

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_NICHOLS 3-8 Pad**

**NICHOLS 22-8**

**Nichols 22-8**

**Plan: Nichols 22-8 (wp01)**

## **Standard Planning Report**

**03 January, 2011**



**Weatherford®**

**Project:** COLORADO NORTHERN ZONE - 83  
**Site:** WELD\_NICHOLS 3-8 Pad  
**Well:** NICHOLS 22-8  
**Wellbore:** Nichols 22-8  
**Section:**  
**SHL:**  
**Design:** Nichols 22-8 (wp01)  
**Latitude:** 40.158541  
**Longitude:** -104.690079  
**GL:** 4894.00  
**KB:** WELL @ 4894.00ft (Original Well Elev)

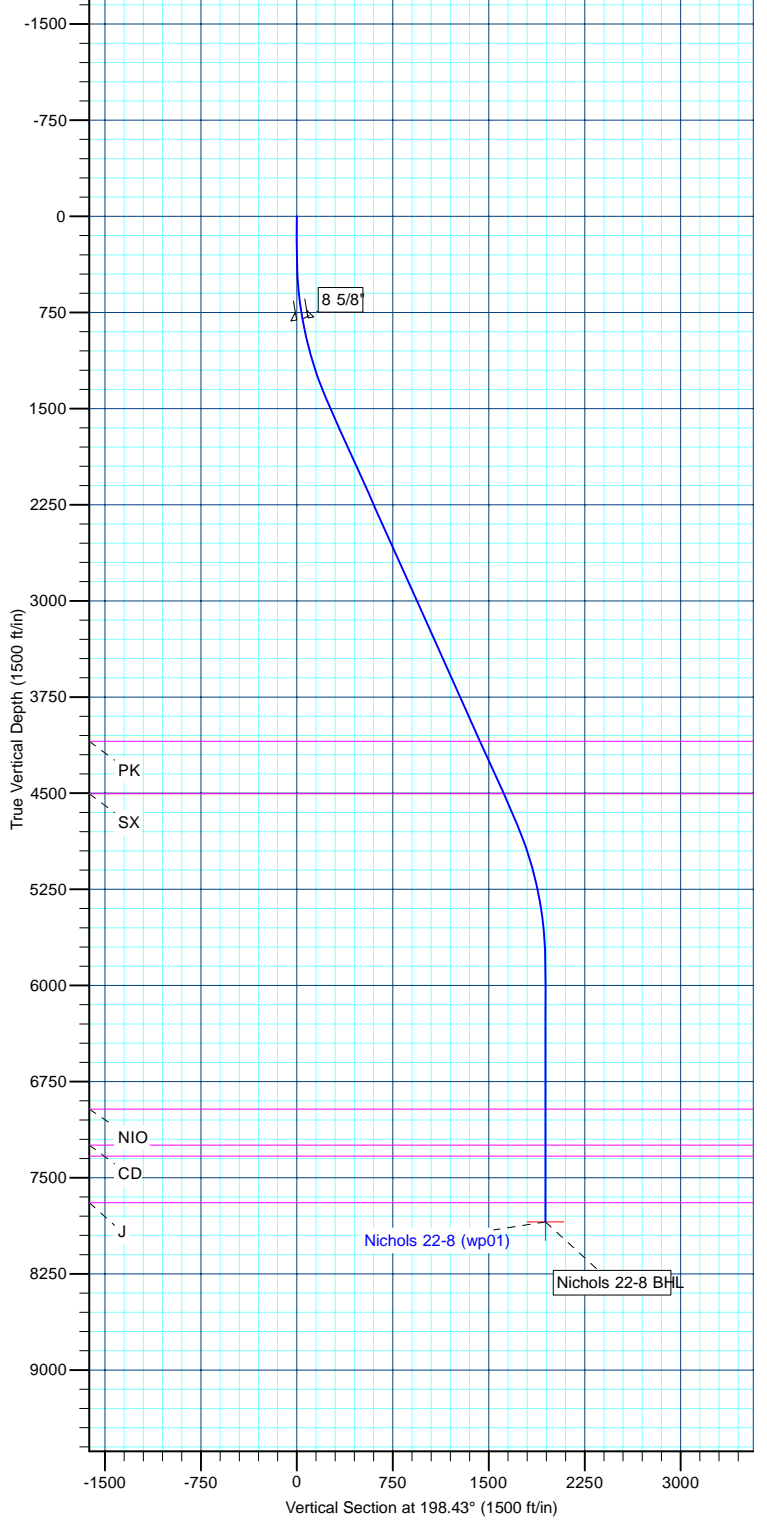
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4094.00	4383.16	PK
4504.00	4832.84	SX
6964.00	7344.53	NIO
7244.00	7624.53	CD
7331.00	7711.53	GH
7694.00	8074.53	J



