

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_NICHOLS 3-8 Pad

NICHOLS 31-8

Nichols 31-8

Plan: Nichols 31-8 (wp01)

Standard Planning Report

03 January, 2011



Weatherford®

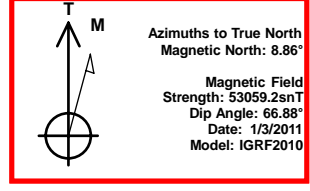
Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_NICHOLS 3-8 Pad
 Well: NICHOLS 31-8
 Wellbore: Nichols 31-8
 Section:
 SHL:
 Design: Nichols 31-8 (wp01)
 Latitude: 40.158603
 Longitude: -104.690159
 GL: 4894.00
 KB: WELL @ 4894.00ft (Original Well Elev)

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4094.00	4400.14	PK
4504.00	4852.49	SX
6964.00	7367.20	NIO
7244.00	7647.20	CD
7331.00	7734.20	GH
7694.00	8097.20	J

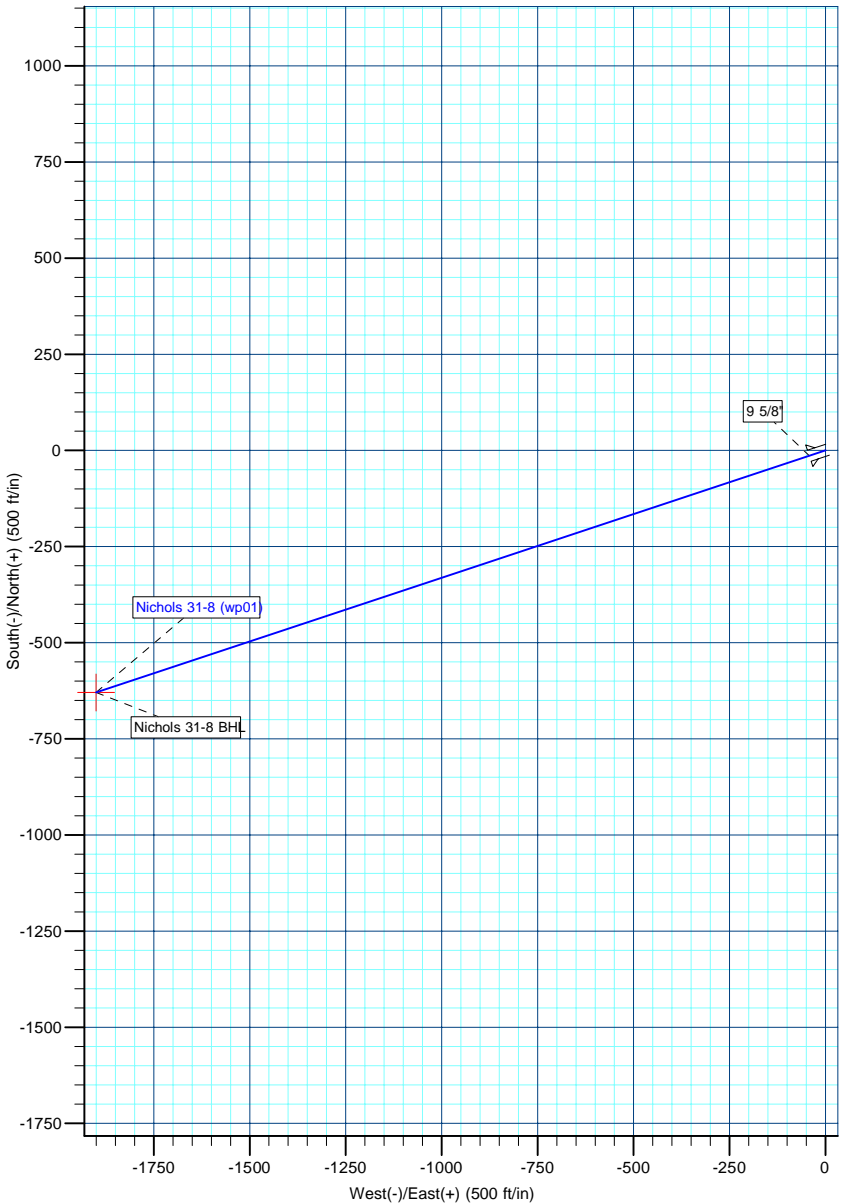


WELL DETAILS: NICHOLS 31-8						
+N/-S	+E/-W	Northing	Ground Level: Easting	4894.00 Latitude	Longitude	Slot
0.00	0.00	1301655.86	3226349.07	40.158603	-104.690159	

