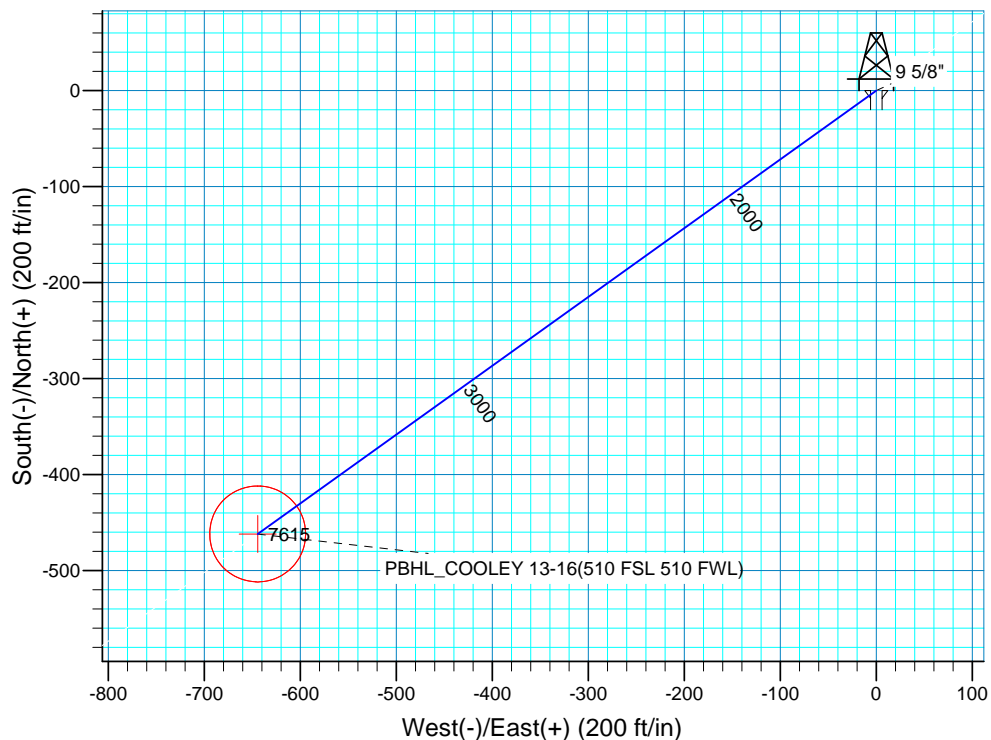
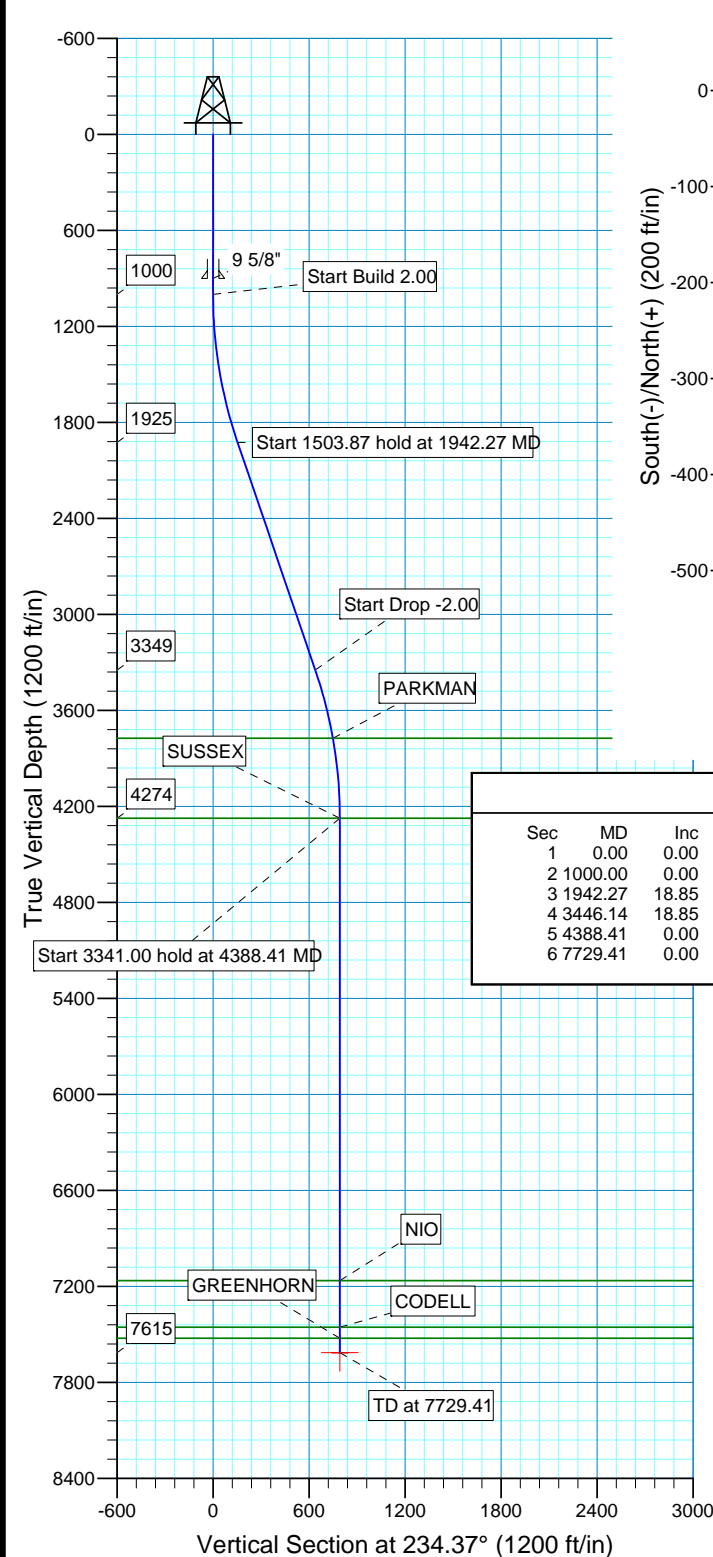
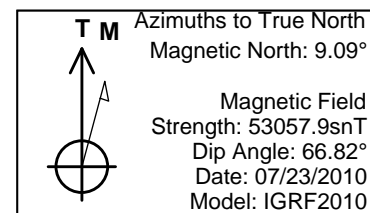


