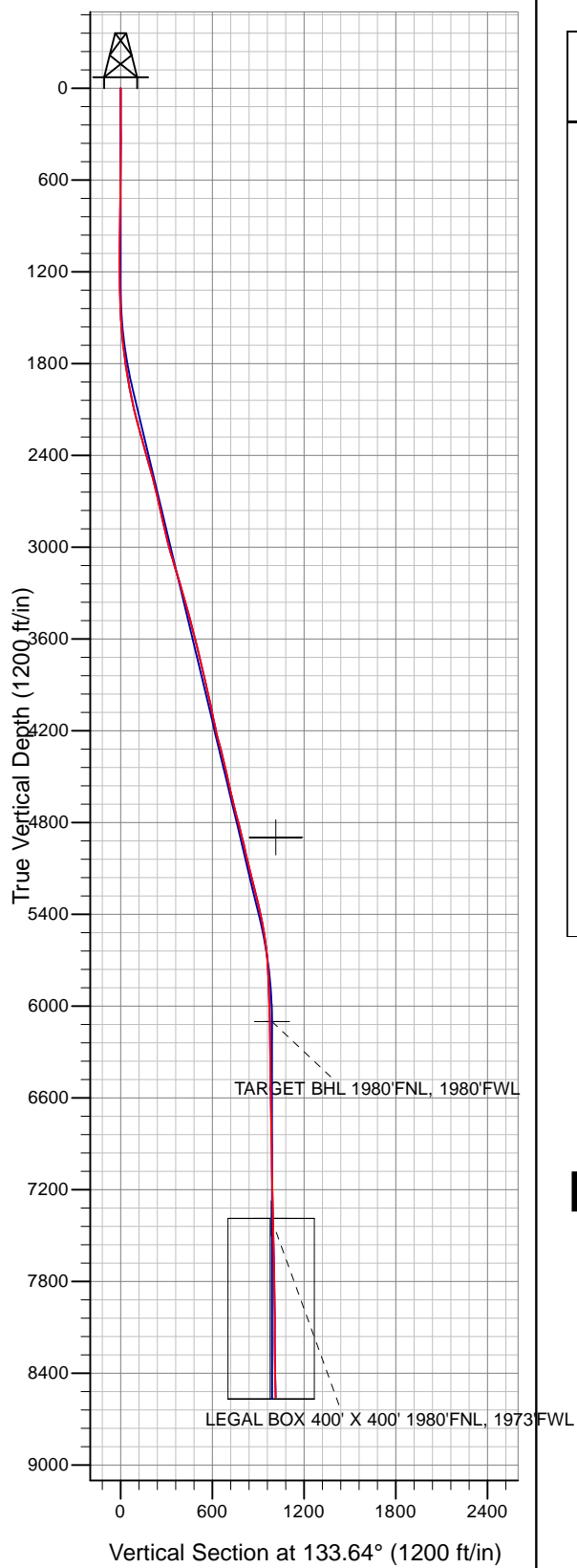


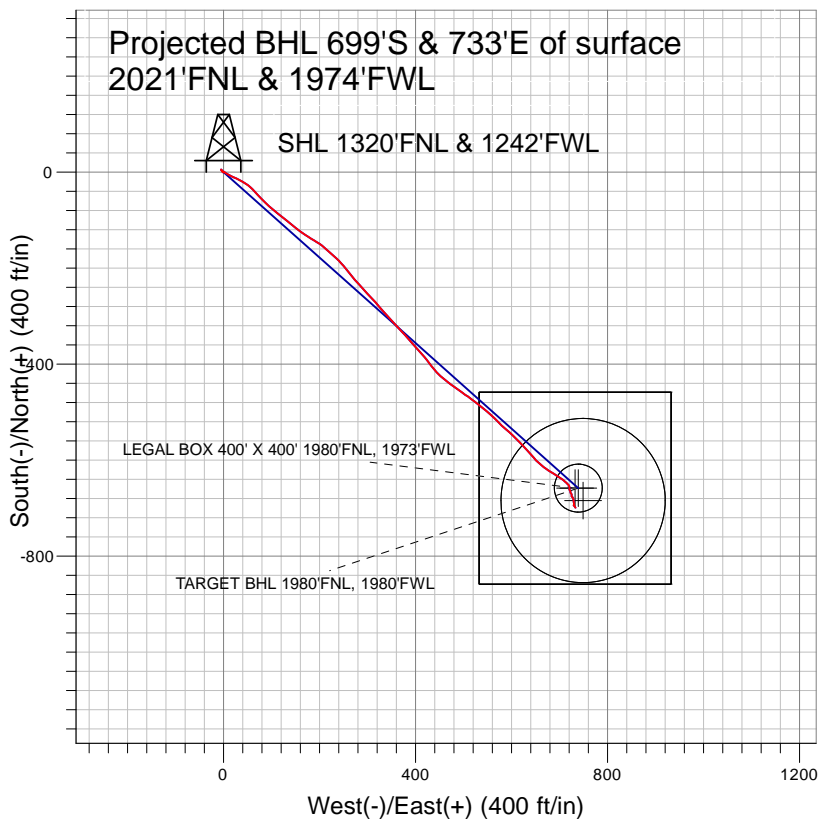
Surface Location: NRC 18-9 Pad Sec.9-T1N-R67W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 5021.0