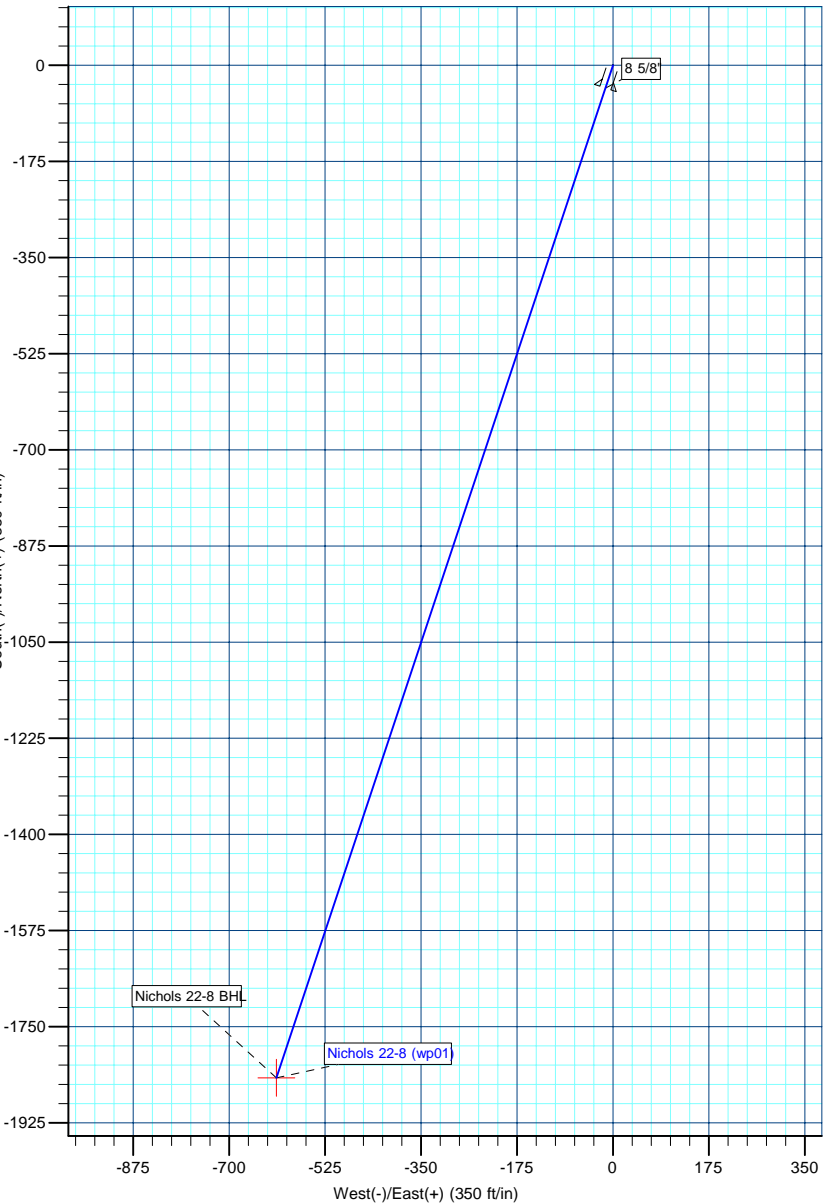
WELL DETAILS: NICHOLS 22-8						
+N/-S	+E/-W	Northing	Ground Level: Easting	4894.00 Latitude	Longitude	Slot
0.00	0.00	1301633.48	3226371.64	40.158541	-104.690079	

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	Point
Nichols 22-8 BHL	7844.00	-1843.24	-614.11	1299784.71	3225774.39	40.153481	-104.692276	Point	

**Azimuths to True North**  
 Magnetic North: 8.86°  
**Magnetic Field**  
 Strength: 53059.2snt  
 Dip Angle: 66.88°  
 Date: 1/3/2011  
 Model: IGRF2010



