

US ROCKIES WATTENBERG PLANNING

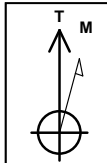
**WELD-NAD83-UTMFT13N
3N-65W-33 CANNON 1-33HZ
CANNON 28N-9HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

16 November, 2016



Azimuths to True North
Magnetic North: 8.07°

Magnetic Field
Strength: 52465.8snT
Dip Angle: 66.71°
Date: 10/26/2016
Model: IGRF2010

SITE: 3N-65W-33 CANNON 1-33HZ

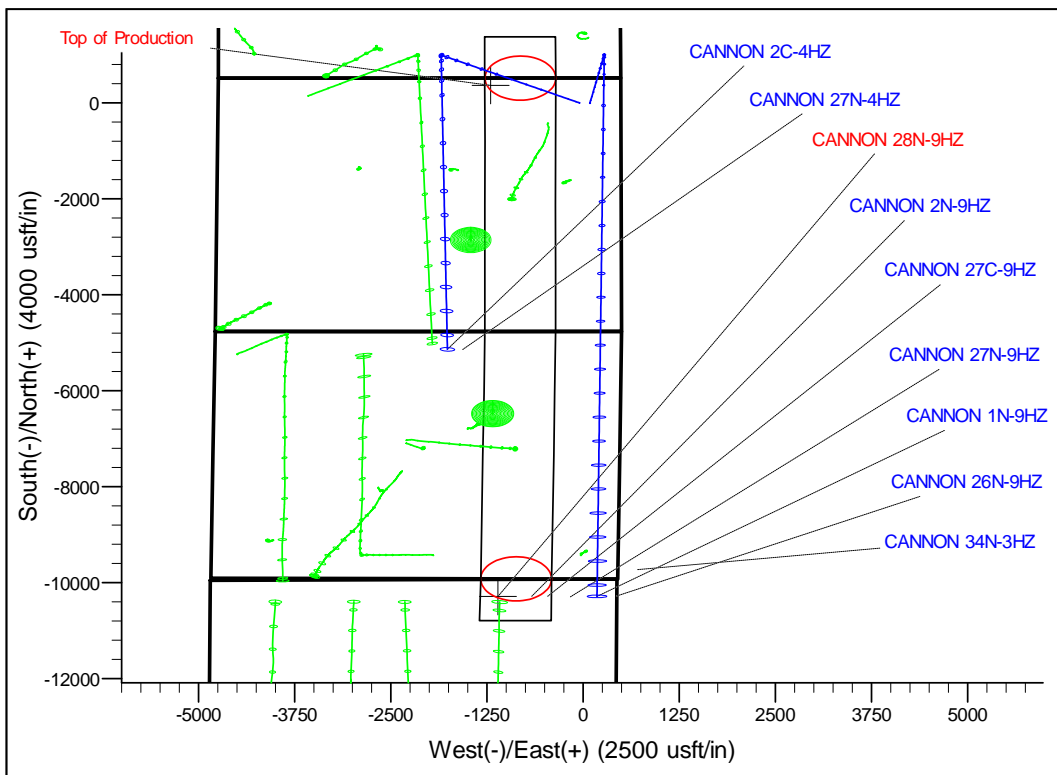
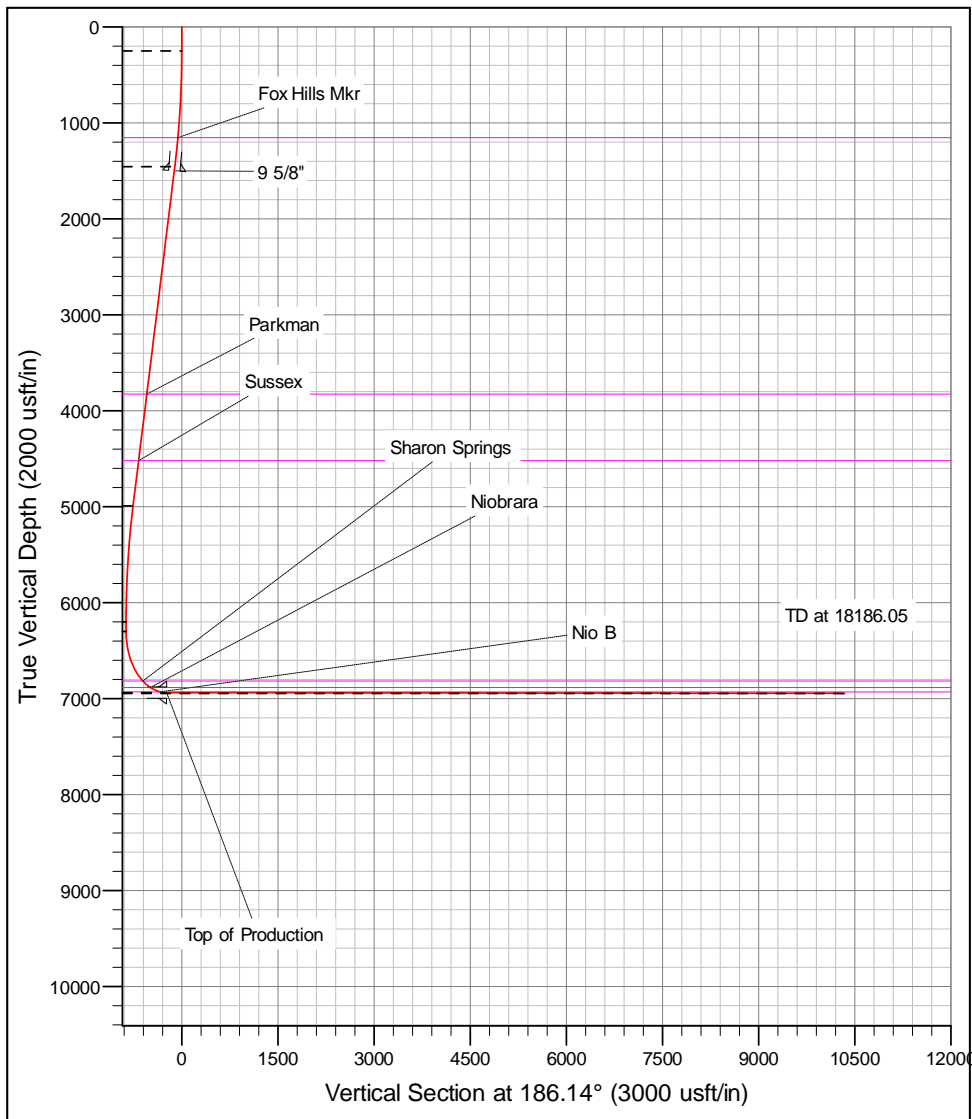
Well: CANNON 28N-9HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1155.00	1163.69	Fox Hills Mkr
3827.00	3975.98	Parkman
4520.00	4706.38	Sussex
6818.00	7136.64	Sharon Springs
6885.00	7271.89	Niobrara
6930.00	7430.37	Nio B

