

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_CANNON 2 PAD

CANNON 2C-11HZ

CANNON 2C-11HZ

Plan: CANNON 2C-11HZ (wp01)

Standard Planning Report

20 July, 2011





T

M

Azimuths to True North

Magnetic North: 8.81°

Magnetic Field

Strength: 52989.4snT

Dip Angle: 66.85°

Date: 7/20/2011

Model: IGRF2010

Project: COLORADO NORTHERN ZONE - 83

Site: WELD_CANNON 2 PAD

Well: CANNON 2C-11HZ

Wellbore: CANNON 2C-11HZ

Section: SHL:

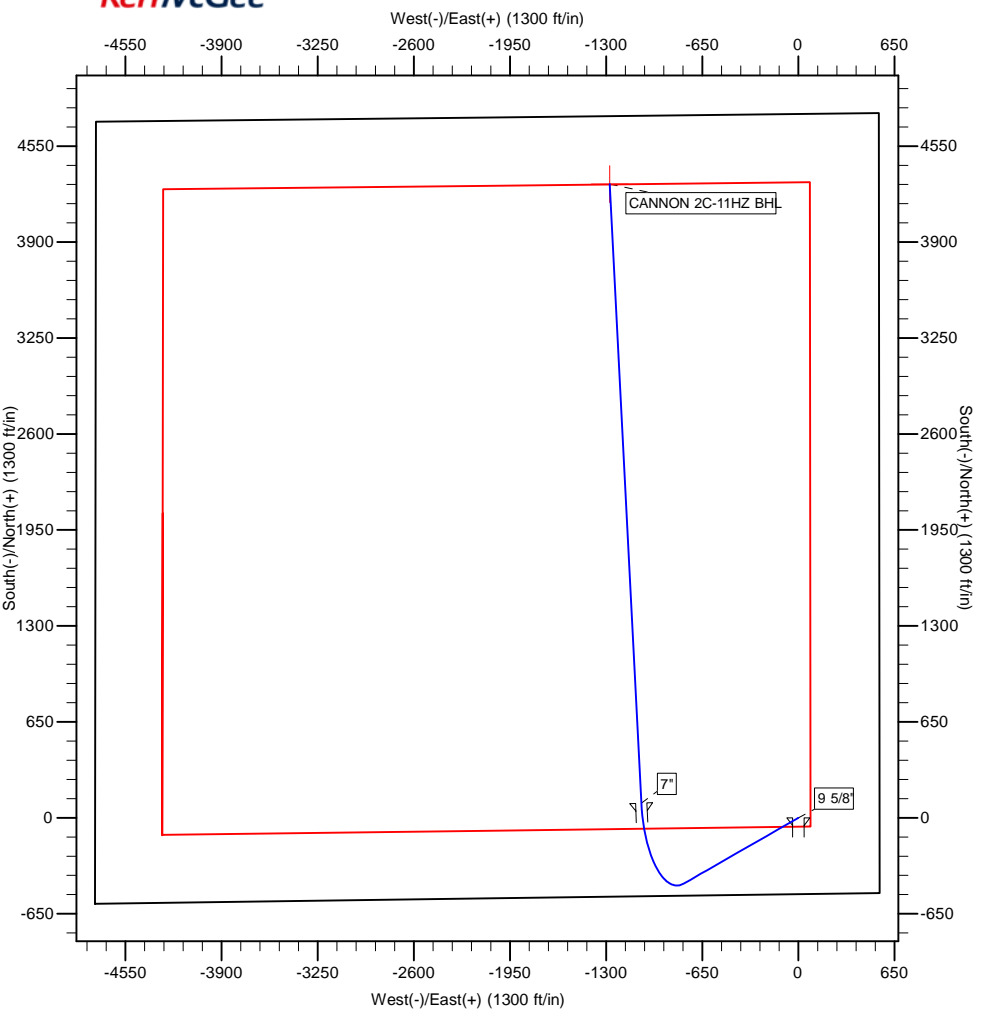
Design: CANNON 2C-11HZ (wp01)

