

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

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

**Hidden Creek 12-29**

**Hidden Creek 12-29**

**Plan: Hidden Creek 12-29 (wp01)**


## **Standard Planning Report**

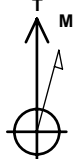
**28 July, 2011**



Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_Hidden Creek 11-29 PAD  
 Well: Hidden Creek 12-29  
 Wellbore: Hidden Creek 12-29  
 Section:  
 SHL:  
 Design: Hidden Creek 12-29 (wp01)  
 Latitude: 40.108253  
 Longitude: -104.916544  
 GL: 5029.00  
 KB: 15' gl + 5029' rkb @ 5044.00ft

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
4180.00	4363.68	PK Depth
4573.00	4776.75	SX Depth
7338.00	7551.85	NIO Depth
7644.00	7857.85	CD Depth
7730.00	7943.85	GH Depth
8063.00	8276.85	J Depth
8230.00	8443.85	DK Depth





Azimuths to True North  
 Magnetic North: 8.90°  
  
 Magnetic Field  
 Strength: 52947.2snT  
 Dip Angle: 66.78°  
 Date: 7/28/2011  
 Model: IGRF2010

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

WELL DETAILS: Hidden Creek 12-29

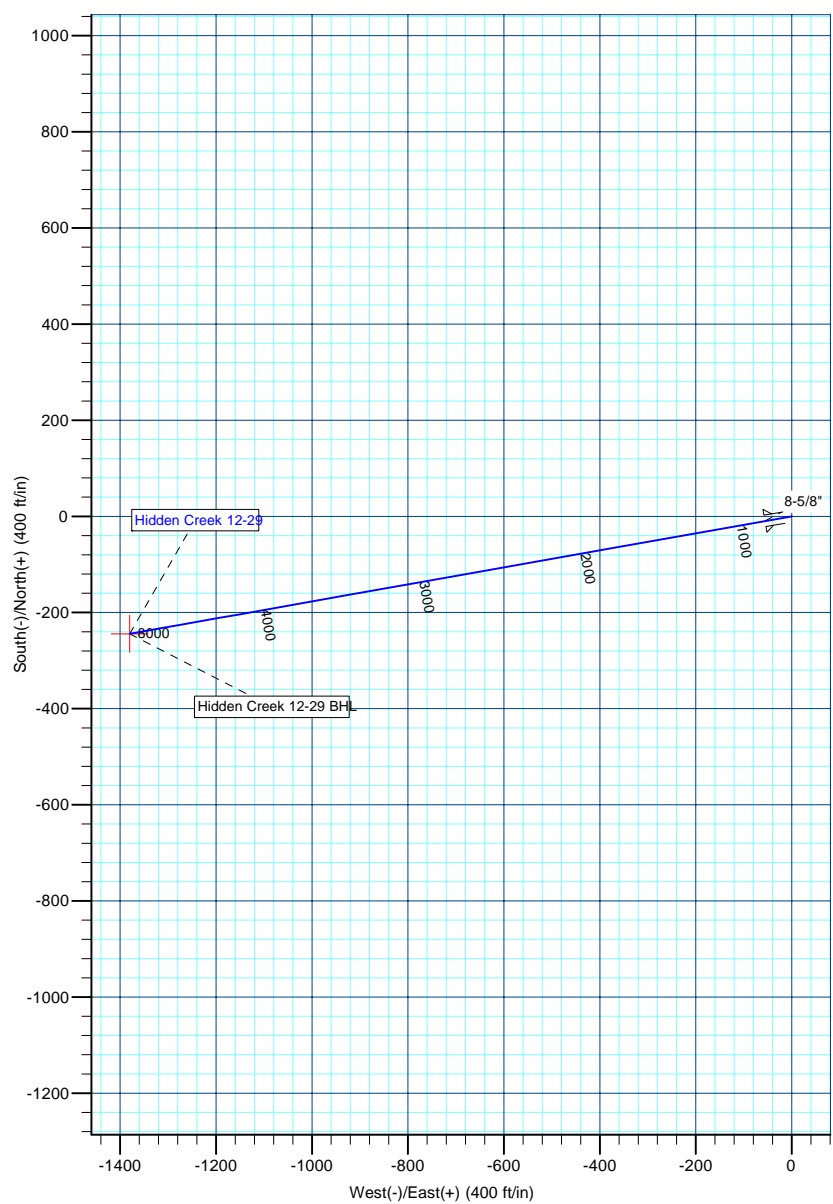
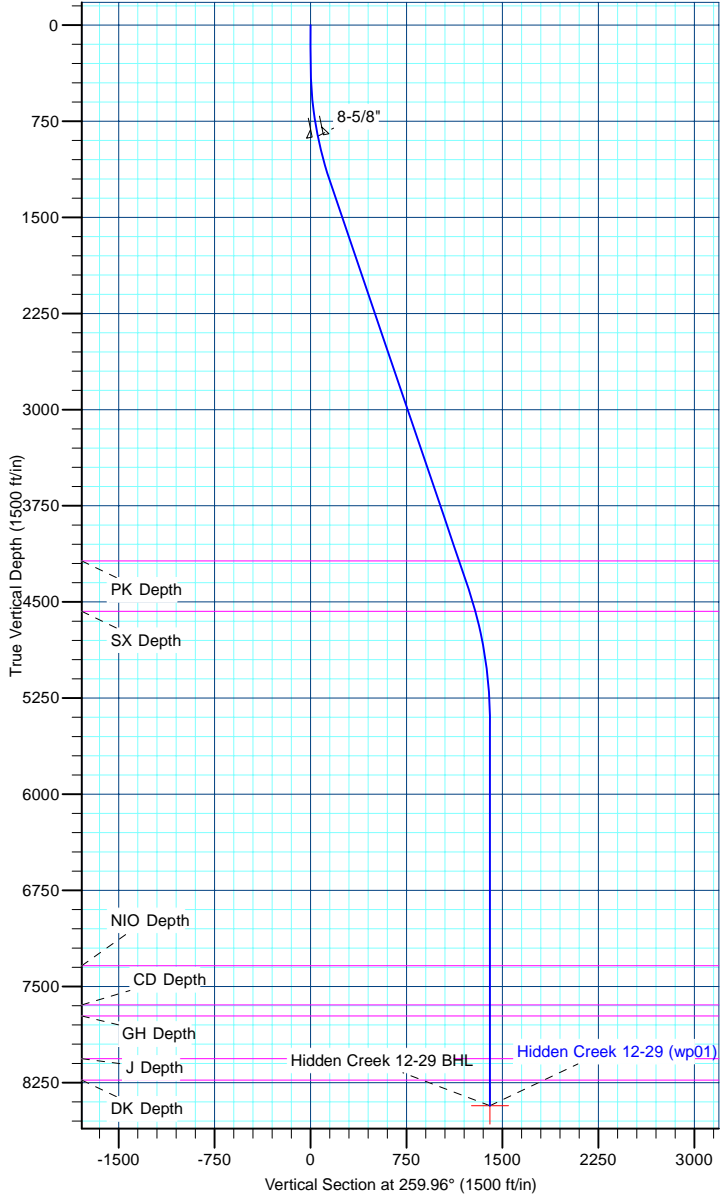
+N/-S	+E/-W	Northing	Ground Level: Easting	5029.00 Latitude	Longitude	Slot
0.00	0.00	1282817.69	3163196.65	40.108253	-104.916544	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Hidden Creek 12-29 BHL	8430.00	-244.38	-1379.82	1282564.23	3161818.47	40.107582	-104.921477	Point

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
1240.71	18.81	259.96	1223.89	-26.69	-150.72	2.00	259.96	153.07
4568.76	18.81	259.96	4374.12	-213.87	-1207.57	0.00	0.00	1226.36
5643.85	0.00	0.00	5430.00	-244.38	-1379.82	1.75	180.00	1401.29
8643.85	0.00	0.00	8430.00	-244.38	-1379.82	0.00	0.00	1401.29



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 12-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 12-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 12-29		
<b>Design:</b>	Hidden Creek 12-29 (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		