WELL DETAILS: CANNON 28N-9HZ						
+N/-S	+E/-W	GL: 4835.00 Northing	RKB @ 4852.00usft (Original Well Elev) Easting	Latitude	Longitude	Slot
0.00	0.00	14595279.47	1735110.28	40.187741	-104.660940	

SECTION DETAILS							
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00
1477.75	18.42	309.74	1456.72	125.07	-150.42	1.50	-108.26
5205.21	18.42	309.74	4993.28	877.93	-1055.89	0.00	-759.94
6432.96	0.00	0.00	6200.00	1003.00	-1206.31	1.50	-868.19
6534.91	0.00	0.00	6301.94	1003.00	-1206.31	0.00	-868.19
7534.46	89.96	179.49	6938.56	366.85	-1200.69	9.00	-236.30
18186.05	89.96	179.49	6946.00	-10284.32	-1106.56	0.00	0343.68

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
CANNON 28N-9HZ_PBHL	6946.00	-10284.32	-1106.56	14584991.00	1734043.00	40.159499	-104.664900



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 28N-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4852.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	3N-65W-33 CANNON 1-33HZ		
Site Position:		Northing:	14,595,280.03 usft
From:	Lat/Long	Easting:	1,735,065.31 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.187743
		Longitude:	-104.661101
		Grid Convergence:	0.22 °

Well	CANNON 28N-9HZ					
Well Position	+N/-S	-0.73 usft	Northing:	14,595,279.47 usft	Latitude:	40.187741
	+E/-W	44.96 usft	Easting:	1,735,110.28 usft	Longitude:	-104.660940
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,835.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/26/2016	8.07	66.71	52,465.79648325