Latitude: 40.147035

Longitude: -104.736804

GL: 5057.00

KB: 17" RKB + 5057' GL @ 5074.00ft



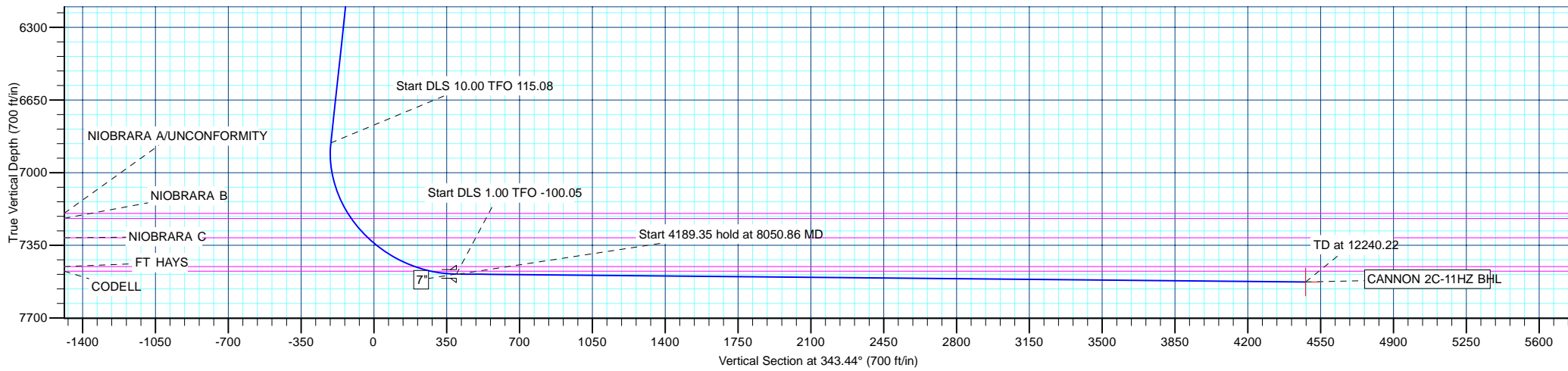
WELL DETAILS: CANNON 2C-11HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	5057.00 Latitude	40.147035 Longitude	Slot
0.00	0.00	1297326.39	3213348.48		-104.736804	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
CANNON 2C-11HZ BHL	7526.00	4292.36	-1276.20	40.158818	-104.741370	Point

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	0.00	0.00	
5548.16	24.96	240.08	5509.05	-133.48	-231.97	2.00	240.08	-61.83	
7034.00	24.96	240.08	6856.08	-446.22	-775.50	0.00	0.00	-206.70	
8040.22	89.50	357.18	7488.00	98.00	-1062.00	10.00	115.08	396.60	
8050.86	89.48	357.08	7488.09	108.63	-1062.53	1.00	-100.05	406.93	
12240.22	89.48	357.08	7526.00	4292.36	-1276.20	0.00	0.00	4478.06	CANNON 2C-11HZ BHL

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4174.00	4174.00	PARKMAN
4532.00	4532.25	SUSSEX
7196.00	7412.06	NIOBRARA A/UNCONFORMITY
7220.00	7441.51	NIOBRARA B
7313.00	7565.85	NIOBRARA C
7452.00	7833.05	FT HAYS
7474.00	7913.46	CODELL

CASING DETAILS			
TVD	MD	Name	Size
900.00	900.00	9 5/8"	9-5/8
7488.00	8040.20	7"	7



Database:	edm5000p	Local Co-ordinate Reference:	Well CANNON 2C-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5057' GL @ 5074.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5057' GL @ 5074.00ft
Site:	WELD_CANNON 2 PAD	North Reference:	True
Well:	CANNON 2C-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CANNON 2C-11HZ		
Design:	CANNON 2C-11HZ (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_CANNON 2 PAD			
Site Position:		Northing:	1,297,310.37 ft	Latitude:	40.146991
From:	Lat/Long	Easting:	3,213,348.62 ft	Longitude:	-104.736804
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.49

