

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Hidden Creek 11-29 PAD

Hidden Creek 14-29

Hidden Creek 14-29

Plan: Hidden Creek 14-29 (wp01)

Standard Planning Report

28 July, 2011



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_Hidden Creek 11-29 PAD
Well: Hidden Creek 14-29
Wellbore: Hidden Creek 14-29
Section:
SHL:
Design: Hidden Creek 14-29 (wp01)
Latitude: 40.108088
Longitude: -104.916545
GL: 5029.00
KB: 15' rkb + 5029' GL @ 5044.00ft

TVDPATH	MDPATH	FORMATION
4180.00	4364.42	PK Depth
4608.00	4816.69	SX Depth
7362.00	7621.55	NIO Depth
7664.00	7923.55	CD Depth
7744.00	8003.55	GH Depth
8082.00	8341.55	J Depth



Azimuths to True North
Magnetic North: 8.90°

Magnetic Field
Strength: 52947.1nT
Dip Angle: 66.78°
Date: 7/28/2011
Model: IGRF2010

WELL DETAILS: Hidden Creek 14-29

+N/-S	+E/-W	Northing	Ground Level: Easting	5029.00 Latitude	Longitude	Slot
0.00	0.00	1282757.58	3163196.77	40.108088	-104.916545	

CASING DETAILS

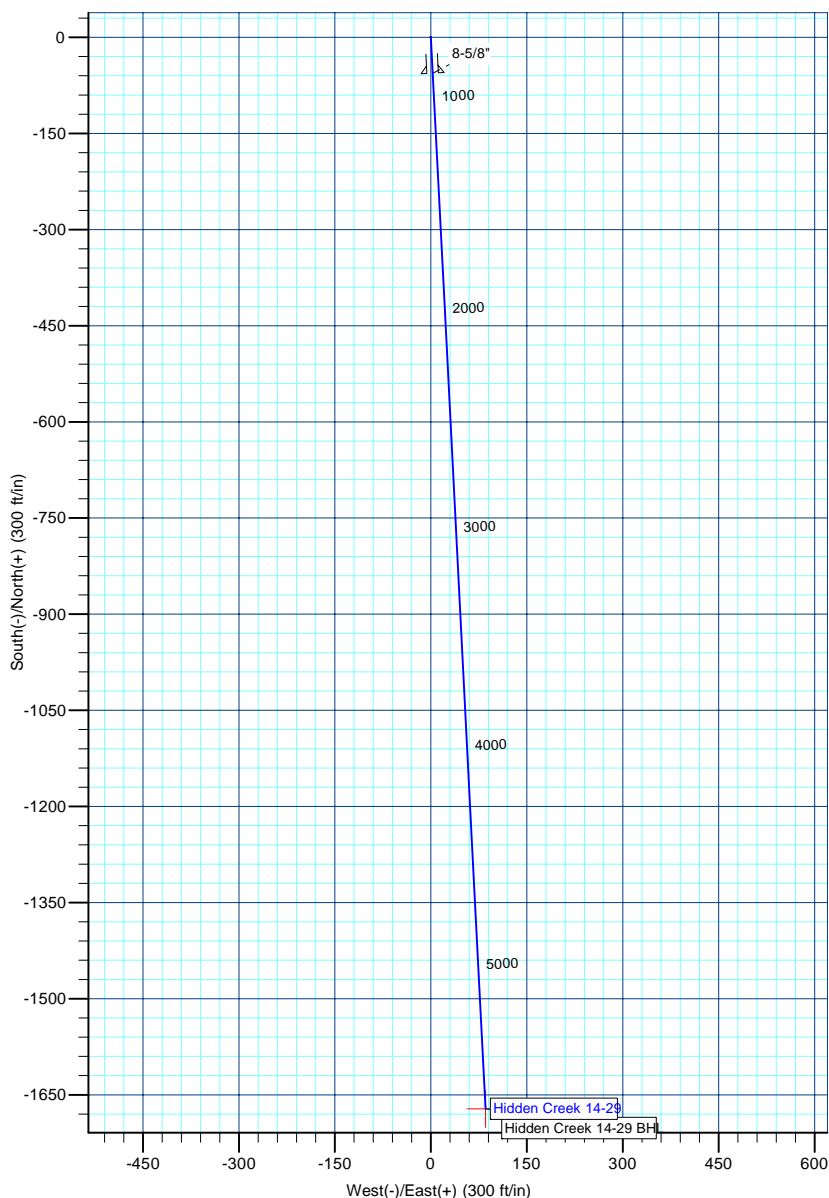
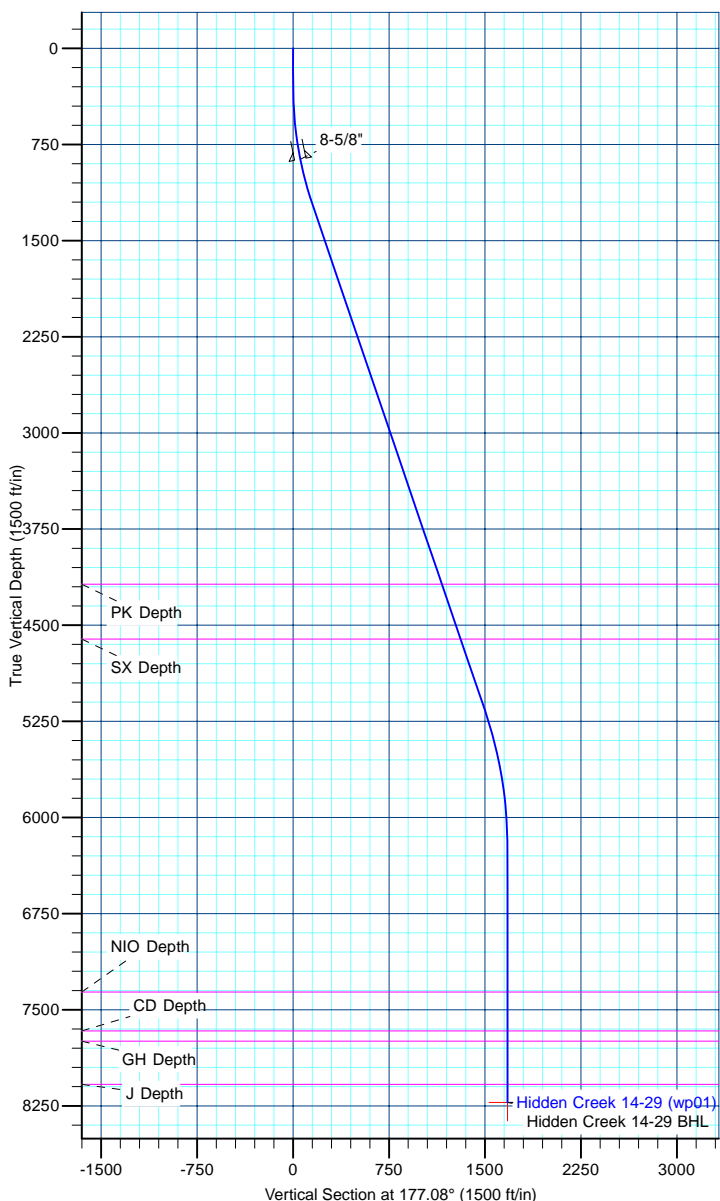
TVD	MD	Name	Size
865.00	868.73	8-5/8"	8-5/8

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Hidden Creek 14-29 BHL	8222.00	-1672.02	85.32	1281086.15	3163293.08	40.103498	-104.916240	

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
1242.71	18.85	177.08	1225.78	-153.51	7.83	2.00	177.08	153.71
5404.17	18.85	177.08	5163.96	-1496.58	76.36	0.00	0.00	1498.53
6481.55	0.00	0.00	6222.00	-1672.02	85.32	1.75	180.00	1674.20
8481.55	0.00	0.00	8222.00	-1672.02	85.32	0.00	0.00	1674.20