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	186.14

Plan Survey Tool Program	Date	11/16/2016			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,186.05	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:Rockies, crustal dex	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,477.75	18.42	309.74	1,456.72	125.07	-150.42	1.50	1.50	0.00	309.74	
5,205.21	18.42	309.74	4,993.28	877.93	-1,055.89	0.00	0.00	0.00	0.00	
6,432.96	0.00	0.00	6,200.00	1,003.00	-1,206.31	1.50	-1.50	0.00	180.00	
6,534.91	0.00	0.00	6,301.94	1,003.00	-1,206.31	0.00	0.00	0.00	0.00	
7,534.46	89.96	179.49	6,938.56	366.85	-1,200.69	9.00	9.00	0.00	179.49	
18,186.05	89.96	179.49	6,946.00	-10,284.32	-1,106.56	0.00	0.00	0.00	0.00	CANNON 28N-9HZ

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 28N-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4852.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.75	309.74	300.00	0.21	-0.25	-0.18	1.50	1.50	0.00
400.00	2.25	309.74	399.96	1.88	-2.26	-1.63	1.50	1.50	0.00
500.00	3.75	309.74	499.82	5.23	-6.29	-4.53	1.50	1.50	0.00
600.00	5.25	309.74	599.51	10.24	-12.32	-8.87	1.50	1.50	0.00
700.00	6.75	309.74	698.96	16.93	-20.36	-14.65	1.50	1.50	0.00
800.00	8.25	309.74	798.10	25.27	-30.39	-21.88	1.50	1.50	0.00
900.00	9.75	309.74	896.87	35.27	-42.42	-30.53	1.50	1.50	0.00
1,000.00	11.25	309.74	995.19	46.92	-56.44	-40.62	1.50	1.50	0.00
1,100.00	12.75	309.74	1,093.00	60.22	-72.42	-52.12	1.50	1.50	0.00
1,163.69	13.71	309.74	1,155.00	69.53	-83.63	-60.19	1.50	1.50	0.00
Fox Hills Mkr									
1,200.00	14.25	309.74	1,190.24	75.14	-90.37	-65.04	1.50	1.50	0.00
1,300.00	15.75	309.74	1,286.83	91.69	-110.27	-79.36	1.50	1.50	0.00
1,400.00	17.25	309.74	1,382.71	109.84	-132.11	-95.08	1.50	1.50	0.00
1,477.75	18.42	309.74	1,456.72	125.07	-150.42	-108.26	1.50	1.50	0.00
1,500.00	18.42	309.74	1,477.83	129.56	-155.82	-112.15	0.00	0.00	0.00
1,523.37	18.42	309.74	1,500.00	134.28	-161.50	-116.23	0.00	0.00	0.00
9 5/8"									
1,600.00	18.42	309.74	1,572.71	149.76	-180.12	-129.63	0.00	0.00	0.00
1,700.00	18.42	309.74	1,667.59	169.96	-204.41	-147.11	0.00	0.00	0.00
1,800.00	18.42	309.74	1,762.46	190.15	-228.70	-164.60	0.00	0.00	0.00
1,900.00	18.42	309.74	1,857.34	210.35	-252.99	-182.08	0.00	0.00	0.00
2,000.00	18.42	309.74	1,952.22	230.55	-277.28	-199.56	0.00	0.00	0.00
2,100.00	18.42	309.74	2,047.10	250.75	-301.58	-217.05	0.00	0.00	0.00
2,200.00	18.42	309.74	2,141.98	270.95	-325.87	-234.53	0.00	0.00	0.00
2,300.00	18.42	309.74	2,236.86	291.14	-350.16	-252.01	0.00	0.00	0.00
2,400.00	18.42	309.74	2,331.74	311.34	-374.45	-269.50	0.00	0.00	0.00
2,500.00	18.42	309.74	2,426.62	331.54	-398.74	-286.98	0.00	0.00	0.00