Well	CANNON 2C-11HZ					
Well Position	+N-S	16.02 ft	Northing:	1,297,326.39 ft	Latitude:	40.147035
	+E-W	0.00 ft	Easting:	3,213,348.48 ft	Longitude:	-104.736804
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,057.00 ft

Wellbore	CANNON 2C-11HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/20/2011	8.81	66.85	52,989

Design	CANNON 2C-11HZ (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	343.44

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	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,548.16	24.96	240.08	5,509.05	-133.48	-231.97	2.00	2.00	0.00	240.08	
7,034.00	24.96	240.08	6,856.08	-446.22	-775.50	0.00	0.00	0.00	0.00	
8,040.22	89.50	357.18	7,488.00	98.00	-1,062.00	10.00	6.41	11.64	115.08	
8,050.86	89.48	357.08	7,488.09	108.63	-1,062.53	1.00	-0.17	-0.98	-100.05	
12,240.22	89.48	357.08	7,526.00	4,292.36	-1,276.20	0.00	0.00	0.00	0.00	CANNON 2C-11HZ

Database:	edm5000p	Local Co-ordinate Reference:	Well CANNON 2C-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5057' GL @ 5074.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5057' GL @ 5074.00ft
Site:	WELD_CANNON 2 PAD	North Reference:	True
Well:	CANNON 2C-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CANNON 2C-11HZ		
Design:	CANNON 2C-11HZ (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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,174.00	0.00	0.00	4,174.00	0.00	0.00	0.00	0.00	0.00	0.00
PARKMAN									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
4,400.00	2.00	240.08	4,399.98	-0.87	-1.51	-0.40	2.00	2.00	0.00
4,500.00	4.00	240.08	4,499.84	-3.48	-6.05	-1.61	2.00	2.00	0.00
4,532.25	4.65	240.08	4,532.00	-4.69	-8.16	-2.17	2.00	2.00	0.00
SUSSEX									
4,600.00	6.00	240.08	4,599.45	-7.83	-13.60	-3.63	2.00	2.00	0.00
4,700.00	8.00	240.08	4,698.70	-13.90	-24.17	-6.44	2.00	2.00	0.00