WELL DETAILS: P_COOLEY 13-16								
GL 4885 & RKB 15' @ 4900.00ft (ASSUMED) 4885.00								
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude			
0.00	0.00	1292085.45	3136020.91	40° 8' 2.918 N	105° 0' 48.665 W			
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7615.00	-461.89	-644.50	1291620.04	3135378.96	40° 7' 58.354 N	105° 0' 56.963 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	1942.27	18.85	234.37	1925.37	-89.46	-124.83	2.00	234.37	153.57	
4	3446.14	18.85	234.37	3348.63	-372.43	-519.67	0.00	0.00	639.35	
5	4388.41	0.00	0.00	4274.00	-461.89	-644.50	2.00	180.00	792.92	
6	7729.41	0.00	0.00	7615.00	-461.89	-644.50	0.00	0.00	792.92	PBHL_COOLEY 13-16(510 FSL 510 FWL)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
3774.00	3885.84	PARKMAN
4274.00	4388.41	SUSSEX
7165.00	7279.41	NIO
7455.00	7569.41	CODELL
7525.00	7639.41	GREENHORN

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 13-16

P_COOLEY 13-16

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 13-16
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 13-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 13-16		
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
From:	Lat/Long	Easting:	3,136,019.18 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	40° 8' 3.016 N
		Longitude:	105° 0' 48.686 W
		Grid Convergence:	0.31 °

Well	P_COOLEY 13-16, 968 FSL 1156 FWL		
Well Position	+N/-S	0.00 ft	Northing: 1,292,085.45 ft
	+E/-W	0.00 ft	Easting: 3,136,020.91 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	40° 8' 2.918 N
		Longitude:	105° 0' 48.665 W
		Ground Level:	4,885.00 ft

Wellbore	P_COOLEY 13-16				
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	234.37