+N/-S+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1268599.27	3167731.27	40° 4' 8.900 N	104° 54' 2.434 W
		Original Well Elev	WELL @ 5036.0ft	(Original Well Elev)	



## Anadarko, Weld County CO



## LEGEND

-  NRC 6-9, Wellbore #1, Plan #1 (5-27-10) V0
-  Wellbore #1
-  Survey #1

## Final Survey Plot

Projected Final Survey -  
8675'MD & 8559'TVD @ 1013' VS  
1.0 deg Inc 131.2 deg AZ

Project: SEC.9-T1N-R67W  
Site: NRC 18-9 Pad Sec.9-T1N-R67W  
Well: NRC 6-9  
Plan: Wellbore #1



# **Anadarko, Weld County CO**

**SEC.9-T1N-R67W**

**NRC 18-9 Pad Sec.9-T1N-R67W**

**NRC 6-9**

**Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**24 August, 2010**

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well NRC 6-9
<b>Project:</b>	SEC.9-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Site:</b>	NRC 18-9 Pad Sec.9-T1N-R67W	<b>MD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Well:</b>	NRC 6-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

<b>Project</b>	SEC.9-T1N-R67W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

<b>Site</b>	NRC 18-9 Pad Sec.9-T1N-R67W		
<b>Site Position:</b>		<b>Northing:</b>	1,268,598.84 ft
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,167,667.18 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	"
		<b>Latitude:</b>	40° 4' 8.900 N
		<b>Longitude:</b>	104° 54' 3.258 W
		<b>Grid Convergence:</b>	0.39 °

<b>Well</b>	NRC 6-9		
<b>Well Position</b>	<b>+N-S</b>	0.0 ft	<b>Northing:</b> 1,268,599.27 ft
	<b>+E-W</b>	0.0 ft	<b>Easting:</b> 3,167,731.27 ft
<b>Position Uncertainty</b>		0.0 ft	<b>Wellhead Elevation:</b> ft
			<b>Latitude:</b> 40° 4' 8.900 N
			<b>Longitude:</b> 104° 54' 2.434 W
			<b>Ground Level:</b> 5,021.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/28/2010	9.05	66.79	53,051

<b>Design</b>	Wellbore #1				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	133.64	

<b>Survey Program</b>	<b>Date</b>	8/24/2010			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
146.0	8,675.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
146.0	0.10	172.20	146.0	-0.1	0.0	0.1	0.07	0.07	0.00	
239.0	0.20	150.50	239.0	-0.3	0.1	0.3	0.12	0.11	-23.33	
332.0	0.10	163.60	332.0	-0.6	0.2	0.5	0.11	-0.11	14.09	
426.0	0.40	284.70	426.0	-0.6	-0.1	0.3	0.49	0.32	128.83	
519.0	0.60	236.20	519.0	-0.8	-0.8	-0.1	0.48	0.22	-52.15	
611.0	0.70	334.70	611.0	-0.5	-1.4	-0.7	1.07	0.11	107.07	
704.0	1.60	329.60	704.0	1.1	-2.3	-2.5	0.97	0.97	-5.48	
796.0	0.50	322.60	796.0	2.5	-3.2	-4.1	1.20	-1.20	-7.61	
888.0	0.30	301.90	888.0	3.0	-3.7	-4.7	0.26	-0.22	-22.50	
973.0	1.10	355.00	972.9	3.9	-3.9	-5.6	1.12	0.94	62.47	
1,158.0	0.60	237.60	1,157.9	5.2	-4.9	-7.1	0.80	-0.27	-63.46	
1,246.0	0.70	136.20	1,245.9	4.5	-4.9	-6.7	1.15	0.11	-115.23	