Database:	edm5000p	Local Co-ordinate Reference:	Well CANNON 2C-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5057' GL @ 5074.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5057' GL @ 5074.00ft
Site:	WELD_CANNON 2 PAD	North Reference:	True
Well:	CANNON 2C-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CANNON 2C-11HZ		
Design:	CANNON 2C-11HZ (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)
4,800.00	10.00	240.08	4,797.47	-21.71	-37.72	-10.05	2.00	2.00	0.00
4,900.00	12.00	240.08	4,895.62	-31.22	-54.26	-14.46	2.00	2.00	0.00
5,000.00	14.00	240.08	4,993.06	-42.44	-73.76	-19.66	2.00	2.00	0.00
5,100.00	16.00	240.08	5,089.64	-55.35	-96.19	-25.64	2.00	2.00	0.00
5,200.00	18.00	240.08	5,185.27	-69.93	-121.53	-32.39	2.00	2.00	0.00
5,300.00	20.00	240.08	5,279.82	-86.16	-149.75	-39.91	2.00	2.00	0.00
5,400.00	22.00	240.08	5,373.17	-104.04	-180.81	-48.19	2.00	2.00	0.00
5,500.00	24.00	240.08	5,465.21	-123.52	-214.67	-57.22	2.00	2.00	0.00
5,548.16	24.96	240.08	5,509.05	-133.48	-231.97	-61.83	2.00	2.00	0.00
Start 1485.84 hold at 5548.16 MD									
5,600.00	24.96	240.08	5,556.04	-144.39	-250.94	-66.89	0.00	0.00	0.00
5,700.00	24.96	240.08	5,646.70	-165.43	-287.52	-76.64	0.00	0.00	0.00
5,800.00	24.96	240.08	5,737.36	-186.48	-324.10	-86.39	0.00	0.00	0.00
5,900.00	24.96	240.08	5,828.02	-207.53	-360.68	-96.14	0.00	0.00	0.00
6,000.00	24.96	240.08	5,918.67	-228.58	-397.26	-105.89	0.00	0.00	0.00
6,100.00	24.96	240.08	6,009.33	-249.63	-433.84	-115.64	0.00	0.00	0.00
6,200.00	24.96	240.08	6,099.99	-270.68	-470.42	-125.39	0.00	0.00	0.00
6,300.00	24.96	240.08	6,190.65	-291.72	-507.00	-135.14	0.00	0.00	0.00
6,400.00	24.96	240.08	6,281.30	-312.77	-543.58	-144.89	0.00	0.00	0.00
6,500.00	24.96	240.08	6,371.96	-333.82	-580.16	-154.64	0.00	0.00	0.00
6,600.00	24.96	240.08	6,462.62	-354.87	-616.74	-164.39	0.00	0.00	0.00
6,700.00	24.96	240.08	6,553.28	-375.92	-653.32	-174.14	0.00	0.00	0.00
6,800.00	24.96	240.08	6,643.94	-396.96	-689.90	-183.89	0.00	0.00	0.00
6,900.00	24.96	240.08	6,734.59	-418.01	-726.48	-193.64	0.00	0.00	0.00
7,000.00	24.96	240.08	6,825.25	-439.06	-763.06	-203.39	0.00	0.00	0.00
7,034.00	24.96	240.08	6,856.08	-446.22	-775.50	-206.70	0.00	0.00	0.00
Start DLS 10.00 TFO 115.08									
7,100.00	22.91	255.59	6,916.46	-456.37	-800.04	-209.44	10.00	-3.11	23.50
7,200.00	23.09	281.37	7,008.74	-457.35	-838.21	-199.50	10.00	0.18	25.78
7,300.00	27.04	303.23	7,099.50	-440.99	-876.54	-172.89	10.00	3.95	21.86
7,400.00	33.44	318.60	7,185.98	-407.78	-913.86	-130.43	10.00	6.40	15.37
7,412.06	34.32	320.08	7,196.00	-402.68	-918.24	-124.29	10.00	7.28	12.31
NIOBRARA A/UNCONFORMITY									
7,441.51	36.53	323.44	7,220.00	-389.27	-928.79	-108.43	10.00	7.51	11.39
NIOBRARA B									
7,500.00	41.16	329.15	7,265.55	-358.74	-949.05	-73.39	10.00	7.92	9.76
7,565.85	46.65	334.40	7,313.00	-318.50	-970.53	-28.70	10.00	8.34	7.98
NIOBRARA C									
7,600.00	49.58	336.76	7,335.80	-295.35	-981.03	-3.52	10.00	8.58	6.90
7,700.00	58.38	342.64	7,394.58	-219.54	-1,008.83	77.07	10.00	8.81	5.88
7,800.00	67.41	347.48	7,440.11	-133.62	-1,031.60	165.92	10.00	9.03	4.84
7,833.05	70.43	348.93	7,452.00	-103.43	-1,037.90	196.65	10.00	9.12	4.39
FT HAYS									
7,900.00	76.56	351.72	7,471.01	-40.19	-1,048.66	260.33	10.00	9.17	4.16
7,913.46	77.80	352.26	7,474.00	-27.19	-1,050.49	273.31	10.00	9.20	4.02
CODELL									
8,000.00	85.78	355.64	7,486.35	57.90	-1,059.49	357.44	10.00	9.22	3.91
8,040.20	89.50	357.18	7,488.00	97.98	-1,062.00	396.58	10.00	9.24	3.83
7"									
8,040.22	89.50	357.18	7,488.00	98.00	-1,062.00	396.60	10.00	9.24	3.82
Start DLS 1.00 TFO -100.05									
8,050.86	89.48	357.08	7,488.09	108.63	-1,062.53	406.93	1.00	-0.17	-0.98