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	
1,942.27	18.85	234.37	1,925.37	-89.46	-124.83	2.00	2.00	0.00	234.37	
3,446.14	18.85	234.37	3,348.63	-372.43	-519.67	0.00	0.00	0.00	0.00	
4,388.41	0.00	0.00	4,274.00	-461.89	-644.50	2.00	-2.00	0.00	180.00	
7,729.41	0.00	0.00	7,615.00	-461.89	-644.50	0.00	0.00	0.00	0.00	PBHL_COOLEY 13

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 13-16
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 13-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 13-16		
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
9 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	234.37	1,099.98	-1.02	-1.42	1.75	2.00	2.00	0.00
1,200.00	4.00	234.37	1,199.84	-4.07	-5.67	6.98	2.00	2.00	0.00
1,300.00	6.00	234.37	1,299.45	-9.14	-12.76	15.69	2.00	2.00	0.00
1,400.00	8.00	234.37	1,398.70	-16.24	-22.66	27.88	2.00	2.00	0.00
1,500.00	10.00	234.37	1,497.47	-25.35	-35.38	43.52	2.00	2.00	0.00
1,600.00	12.00	234.37	1,595.62	-36.47	-50.88	62.60	2.00	2.00	0.00
1,700.00	14.00	234.37	1,693.06	-49.57	-69.17	85.10	2.00	2.00	0.00
1,800.00	16.00	234.37	1,789.64	-64.65	-90.20	110.98	2.00	2.00	0.00
1,900.00	18.00	234.37	1,885.27	-81.68	-113.97	140.21	2.00	2.00	0.00
1,942.27	18.85	234.37	1,925.37	-89.46	-124.83	153.57	2.00	2.00	0.00
Start 1503.87 hold at 1942.27 MD									
2,000.00	18.85	234.37	1,980.01	-100.32	-139.98	172.22	0.00	0.00	0.00
2,100.00	18.85	234.37	2,074.65	-119.14	-166.24	204.52	0.00	0.00	0.00
2,200.00	18.85	234.37	2,169.29	-137.95	-192.49	236.82	0.00	0.00	0.00
2,300.00	18.85	234.37	2,263.93	-156.77	-218.75	269.12	0.00	0.00	0.00
2,400.00	18.85	234.37	2,358.56	-175.59	-245.00	301.43	0.00	0.00	0.00
2,500.00	18.85	234.37	2,453.20	-194.40	-271.26	333.73	0.00	0.00	0.00
2,600.00	18.85	234.37	2,547.84	-213.22	-297.51	366.03	0.00	0.00	0.00
2,700.00	18.85	234.37	2,642.48	-232.04	-323.77	398.33	0.00	0.00	0.00
2,800.00	18.85	234.37	2,737.12	-250.85	-350.02	430.63	0.00	0.00	0.00
2,900.00	18.85	234.37	2,831.76	-269.67	-376.28	462.93	0.00	0.00	0.00
3,000.00	18.85	234.37	2,926.40	-288.48	-402.54	495.24	0.00	0.00	0.00
3,100.00	18.85	234.37	3,021.04	-307.30	-428.79	527.54	0.00	0.00	0.00
3,200.00	18.85	234.37	3,115.68	-326.12	-455.05	559.84	0.00	0.00	0.00
3,300.00	18.85	234.37	3,210.32	-344.93	-481.30	592.14	0.00	0.00	0.00
3,400.00	18.85	234.37	3,304.96	-363.75	-507.56	624.44	0.00	0.00	0.00
3,446.14	18.85	234.37	3,348.63	-372.43	-519.67	639.35	0.00	0.00	0.00
Start Drop -2.00									
3,500.00	17.77	234.37	3,399.76	-382.29	-533.42	656.26	2.00	-2.00	0.00
3,600.00	15.77	234.37	3,495.50	-399.09	-556.87	685.11	2.00	-2.00	0.00
3,700.00	13.77	234.37	3,592.19	-413.94	-577.59	710.60	2.00	-2.00	0.00
3,800.00	11.77	234.37	3,689.71	-426.81	-595.55	732.70	2.00	-2.00	0.00
3,885.84	10.05	234.37	3,774.00	-436.28	-608.76	748.95	2.00	-2.00	0.00
PARKMAN									
3,900.00	9.77	234.37	3,787.95	-437.70	-610.74	751.38	2.00	-2.00	0.00
4,000.00	7.77	234.37	3,886.77	-446.58	-623.13	766.63	2.00	-2.00	0.00
4,100.00	5.77	234.37	3,986.07	-453.44	-632.71	778.41	2.00	-2.00	0.00
4,200.00	3.77	234.37	4,085.72	-458.28	-639.46	786.72	2.00	-2.00	0.00
4,300.00	1.77	234.37	4,185.60	-461.10	-643.39	791.55	2.00	-2.00	0.00
4,388.41	0.00	0.00	4,274.00	-461.89	-644.50	792.92	2.00	-2.00	0.00