2,600.00	18.42	309.74	2,521.49	351.74	-423.04	-304.46	0.00	0.00	0.00
2,700.00	18.42	309.74	2,616.37	371.94	-447.33	-321.95	0.00	0.00	0.00
2,800.00	18.42	309.74	2,711.25	392.13	-471.62	-339.43	0.00	0.00	0.00
2,900.00	18.42	309.74	2,806.13	412.33	-495.91	-356.91	0.00	0.00	0.00
3,000.00	18.42	309.74	2,901.01	432.53	-520.20	-374.40	0.00	0.00	0.00
3,100.00	18.42	309.74	2,995.89	452.73	-544.49	-391.88	0.00	0.00	0.00
3,200.00	18.42	309.74	3,090.77	472.92	-568.79	-409.36	0.00	0.00	0.00
3,300.00	18.42	309.74	3,185.64	493.12	-593.08	-426.84	0.00	0.00	0.00
3,400.00	18.42	309.74	3,280.52	513.32	-617.37	-444.33	0.00	0.00	0.00
3,500.00	18.42	309.74	3,375.40	533.52	-641.66	-461.81	0.00	0.00	0.00
3,600.00	18.42	309.74	3,470.28	553.72	-665.95	-479.29	0.00	0.00	0.00
3,700.00	18.42	309.74	3,565.16	573.91	-690.25	-496.78	0.00	0.00	0.00
3,800.00	18.42	309.74	3,660.04	594.11	-714.54	-514.26	0.00	0.00	0.00
3,900.00	18.42	309.74	3,754.92	614.31	-738.83	-531.74	0.00	0.00	0.00
3,975.98	18.42	309.74	3,827.00	629.65	-757.29	-545.03	0.00	0.00	0.00
Parkman									
4,000.00	18.42	309.74	3,849.79	634.51	-763.12	-549.23	0.00	0.00	0.00
4,100.00	18.42	309.74	3,944.67	654.70	-787.41	-566.71	0.00	0.00	0.00
4,200.00	18.42	309.74	4,039.55	674.90	-811.71	-584.19	0.00	0.00	0.00
4,300.00	18.42	309.74	4,134.43	695.10	-836.00	-601.68	0.00	0.00	0.00
4,400.00	18.42	309.74	4,229.31	715.30	-860.29	-619.16	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 28N-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4852.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,500.00	18.42	309.74	4,324.19	735.50	-884.58	-636.64	0.00	0.00	0.00	
4,600.00	18.42	309.74	4,419.07	755.69	-908.87	-654.13	0.00	0.00	0.00	
4,700.00	18.42	309.74	4,513.94	775.89	-933.17	-671.61	0.00	0.00	0.00	
4,706.38	18.42	309.74	4,520.00	777.18	-934.72	-672.72	0.00	0.00	0.00	
Sussex										
4,800.00	18.42	309.74	4,608.82	796.09	-957.46	-689.09	0.00	0.00	0.00	
4,900.00	18.42	309.74	4,703.70	816.29	-981.75	-706.58	0.00	0.00	0.00	
5,000.00	18.42	309.74	4,798.58	836.48	-1,006.04	-724.06	0.00	0.00	0.00	
5,100.00	18.42	309.74	4,893.46	856.68	-1,030.33	-741.54	0.00	0.00	0.00	
5,200.00	18.42	309.74	4,988.34	876.88	-1,054.63	-759.02	0.00	0.00	0.00	
5,205.21	18.42	309.74	4,993.28	877.93	-1,055.89	-759.94	0.00	0.00	0.00	
5,300.00	16.99	309.74	5,083.58	896.36	-1,078.06	-775.89	1.50	-1.50	0.00	
5,400.00	15.49	309.74	5,179.58	914.25	-1,099.57	-791.37	1.50	-1.50	0.00	
5,500.00	13.99	309.74	5,276.29	930.52	-1,119.14	-805.45	1.50	-1.50	0.00	
5,600.00	12.49	309.74	5,373.63	945.16	-1,136.75	-818.13	1.50	-1.50	0.00	