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	Point
Nichols 31-8 BHL	7844.00	-629.39	-1900.10	1301009.14	3224454.80	40.156875	-104.696957	Point	



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		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00		
1549.56	24.99	251.67	1510.31	-84.34	-254.62	2.00	251.67	268.22		
5017.64	24.99	251.67	4653.69	-545.05	-1645.49	0.00	0.00	1733.41		
6267.20	0.00	0.00	5864.00	-629.39	-1900.10	2.00	180.00	2001.63		
8247.20	0.00	0.00	7844.00	-629.39	-1900.10	0.00	0.00	2001.63	Nichols 31-8 BHL	



Database:	edm5000p	Local Co-ordinate Reference:	Well NICHOLS 31-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4894.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4894.00ft (Original Well Elev)
Site:	WELD_NICHOLS 3-8 Pad	North Reference:	True
Well:	NICHOLS 31-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nichols 31-8		
Design:	Nichols 31-8 (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_NICHOLS 3-8 Pad				
Site Position:		Northing:	1,301,644.68 ft	Latitude:	40.158572
From:	Lat/Long	Easting:	3,226,360.36 ft	Longitude:	-104.690119
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.52 °

Well	NICHOLS 31-8					
Well Position	+N-S	11.28 ft	Northing:	1,301,655.86 ft	Latitude:	40.158603
	+E-W	-11.18 ft	Easting:	3,226,349.07 ft	Longitude:	-104.690159
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,894.00 ft

Wellbore	Nichols 31-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/3/2011	8.86	66.88	53,059

Design	Nichols 31-8 (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	251.67

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	
1,549.56	24.99	251.67	1,510.31	-84.34	-254.62	2.00	2.00	0.00	251.67	
5,017.64	24.99	251.67	4,653.69	-545.05	-1,645.49	0.00	0.00	0.00	0.00	
6,267.20	0.00	0.00	5,864.00	-629.39	-1,900.10	2.00	-2.00	0.00	180.00	
8,247.20	0.00	0.00	7,844.00	-629.39	-1,900.10	0.00	0.00	0.00	0.00	Nichols 31-8 BHL

Database:	edm5000p	Local Co-ordinate Reference:	Well NICHOLS 31-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4894.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4894.00ft (Original Well Elev)
Site:	WELD_NICHOLS 3-8 Pad	North Reference:	True
Well:	NICHOLS 31-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Nichols 31-8		
Design:	Nichols 31-8 (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	251.67	800.00	-13.83	-41.74	43.97	2.00	2.00	0.00	
9 5/8"										
1,549.56	24.99	251.67	1,510.31	-84.34	-254.62	268.22	2.00	2.00	0.00	
4,400.14	24.99	251.67	4,094.00	-463.02	-1,397.84	1,472.53	0.00	0.00	0.00	
PK										
4,852.49	24.99	251.67	4,504.00	-523.11	-1,579.25	1,663.64	0.00	0.00	0.00	
SX										
5,017.64	24.99	251.67	4,653.69	-545.05	-1,645.49	1,733.41	0.00	0.00	0.00	
6,267.20	0.00	0.00	5,864.00	-629.39	-1,900.10	2,001.63	2.00	-2.00	0.00	
7,367.20	0.00	0.00	6,964.00	-629.39	-1,900.10	2,001.63	0.00	0.00	0.00	
NIO										
7,647.20	0.00	0.00	7,244.00	-629.39	-1,900.10	2,001.63	0.00	0.00	0.00	
CD										
7,734.20	0.00	0.00	7,331.00	-629.39	-1,900.10	2,001.63	0.00	0.00	0.00	
GH										
8,097.20	0.00	0.00	7,694.00	-629.39	-1,900.10	2,001.63	0.00	0.00	0.00	
J										
8,247.20	0.00	0.00	7,844.00	-629.39	-1,900.10	2,001.63	0.00	0.00	0.00	
Nichols 31-8 BHL										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Nichols 31-8 BHL - hit/miss target - Shape - Point	0.00	0.00	7,844.00	-629.39	-1,900.10	1,301,009.14	3,224,454.80	40.156875	-104.696957

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 (°)	
4,400.14	4,094.00	PK				
4,852.49	4,504.00	SX				
7,367.20	6,964.00	NIO				
7,647.20	7,244.00	CD				
7,734.20	7,331.00	GH				
8,097.20	7,694.00	J				

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