<b>Site</b>	WELD_Hidden Creek 11-29 PAD				
<b>Site Position:</b>	<b>Northing:</b>	1,282,817.70 ft	<b>Latitude:</b>	40.108253	
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,163,196.65 ft	<b>Longitude:</b>	-104.916544
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.38 °

<b>Well</b>	Hidden Creek 12-29					
<b>Well Position</b>	<b>+N/-S</b>	-0.01 ft	<b>Northing:</b>	1,282,817.68 ft	<b>Latitude:</b>	40.108253
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,163,196.65 ft	<b>Longitude:</b>	-104.916544
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,029.00 ft

<b>Wellbore</b>	Hidden Creek 12-29				
<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 12-29 (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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	259.96

<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	
1,240.71	18.81	259.96	1,223.89	-26.69	-150.72	2.00	2.00	0.00	259.96	
4,568.76	18.81	259.96	4,374.12	-213.87	-1,207.57	0.00	0.00	0.00	0.00	
5,643.85	0.00	0.00	5,430.00	-244.38	-1,379.82	1.75	-1.75	0.00	180.00	
8,643.85	0.00	0.00	8,430.00	-244.38	-1,379.82	0.00	0.00	0.00	0.00	Hidden Creek 12-29 E

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 12-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 12-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 12-29		
<b>Design:</b>	Hidden Creek 12-29 (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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
400.00	2.00	259.96	399.98	-0.30	-1.72	1.75	2.00	2.00	2.00	0.00
500.00	4.00	259.96	499.84	-1.22	-6.87	6.98	2.00	2.00	2.00	0.00
600.00	6.00	259.96	599.45	-2.74	-15.45	15.69	2.00	2.00	2.00	0.00
700.00	8.00	259.96	698.70	-4.86	-27.45	27.88	2.00	2.00	2.00	0.00
800.00	10.00	259.96	797.47	-7.59	-42.86	43.52	2.00	2.00	2.00	0.00
868.73	11.37	259.96	865.00	-9.81	-55.41	56.27	2.00	2.00	2.00	0.00
<b>8-5/8"</b>										
900.00	12.00	259.96	895.62	-10.92	-61.64	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	259.96	993.06	-14.84	-83.79	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	259.96	1,089.64	-19.35	-109.28	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	259.96	1,185.27	-24.45	-138.06	140.21	2.00	2.00	2.00	0.00
1,240.71	18.81	259.96	1,223.89	-26.69	-150.72	153.07	2.00	2.00	2.00	0.00
<b>Start 3328.05 hold at 1240.71 MD</b>										
1,300.00	18.81	259.96	1,280.02	-30.03	-169.55	172.19	0.00	0.00	0.00	0.00
1,400.00	18.81	259.96	1,374.67	-35.65	-201.31	204.44	0.00	0.00	0.00	0.00
1,500.00	18.81	259.96	1,469.33	-41.28	-233.06	236.69	0.00	0.00	0.00	0.00
1,600.00	18.81	259.96	1,563.99	-46.90	-264.82	268.94	0.00	0.00	0.00	0.00
1,700.00	18.81	259.96	1,658.65	-52.53	-296.57	301.19	0.00	0.00	0.00	0.00
1,800.00	18.81	259.96	1,753.30	-58.15	-328.33	333.44	0.00	0.00	0.00	0.00
1,900.00	18.81	259.96	1,847.96	-63.77	-360.08	365.69	0.00	0.00	0.00	0.00
2,000.00	18.81	259.96	1,942.62	-69.40	-391.84	397.94	0.00	0.00	0.00	0.00
2,100.00	18.81	259.96	2,037.27	-75.02	-423.60	430.19	0.00	0.00	0.00	0.00
2,200.00	18.81	259.96	2,131.93	-80.65	-455.35	462.44	0.00	0.00	0.00	0.00
2,300.00	18.81	259.96	2,226.59	-86.27	-487.11	494.69	0.00	0.00	0.00	0.00
2,400.00	18.81	259.96	2,321.24	-91.90	-518.86	526.94	0.00	0.00	0.00	0.00
2,500.00	18.81	259.96	2,415.90	-97.52	-550.62	559.19	0.00	0.00	0.00	0.00
2,600.00	18.81	259.96	2,510.56	-103.14	-582.37	591.44	0.00	0.00	0.00	0.00
2,700.00	18.81	259.96	2,605.22	-108.77	-614.13	623.69	0.00	0.00	0.00	0.00
2,800.00	18.81	259.96	2,699.87	-114.39	-645.88	655.94	0.00	0.00	0.00	0.00