5,700.00	10.99	309.74	5,471.53	958.18	-1,152.40	-829.40	1.50	-1.50	0.00	
5,800.00	9.49	309.74	5,569.93	969.55	-1,166.08	-839.24	1.50	-1.50	0.00	
5,900.00	7.99	309.74	5,668.77	979.27	-1,177.77	-847.65	1.50	-1.50	0.00	
6,000.00	6.49	309.74	5,767.97	987.33	-1,187.46	-854.63	1.50	-1.50	0.00	
6,100.00	4.99	309.74	5,867.46	993.73	-1,195.16	-860.17	1.50	-1.50	0.00	
6,200.00	3.49	309.74	5,967.18	998.46	-1,200.85	-864.26	1.50	-1.50	0.00	
6,300.00	1.99	309.74	6,067.07	1,001.52	-1,204.53	-866.91	1.50	-1.50	0.00	
6,400.00	0.49	309.74	6,167.04	1,002.91	-1,206.20	-868.12	1.50	-1.50	0.00	
6,432.96	0.00	0.00	6,200.00	1,003.00	-1,206.31	-868.19	1.50	-1.50	0.00	
6,500.00	0.00	0.00	6,267.04	1,003.00	-1,206.31	-868.19	0.00	0.00	0.00	
6,534.91	0.00	0.00	6,301.94	1,003.00	-1,206.31	-868.19	0.00	0.00	0.00	
6,600.00	5.86	179.49	6,366.93	999.68	-1,206.28	-864.89	9.00	9.00	0.00	
6,700.00	14.86	179.49	6,465.19	981.71	-1,206.12	-847.05	9.00	9.00	0.00	
6,800.00	23.86	179.49	6,559.44	948.60	-1,205.83	-814.16	9.00	9.00	0.00	
6,900.00	32.86	179.49	6,647.35	901.15	-1,205.41	-767.03	9.00	9.00	0.00	
7,000.00	41.86	179.49	6,726.76	840.54	-1,204.87	-706.82	9.00	9.00	0.00	
7,100.00	50.86	179.49	6,795.70	768.25	-1,204.24	-635.01	9.00	9.00	0.00	
7,136.64	54.16	179.49	6,818.00	739.18	-1,203.98	-606.14	9.00	9.00	0.00	
Sharon Springs										
7,200.00	59.86	179.49	6,852.49	686.06	-1,203.51	-553.37	9.00	9.00	0.00	
7,271.89	66.33	179.49	6,885.00	621.99	-1,202.94	-489.73	9.00	9.00	0.00	
Niobrara										
7,300.00	68.86	179.49	6,895.72	596.01	-1,202.71	-463.92	9.00	9.00	0.00	
7,400.00	77.86	179.49	6,924.32	500.30	-1,201.87	-368.85	9.00	9.00	0.00	
7,430.37	80.59	179.49	6,930.00	470.47	-1,201.60	-339.22	9.00	9.00	0.00	
Nio B										
7,500.00	86.86	179.49	6,937.61	401.29	-1,200.99	-270.51	9.00	9.00	0.00	
7,534.46	89.96	179.49	6,938.56	366.85	-1,200.69	-236.30	9.00	9.00	0.00	
Top of Production - CANNON 28N-9HZ_PHL										
7,600.00	89.96	179.49	6,938.61	301.31	-1,200.11	-171.20	0.00	0.00	0.00	
7,700.00	89.96	179.49	6,938.68	201.32	-1,199.23	-71.87	0.00	0.00	0.00	
7,800.00	89.96	179.49	6,938.75	101.32	-1,198.34	27.46	0.00	0.00	0.00	
7,900.00	89.96	179.49	6,938.82	1.32	-1,197.46	126.79	0.00	0.00	0.00	
8,000.00	89.96	179.49	6,938.89	-98.67	-1,196.57	226.11	0.00	0.00	0.00	
8,100.00	89.96	179.49	6,938.96	-198.67	-1,195.69	325.44	0.00	0.00	0.00	
8,200.00	89.96	179.49	6,939.03	-298.66	-1,194.81	424.77	0.00	0.00	0.00	
8,300.00	89.96	179.49	6,939.10	-398.66	-1,193.92	524.10	0.00	0.00	0.00	
8,400.00	89.96	179.49	6,939.17	-498.66	-1,193.04	623.42	0.00	0.00	0.00	
8,500.00	89.96	179.49	6,939.24	-598.65	-1,192.16	722.75	0.00	0.00	0.00	

