

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_Hidden Creek 11-29 PAD**

**Hidden Creek 22-29**

**Hidden Creek 22-29**

**Plan: Hidden Creek 22-29 (wp01)**

## **Standard Planning Report**

**28 July, 2011**



Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_Hidden Creek 11-29 PAD  
Well: Hidden Creek 22-29  
Wellbore: Hidden Creek 22-29  
Section:  
SHL:  
Design: Hidden Creek 22-29 (wp01)  
Latitude: 40.108308  
Longitude: -104.916544  
GL: 5029.00  
KB: 15' rkb + 5029' GL @ 5044.00ft

TVDPPath	MDPath	Formation
4179.00	4302.84	PK Depth
4584.00	4707.84	SX Depth
7342.00	7465.84	NIO Depth
7629.00	7752.84	CD Depth
7706.00	7829.84	GH Depth
8055.00	8178.84	J Depth



Azimuths to True North  
Magnetic North: 8.90°

Magnetic Field  
Strength: 52947.2snT  
Dip Angle: 66.78°  
Date: 7/28/2011  
Model: IGRF2010

#### WELL DETAILS: Hidden Creek 22-29

+N/-S	+E/-W	Northing	Ground Level: Easting	5029.00 Latitude	Longitude	Slot
0.00	0.00	1282837.72	3163196.52	40.108308	-104.916544	

#### CASING DETAILS

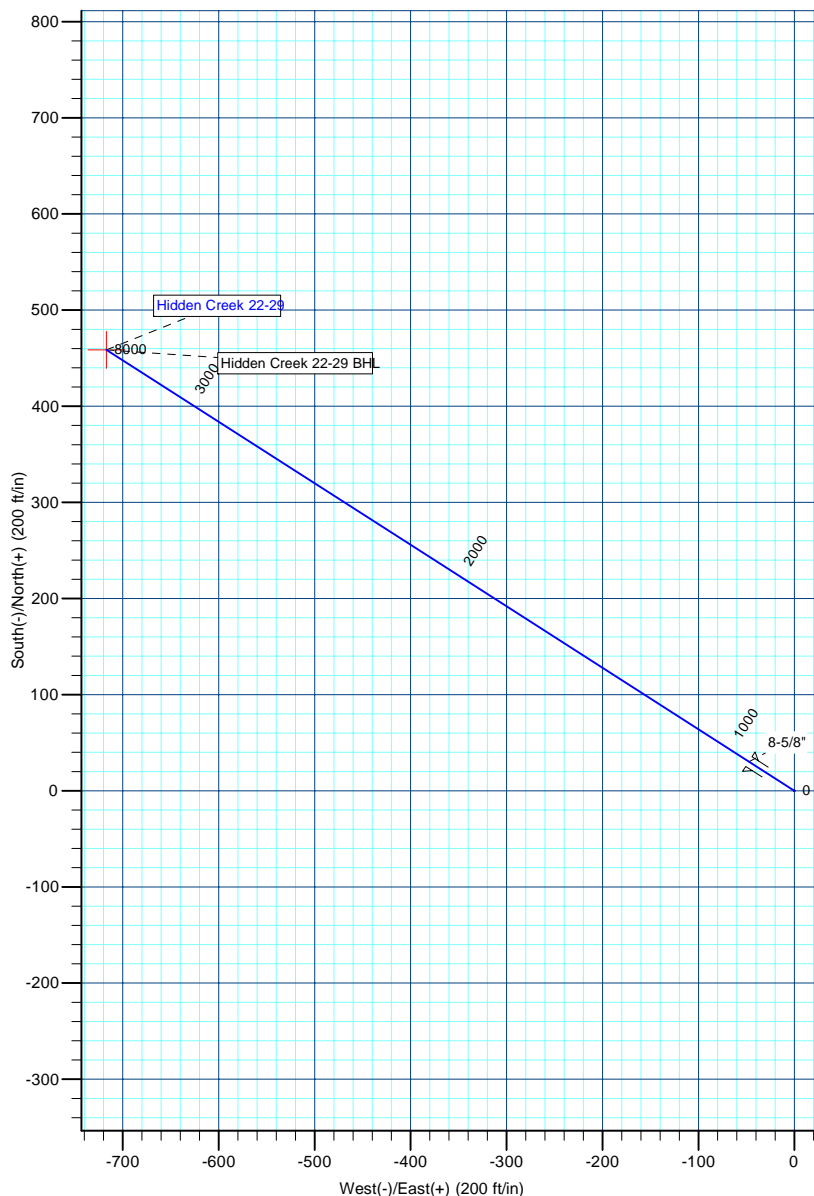
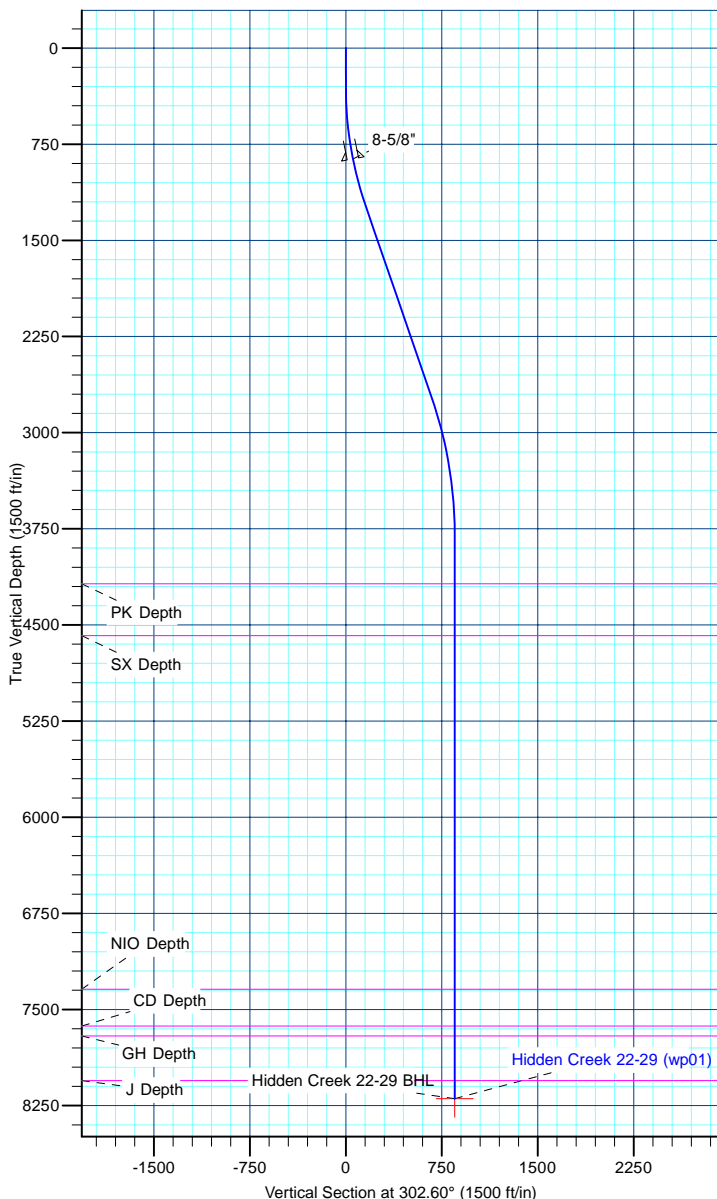
TVD	MD	Name	Size
865.00	868.73	8-5/8"	8-5/8