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
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	
1512.46	24.25	198.43	1476.59	-239.81	-79.90	2.00	198.43	252.77	
5012.06	24.25	198.43	4667.41	-1603.43	-534.22	0.00	0.00	1690.08	
6224.53	0.00	0.00	5844.00	-1843.24	-614.11	2.00	180.00	1942.85	
8224.53	0.00	0.00	7844.00	-1843.24	-614.11	0.00	0.00	1942.85	Nichols 22-8 BHL



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well NICHOLS 22-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4894.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4894.00ft (Original Well Elev)
<b>Site:</b>	WELD_NICHOLS 3-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NICHOLS 22-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Nichols 22-8		
<b>Design:</b>	Nichols 22-8 (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		

<b>Site</b>	WELD_NICHOLS 3-8 Pad				
<b>Site Position:</b>		<b>Northing:</b>	1,301,644.68 ft	<b>Latitude:</b>	40.158572
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,226,360.36 ft	<b>Longitude:</b>	-104.690119
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.52 °

<b>Well</b>	NICHOLS 22-8					
<b>Well Position</b>	<b>+N-S</b>	-11.31 ft	<b>Northing:</b>	1,301,633.48 ft	<b>Latitude:</b>	40.158541
	<b>+E-W</b>	11.18 ft	<b>Easting:</b>	3,226,371.64 ft	<b>Longitude:</b>	-104.690079
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,894.00 ft

<b>Wellbore</b>	Nichols 22-8				
<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	53,059

<b>Design</b>	Nichols 22-8 (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	198.43

<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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,512.46	24.25	198.43	1,476.59	-239.81	-79.90	2.00	2.00	0.00	198.43	
5,012.06	24.25	198.43	4,667.41	-1,603.43	-534.22	0.00	0.00	0.00	0.00	
6,224.53	0.00	0.00	5,844.00	-1,843.24	-614.11	2.00	-2.00	0.00	180.00	
8,224.53	0.00	0.00	7,844.00	-1,843.24	-614.11	0.00	0.00	0.00	0.00	Nichols 22-8 BHL

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well NICHOLS 22-8
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4894.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4894.00ft (Original Well Elev)
<b>Site:</b>	WELD_NICHOLS 3-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	NICHOLS 22-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Nichols 22-8		
<b>Design:</b>	Nichols 22-8 (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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
802.57	10.05	198.43	800.00	-41.72	-13.90	43.97	2.00	2.00	0.00	
<b>8 5/8"</b>										
1,512.46	24.25	198.43	1,476.59	-239.81	-79.90	252.77	2.00	2.00	0.00	
4,383.16	24.25	198.43	4,094.00	-1,358.38	-452.57	1,431.79	0.00	0.00	0.00	
<b>PK</b>										
4,832.84	24.25	198.43	4,504.00	-1,533.59	-510.95	1,616.47	0.00	0.00	0.00	
<b>SX</b>										
5,012.06	24.25	198.43	4,667.41	-1,603.43	-534.22	1,690.08	0.00	0.00	0.00	
6,224.53	0.00	0.00	5,844.00	-1,843.24	-614.11	1,942.85	2.00	-2.00	0.00	
7,344.53	0.00	0.00	6,964.00	-1,843.24	-614.11	1,942.85	0.00	0.00	0.00	
<b>NIO</b>										
7,624.53	0.00	0.00	7,244.00	-1,843.24	-614.11	1,942.85	0.00	0.00	0.00	
<b>CD</b>										
7,711.53	0.00	0.00	7,331.00	-1,843.24	-614.11	1,942.85	0.00	0.00	0.00	
<b>GH</b>										
8,074.53	0.00	0.00	7,694.00	-1,843.24	-614.11	1,942.85	0.00	0.00	0.00	
<b>J</b>										
8,224.53	0.00	0.00	7,844.00	-1,843.24	-614.11	1,942.85	0.00	0.00	0.00	
<b>Nichols 22-8 BHL</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
Nichols 22-8 BHL - hit/miss target - Shape - Point	0.00	0.00	7,844.00	-1,843.24	-614.11	1,299,784.71	3,225,774.39	40.153481	-104.692276	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
802.57	800.00	8 5/8"	8-5/8	11		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,383.16	4,094.00	PK				
4,832.84	4,504.00	SX				
7,344.53	6,964.00	NIO				
7,624.53	7,244.00	CD				
7,711.53	7,331.00	GH				
8,074.53	7,694.00	J				

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