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,600.00	89.96	179.49	6,939.31	-698.65	-1,191.27	822.08	0.00	0.00	0.00
8,700.00	89.96	179.49	6,939.38	-798.64	-1,190.39	921.41	0.00	0.00	0.00
8,800.00	89.96	179.49	6,939.45	-898.64	-1,189.50	1,020.74	0.00	0.00	0.00
8,900.00	89.96	179.49	6,939.52	-998.64	-1,188.62	1,120.06	0.00	0.00	0.00
9,000.00	89.96	179.49	6,939.59	-1,098.63	-1,187.74	1,219.39	0.00	0.00	0.00
9,100.00	89.96	179.49	6,939.66	-1,198.63	-1,186.85	1,318.72	0.00	0.00	0.00
9,200.00	89.96	179.49	6,939.73	-1,298.62	-1,185.97	1,418.05	0.00	0.00	0.00
9,300.00	89.96	179.49	6,939.80	-1,398.62	-1,185.09	1,517.37	0.00	0.00	0.00
9,400.00	89.96	179.49	6,939.87	-1,498.62	-1,184.20	1,616.70	0.00	0.00	0.00
9,500.00	89.96	179.49	6,939.94	-1,598.61	-1,183.32	1,716.03	0.00	0.00	0.00
9,600.00	89.96	179.49	6,940.01	-1,698.61	-1,182.44	1,815.36	0.00	0.00	0.00
9,700.00	89.96	179.49	6,940.08	-1,798.60	-1,181.55	1,914.68	0.00	0.00	0.00
9,800.00	89.96	179.49	6,940.15	-1,898.60	-1,180.67	2,014.01	0.00	0.00	0.00
9,900.00	89.96	179.49	6,940.22	-1,998.60	-1,179.78	2,113.34	0.00	0.00	0.00
10,000.00	89.96	179.49	6,940.29	-2,098.59	-1,178.90	2,212.67	0.00	0.00	0.00
10,100.00	89.96	179.49	6,940.36	-2,198.59	-1,178.02	2,312.00	0.00	0.00	0.00
10,200.00	89.96	179.49	6,940.42	-2,298.59	-1,177.13	2,411.32	0.00	0.00	0.00
10,300.00	89.96	179.49	6,940.49	-2,398.58	-1,176.25	2,510.65	0.00	0.00	0.00
10,400.00	89.96	179.49	6,940.56	-2,498.58	-1,175.37	2,609.98	0.00	0.00	0.00
10,500.00	89.96	179.49	6,940.63	-2,598.57	-1,174.48	2,709.31	0.00	0.00	0.00
10,600.00	89.96	179.49	6,940.70	-2,698.57	-1,173.60	2,808.63	0.00	0.00	0.00
10,700.00	89.96	179.49	6,940.77	-2,798.57	-1,172.71	2,907.96	0.00	0.00	0.00
10,800.00	89.96	179.49	6,940.84	-2,898.56	-1,171.83	3,007.29	0.00	0.00	0.00
10,900.00	89.96	179.49	6,940.91	-2,998.56	-1,170.95	3,106.62	0.00	0.00	0.00
11,000.00	89.96	179.49	6,940.98	-3,098.55	-1,170.06	3,205.94	0.00	0.00	0.00
11,100.00	89.96	179.49	6,941.05	-3,198.55	-1,169.18	3,305.27	0.00	0.00	0.00
11,200.00	89.96	179.49	6,941.12	-3,298.55	-1,168.30	3,404.60	0.00	0.00	0.00
11,300.00	89.96	179.49	6,941.19	-3,398.54	-1,167.41	3,503.93	0.00	0.00	0.00
11,400.00	89.96	179.49	6,941.26	-3,498.54	-1,166.53	3,603.26	0.00	0.00	0.00
11,500.00	89.96	179.49	6,941.33	-3,598.53	-1,165.64	3,702.58	0.00	0.00	0.00
11,600.00	89.96	179.49	6,941.40	-3,698.53	-1,164.76	3,801.91	0.00	0.00	0.00
11,700.00	89.96	179.49	6,941.47	-3,798.53	-1,163.88	3,901.24	0.00	0.00	0.00
11,800.00	89.96	179.49	6,941.54	-3,898.52	-1,162.99	4,000.57	0.00	0.00	0.00
11,900.00	89.96	179.49	6,941.61	-3,998.52	-1,162.11	4,099.89	0.00	0.00	0.00
12,000.00	89.96	179.49	6,941.68	-4,098.51	-1,161.23	4,199.22	0.00	0.00	0.00
12,100.00	89.96	179.49	6,941.75	-4,198.51	-1,160.34	4,298.55	0.00	0.00	0.00
12,200.00	89.96	179.49	6,941.82	-4,298.51	-1,159.46	4,397.88	0.00	0.00	0.00