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well NRC 6-9
<b>Project:</b>	SEC.9-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Site:</b>	NRC 18-9 Pad Sec.9-T1N-R67W	<b>MD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Well:</b>	NRC 6-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

### 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)
1,337.0	1.50	150.20	1,336.9	3.1	-4.0	-5.0	0.92	0.88	15.38
1,424.0	2.40	110.90	1,423.9	1.5	-1.7	-2.2	1.79	1.03	-45.17
1,512.0	3.60	121.80	1,511.7	-0.6	2.4	2.2	1.50	1.36	12.39
1,601.0	5.30	124.30	1,600.5	-4.4	8.2	9.0	1.92	1.91	2.81
1,690.0	6.50	113.90	1,689.0	-8.8	16.2	17.8	1.80	1.35	-11.69
1,777.0	8.10	115.30	1,775.3	-13.4	26.2	28.2	1.85	1.84	1.61
1,866.0	9.40	118.90	1,863.3	-19.6	38.2	41.2	1.58	1.46	4.04
1,953.0	10.70	126.30	1,948.9	-27.8	51.0	56.1	2.10	1.49	8.51
2,044.0	12.50	138.20	2,038.1	-40.2	64.3	74.3	3.28	1.98	13.08
2,134.0	14.00	136.60	2,125.7	-55.3	78.3	94.9	1.72	1.67	-1.78
2,224.0	15.40	131.40	2,212.7	-71.1	94.8	117.7	2.14	1.56	-5.78
2,315.0	15.40	128.70	2,300.5	-86.7	113.2	141.8	0.79	0.00	-2.97
2,405.0	15.20	128.80	2,387.3	-101.6	131.8	165.4	0.22	-0.22	0.11
2,494.0	16.00	128.40	2,473.0	-116.5	150.5	189.3	0.91	0.90	-0.45
2,584.0	15.00	124.50	2,559.7	-130.8	169.8	213.1	1.60	-1.11	-4.33
2,675.0	13.40	119.40	2,647.9	-142.6	188.7	235.0	2.23	-1.76	-5.60
2,763.0	12.40	128.40	2,733.7	-153.5	205.0	254.3	2.55	-1.14	10.23
2,851.0	12.10	131.80	2,819.7	-165.5	219.3	272.9	0.89	-0.34	3.86
2,942.0	14.00	132.70	2,908.4	-179.4	234.5	293.5	2.10	2.09	0.99
3,032.0	15.30	140.10	2,995.5	-195.8	250.1	316.1	2.53	1.44	8.22
3,121.0	16.30	140.90	3,081.1	-214.5	265.5	340.2	1.15	1.12	0.90
3,211.0	17.30	138.00	3,167.3	-234.3	282.4	366.1	1.45	1.11	-3.22
3,300.0	16.20	137.40	3,252.5	-253.3	299.7	391.7	1.25	-1.24	-0.67
3,389.0	16.60	138.10	3,337.9	-271.9	316.6	416.7	0.50	0.45	0.79