Database:	edm5000p	Local Co-ordinate Reference:	Well Hidden Creek 14-29
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 5029' GL @ 5044.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5029' GL @ 5044.00ft
Site:	WELD_Hidden Creek 11-29 PAD	North Reference:	True
Well:	Hidden Creek 14-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hidden Creek 14-29		
Design:	Hidden Creek 14-29 (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_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 14-29				
Well Position	+N/-S	-60.12 ft	Northing:	1,282,757.58 ft	Latitude:	40.108088
	+E/-W	-0.28 ft	Easting:	3,163,196.77 ft	Longitude:	-104.916545
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,029.00 ft

Wellbore	Hidden Creek 14-29				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/28/2011	8.90	66.78	52,947

Design	Hidden Creek 14-29 (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	177.08

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	
1,242.71	18.85	177.08	1,225.78	-153.51	7.83	2.00	2.00	0.00	177.08	
5,404.17	18.85	177.08	5,163.96	-1,496.58	76.36	0.00	0.00	0.00	0.00	
6,481.55	0.00	0.00	6,222.00	-1,672.02	85.32	1.75	-1.75	0.00	180.00	
8,481.55	0.00	0.00	8,222.00	-1,672.02	85.32	0.00	0.00	0.00	0.00	Hidden Creek 14-29 E

