

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NICHOLS 28-8 pad**

**Nichols 21-8**

**Nichols 21-8**

**Plan: Nichols 21-8 (wp01)**

## **Standard Planning Report**

**04 January, 2011**



**Weatherford®**

Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_NICHOLS 28-8 pad  
Well: Nichols 21-8  
Wellbore: Nichols 21-8  
Section:  
SHL:  
Design: Nichols 21-8 (wp01)  
Latitude: 40.159065  
Longitude: -104.687677  
GL: 4822.00  
KB: WELL @ 4822.00ft (Original Well Elev)

FORMATION TOP DETAILS		
TVDPPath	MDPath	Formation
4023.00	4113.19	PK
4433.00	4531.22	SX
6893.00	6992.03	NIO
7173.00	7272.03	CD
7260.00	7359.03	GH
7623.00	7722.03	J

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T

M

Azimuths to True North

Magnetic North: 8.86°

Magnetic Field

Strength: 53060.3snT

Dip Angle: 66.88°

Date: 1/3/2011

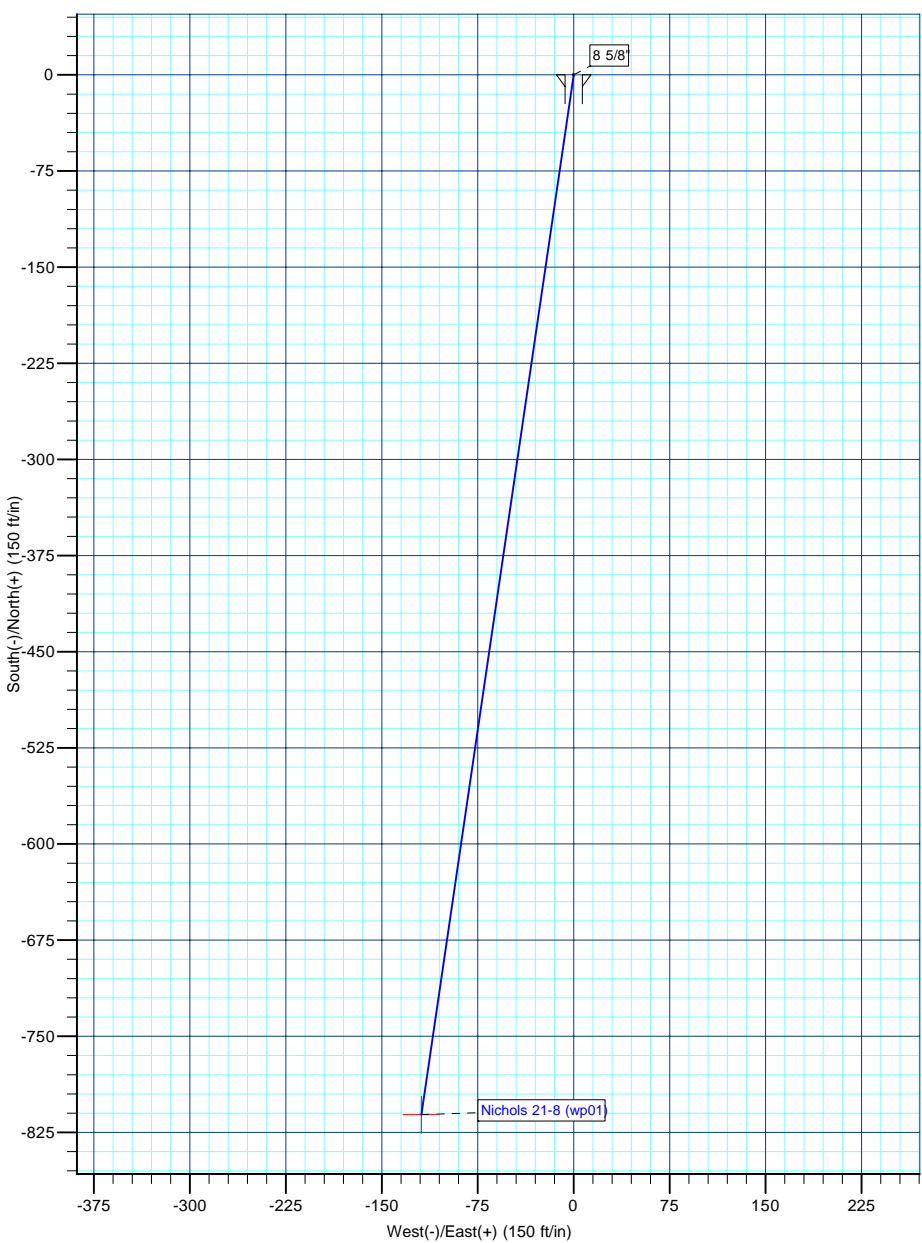
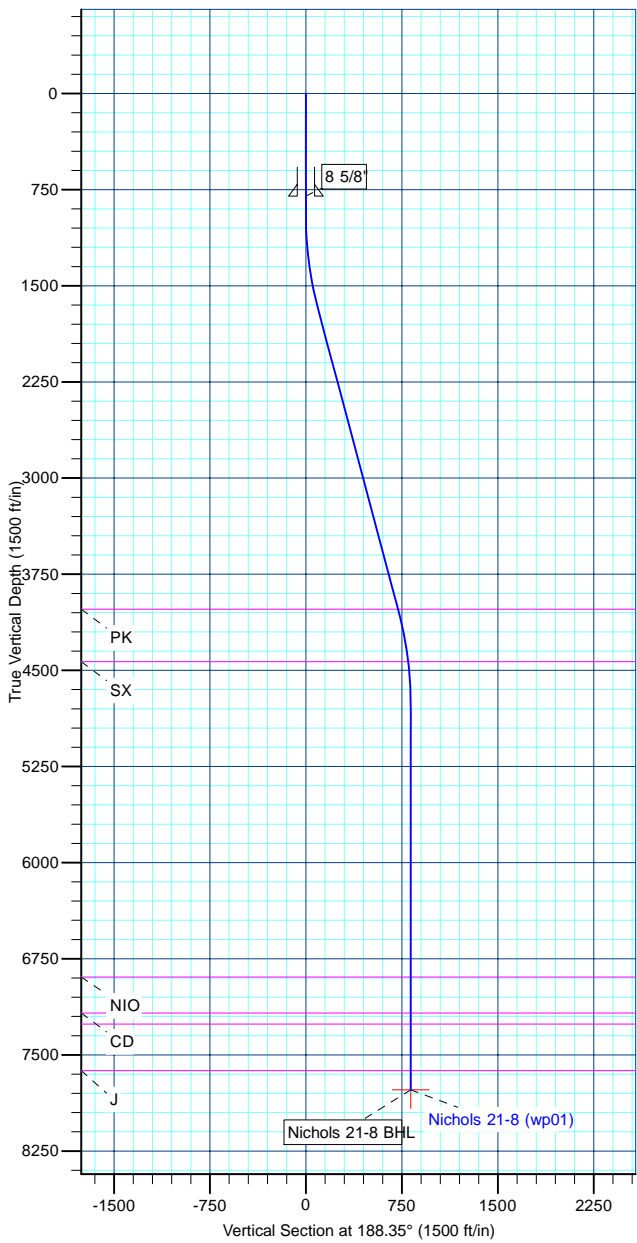
Model: IGRF2010

WELL DETAILS: Nichols 21-8						
+N/-S	+E/-W	Northing	Ground Level: Easting	4822.00 Latitude	Longitude	Slot
0.00	0.00	1301830.50	3227041.23	40.159065	-104.687677	

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 Point
Nichols 21-8 BHL	7773.00	-811.24	-119.07	1301018.20	3226929.59	40.156838	-104.688103	