Database:	edm5000p	Local Co-ordinate Reference:	Well CANNON 2C-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5057' GL @ 5074.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5057' GL @ 5074.00ft
Site:	WELD_CANNON 2 PAD	North Reference:	True
Well:	CANNON 2C-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CANNON 2C-11HZ		
Design:	CANNON 2C-11HZ (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)	
Start 4189.35 hold at 8050.86 MD										
8,100.00	89.48	357.08	7,488.54	157.70	-1,065.04	454.69	0.00	0.00	0.00	
8,200.00	89.48	357.08	7,489.44	257.57	-1,070.14	551.86	0.00	0.00	0.00	
8,300.00	89.48	357.08	7,490.35	357.43	-1,075.24	649.04	0.00	0.00	0.00	
8,400.00	89.48	357.08	7,491.25	457.30	-1,080.34	746.22	0.00	0.00	0.00	
8,500.00	89.48	357.08	7,492.16	557.16	-1,085.44	843.40	0.00	0.00	0.00	
8,600.00	89.48	357.08	7,493.06	657.03	-1,090.54	940.58	0.00	0.00	0.00	
8,700.00	89.48	357.08	7,493.97	756.89	-1,095.64	1,037.75	0.00	0.00	0.00	
8,800.00	89.48	357.08	7,494.87	856.76	-1,100.74	1,134.93	0.00	0.00	0.00	
8,900.00	89.48	357.08	7,495.78	956.63	-1,105.84	1,232.11	0.00	0.00	0.00	
9,000.00	89.48	357.08	7,496.68	1,056.49	-1,110.94	1,329.29	0.00	0.00	0.00	
9,100.00	89.48	357.08	7,497.59	1,156.36	-1,116.04	1,426.46	0.00	0.00	0.00	
9,200.00	89.48	357.08	7,498.49	1,256.22	-1,121.14	1,523.64	0.00	0.00	0.00	
9,300.00	89.48	357.08	7,499.40	1,356.09	-1,126.24	1,620.82	0.00	0.00	0.00	
9,400.00	89.48	357.08	7,500.30	1,455.95	-1,131.34	1,718.00	0.00	0.00	0.00	
9,500.00	89.48	357.08	7,501.21	1,555.82	-1,136.44	1,815.18	0.00	0.00	0.00	
9,600.00	89.48	357.08	7,502.11	1,655.69	-1,141.54	1,912.35	0.00	0.00	0.00	
9,700.00	89.48	357.08	7,503.02	1,755.55	-1,146.64	2,009.53	0.00	0.00	0.00	
9,800.00	89.48	357.08	7,503.92	1,855.42	-1,151.74	2,106.71	0.00	0.00	0.00	
9,900.00	89.48	357.08	7,504.83	1,955.28	-1,156.84	2,203.89	0.00	0.00	0.00	
10,000.00	89.48	357.08	7,505.73	2,055.15	-1,161.94	2,301.07	0.00	0.00	0.00	
10,100.00	89.48	357.08	7,506.64	2,155.02	-1,167.05	2,398.24	0.00	0.00	0.00	
10,200.00	89.48	357.08	7,507.54	2,254.88	-1,172.15	2,495.42	0.00	0.00	0.00	
10,300.00	89.48	357.08	7,508.45	2,354.75	-1,177.25	2,592.60	0.00	0.00	0.00	
10,400.00	89.48	357.08	7,509.35	2,454.61	-1,182.35	2,689.78	0.00	0.00	0.00	
10,500.00	89.48	357.08	7,510.25	2,554.48	-1,187.45	2,786.96	0.00	0.00	0.00	
10,600.00	89.48	357.08	7,511.16	2,654.34	-1,192.55	2,884.13	0.00	0.00	0.00	
10,700.00	89.48	357.08	7,512.06	2,754.21	-1,197.65	2,981.31	0.00	0.00	0.00	
10,800.00	89.48	357.08	7,512.97	2,854.08	-1,202.75	3,078.49	0.00	0.00	0.00	
10,900.00	89.48	357.08	7,513.87	2,953.94	-1,207.85	3,175.67	0.00	0.00	0.00	
11,000.00	89.48	357.08	7,514.78	3,053.81	-1,212.95	3,272.84	0.00	0.00	0.00	
11,100.00	89.48	357.08	7,515.68	3,153.67	-1,218.05	3,370.02	0.00	0.00	0.00	
11,200.00	89.48	357.08	7,516.59	3,253.54	-1,223.15	3,467.20	0.00	0.00	0.00	
11,300.00	89.48	357.08	7,517.49	3,353.40	-1,228.25	3,564.38	0.00	0.00	0.00	
11,400.00	89.48	357.08	7,518.40	3,453.27	-1,233.35	3,661.56	0.00	0.00	0.00	
11,500.00	89.48	357.08	7,519.30	3,553.14	-1,238.45	3,758.73	0.00	0.00	0.00	
11,600.00	89.48	357.08	7,520.21	3,653.00	-1,243.55	3,855.91	0.00	0.00	0.00	
11,700.00	89.48	357.08	7,521.11	3,752.87	-1,248.65	3,953.09	0.00	0.00	0.00	
11,800.00	89.48	357.08	7,522.02	3,852.73	-1,253.75	4,050.27	0.00	0.00	0.00	
11,900.00	89.48	357.08	7,522.92	3,952.60	-1,258.85	4,147.45	0.00	0.00	0.00	
12,000.00	89.48	357.08	7,523.83	4,052.46	-1,263.95	4,244.62	0.00	0.00	0.00	
12,100.00	89.48	357.08	7,524.73	4,152.33	-1,269.05	4,341.80	0.00	0.00	0.00	
12,200.00	89.48	357.08	7,525.64	4,252.20	-1,274.15	4,438.98	0.00	0.00	0.00	
12,240.22	89.48	357.08	7,526.00	4,292.36	-1,276.20	4,478.06	0.00	0.00	0.00	
TD at 12240.22 - CANNON 2C-11HZ BHL										