12,300.00	89.96	179.49	6,941.89	-4,398.50	-1,158.58	4,497.20	0.00	0.00	0.00
12,400.00	89.96	179.49	6,941.96	-4,498.50	-1,157.69	4,596.53	0.00	0.00	0.00
12,500.00	89.96	179.49	6,942.03	-4,598.49	-1,156.81	4,695.86	0.00	0.00	0.00
12,600.00	89.96	179.49	6,942.10	-4,698.49	-1,155.92	4,795.19	0.00	0.00	0.00
12,700.00	89.96	179.49	6,942.17	-4,798.49	-1,155.04	4,894.52	0.00	0.00	0.00
12,800.00	89.96	179.49	6,942.24	-4,898.48	-1,154.16	4,993.84	0.00	0.00	0.00
12,900.00	89.96	179.49	6,942.31	-4,998.48	-1,153.27	5,093.17	0.00	0.00	0.00
13,000.00	89.96	179.49	6,942.38	-5,098.48	-1,152.39	5,192.50	0.00	0.00	0.00
13,100.00	89.96	179.49	6,942.45	-5,198.47	-1,151.51	5,291.83	0.00	0.00	0.00
13,200.00	89.96	179.49	6,942.52	-5,298.47	-1,150.62	5,391.15	0.00	0.00	0.00
13,300.00	89.96	179.49	6,942.59	-5,398.46	-1,149.74	5,490.48	0.00	0.00	0.00
13,400.00	89.96	179.49	6,942.66	-5,498.46	-1,148.85	5,589.81	0.00	0.00	0.00
13,500.00	89.96	179.49	6,942.73	-5,598.46	-1,147.97	5,689.14	0.00	0.00	0.00
13,600.00	89.96	179.49	6,942.80	-5,698.45	-1,147.09	5,788.46	0.00	0.00	0.00
13,700.00	89.96	179.49	6,942.87	-5,798.45	-1,146.20	5,887.79	0.00	0.00	0.00
13,800.00	89.96	179.49	6,942.94	-5,898.44	-1,145.32	5,987.12	0.00	0.00	0.00
13,900.00	89.96	179.49	6,943.01	-5,998.44	-1,144.44	6,086.45	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 28N-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4852.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,000.00	89.96	179.49	6,943.08	-6,098.44	-1,143.55	6,185.77	0.00	0.00	0.00	
14,100.00	89.96	179.49	6,943.15	-6,198.43	-1,142.67	6,285.10	0.00	0.00	0.00	
14,200.00	89.96	179.49	6,943.22	-6,298.43	-1,141.78	6,384.43	0.00	0.00	0.00	
14,300.00	89.96	179.49	6,943.29	-6,398.42	-1,140.90	6,483.76	0.00	0.00	0.00	
14,400.00	89.96	179.49	6,943.36	-6,498.42	-1,140.02	6,583.09	0.00	0.00	0.00	
14,500.00	89.96	179.49	6,943.43	-6,598.42	-1,139.13	6,682.41	0.00	0.00	0.00	
14,600.00	89.96	179.49	6,943.50	-6,698.41	-1,138.25	6,781.74	0.00	0.00	0.00	
14,700.00	89.96	179.49	6,943.57	-6,798.41	-1,137.37	6,881.07	0.00	0.00	0.00	
14,800.00	89.96	179.49	6,943.64	-6,898.40	-1,136.48	6,980.40	0.00	0.00	0.00	
14,900.00	89.96	179.49	6,943.71	-6,998.40	-1,135.60	7,079.72	0.00	0.00	0.00	
15,000.00	89.96	179.49	6,943.78	-7,098.40	-1,134.72	7,179.05	0.00	0.00	0.00	
15,100.00	89.96	179.49	6,943.85	-7,198.39	-1,133.83	7,278.38	0.00	0.00	0.00	
15,200.00	89.96	179.49	6,943.92	-7,298.39	-1,132.95	7,377.71	0.00	0.00	0.00	
15,300.00	89.96	179.49	6,943.99	-7,398.38	-1,132.06	7,477.03	0.00	0.00	0.00	
15,400.00	89.96	179.49	6,944.06	-7,498.38	-1,131.18	7,576.36	0.00	0.00	0.00	
15,500.00	89.96	179.49	6,944.12	-7,598.38	-1,130.30	7,675.69	0.00	0.00	0.00	
15,600.00	89.96	179.49	6,944.19	-7,698.37	-1,129.41	7,775.02	0.00	0.00	0.00	
15,700.00	89.96	179.49	6,944.26	-7,798.37	-1,128.53	7,874.35	0.00	0.00	0.00	
15,800.00	89.96	179.49	6,944.33	-7,898.37	-1,127.65	7,973.67	0.00	0.00	0.00	
