

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
1N-66W-09 FITZSIMMONS 18-9HZ  
FITZSIMMONS 34C-9HZ**

**Plan A**

**Plan: Permit Rev-1**

## **Standard Survey Report**

**01 June, 2016**



Azimuths to True North  
Magnetic North: 8.18°

Magnetic Field  
Strength: 52432.4snT  
Dip Angle: 66.61°  
Date: 5/31/2016  
Model: IGRF2010

SITE: 1N-66W-09 FITZSIMMONS 18-9HZ

Well: FITZSIMMONS 34C-9HZ  
Wellbore: Plan A  
Design: Permit Rev-1

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1469.00	1490.70	Fox Hills
4814.00	5129.93	Sussex
7130.00	7538.62	Sharon Springs
7169.00	7581.99	Niobrara
7277.00	7712.03	Nio B
7338.00	7795.95	Nio C
7477.00	8072.38	Fort Hayes
7500.00	8170.22	Codell

#### WELL DETAILS: FITZSIMMONS 34C-9HZ

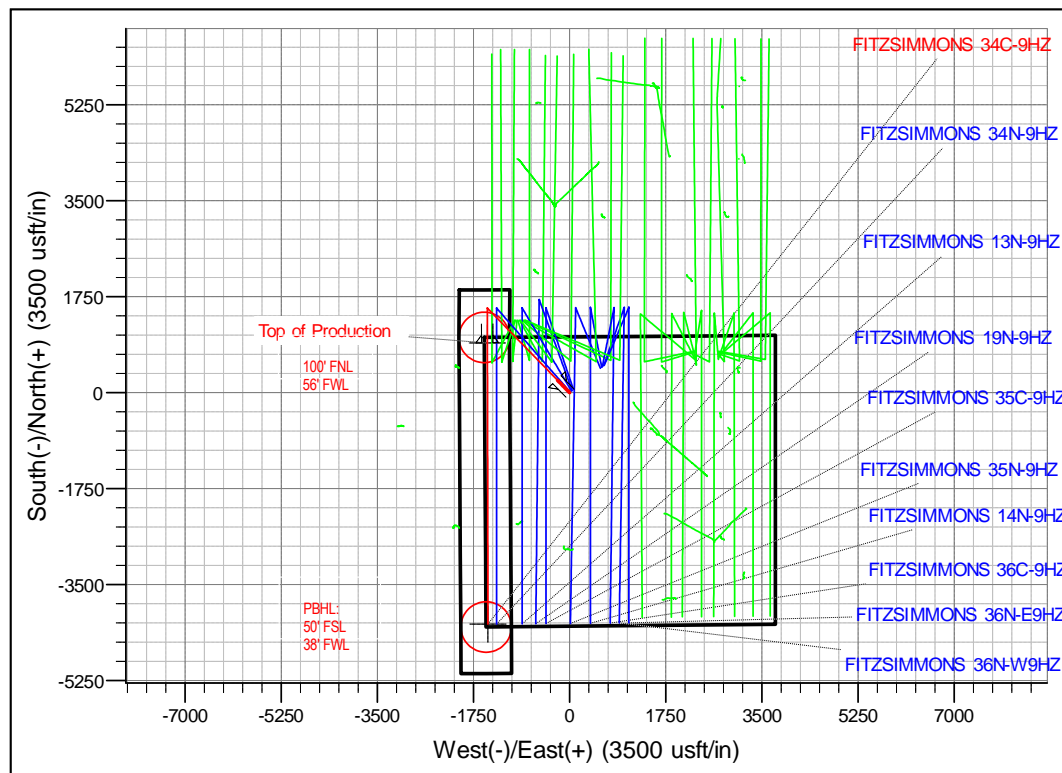
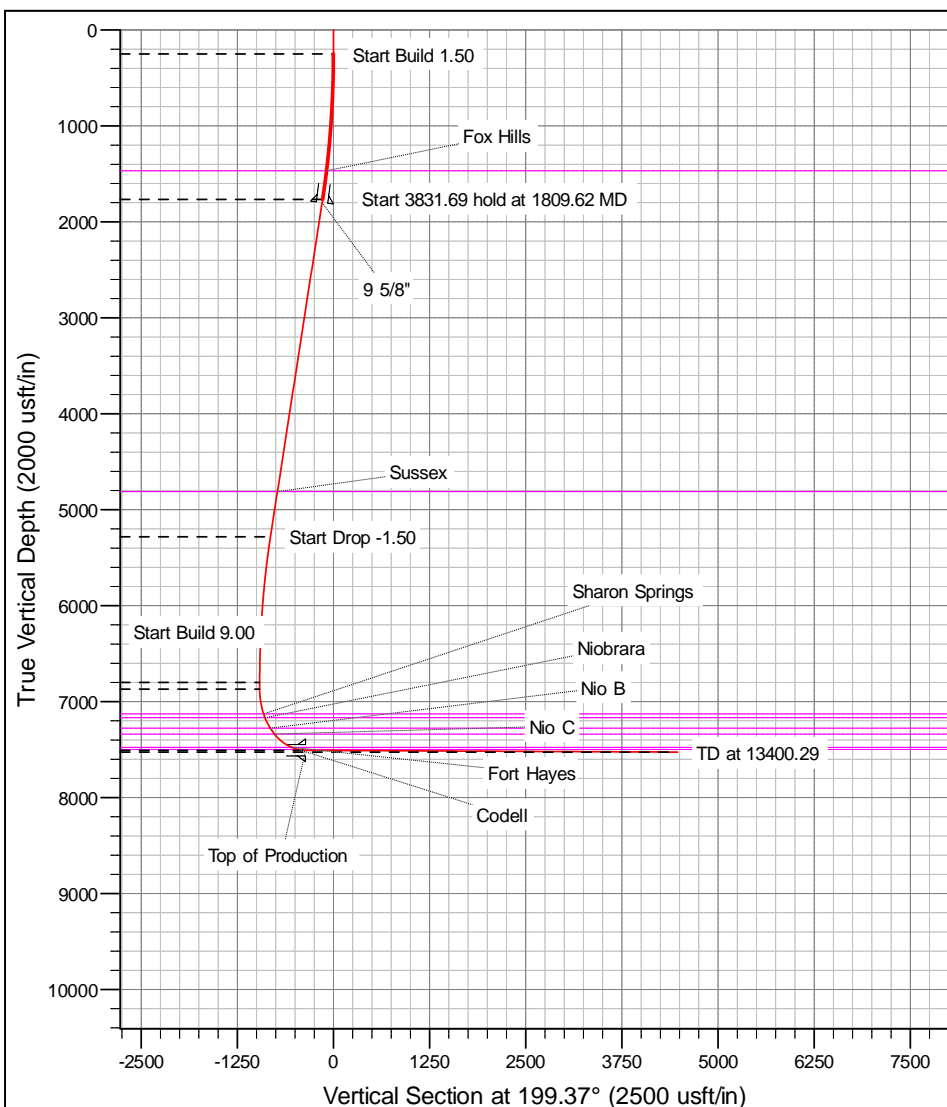
+N/-S	+E/-W	GL: 4992.00	RKB @ 5009.00usft (D Rig)	Longitude	Slot
0.00	0.00	Northing 14552357.60	Easting 1700245.64	Latitude 40.070171	
				Longitude -104.786145	

#### 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
1809.62	23.39	315.84	1766.65	225.27	-218.75	1.50	-139.97
5841.32	23.39	315.84	5283.35	1316.73	-1278.65	0.00	-818.13
7200.94	0.00	0.00	6800.00	1542.00	-1497.40	1.50	-958.09
7272.52	0.00	0.00	6871.58	1542.00	-1497.40	0.00	-958.09
8270.19	89.79	179.87	7508.20	907.72	-1495.97	9.00	-360.18
13400.29	89.79	179.87	7527.00	-4222.34	-1484.40	0.00	4475.67

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FITZSIMMONS 34C-9HZ_PHL	7508.20	907.71	-1495.97	14553261.72	1698747.49	40.072664	-104.791492
FITZSIMMONS 34C-9HZ_PBL	7527.00	-4222.34	-1484.40	14548131.71	1698771.38	40.058576	-104.791450



# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

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

Site	1N-66W-09 FITZSIMMONS 18-9HZ				
Site Position:		Northing:	14,552,357.60 usft	Latitude:	40.070171
From:	Lat/Long	Easting:	1,700,245.63 usft	Longitude:	-104.786145
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14 °

Well		FITZSIMMONS 34C-9HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,552,357.60 usft	Latitude:	40.070171
	+E/-W	0.00 usft	Easting:	1,700,245.63 usft	Longitude:	-104.786145
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,992.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/31/2016	8.18	66.61	52,432

<b>Design</b>	Permit Rev-1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	199.37	

<b>Survey Tool Program</b>	<b>Date</b>	6/1/2016			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.00	13,400.29	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MW Fixed:v2:crustal field declination		

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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	315.84	300.00	0.23	-0.23	-0.15	1.50	1.50	0.00	
400.00	2.25	315.84	399.96	2.11	-2.05	-1.31	1.50	1.50	0.00	
500.00	3.75	315.84	499.82	5.87	-5.70	-3.65	1.50	1.50	0.00	
600.00	5.25	315.84	599.51	11.50	-11.16	-7.14	1.50	1.50	0.00	
700.00	6.75	315.84	698.96	18.99	-18.45	-11.80	1.50	1.50	0.00	
800.00	8.25	315.84	798.10	28.36	-27.54	-17.62	1.50	1.50	0.00	

# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

### 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)
900.00	9.75	315.84	896.87	39.58	-38.44	-24.59	1.50	1.50	0.00
1,000.00	11.25	315.84	995.19	52.65	-51.13	-32.72	1.50	1.50	0.00
1,100.00	12.75	315.84	1,093.00	67.57	-65.61	-41.98	1.50	1.50	0.00
1,200.00	14.25	315.84	1,190.24	84.32	-81.88	-52.39	1.50	1.50	0.00
1,300.00	15.75	315.84	1,286.83	102.88	-99.91	-63.92	1.50	1.50	0.00
1,400.00	17.25	315.84	1,382.71	123.26	-119.69	-76.58	1.50	1.50	0.00
1,490.70	18.61	315.84	1,469.00	143.29	-139.15	-89.03	1.50	1.50	0.00
<b>Fox Hills</b>									
1,500.00	18.75	315.84	1,477.81	145.43	-141.22	-90.36	1.50	1.50	0.00
1,600.00	20.25	315.84	1,572.07	169.37	-164.47	-105.24	1.50	1.50	0.00
1,700.00	21.75	315.84	1,665.43	195.08	-189.44	-121.21	1.50	1.50	0.00