Database:	edm5000p	Local Co-ordinate Reference:	Well CANNON 2C-11HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 5057' GL @ 5074.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 5057' GL @ 5074.00ft
Site:	WELD_CANNON 2 PAD	North Reference:	True
Well:	CANNON 2C-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	CANNON 2C-11HZ		
Design:	CANNON 2C-11HZ (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
CANNON 2C-11HZ B	0.00	0.00	7,526.00	4,292.36	-1,276.20	1,301,607.60	3,212,035.38	40.158818	-104.741370
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(")	(")
900.00	900.00	9 5/8"		9-5/8	12-1/4
8,040.20	7,488.00	7"		7	8-3/4

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)		Name	Lithology	(°)	(°)
4,174.00	4,174.00		PARKMAN		0.00	
4,532.25	4,532.00		SUSSEX		0.00	
7,412.06	7,196.00		NIOBRARA A/UNCONFORMITY		0.00	
7,441.51	7,220.00		NIOBRARA B		0.00	
7,565.85	7,313.00		NIOBRARA C		0.00	
7,833.05	7,452.00		FT HAYS		0.00	
7,913.46	7,474.00		CODELL		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
4,300.00	4,300.00	0.00	0.00	Start Build 2.00
5,548.16	5,509.05	-133.48	-231.97	Start 1485.84 hold at 5548.16 MD
7,034.00	6,856.08	-446.22	-775.50	Start DLS 10.00 TFO 115.08
8,040.22	7,488.00	98.00	-1,062.00	Start DLS 1.00 TFO -100.05
8,050.86	7,488.09	108.63	-1,062.53	Start 4189.35 hold at 8050.86 MD
12,240.22	7,526.00	4,292.36	-1,276.20	TD at 12240.22