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Hidden Creek 22-29 BHL	8195.00	458.65	-717.16	1283291.64	3162476.36	40.109567	-104.919108	

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
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
1252.71	19.05	302.60	1235.24	84.57	-132.23	2.00	302.60	156.96
2830.04	19.05	302.60	2726.15	362.00	-566.04	0.00	0.00	671.90
3918.84	0.00	0.00	3795.00	458.65	-717.16	1.75	180.00	851.28
8318.84	0.00	0.00	8195.00	458.65	-717.16	0.00	0.00	851.28



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 22-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 22-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 22-29		
<b>Design:</b>	Hidden Creek 22-29 (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_Hidden Creek 11-29 PAD			
Site Position:		Northing:	1,282,817.70 ft	Latitude:	40.108253
From:	Lat/Long	Easting:	3,163,196.65 ft	Longitude:	-104.916544
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.38 °

Well	Hidden Creek 22-29					
Well Position	+N/-S	20.02 ft	Northing:	1,282,837.72 ft	Latitude:	40.108308
	+E/-W	0.00 ft	Easting:	3,163,196.52 ft	Longitude:	-104.916544
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,029.00 ft

<b>Wellbore</b>	Hidden Creek 22-29				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	7/28/2011	8.90	66.78	52,947

<b>Design</b>	Hidden Creek 22-29 (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)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	302.60

<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	
1,252.71	19.05	302.60	1,235.24	84.57	-132.23	2.00	2.00	0.00	302.60	
2,830.04	19.05	302.60	2,726.15	362.00	-566.04	0.00	0.00	0.00	0.00	
3,918.84	0.00	0.00	3,795.00	458.65	-717.16	1.75	-1.75	0.00	180.00	
8,318.84	0.00	0.00	8,195.00	458.65	-717.16	0.00	0.00	0.00	0.00	Hidden Creek 22-29 E