3,478.0	15.30	139.10	3,423.4	-290.2	332.7	441.1	1.49	-1.46	1.12
3,567.0	14.40	138.50	3,509.5	-307.4	347.8	463.8	1.03	-1.01	-0.67
3,657.0	14.70	135.40	3,596.6	-323.9	363.2	486.4	0.93	0.33	-3.44
3,748.0	13.10	138.70	3,684.9	-339.9	378.1	508.2	1.96	-1.76	3.63
3,838.0	12.90	137.60	3,772.6	-354.9	391.6	528.4	0.35	-0.22	-1.22
3,928.0	13.10	138.90	3,860.3	-370.0	405.1	548.5	0.39	0.22	1.44
4,019.0	13.50	139.10	3,948.8	-385.8	418.8	569.4	0.44	0.44	0.22
4,107.0	11.90	144.60	4,034.7	-401.0	430.8	588.5	2.28	-1.82	6.25
4,198.0	11.60	137.60	4,123.8	-415.4	442.4	606.9	1.60	-0.33	-7.69
4,288.0	12.90	130.80	4,211.7	-428.7	456.1	625.9	2.16	1.44	-7.56
4,379.0	14.80	125.90	4,300.1	-442.1	473.2	647.6	2.45	2.09	-5.38
4,467.0	15.10	126.00	4,385.1	-455.4	491.6	670.1	0.34	0.34	0.11
4,556.0	12.80	125.00	4,471.5	-467.9	509.1	691.3	2.60	-2.58	-1.12
4,645.0	12.00	128.30	4,558.4	-479.3	524.4	710.3	1.20	-0.90	3.71
4,732.0	13.60	128.10	4,643.2	-491.2	539.5	729.5	1.84	1.84	-0.23
4,820.0	15.00	132.60	4,728.5	-505.3	556.1	751.2	2.03	1.59	5.11
4,909.0	13.70	135.60	4,814.7	-520.6	571.9	773.2	1.68	-1.46	3.37
4,996.0	14.70	130.90	4,899.1	-535.2	587.5	794.5	1.75	1.15	-5.40
5,046.4	13.70	132.36	4,948.0	-543.4	596.7	806.9	2.11	-1.99	2.90
<b>4900' MD = 171' Radius</b>									
5,087.0	12.90	133.70	4,987.5	-549.8	603.6	816.2	2.11	-1.97	3.30
5,177.0	13.80	136.80	5,075.0	-564.6	618.2	837.0	1.28	1.00	3.44
5,264.0	12.90	138.10	5,159.7	-579.4	631.8	857.0	1.09	-1.03	1.49
5,355.0	14.60	137.90	5,248.1	-595.4	646.2	878.6	1.87	1.87	-0.22
5,445.0	13.40	130.30	5,335.4	-610.6	661.8	900.3	2.44	-1.33	-8.44
5,532.0	12.40	121.70	5,420.2	-622.0	677.4	919.5	2.49	-1.15	-9.89
5,623.0	9.70	122.70	5,509.5	-631.3	692.2	936.6	2.97	-2.97	1.10
5,714.0	6.90	124.70	5,599.5	-638.6	703.1	949.5	3.09	-3.08	2.20
5,802.0	4.70	130.70	5,687.1	-643.9	710.2	958.4	2.59	-2.50	6.82
5,891.0	3.70	133.50	5,775.9	-648.3	715.1	964.9	1.15	-1.12	3.15