2,900.00	18.81	259.96	2,794.53	-120.02	-677.64	688.19	0.00	0.00	0.00	0.00
3,000.00	18.81	259.96	2,889.19	-125.64	-709.40	720.44	0.00	0.00	0.00	0.00
3,100.00	18.81	259.96	2,983.84	-131.27	-741.15	752.69	0.00	0.00	0.00	0.00
3,200.00	18.81	259.96	3,078.50	-136.89	-772.91	784.94	0.00	0.00	0.00	0.00
3,300.00	18.81	259.96	3,173.16	-142.51	-804.66	817.19	0.00	0.00	0.00	0.00
3,400.00	18.81	259.96	3,267.81	-148.14	-836.42	849.44	0.00	0.00	0.00	0.00
3,500.00	18.81	259.96	3,362.47	-153.76	-868.17	881.69	0.00	0.00	0.00	0.00
3,600.00	18.81	259.96	3,457.13	-159.39	-899.93	913.94	0.00	0.00	0.00	0.00
3,700.00	18.81	259.96	3,551.79	-165.01	-931.69	946.19	0.00	0.00	0.00	0.00
3,800.00	18.81	259.96	3,646.44	-170.64	-963.44	978.44	0.00	0.00	0.00	0.00
3,900.00	18.81	259.96	3,741.10	-176.26	-995.20	1,010.69	0.00	0.00	0.00	0.00
4,000.00	18.81	259.96	3,835.76	-181.88	-1,026.95	1,042.94	0.00	0.00	0.00	0.00
4,100.00	18.81	259.96	3,930.41	-187.51	-1,058.71	1,075.19	0.00	0.00	0.00	0.00
4,200.00	18.81	259.96	4,025.07	-193.13	-1,090.46	1,107.44	0.00	0.00	0.00	0.00
4,300.00	18.81	259.96	4,119.73	-198.76	-1,122.22	1,139.69	0.00	0.00	0.00	0.00
4,363.68	18.81	259.96	4,180.00	-202.34	-1,142.44	1,160.22	0.00	0.00	0.00	0.00
<b>PK Depth</b>										
4,400.00	18.81	259.96	4,214.38	-204.38	-1,153.98	1,171.93	0.00	0.00	0.00	0.00
4,500.00	18.81	259.96	4,309.04	-210.01	-1,185.73	1,204.18	0.00	0.00	0.00	0.00
4,568.76	18.81	259.96	4,374.12	-213.87	-1,207.57	1,226.36	0.00	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 12-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 12-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 12-29		
<b>Design:</b>	Hidden Creek 12-29 (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>Start Drop -1.75</b>									
4,600.00	18.27	259.96	4,403.75	-215.60	-1,217.35	1,236.29	1.75	-1.75	0.00
4,700.00	16.52	259.96	4,499.17	-220.82	-1,246.78	1,266.18	1.75	-1.75	0.00
4,776.75	15.17	259.96	4,573.00	-224.47	-1,267.41	1,287.14	1.75	-1.75	0.00
<b>SX Depth</b>									
4,800.00	14.77	259.96	4,595.46	-225.52	-1,273.33	1,293.15	1.75	-1.75	0.00
4,900.00	13.02	259.96	4,692.53	-229.71	-1,296.97	1,317.15	1.75	-1.75	0.00
5,000.00	11.27	259.96	4,790.29	-233.37	-1,317.68	1,338.19	1.75	-1.75	0.00
5,100.00	9.52	259.96	4,888.65	-236.52	-1,335.44	1,356.23	1.75	-1.75	0.00
5,200.00	7.77	259.96	4,987.51	-239.14	-1,350.24	1,371.25	1.75	-1.75	0.00
5,300.00	6.02	259.96	5,086.78	-241.23	-1,362.05	1,383.25	1.75	-1.75	0.00
5,400.00	4.27	259.96	5,186.38	-242.80	-1,370.88	1,392.21	1.75	-1.75	0.00
5,500.00	2.52	259.96	5,286.20	-243.83	-1,376.71	1,398.13	1.75	-1.75	0.00
5,600.00	0.77	259.96	5,386.15	-244.33	-1,379.53	1,401.00	1.75	-1.75	0.00
5,643.85	0.00	0.00	5,430.00	-244.38	-1,379.82	1,401.29	1.75	-1.75	0.00
<b>Start 3000.00 hold at 5643.85 MD</b>									
5,700.00	0.00	0.00	5,486.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
5,800.00	0.00	0.00	5,586.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
5,900.00	0.00	0.00	5,686.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,000.00	0.00	0.00	5,786.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,100.00	0.00	0.00	5,886.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,200.00	0.00	0.00	5,986.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,300.00	0.00	0.00	6,086.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,400.00	0.00	0.00	6,186.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,500.00	0.00	0.00	6,286.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,600.00	0.00	0.00	6,386.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,700.00	0.00	0.00	6,486.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,800.00	0.00	0.00	6,586.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