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 22-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 22-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 22-29		
<b>Design:</b>	Hidden Creek 22-29 (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
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
Start Build 2.00									
400.00	2.00	302.60	399.98	0.94	-1.47	1.75	2.00	2.00	0.00
500.00	4.00	302.60	499.84	3.76	-5.88	6.98	2.00	2.00	0.00
600.00	6.00	302.60	599.45	8.46	-13.22	15.69	2.00	2.00	0.00
700.00	8.00	302.60	698.70	15.02	-23.49	27.88	2.00	2.00	0.00
800.00	10.00	302.60	797.47	23.45	-36.67	43.52	2.00	2.00	0.00
868.73	11.37	302.60	865.00	30.32	-47.40	56.27	2.00	2.00	0.00
8-5/8"									
900.00	12.00	302.60	895.62	33.73	-52.74	62.60	2.00	2.00	0.00
1,000.00	14.00	302.60	993.06	45.85	-71.69	85.10	2.00	2.00	0.00
1,100.00	16.00	302.60	1,089.64	59.79	-93.49	110.98	2.00	2.00	0.00
1,200.00	18.00	302.60	1,185.27	75.54	-118.12	140.21	2.00	2.00	0.00
1,252.71	19.05	302.60	1,235.24	84.57	-132.23	156.96	2.00	2.00	0.00
Start 1577.33 hold at 1252.71 MD									
1,300.00	19.05	302.60	1,279.95	92.88	-145.24	172.40	0.00	0.00	0.00
1,400.00	19.05	302.60	1,374.47	110.47	-172.74	205.05	0.00	0.00	0.00
1,500.00	19.05	302.60	1,468.99	128.06	-200.24	237.69	0.00	0.00	0.00
1,600.00	19.05	302.60	1,563.51	145.65	-227.75	270.34	0.00	0.00	0.00
1,700.00	19.05	302.60	1,658.03	163.24	-255.25	302.98	0.00	0.00	0.00
1,800.00	19.05	302.60	1,752.55	180.83	-282.75	335.63	0.00	0.00	0.00
1,900.00	19.05	302.60	1,847.07	198.42	-310.25	368.28	0.00	0.00	0.00
2,000.00	19.05	302.60	1,941.59	216.01	-337.76	400.92	0.00	0.00	0.00
2,100.00	19.05	302.60	2,036.11	233.60	-365.26	433.57	0.00	0.00	0.00
2,200.00	19.05	302.60	2,130.63	251.19	-392.76	466.21	0.00	0.00	0.00
2,300.00	19.05	302.60	2,225.16	268.77	-420.26	498.86	0.00	0.00	0.00
2,400.00	19.05	302.60	2,319.68	286.36	-447.77	531.51	0.00	0.00	0.00
2,500.00	19.05	302.60	2,414.20	303.95	-475.27	564.15	0.00	0.00	0.00
2,600.00	19.05	302.60	2,508.72	321.54	-502.77	596.80	0.00	0.00	0.00
2,700.00	19.05	302.60	2,603.24	339.13	-530.28	629.45	0.00	0.00	0.00
2,800.00	19.05	302.60	2,697.76	356.72	-557.78	662.09	0.00	0.00	0.00
2,830.04	19.05	302.60	2,726.15	362.00	-566.04	671.90	0.00	0.00	0.00
Start Drop -1.75									
2,900.00	17.83	302.60	2,792.52	373.93	-584.68	694.03	1.75	-1.75	0.00
3,000.00	16.08	302.60	2,888.17	389.64	-609.25	723.19	1.75	-1.75	0.00
3,100.00	14.33	302.60	2,984.67	403.77	-631.34	749.42	1.75	-1.75	0.00
3,200.00	12.58	302.60	3,081.92	416.30	-650.95	772.68	1.75	-1.75	0.00
3,300.00	10.83	302.60	3,179.83	427.23	-668.04	792.97	1.75	-1.75	0.00
3,400.00	9.08	302.60	3,278.33	436.55	-682.60	810.25	1.75	-1.75	0.00
3,500.00	7.33	302.60	3,377.30	444.23	-694.62	824.53	1.75	-1.75	0.00
3,600.00	5.58	302.60	3,476.66	450.29	-704.09	835.77	1.75	-1.75	0.00
3,700.00	3.83	302.60	3,576.32	454.71	-711.00	843.97	1.75	-1.75	0.00
3,800.00	2.08	302.60	3,676.18	457.49	-715.34	849.12	1.75	-1.75	0.00
3,900.00	0.33	302.60	3,776.16	458.62	-717.11	851.23	1.75	-1.75	0.00
3,918.84	0.00	0.00	3,795.00	458.65	-717.16	851.28	1.75	-1.75	0.00
Start 4400.00 hold at 3918.84 MD									
4,000.00	0.00	0.00	3,876.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,100.00	0.00	0.00	3,976.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,200.00	0.00	0.00	4,076.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,300.00	0.00	0.00	4,176.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,302.84	0.00	0.00	4,179.00	458.65	-717.16	851.28	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 22-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 22-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 22-29		
<b>Design:</b>	Hidden Creek 22-29 (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)
<b>PK Depth</b>									
4,400.00	0.00	0.00	4,276.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,500.00	0.00	0.00	4,376.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,600.00	0.00	0.00	4,476.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,700.00	0.00	0.00	4,576.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,707.84	0.00	0.00	4,584.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>SX Depth</b>									
4,800.00	0.00	0.00	4,676.16	458.65	-717.16	851.28	0.00	0.00	0.00