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	
1697.35	14.95	188.35	1688.90	-95.90	-14.08	2.00	188.35	96.93	
4124.67	14.95	188.35	4034.10	-715.34	-104.99	0.00	0.00	723.00	
4872.03	0.00	0.00	4773.00	-811.24	-119.07	2.00	180.00	819.93	
7872.03	0.00	0.00	7773.00	-811.24	-119.07	0.00	0.00	819.93	Nichols 21-8 BHL



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Nichols 21-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4822.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4822.00ft (Original Well Elev)
<b>Site:</b>	WELD_NICHOLS 28-8 pad	<b>North Reference:</b>	True
<b>Well:</b>	Nichols 21-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Nichols 21-8		
<b>Design:</b>	Nichols 21-8 (wp01)		

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

Site		WELD_NICHOLS 28-8 pad			
Site Position:		Northing:	1,301,878.60 ft	Latitude:	40.159197
From:	Lat/Long	Easting:	3,227,041.07 ft	Longitude:	-104.687676
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.52

Well	Nichols 21-8					
Well Position	+N-S	-48.10 ft	Northing:	1,301,830.50 ft	Latitude:	40.159065
	+E-W	-0.28 ft	Easting:	3,227,041.23 ft	Longitude:	-104.687677
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,822.00 ft

<b>Wellbore</b>	Nichols 21-8				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/3/2011	8.86	66.88	53,060

<b>Design</b>	Nichols 21-8 (wp01)				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	188.35	

<b>Plan Sections</b>										
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	
1,697.35	14.95	188.35	1,688.90	-95.90	-14.08	2.00	2.00	0.00	188.35	
4,124.67	14.95	188.35	4,034.10	-715.34	-104.99	0.00	0.00	0.00	0.00	
4,872.03	0.00	0.00	4,773.00	-811.24	-119.07	2.00	-2.00	0.00	180.00	
7,872.03	0.00	0.00	7,773.00	-811.24	-119.07	0.00	0.00	0.00	0.00	Nichols 21-8 BHL

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Nichols 21-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4822.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4822.00ft (Original Well Elev)
<b>Site:</b>	WELD_NICHOLS 28-8 pad	<b>North Reference:</b>	True
<b>Well:</b>	Nichols 21-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Nichols 21-8		
<b>Design:</b>	Nichols 21-8 (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
<b>8 5/8"</b>									
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
1,697.35	14.95	188.35	1,688.90	-95.90	-14.08	96.93	2.00	2.00	0.00
4,113.19	14.95	188.35	4,023.00	-712.41	-104.56	720.04	0.00	0.00	0.00
<b>PK</b>									
4,124.67	14.95	188.35	4,034.10	-715.34	-104.99	723.00	0.00	0.00	0.00
4,531.22	6.82	188.35	4,433.00	-791.21	-116.13	799.68	2.00	-2.00	0.00
<b>SX</b>									
4,872.03	0.00	0.00	4,773.00	-811.24	-119.07	819.93	2.00	-2.00	0.00
6,992.03	0.00	0.00	6,893.00	-811.24	-119.07	819.93	0.00	0.00	0.00
<b>NIO</b>									
7,272.03	0.00	0.00	7,173.00	-811.24	-119.07	819.93	0.00	0.00	0.00
<b>CD</b>									
7,359.03	0.00	0.00	7,260.00	-811.24	-119.07	819.93	0.00	0.00	0.00
<b>GH</b>									
7,722.03	0.00	0.00	7,623.00	-811.24	-119.07	819.93	0.00	0.00	0.00
<b>J</b>									
7,872.03	0.00	0.00	7,773.00	-811.24	-119.07	819.93	0.00	0.00	0.00
<b>Nichols 21-8 BHL</b>									

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									
Nichols 21-8 BHL	0.00	0.00	7,773.00	-811.24	-119.07	1,301,018.20	3,226,929.59	40.156838	-104.688103
- 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 (°)
4,113.19	4,023.00	PK			
4,531.22	4,433.00	SX			
6,992.03	6,893.00	NIO			
7,272.03	7,173.00	CD			
7,359.03	7,260.00	GH			
7,722.03	7,623.00	J			

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