Database:	edm5000p	Local Co-ordinate Reference:	Well Hidden Creek 14-29
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 5029' GL @ 5044.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5029' GL @ 5044.00ft
Site:	WELD_Hidden Creek 11-29 PAD	North Reference:	True
Well:	Hidden Creek 14-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hidden Creek 14-29		
Design:	Hidden Creek 14-29 (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	177.08	399.98	-1.74	0.09	1.75	2.00	2.00	0.00
500.00	4.00	177.08	499.84	-6.97	0.36	6.98	2.00	2.00	0.00
600.00	6.00	177.08	599.45	-15.67	0.80	15.69	2.00	2.00	0.00
700.00	8.00	177.08	698.70	-27.84	1.42	27.88	2.00	2.00	0.00
800.00	10.00	177.08	797.47	-43.47	2.22	43.52	2.00	2.00	0.00
868.73	11.37	177.08	865.00	-56.19	2.87	56.27	2.00	2.00	0.00
8-5/8"									
900.00	12.00	177.08	895.62	-62.52	3.19	62.60	2.00	2.00	0.00
1,000.00	14.00	177.08	993.06	-84.99	4.34	85.10	2.00	2.00	0.00
1,100.00	16.00	177.08	1,089.64	-110.83	5.66	110.98	2.00	2.00	0.00
1,200.00	18.00	177.08	1,185.27	-140.03	7.15	140.21	2.00	2.00	0.00
1,242.71	18.85	177.08	1,225.78	-153.51	7.83	153.71	2.00	2.00	0.00
Start 4161.46 hold at 1242.71 MD									
1,300.00	18.85	177.08	1,280.00	-172.00	8.78	172.23	0.00	0.00	0.00
1,400.00	18.85	177.08	1,374.64	-204.28	10.42	204.54	0.00	0.00	0.00
1,500.00	18.85	177.08	1,469.27	-236.55	12.07	236.86	0.00	0.00	0.00
1,600.00	18.85	177.08	1,563.91	-268.83	13.72	269.17	0.00	0.00	0.00
1,700.00	18.85	177.08	1,658.54	-301.10	15.36	301.49	0.00	0.00	0.00
1,800.00	18.85	177.08	1,753.18	-333.37	17.01	333.81	0.00	0.00	0.00
1,900.00	18.85	177.08	1,847.81	-365.65	18.66	366.12	0.00	0.00	0.00
2,000.00	18.85	177.08	1,942.45	-397.92	20.30	398.44	0.00	0.00	0.00
2,100.00	18.85	177.08	2,037.08	-430.20	21.95	430.75	0.00	0.00	0.00
2,200.00	18.85	177.08	2,131.71	-462.47	23.60	463.07	0.00	0.00	0.00
2,300.00	18.85	177.08	2,226.35	-494.74	25.24	495.39	0.00	0.00	0.00
2,400.00	18.85	177.08	2,320.98	-527.02	26.89	527.70	0.00	0.00	0.00
2,500.00	18.85	177.08	2,415.62	-559.29	28.54	560.02	0.00	0.00	0.00
2,600.00	18.85	177.08	2,510.25	-591.57	30.19	592.33	0.00	0.00	0.00
2,700.00	18.85	177.08	2,604.89	-623.84	31.83	624.65	0.00	0.00	0.00
2,800.00	18.85	177.08	2,699.52	-656.11	33.48	656.97	0.00	0.00	0.00
2,900.00	18.85	177.08	2,794.16	-688.39	35.13	689.28	0.00	0.00	0.00
3,000.00	18.85	177.08	2,888.79	-720.66	36.77	721.60	0.00	0.00	0.00
3,100.00	18.85	177.08	2,983.42	-752.94	38.42	753.91	0.00	0.00	0.00
3,200.00	18.85	177.08	3,078.06	-785.21	40.07	786.23	0.00	0.00	0.00
3,300.00	18.85	177.08	3,172.69	-817.48	41.71	818.55	0.00	0.00	0.00
3,400.00	18.85	177.08	3,267.33	-849.76	43.36	850.86	0.00	0.00	0.00
3,500.00	18.85	177.08	3,361.96	-882.03	45.01	883.18	0.00	0.00	0.00
3,600.00	18.85	177.08	3,456.60	-914.31	46.65	915.49	0.00	0.00	0.00
3,700.00	18.85	177.08	3,551.23	-946.58	48.30	947.81	0.00	0.00	0.00
3,800.00	18.85	177.08	3,645.87	-978.85	49.95	980.13	0.00	0.00	0.00
3,900.00	18.85	177.08	3,740.50	-1,011.13	51.59	1,012.44	0.00	0.00	0.00
4,000.00	18.85	177.08	3,835.13	-1,043.40	53.24	1,044.76	0.00	0.00	0.00
4,100.00	18.85	177.08	3,929.77	-1,075.67	54.89	1,077.07	0.00	0.00	0.00
4,200.00	18.85	177.08	4,024.40	-1,107.95	56.53	1,109.39	0.00	0.00	0.00
4,300.00	18.85	177.08	4,119.04	-1,140.22	58.18	1,141.71	0.00	0.00	0.00
4,364.42	18.85	177.08	4,180.00	-1,161.01	59.24	1,162.52	0.00	0.00	0.00
PK Depth									
4,400.00	18.85	177.08	4,213.67	-1,172.50	59.83	1,174.02	0.00	0.00	0.00
4,500.00	18.85	177.08	4,308.31	-1,204.77	61.47	1,206.34	0.00	0.00	0.00
4,600.00	18.85	177.08	4,402.94	-1,237.04	63.12	1,238.65	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5029' GL @ 5044.00ft
Site:	WELD_Hidden Creek 11-29 PAD	North Reference:	True
Well:	Hidden Creek 14-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hidden Creek 14-29		
Design:	Hidden Creek 14-29 (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)
4,700.00	18.85	177.08	4,497.58	-1,269.32	64.77	1,270.97	0.00	0.00	0.00
4,800.00	18.85	177.08	4,592.21	-1,301.59	66.42	1,303.29	0.00	0.00	0.00
4,816.69	18.85	177.08	4,608.00	-1,306.98	66.69	1,308.68	0.00	0.00	0.00
SX Depth									
4,900.00	18.85	177.08	4,686.84	-1,333.87	68.06	1,335.60	0.00	0.00	0.00
5,000.00	18.85	177.08	4,781.48	-1,366.14	69.71	1,367.92	0.00	0.00	0.00