1,800.00	23.25	315.84	1,757.81	222.54	-216.10	-138.27	1.50	1.50	0.00
1,809.62	23.39	315.84	1,766.65	225.27	-218.75	-139.97	1.50	1.50	0.00
1,845.96	23.39	315.84	1,800.00	235.62	-228.81	-146.40	0.00	0.00	0.00
<b>9 5/8"</b>									
1,900.00	23.39	315.84	1,849.59	251.01	-243.75	-155.96	0.00	0.00	0.00
2,000.00	23.39	315.84	1,941.37	279.50	-271.41	-173.66	0.00	0.00	0.00
2,100.00	23.39	315.84	2,033.15	307.98	-299.07	-191.36	0.00	0.00	0.00
2,200.00	23.39	315.84	2,124.93	336.47	-326.74	-209.06	0.00	0.00	0.00
2,300.00	23.39	315.84	2,216.71	364.95	-354.40	-226.76	0.00	0.00	0.00
2,400.00	23.39	315.84	2,308.49	393.44	-382.06	-244.46	0.00	0.00	0.00
2,500.00	23.39	315.84	2,400.27	421.92	-409.72	-262.15	0.00	0.00	0.00
2,600.00	23.39	315.84	2,492.05	450.41	-437.38	-279.85	0.00	0.00	0.00
2,700.00	23.39	315.84	2,583.83	478.89	-465.04	-297.55	0.00	0.00	0.00
2,800.00	23.39	315.84	2,675.61	507.38	-492.70	-315.25	0.00	0.00	0.00
2,900.00	23.39	315.84	2,767.39	535.86	-520.36	-332.95	0.00	0.00	0.00
3,000.00	23.39	315.84	2,859.17	564.35	-548.03	-350.65	0.00	0.00	0.00
3,100.00	23.39	315.84	2,950.95	592.83	-575.69	-368.35	0.00	0.00	0.00
3,200.00	23.39	315.84	3,042.73	621.32	-603.35	-386.04	0.00	0.00	0.00
3,300.00	23.39	315.84	3,134.51	649.80	-631.01	-403.74	0.00	0.00	0.00
3,400.00	23.39	315.84	3,226.29	678.29	-658.67	-421.44	0.00	0.00	0.00
3,500.00	23.39	315.84	3,318.06	706.77	-686.33	-439.14	0.00	0.00	0.00
3,600.00	23.39	315.84	3,409.84	735.26	-713.99	-456.84	0.00	0.00	0.00
3,700.00	23.39	315.84	3,501.62	763.74	-741.65	-474.54	0.00	0.00	0.00
3,800.00	23.39	315.84	3,593.40	792.23	-769.32	-492.24	0.00	0.00	0.00
3,900.00	23.39	315.84	3,685.18	820.71	-796.98	-509.94	0.00	0.00	0.00
4,000.00	23.39	315.84	3,776.96	849.20	-824.64	-527.63	0.00	0.00	0.00
4,100.00	23.39	315.84	3,868.74	877.69	-852.30	-545.33	0.00	0.00	0.00
4,200.00	23.39	315.84	3,960.52	906.17	-879.96	-563.03	0.00	0.00	0.00
4,300.00	23.39	315.84	4,052.30	934.66	-907.62	-580.73	0.00	0.00	0.00
4,400.00	23.39	315.84	4,144.08	963.14	-935.28	-598.43	0.00	0.00	0.00
4,500.00	23.39	315.84	4,235.86	991.63	-962.94	-616.13	0.00	0.00	0.00
4,600.00	23.39	315.84	4,327.64	1,020.11	-990.61	-633.83	0.00	0.00	0.00
4,700.00	23.39	315.84	4,419.42	1,048.60	-1,018.27	-651.52	0.00	0.00	0.00

# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

### 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)
4,800.00	23.39	315.84	4,511.20	1,077.08	-1,045.93	-669.22	0.00	0.00	0.00
4,900.00	23.39	315.84	4,602.98	1,105.57	-1,073.59	-686.92	0.00	0.00	0.00
5,000.00	23.39	315.84	4,694.76	1,134.05	-1,101.25	-704.62	0.00	0.00	0.00
5,100.00	23.39	315.84	4,786.53	1,162.54	-1,128.91	-722.32	0.00	0.00	0.00
5,129.93	23.39	315.84	4,814.00	1,171.06	-1,137.19	-727.62	0.00	0.00	0.00
<b>Sussex</b>									
5,200.00	23.39	315.84	4,878.31	1,191.02	-1,156.57	-740.02	0.00	0.00	0.00
5,300.00	23.39	315.84	4,970.09	1,219.51	-1,184.23	-757.72	0.00	0.00	0.00
5,400.00	23.39	315.84	5,061.87	1,247.99	-1,211.90	-775.42	0.00	0.00	0.00
5,500.00	23.39	315.84	5,153.65	1,276.48	-1,239.56	-793.11	0.00	0.00	0.00
5,600.00	23.39	315.84	5,245.43	1,304.96	-1,267.22	-810.81	0.00	0.00	0.00
5,641.32	23.39	315.84	5,283.35	1,316.73	-1,278.65	-818.13	0.00	0.00	0.00
5,700.00	22.51	315.84	5,337.39	1,333.15	-1,294.59	-828.33	1.50	-1.50	0.00
5,800.00	21.01	315.84	5,430.26	1,359.75	-1,320.42	-844.85	1.50	-1.50	0.00
5,900.00	19.51	315.84	5,524.07	1,384.60	-1,344.55	-860.29	1.50	-1.50	0.00
6,000.00	18.01	315.84	5,618.75	1,407.67	-1,366.96	-874.63	1.50	-1.50	0.00
6,100.00	16.51	315.84	5,714.24	1,428.96	-1,387.63	-887.86	1.50	-1.50	0.00
6,200.00	15.01	315.84	5,810.48	1,448.45	-1,406.56	-899.97	1.50	-1.50	0.00
6,300.00	13.51	315.84	5,907.39	1,466.13	-1,423.72	-910.95	1.50	-1.50	0.00
6,400.00	12.01	315.84	6,004.92	1,481.98	-1,439.11	-920.80	1.50	-1.50	0.00
6,500.00	10.51	315.84	6,102.99	1,495.99	-1,452.72	-929.50	1.50	-1.50	0.00
6,600.00	9.01	315.84	6,201.54	1,508.16	-1,464.54	-937.06	1.50	-1.50	0.00
6,700.00	7.51	315.84	6,300.49	1,518.47	-1,474.55	-943.47	1.50	-1.50	0.00
6,800.00	6.01	315.84	6,399.80	1,526.92	-1,482.75	-948.72	1.50	-1.50	0.00
6,900.00	4.51	315.84	6,499.37	1,533.50	-1,489.15	-952.81	1.50	-1.50	0.00
7,000.00	3.01	315.84	6,599.15	1,538.21	-1,493.72	-955.74	1.50	-1.50	0.00
7,100.00	1.51	315.84	6,699.07	1,541.04	-1,496.47	-957.50	1.50	-1.50	0.00
7,200.00	0.01	315.84	6,799.06	1,542.00	-1,497.40	-958.09	1.50	-1.50	0.00
7,200.94	0.00	0.00	6,800.00	1,542.00	-1,497.40	-958.09	1.50	-1.50	0.00
7,272.52	0.00	0.00	6,871.58	1,542.00	-1,497.40	-958.09	0.00	0.00	0.00
7,300.00	2.47	179.87	6,899.05	1,541.41	-1,497.40	-957.53	9.00	9.00	0.00
7,400.00	11.47	179.87	6,998.21	1,529.28	-1,497.37	-946.10	9.00	9.00	0.00
7,500.00	20.47	179.87	7,094.25	1,501.79	-1,497.31	-920.19	9.00	9.00	0.00
7,538.62	23.95	179.87	7,130.00	1,487.19	-1,497.28	-906.43	9.00	9.00	0.00
<b>Sharon Springs</b>									
7,581.99	27.85	179.87	7,169.00	1,468.25	-1,497.23	-888.58	9.00	9.00	0.00
<b>Niobrara</b>									
7,600.00	29.47	179.87	7,184.81	1,459.61	-1,497.21	-880.43	9.00	9.00	0.00
7,700.00	38.47	179.87	7,267.65	1,403.79	-1,497.09	-827.81	9.00	9.00	0.00
7,712.03	39.56	179.87	7,277.00	1,396.22	-1,497.07	-820.67	9.00	9.00	0.00
<b>Nio B</b>									
7,795.95	47.11	179.87	7,338.00	1,338.67	-1,496.94	-766.42	9.00	9.00	0.00
<b>Nio C</b>									
7,800.00	47.47	179.87	7,340.74	1,335.70	-1,496.93	-763.62	9.00	9.00	0.00

# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

### 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)
7,900.00	56.47	179.87	7,402.28	1,257.01	-1,496.76	-689.44	9.00	9.00	0.00
8,000.00	65.47	179.87	7,450.76	1,169.66	-1,496.56	-607.10	9.00	9.00	0.00
8,072.38	71.99	179.87	7,477.00	1,102.24	-1,496.41	-543.55	9.00	9.00	0.00
<b>Fort Hayes</b>									
8,100.00	74.47	179.87	7,484.97	1,075.80	-1,496.35	-518.63	9.00	9.00	0.00
8,170.22	80.79	179.87	7,500.00	1,007.24	-1,496.19	-454.00	9.00	9.00	0.00
<b>Codell</b>									
8,200.00	83.47	179.87	7,504.08	977.75	-1,496.13	-426.20	9.00	9.00	0.00
8,270.19	89.79	179.87	7,508.20	907.71	-1,495.97	-360.18	9.00	9.00	0.00
<b>Top of Production - FITZSIMMONS 34C-9HZ_PHL</b>									
8,300.00	89.79	179.87	7,508.31	877.90	-1,495.90	-332.08	0.00	0.00	0.00
8,400.00	89.79	179.87	7,508.67	777.91	-1,495.68	-237.82	0.00	0.00	0.00
8,500.00	89.79	179.87	7,509.04	677.91	-1,495.45	-143.55	0.00	0.00	0.00
8,600.00	89.79	179.87	7,509.41	577.91	-1,495.23	-49.29	0.00	0.00	0.00
8,700.00	89.79	179.87	7,509.77	477.91	-1,495.00	44.98	0.00	0.00	0.00
8,800.00	89.79	179.87	7,510.14	377.91	-1,494.78	139.24	0.00	0.00	0.00
8,900.00	89.79	179.87	7,510.51	277.91	-1,494.55	233.50	0.00	0.00	0.00
9,000.00	89.79	179.87	7,510.87	177.91	-1,494.32	327.77	0.00	0.00	0.00
9,100.00	89.79	179.87	7,511.24	77.91	-1,494.10	422.03	0.00	0.00	0.00
9,200.00	89.79	179.87	7,511.61	-22.09	-1,493.87	516.30	0.00	0.00	0.00
9,300.00	89.79	179.87	7,511.97	-122.09	-1,493.65	610.56	0.00	0.00	0.00
9,400.00	89.79	179.87	7,512.34	-222.09	-1,493.42	704.83	0.00	0.00	0.00
9,500.00	89.79	179.87	7,512.70	-322.08	-1,493.20	799.09	0.00	0.00	0.00
9,600.00	89.79	179.87	7,513.07	-422.08	-1,492.97	893.35	0.00	0.00	0.00
9,700.00	89.79	179.87	7,513.44	-522.08	-1,492.75	987.62	0.00	0.00	0.00
9,800.00	89.79	179.87	7,513.80	-622.08	-1,492.52	1,081.88	0.00	0.00	0.00
9,900.00	89.79	179.87	7,514.17	-722.08	-1,492.30	1,176.15	0.00	0.00	0.00
10,000.00	89.79	179.87	7,514.54	-822.08	-1,492.07	1,270.41	0.00	0.00	0.00
10,100.00	89.79	179.87	7,514.90	-922.08	-1,491.84	1,364.67	0.00	0.00	0.00
10,200.00	89.79	179.87	7,515.27	-1,022.08	-1,491.62	1,458.94	0.00	0.00	0.00
10,300.00	89.79	179.87	7,515.64	-1,122.08	-1,491.39	1,553.20	0.00	0.00	0.00
10,400.00	89.79	179.87	7,516.00	-1,222.08	-1,491.17	1,647.47	0.00	0.00	0.00
10,500.00	89.79	179.87	7,516.37	-1,322.08	-1,490.94	1,741.73	0.00	0.00	0.00
10,600.00	89.79	179.87	7,516.74	-1,422.07	-1,490.72	1,836.00	0.00	0.00	0.00
10,700.00	89.79	179.87	7,517.10	-1,522.07	-1,490.49	1,930.26	0.00	0.00	0.00
10,800.00	89.79	179.87	7,517.47	-1,622.07	-1,490.27	2,024.52	0.00	0.00	0.00
10,900.00	89.79	179.87	7,517.84	-1,722.07	-1,490.04	2,118.79	0.00	0.00	0.00
11,000.00	89.79	179.87	7,518.20	-1,822.07	-1,489.82	2,213.05	0.00	0.00	0.00
11,100.00	89.79	179.87	7,518.57	-1,922.07	-1,489.59	2,307.32	0.00	0.00	0.00
11,200.00	89.79	179.87	7,518.94	-2,022.07	-1,489.37	2,401.58	0.00	0.00	0.00
11,300.00	89.79	179.87	7,519.30	-2,122.07	-1,489.14	2,495.85	0.00	0.00	0.00
11,400.00	89.79	179.87	7,519.67	-2,222.07	-1,488.91	2,590.11	0.00	0.00	0.00
11,500.00	89.79	179.87	7,520.04	-2,322.07	-1,488.69	2,684.37	0.00	0.00	0.00
11,600.00	89.79	179.87	7,520.40	-2,422.06	-1,488.46	2,778.64	0.00	0.00	0.00

# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

### 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)
11,700.00	89.79	179.87	7,520.77	-2,522.06	-1,488.24	2,872.90	0.00	0.00	0.00
11,800.00	89.79	179.87	7,521.13	-2,622.06	-1,488.01	2,967.17	0.00	0.00	0.00
11,900.00	89.79	179.87	7,521.50	-2,722.06	-1,487.79	3,061.43	0.00	0.00	0.00
12,000.00	89.79	179.87	7,521.87	-2,822.06	-1,487.56	3,155.69	0.00	0.00	0.00
12,100.00	89.79	179.87	7,522.23	-2,922.06	-1,487.34	3,249.96	0.00	0.00	0.00
12,200.00	89.79	179.87	7,522.60	-3,022.06	-1,487.11	3,344.22	0.00	0.00	0.00
12,300.00	89.79	179.87	7,522.97	-3,122.06	-1,486.89	3,438.49	0.00	0.00	0.00
12,400.00	89.79	179.87	7,523.33	-3,222.06	-1,486.66	3,532.75	0.00	0.00	0.00
12,500.00	89.79	179.87	7,523.70	-3,322.06	-1,486.43	3,627.02	0.00	0.00	0.00
12,600.00	89.79	179.87	7,524.07	-3,422.06	-1,486.21	3,721.28	0.00	0.00	0.00
12,700.00	89.79	179.87	7,524.43	-3,522.05	-1,485.98	3,815.54	0.00	0.00	0.00
12,800.00	89.79	179.87	7,524.80	-3,622.05	-1,485.76	3,909.81	0.00	0.00	0.00
12,900.00	89.79	179.87	7,525.17	-3,722.05	-1,485.53	4,004.07	0.00	0.00	0.00
13,000.00	89.79	179.87	7,525.53	-3,822.05	-1,485.31	4,098.34	0.00	0.00	0.00
13,100.00	89.79	179.87	7,525.90	-3,922.05	-1,485.08	4,192.60	0.00	0.00	0.00
13,200.00	89.79	179.87	7,526.27	-4,022.05	-1,484.86	4,286.87	0.00	0.00	0.00
13,300.00	89.79	179.87	7,526.63	-4,122.05	-1,484.63	4,381.13	0.00	0.00	0.00
13,400.00	89.79	179.87	7,527.00	-4,222.05	-1,484.41	4,475.39	0.00	0.00	0.00
13,400.29	89.79	179.87	7,527.00	-4,222.34	-1,484.40	4,475.67	0.00	0.00	0.00
FITZSIMMONS 34C-9HZ_PBHL									

### Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
FITZSIMMONS 34C-9	0.00	0.00	7,508.20	907.71	-1,495.97	14,553,261.71	1,698,747.49	40.072664	-104.791493
- plan hits target center									
- Point									
FITZSIMMONS 34C-9	0.00	0.00	7,527.00	-4,222.34	-1,484.40	14,548,131.70	1,698,771.38	40.058576	-104.791450
- plan hits target center									
- Point									

### Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,845.96	1,800.00	9 5/8"	9-5/8	13-1/2
8,270.19	7,508.20	Top of Production	5-1/2	8-1/2

# Anadarko

## Survey Report

<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>Local Co-ordinate Reference:</b>	Well FITZSIMMONS 34C-9HZ
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>TVD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Site:</b>	1N-66W-09 FITZSIMMONS 18-9HZ	<b>MD Reference:</b>	RKB @ 5009.00usft (D Rig)
<b>Well:</b>	FITZSIMMONS 34C-9HZ	<b>North Reference:</b>	True
<b>Wellbore:</b>	Plan A	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Permit Rev-1	<b>Database:</b>	PLANNING

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,490.70	1,469.00	Fox Hills				
5,129.93	4,814.00	Sussex				
7,538.62	7,130.00	Sharon Springs				
7,581.99	7,169.00	Niobrara				
7,712.03	7,277.00	Nio B				
7,795.95	7,338.00	Nio C				
8,072.38	7,477.00	Fort Hayes				
8,170.22	7,500.00	Codell				

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_