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 13-16
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 13-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 13-16		
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)
Start 3341.00 hold at 4388.41 MD - SUSSEX									
4,400.00	0.00	0.00	4,285.59	-461.89	-644.50	792.92	0.00	0.00	0.00
4,500.00	0.00	0.00	4,385.59	-461.89	-644.50	792.92	0.00	0.00	0.00
4,600.00	0.00	0.00	4,485.59	-461.89	-644.50	792.92	0.00	0.00	0.00
4,700.00	0.00	0.00	4,585.59	-461.89	-644.50	792.92	0.00	0.00	0.00
4,800.00	0.00	0.00	4,685.59	-461.89	-644.50	792.92	0.00	0.00	0.00
4,900.00	0.00	0.00	4,785.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,000.00	0.00	0.00	4,885.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,100.00	0.00	0.00	4,985.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,200.00	0.00	0.00	5,085.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,300.00	0.00	0.00	5,185.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,400.00	0.00	0.00	5,285.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,500.00	0.00	0.00	5,385.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,600.00	0.00	0.00	5,485.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,700.00	0.00	0.00	5,585.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,800.00	0.00	0.00	5,685.59	-461.89	-644.50	792.92	0.00	0.00	0.00
5,900.00	0.00	0.00	5,785.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,000.00	0.00	0.00	5,885.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,100.00	0.00	0.00	5,985.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,200.00	0.00	0.00	6,085.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,300.00	0.00	0.00	6,185.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,400.00	0.00	0.00	6,285.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,500.00	0.00	0.00	6,385.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,600.00	0.00	0.00	6,485.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,700.00	0.00	0.00	6,585.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,800.00	0.00	0.00	6,685.59	-461.89	-644.50	792.92	0.00	0.00	0.00
6,900.00	0.00	0.00	6,785.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,000.00	0.00	0.00	6,885.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,100.00	0.00	0.00	6,985.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,200.00	0.00	0.00	7,085.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,279.41	0.00	0.00	7,165.00	-461.89	-644.50	792.92	0.00	0.00	0.00
NIO									
7,300.00	0.00	0.00	7,185.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,400.00	0.00	0.00	7,285.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,500.00	0.00	0.00	7,385.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,569.41	0.00	0.00	7,455.00	-461.89	-644.50	792.92	0.00	0.00	0.00
CODELL									
7,600.00	0.00	0.00	7,485.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,639.41	0.00	0.00	7,525.00	-461.89	-644.50	792.92	0.00	0.00	0.00
GREENHORN									
7,700.00	0.00	0.00	7,585.59	-461.89	-644.50	792.92	0.00	0.00	0.00
7,729.41	0.00	0.00	7,615.00	-461.89	-644.50	792.92	0.00	0.00	0.00
PBHL_COOLEY 13-16(510 FSL 510 FWL)									

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well P_COOLEY 13-16
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 13-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_COOLEY 13-16		
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 13-1	0.00	0.00	7,615.00	-461.89	-644.50	1,291,620.04	3,135,378.96	40° 7' 58.354 N	105° 0' 56.963 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	9 5/8"	9.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,885.84	3,774.00	PARKMAN			
7,639.41	7,525.00	GREENHORN			
7,279.41	7,165.00	NIO			
7,569.41	7,455.00	CODELL			
4,388.41	4,274.00	SUSSEX			

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
1,942.27	1,925.37	-89.46	-124.83	Start 1503.87 hold at 1942.27 MD
3,446.14	3,348.63	-372.43	-519.67	Start Drop -2.00
4,388.41	4,274.00	-461.89	-644.50	Start 3341.00 hold at 4388.41 MD
7,729.41	7,615.00	-461.89	-644.50	TD at 7729.41