5,100.00	18.85	177.08	4,876.11	-1,398.41	71.36	1,400.23	0.00	0.00	0.00
5,200.00	18.85	177.08	4,970.75	-1,430.69	73.00	1,432.55	0.00	0.00	0.00
5,300.00	18.85	177.08	5,065.38	-1,462.96	74.65	1,464.87	0.00	0.00	0.00
5,400.00	18.85	177.08	5,160.02	-1,495.24	76.30	1,497.18	0.00	0.00	0.00
5,404.17	18.85	177.08	5,163.96	-1,496.58	76.36	1,498.53	0.00	0.00	0.00
Start Drop -1.75									
5,500.00	17.18	177.08	5,255.09	-1,526.18	77.88	1,528.17	1.75	-1.75	0.00
5,600.00	15.43	177.08	5,351.07	-1,554.21	79.31	1,556.24	1.75	-1.75	0.00
5,700.00	13.68	177.08	5,447.86	-1,579.31	80.59	1,581.36	1.75	-1.75	0.00
5,800.00	11.93	177.08	5,545.37	-1,601.43	81.72	1,603.52	1.75	-1.75	0.00
5,900.00	10.18	177.08	5,643.51	-1,620.58	82.69	1,622.69	1.75	-1.75	0.00
6,000.00	8.43	177.08	5,742.19	-1,636.72	83.52	1,638.85	1.75	-1.75	0.00
6,100.00	6.68	177.08	5,841.32	-1,649.85	84.19	1,651.99	1.75	-1.75	0.00
6,200.00	4.93	177.08	5,940.80	-1,659.94	84.70	1,662.10	1.75	-1.75	0.00
6,300.00	3.18	177.08	6,040.55	-1,667.00	85.06	1,669.17	1.75	-1.75	0.00
6,400.00	1.43	177.08	6,140.46	-1,671.01	85.27	1,673.18	1.75	-1.75	0.00
6,481.55	0.00	0.00	6,222.00	-1,672.02	85.32	1,674.20	1.75	-1.75	0.00
Start 2000.00 hold at 6481.55 MD									
6,500.00	0.00	0.00	6,240.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
6,600.00	0.00	0.00	6,340.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
6,700.00	0.00	0.00	6,440.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
6,800.00	0.00	0.00	6,540.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
6,900.00	0.00	0.00	6,640.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,000.00	0.00	0.00	6,740.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,100.00	0.00	0.00	6,840.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,200.00	0.00	0.00	6,940.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,300.00	0.00	0.00	7,040.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,400.00	0.00	0.00	7,140.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,500.00	0.00	0.00	7,240.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,600.00	0.00	0.00	7,340.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,621.55	0.00	0.00	7,362.00	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
NIO Depth									
7,700.00	0.00	0.00	7,440.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,800.00	0.00	0.00	7,540.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,900.00	0.00	0.00	7,640.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
7,923.55	0.00	0.00	7,664.00	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
CD Depth									
8,000.00	0.00	0.00	7,740.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
8,003.55	0.00	0.00	7,744.00	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
GH Depth									
8,100.00	0.00	0.00	7,840.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
8,200.00	0.00	0.00	7,940.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
8,300.00	0.00	0.00	8,040.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
8,341.55	0.00	0.00	8,082.00	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
J Depth									
8,400.00	0.00	0.00	8,140.45	-1,672.02	85.32	1,674.20	0.00	0.00	0.00
8,481.55	0.00	0.00	8,222.00	-1,672.02	85.32	1,674.20	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 5029' GL @ 5044.00ft
Site:	WELD_Hidden Creek 11-29 PAD	North Reference:	True
Well:	Hidden Creek 14-29	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hidden Creek 14-29		
Design:	Hidden Creek 14-29 (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)
TD at 8481.55 - Hidden Creek 14-29 BHL									

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									
Hidden Creek 14-29 BHL	0.00	0.00	8,222.00	-1,672.02	85.32	1,281,086.15	3,163,293.08	40.103498	-104.916240
- plan hits target center									
- 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 (°)	
4,364.42	4,180.00	PK Depth				
4,816.69	4,608.00	SX Depth				
7,621.55	7,362.00	NIO Depth				
7,923.55	7,664.00	CD Depth				
8,003.55	7,744.00	GH Depth				
8,341.55	8,082.00	J Depth				

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,242.71	1,225.78	-153.51	7.83	Start 4161.46 hold at 1242.71 MD
5,404.17	5,163.96	-1,496.58	76.36	Start Drop -1.75
6,481.55	6,222.00	-1,672.02	85.32	Start 2000.00 hold at 6481.55 MD
8,481.55	8,222.00	-1,672.02	85.32	TD at 8481.55