6,900.00	0.00	0.00	6,686.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,000.00	0.00	0.00	6,786.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,100.00	0.00	0.00	6,886.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,200.00	0.00	0.00	6,986.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,300.00	0.00	0.00	7,086.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,400.00	0.00	0.00	7,186.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,500.00	0.00	0.00	7,286.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,551.85	0.00	0.00	7,338.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
<b>NIO Depth</b>									
7,600.00	0.00	0.00	7,386.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,700.00	0.00	0.00	7,486.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,800.00	0.00	0.00	7,586.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,857.85	0.00	0.00	7,644.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
<b>CD Depth</b>									
7,900.00	0.00	0.00	7,686.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
7,943.85	0.00	0.00	7,730.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
<b>GH Depth</b>									
8,000.00	0.00	0.00	7,786.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
8,100.00	0.00	0.00	7,886.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
8,200.00	0.00	0.00	7,986.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
8,276.85	0.00	0.00	8,063.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
<b>J Depth</b>									
8,300.00	0.00	0.00	8,086.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
8,400.00	0.00	0.00	8,186.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00
8,443.85	0.00	0.00	8,230.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Hidden Creek 12-29
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' gl + 5029' rkb @ 5044.00ft
<b>Site:</b>	WELD_Hidden Creek 11-29 PAD	<b>North Reference:</b>	True
<b>Well:</b>	Hidden Creek 12-29	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hidden Creek 12-29		
<b>Design:</b>	Hidden Creek 12-29 (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>DK Depth</b>										
8,500.00	0.00	0.00	8,286.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,386.15	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00	
8,643.85	0.00	0.00	8,430.00	-244.38	-1,379.82	1,401.29	0.00	0.00	0.00	
<b>TD at 8643.85 - Hidden Creek 12-29 BHL</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
Hidden Creek 12-29 BHI	0.00	0.00	8,430.00	-244.38	-1,379.82	1,282,564.23	3,161,818.47	40.107582	-104.921477	
- hit/miss target										
- Shape										
- Point										

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

Formations										
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)					
4,363.68	4,180.00	PK Depth								
4,776.75	4,573.00	SX Depth								
7,551.85	7,338.00	NIO Depth								
7,857.85	7,644.00	CD Depth								
7,943.85	7,730.00	GH Depth								
8,276.85	8,063.00	J Depth								
8,443.85	8,230.00	DK Depth								

Plan Annotations										
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment						
300.00	300.00	0.00	0.00	Start Build 2.00						
1,240.71	1,223.89	-26.69	-150.72	Start 3328.05 hold at 1240.71 MD						
4,568.76	4,374.12	-213.87	-1,207.57	Start Drop -1.75						
5,643.85	5,430.00	-244.38	-1,379.82	Start 3000.00 hold at 5643.85 MD						
8,643.85	8,430.00	-244.38	-1,379.82	TD at 8643.85						