4,900.00	0.00	0.00	4,776.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,000.00	0.00	0.00	4,876.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,100.00	0.00	0.00	4,976.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,200.00	0.00	0.00	5,076.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,300.00	0.00	0.00	5,176.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,400.00	0.00	0.00	5,276.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,500.00	0.00	0.00	5,376.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,600.00	0.00	0.00	5,476.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,700.00	0.00	0.00	5,576.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,800.00	0.00	0.00	5,676.16	458.65	-717.16	851.28	0.00	0.00	0.00
5,900.00	0.00	0.00	5,776.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,000.00	0.00	0.00	5,876.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,100.00	0.00	0.00	5,976.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,200.00	0.00	0.00	6,076.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,300.00	0.00	0.00	6,176.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,400.00	0.00	0.00	6,276.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,500.00	0.00	0.00	6,376.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,600.00	0.00	0.00	6,476.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,700.00	0.00	0.00	6,576.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,800.00	0.00	0.00	6,676.16	458.65	-717.16	851.28	0.00	0.00	0.00
6,900.00	0.00	0.00	6,776.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,000.00	0.00	0.00	6,876.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,100.00	0.00	0.00	6,976.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,200.00	0.00	0.00	7,076.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,300.00	0.00	0.00	7,176.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,400.00	0.00	0.00	7,276.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,465.84	0.00	0.00	7,342.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>NIO Depth</b>									
7,500.00	0.00	0.00	7,376.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,600.00	0.00	0.00	7,476.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,700.00	0.00	0.00	7,576.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,752.84	0.00	0.00	7,629.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>CD Depth</b>									
7,800.00	0.00	0.00	7,676.16	458.65	-717.16	851.28	0.00	0.00	0.00
7,829.84	0.00	0.00	7,706.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>GH Depth</b>									
7,900.00	0.00	0.00	7,776.16	458.65	-717.16	851.28	0.00	0.00	0.00
8,000.00	0.00	0.00	7,876.16	458.65	-717.16	851.28	0.00	0.00	0.00
8,100.00	0.00	0.00	7,976.16	458.65	-717.16	851.28	0.00	0.00	0.00
8,178.84	0.00	0.00	8,055.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>J Depth</b>									
8,200.00	0.00	0.00	8,076.16	458.65	-717.16	851.28	0.00	0.00	0.00
8,300.00	0.00	0.00	8,176.16	458.65	-717.16	851.28	0.00	0.00	0.00
8,318.84	0.00	0.00	8,195.00	458.65	-717.16	851.28	0.00	0.00	0.00
<b>TD at 8318.84 - Hidden Creek 22-29 BHL</b>									

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 22-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' rkb + 5029' GL @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 22-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 22-29		
<b>Design:</b>	Hidden Creek 22-29 (wp01)		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Hidden Creek 22-29 BHI	0.00	0.00	8,195.00	458.65	-717.16	1,283,291.64	3,162,476.36	40.109567	-104.919108
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
868.73	865.00	8-5/8"		8-5/8	11

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
4,302.84	4,179.00	PK Depth				
4,707.84	4,584.00	SX Depth				
7,465.84	7,342.00	NIO Depth				
7,752.84	7,629.00	CD Depth				
7,829.84	7,706.00	GH Depth				
8,178.84	8,055.00	J Depth				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
(ft)	(ft)	(ft)	(ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,252.71	1,235.24	84.57	-132.23	Start 1577.33 hold at 1252.71 MD	
2,830.04	2,726.15	362.00	-566.04	Start Drop -1.75	
3,918.84	3,795.00	458.65	-717.16	Start 4400.00 hold at 3918.84 MD	
8,318.84	8,195.00	458.65	-717.16	TD at 8318.84	