15,900.00	89.96	179.49	6,944.40	-7,998.36	-1,126.76	8,073.00	0.00	0.00	0.00	
16,000.00	89.96	179.49	6,944.47	-8,098.36	-1,125.88	8,172.33	0.00	0.00	0.00	
16,100.00	89.96	179.49	6,944.54	-8,198.35	-1,124.99	8,271.66	0.00	0.00	0.00	
16,200.00	89.96	179.49	6,944.61	-8,298.35	-1,124.11	8,370.98	0.00	0.00	0.00	
16,300.00	89.96	179.49	6,944.68	-8,398.35	-1,123.23	8,470.31	0.00	0.00	0.00	
16,400.00	89.96	179.49	6,944.75	-8,498.34	-1,122.34	8,569.64	0.00	0.00	0.00	
16,500.00	89.96	179.49	6,944.82	-8,598.34	-1,121.46	8,668.97	0.00	0.00	0.00	
16,600.00	89.96	179.49	6,944.89	-8,698.33	-1,120.58	8,768.29	0.00	0.00	0.00	
16,700.00	89.96	179.49	6,944.96	-8,798.33	-1,119.69	8,867.62	0.00	0.00	0.00	
16,800.00	89.96	179.49	6,945.03	-8,898.33	-1,118.81	8,966.95	0.00	0.00	0.00	
16,900.00	89.96	179.49	6,945.10	-8,998.32	-1,117.93	9,066.28	0.00	0.00	0.00	
17,000.00	89.96	179.49	6,945.17	-9,098.32	-1,117.04	9,165.61	0.00	0.00	0.00	
17,100.00	89.96	179.49	6,945.24	-9,198.31	-1,116.16	9,264.93	0.00	0.00	0.00	
17,200.00	89.96	179.49	6,945.31	-9,298.31	-1,115.27	9,364.26	0.00	0.00	0.00	
17,300.00	89.96	179.49	6,945.38	-9,398.31	-1,114.39	9,463.59	0.00	0.00	0.00	
17,400.00	89.96	179.49	6,945.45	-9,498.30	-1,113.51	9,562.92	0.00	0.00	0.00	
17,500.00	89.96	179.49	6,945.52	-9,598.30	-1,112.62	9,662.24	0.00	0.00	0.00	
17,600.00	89.96	179.49	6,945.59	-9,698.29	-1,111.74	9,761.57	0.00	0.00	0.00	
17,700.00	89.96	179.49	6,945.66	-9,798.29	-1,110.86	9,860.90	0.00	0.00	0.00	
17,800.00	89.96	179.49	6,945.73	-9,898.29	-1,109.97	9,960.23	0.00	0.00	0.00	
17,900.00	89.96	179.49	6,945.80	-9,998.28	-1,109.09	10,059.55	0.00	0.00	0.00	
18,000.00	89.96	179.49	6,945.87	-10,098.28	-1,108.20	10,158.88	0.00	0.00	0.00	
18,100.00	89.96	179.49	6,945.94	-10,198.27	-1,107.32	10,258.21	0.00	0.00	0.00	
18,186.05	89.96	179.49	6,946.00	-10,284.32	-1,106.56	10,343.68	0.00	0.00	0.00	
CANNON 28N-9HZ_PBHL										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well CANNON 28N-9HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4852.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4852.00usft (Original Well Elev)
Site:	3N-65W-33 CANNON 1-33HZ	North Reference:	True
Well:	CANNON 28N-9HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
CANNON 28N-9HZ_P - plan hits target center - Point	0.00	0.00	6,938.56	366.85	-1,200.69	14,595,641.73	1,733,908.20	40.188748	-104.665239	
CANNON 28N-9HZ_P - plan hits target center - Point	0.00	0.00	6,946.00	-10,284.32	-1,106.56	14,584,991.00	1,734,043.00	40.159499	-104.664901	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,523.37	1,500.00	9 5/8"	9-5/8	13-1/2		
7,534.46	6,938.56	Top of Production	5-1/2	8-1/2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,163.69	1,155.00	Fox Hills Mkr				
3,975.98	3,827.00	Parkman				
4,706.38	4,520.00	Sussex				
7,136.64	6,818.00	Sharon Springs				
7,271.89	6,885.00	Niobrara				
7,430.37	6,930.00	Nio B				