<b>Company:</b>	Anadarko, Weld County CO	<b>Local Co-ordinate Reference:</b>	Well NRC 6-9
<b>Project:</b>	SEC.9-T1N-R67W	<b>TVD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Site:</b>	NRC 18-9 Pad Sec.9-T1N-R67W	<b>MD Reference:</b>	WELL @ 5036.0ft (Original Well Elev)
<b>Well:</b>	NRC 6-9	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	EDM den0-adp01 Server Data

**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)
5,980.0	2.30	138.90	5,864.7	-651.6	718.3	969.5	1.60	-1.57	6.07
6,071.0	1.70	153.10	5,955.7	-654.2	720.1	972.6	0.85	-0.66	15.60
6,159.0	1.40	172.20	6,043.6	-656.4	720.9	974.7	0.67	-0.34	21.70
6,215.4	1.26	181.77	6,100.0	-657.7	720.9	975.6	0.46	-0.24	16.96
<b>TARGET BHL 1980'FNL, 1980'FWL</b>									
6,249.0	1.20	188.40	6,133.6	-658.4	720.9	976.1	0.46	-0.19	19.74
6,338.0	1.30	195.10	6,222.6	-660.3	720.5	977.1	0.20	0.11	7.53
6,427.0	1.40	147.80	6,311.6	-662.2	720.8	978.6	1.22	0.11	-53.15
6,515.0	1.10	149.40	6,399.6	-663.9	721.8	980.5	0.34	-0.34	1.82
6,605.0	0.80	153.70	6,489.5	-665.2	722.5	981.9	0.34	-0.33	4.78
6,694.0	0.90	166.40	6,578.5	-666.4	723.0	983.1	0.24	0.11	14.27
6,783.0	1.10	195.10	6,667.5	-667.9	722.9	984.1	0.60	0.22	32.25
6,872.0	1.30	124.80	6,756.5	-669.3	723.5	985.5	1.56	0.22	-78.99
6,959.0	1.20	140.70	6,843.5	-670.6	724.9	987.4	0.41	-0.11	18.28
7,049.0	0.90	180.30	6,933.5	-672.0	725.5	988.8	0.85	-0.33	44.00
7,140.0	0.80	189.10	7,024.5	-673.3	725.4	989.6	0.18	-0.11	9.67
7,231.0	1.00	203.70	7,115.5	-674.7	725.0	990.3	0.33	0.22	16.04
7,321.0	1.50	133.00	7,205.4	-676.2	725.5	991.7	1.67	0.56	-78.56
7,411.0	1.30	140.40	7,295.4	-677.8	727.0	993.9	0.30	-0.22	8.22
7,502.0	1.90	160.60	7,386.4	-680.0	728.2	996.3	0.90	0.66	22.20
7,503.0	1.90	160.65	7,387.4	-680.1	728.2	996.3	0.21	-0.12	5.36
<b>LEGAL BOX 400' X 400' 1980'FNL, 1973'FWL</b>									
7,592.0	1.80	165.70	7,476.3	-682.8	729.0	998.8	0.21	-0.11	5.67
7,682.0	1.40	172.90	7,566.3	-685.3	729.5	1,000.9	0.50	-0.44	8.00
7,772.0	1.40	176.90	7,656.3	-687.5	729.7	1,002.5	0.11	0.00	4.44
7,863.0	1.30	179.70	7,747.2	-689.6	729.8	1,004.0	0.13	-0.11	3.08
7,953.0	1.10	170.40	7,837.2	-691.5	729.9	1,005.4	0.31	-0.22	-10.33
8,043.0	0.50	189.40	7,927.2	-692.7	730.0	1,006.4	0.72	-0.67	21.11
8,133.0	0.60	185.40	8,017.2	-693.6	729.9	1,006.9	0.12	0.11	-4.44
8,224.0	0.40	202.20	8,108.2	-694.3	729.7	1,007.3	0.27	-0.22	18.46
8,314.0	0.90	131.10	8,198.2	-695.1	730.1	1,008.1	0.95	0.56	-79.00
8,404.0	1.00	136.90	8,288.2	-696.1	731.2	1,009.6	0.15	0.11	6.44
8,494.0	0.70	173.80	8,378.2	-697.3	731.8	1,010.8	0.68	-0.33	41.00
8,626.0	1.00	131.20	8,510.2	-698.8	732.8	1,012.6	0.51	0.23	-32.27
8,675.0	1.00	131.20	8,559.2	-699.4	733.4	1,013.4	0.00	0.00	0.00

**Wellbore 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									
4900'MD = 171' Radius	0.00	0.00	4,897.0	-684.5	749.0	1,267,919.88	3,168,484.83	40° 4' 2.136 N	104° 53' 52.800 W
- survey misses target center by 213.7ft at 5046.4ft MD (4948.0 TVD, -543.4 N, 596.7 E)									
- Circle (radius 171.0)									
TARGET BHL 1980'F	0.00	0.00	6,100.0	-658.6	739.2	1,267,945.68	3,168,474.86	40° 4' 2.392 N	104° 53' 52.926 W
- survey misses target center by 18.3ft at 6215.4ft MD (6100.0 TVD, -657.7 N, 720.9 E)									
- Circle (radius 50.0)									
LEGAL BOX 400' X 400'	0.00	0.00	7,388.0	-658.6	732.2	1,267,945.66	3,168,467.88	40° 4' 2.392 N	104° 53' 53.016 W
- survey misses target center by 21.8ft at 7503.0ft MD (7387.4 TVD, -680.1 N, 728.2 E)									
- Rectangle (sides W400.0 H400.0 D1,180.0)									

**Company:** Anadarko, Weld County CO  
**Project:** SEC.9-T1N-R67W  
**Site:** NRC 18-9 Pad Sec.9-T1N-R67W  
**Well:** NRC 6-9  
**Wellbore:** Wellbore #1  
**Design:** Wellbore #1

**Local Co-ordinate Reference:** Well NRC 6-9  
**TVD Reference:** WELL @ 5036.0ft (Original Well Elev)  
**MD Reference:** WELL @ 5036.0ft (Original Well Elev)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM den0-adp01 Server Data

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