

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Palyo 18-11 pad

Palyo 21-11

Palyo 21-11

Plan: Palyo 21-11 (wp01)

Standard Planning Report

04 January, 2011



Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_Palyo 18-11 pad
 Well: Palyo 21-11
 Wellbore: Palyo 21-11
 Section:
 SHL:
 Design: Palyo 21-11 (wp01)
 Latitude: 40.157570
 Longitude: -104.635510
 GL: 4854.00
 KB: WELL @ 4854.00ft (Original Well Elev)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4054.00	4225.47	PK
4409.00	4605.78	SX
6814.00	7053.26	NIO
7099.00	7338.26	CD
7180.00	7419.26	GH
7554.00	7793.26	J



Weatherford®

WELL DETAILS: Palyo 21-11

+N/-S	+E/-W	Northing	Ground Level: Easting	4854.00 Latitude	Longitude	Slot
0.00	0.00	1301423.77	3241626.57	40.157570	-104.635510	

CASING DETAILS

TVD	MD	Name	Size
800.00	800.00	8-5/8"	8-5/8

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Palyo 21-11 BHL	7704.00	-281.16	1390.28	1301156.17	3243019.52	40.156798	-104.630536	Point

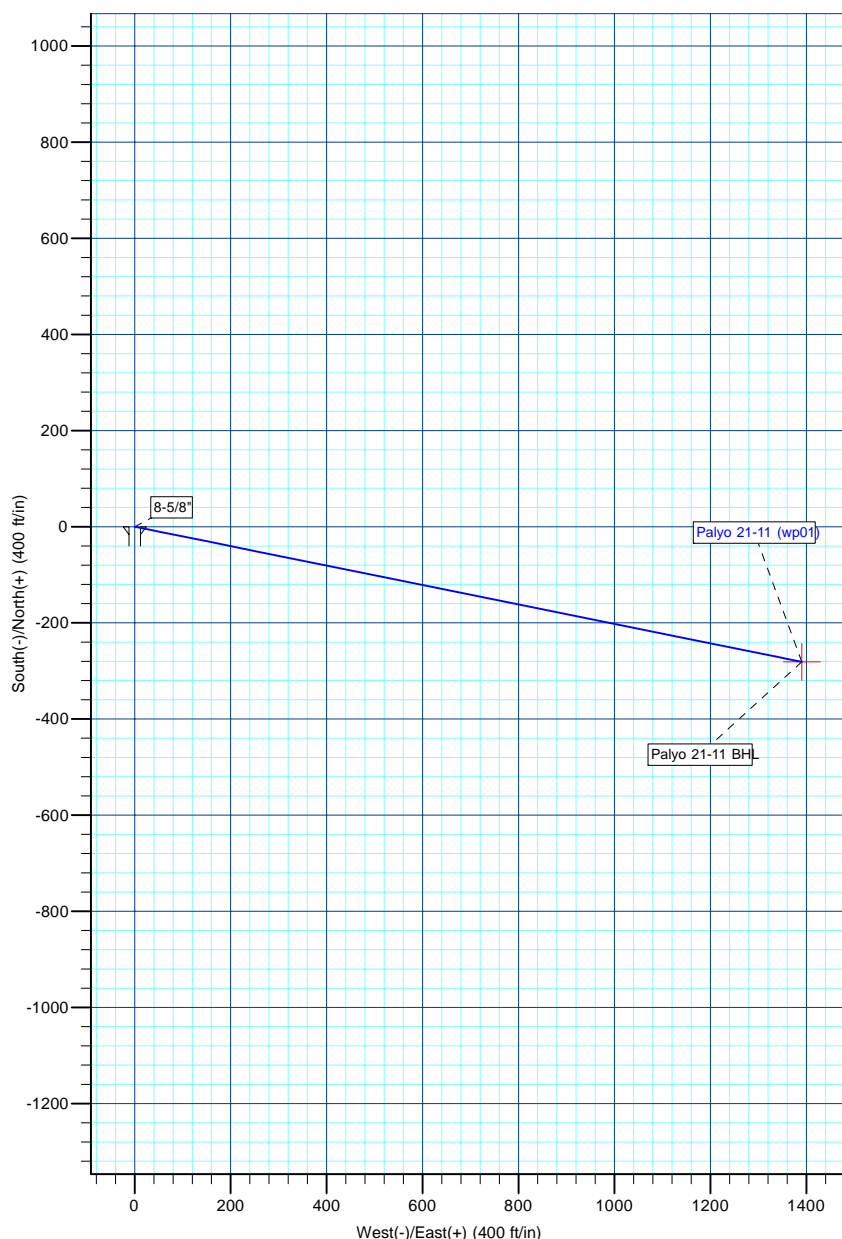
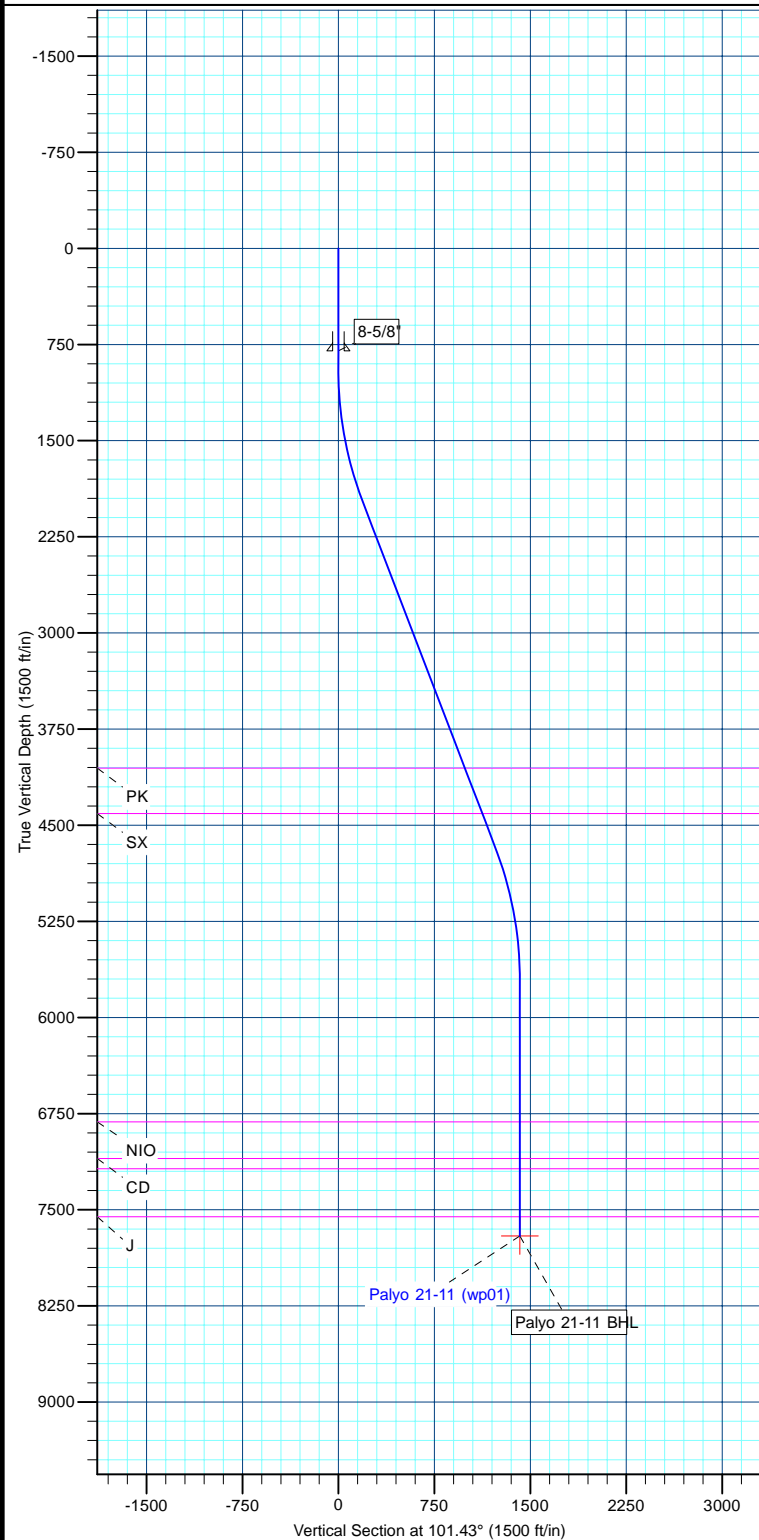


Azimuths to True North
 Magnetic North: 8.83°

Magnetic Field
 Strength: 53064.9snT
 Dip Angle: 66.89°
 Date: 1/3/2011
 Model: IGRF2010

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
2001.08	21.02	101.43	1977.66	-37.79	186.88	2.00	101.43	190.67	
4892.18	21.02	101.43	4676.34	-243.37	1203.40	0.00	0.00	1227.76	
5943.26	0.00	0.00	5704.00	-281.16	1390.28	2.00	180.00	1418.43	
7943.26	0.00	0.00	7704.00	-281.16	1390.28	0.00	0.00	1418.43	Palyo 21-11 BHL



Database:	edm5000p	Local Co-ordinate Reference:	Well Palyo 21-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4854.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4854.00ft (Original Well Elev)
Site:	WELD_Palyo 18-11 pad	North Reference:	True
Well:	Palyo 21-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 21-11		
Design:	Palyo 21-11 (wp01)		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_Palyo 18-11 pad			
Site Position: From:	Lat/Long	Northing:	1,301,423.64 ft	Latitude:	40.157570
		Easting:	3,241,610.64 ft	Longitude:	-104.635567
		Position Uncertainty:	0.00 ft	Slot Radius:	0 "

Well	Palyo 21-11					
Well Position	+N-S	-0.02 ft	Northing:	1,301,423.77 ft	Latitude:	40.157570
	+E-W	15.93 ft	Easting:	3,241,626.57 ft	Longitude:	-104.635510
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,854.00 ft

Wellbore	Palyo 21-11				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/3/2011	8.83	66.89	53,065

Design	Palyo 21-11 (wp01)			
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	101.43

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	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,001.08	21.02	101.43	1,977.66	-37.79	186.88	2.00	2.00	0.00	101.43	
4,892.18	21.02	101.43	4,676.34	-243.37	1,203.40	0.00	0.00	0.00	0.00	
5,943.26	0.00	0.00	5,704.00	-281.16	1,390.28	2.00	-2.00	0.00	180.00	
7,943.26	0.00	0.00	7,704.00	-281.16	1,390.28	0.00	0.00	0.00	0.00	Palyo 21-11 BHL

Database:	edm5000p	Local Co-ordinate Reference:	Well Palyo 21-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4854.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4854.00ft (Original Well Elev)
Site:	WELD_Palyo 18-11 pad	North Reference:	True
Well:	Palyo 21-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	Palyo 21-11		
Design:	Palyo 21-11 (wp01)		

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
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
8-5/8"									
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
2,001.08	21.02	101.43	1,977.66	-37.79	186.88	190.67	2.00	2.00	0.00
4,225.47	21.02	101.43	4,054.00	-195.96	968.98	988.60	0.00	0.00	0.00
PK									
4,605.78	21.02	101.43	4,409.00	-223.01	1,102.70	1,125.02	0.00	0.00	0.00
SX									
4,892.18	21.02	101.43	4,676.34	-243.37	1,203.40	1,227.76	0.00	0.00	0.00
5,943.26	0.00	0.00	5,704.00	-281.16	1,390.28	1,418.43	2.00	-2.00	0.00
7,053.26	0.00	0.00	6,814.00	-281.16	1,390.28	1,418.43	0.00	0.00	0.00
NIO									
7,338.26	0.00	0.00	7,099.00	-281.16	1,390.28	1,418.43	0.00	0.00	0.00
CD									
7,419.26	0.00	0.00	7,180.00	-281.16	1,390.28	1,418.43	0.00	0.00	0.00
GH									
7,793.26	0.00	0.00	7,554.00	-281.16	1,390.28	1,418.43	0.00	0.00	0.00
J									
7,943.26	0.00	0.00	7,704.00	-281.16	1,390.28	1,418.43	0.00	0.00	0.00
Palyo 21-11 BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Palyo 21-11 BHL	0.00	0.00	7,704.00	-281.16	1,390.28	1,301,156.17	3,243,019.52	40.156798	-104.630536
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
800.00	800.00	8-5/8"	8-5/8	11	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,225.47	4,054.00	PK			
4,605.78	4,409.00	SX			
7,053.26	6,814.00	NIO			
7,338.26	7,099.00	CD			
7,419.26	7,180.00	GH			
7,793.26	7,554.00	J			

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