



Final Survey Plot

Projected Final Survey -
 8431'MD & 8264'TVD @ 1269' VS
 0.3 deg Inc 40.0 deg AZ

Project: SEC.9-T1N-R67W
 Site: NRC 18-9 Pad Sec.9-T1N-R67W
 Well: NRC 22-9
 Plan: Wellbore #1



Anadarko, Weld County CO

SEC.9-T1N-R67W

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

NRC 22-9

Wellbore #1

Survey: Survey #1

Standard Survey Report

09 August, 2010

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well NRC 22-9
Project:	SEC.9-T1N-R67W	TVD Reference:	WELL @ 5036.0ft (Original Well Elev)
Site:	NRC 18-9 Pad Sec.9-T1N-R67W	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Well:	NRC 22-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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

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

Well	NRC 22-9					
Well Position	+N-S	0.0 ft	Northing:	1,268,599.05 ft	Latitude:	40° 4' 8.900 N
	+E-W	0.0 ft	Easting:	3,167,699.37 ft	Longitude:	104° 54' 2.844 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,021.0 ft

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

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	0.00

Date		Survey (Wellbore)	Tool Name	Description
From ()	To ()			

Survey	Wellbore Data									
	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)
Survey A	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	146.0	0.10	223.20	146.0	-0.1	-0.1	-0.1	0.07	0.07	0.00
	239.0	1.20	174.80	239.0	-1.1	-0.1	-1.1	1.22	1.18	-52.04
	332.0	1.70	190.00	332.0	-3.5	-0.2	-3.5	0.67	0.54	16.34
	426.0	3.80	187.40	425.8	-7.9	-0.8	-7.9	2.24	2.23	-2.77
	519.0	6.00	178.70	518.5	-15.8	-1.1	-15.8	2.49	2.37	-9.35
	611.0	8.20	177.40	609.8	-27.2	-0.7	-27.2	2.40	2.39	-1.41
	704.0	10.20	175.30	701.6	-42.0	0.2	-42.0	2.18	2.15	-2.26
	796.0	11.70	172.40	791.9	-59.4	2.1	-59.4	1.74	1.63	-3.15
	888.0	13.50	169.10	881.7	-79.2	5.4	-79.2	2.11	1.96	-3.59
	972.0	14.90	172.40	963.1	-99.5	8.7	-99.5	1.92	1.67	3.93
	1,058.0	14.90	171.20	1,046.2	-121.4	11.8	-121.4	0.36	0.00	-1.40
	1,146.0	15.50	172.80	1,131.2	-144.3	15.1	-144.3	0.83	0.68	1.82

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well NRC 22-9
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Site:	NRC 18-9 Pad Sec.9-T1N-R67W	MD Reference:	WELL @ 5036.0ft (Original Well Elev)
Well:	NRC 22-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)	
1,237.0	15.40	174.00	1,218.9	-168.3	17.8	-168.3	0.37	-0.11	1.32	
1,324.0	16.20	174.60	1,302.6	-191.9	20.2	-191.9	0.94	0.92	0.69	
1,412.0	16.50	176.50	1,387.0	-216.6	22.1	-216.6	0.70	0.34	2.16	
1,501.0	17.40	177.00	1,472.2	-242.5	23.6	-242.5	1.02	1.01	0.56	
1,590.0	16.80	176.30	1,557.2	-268.6	25.1	-268.6	0.71	-0.67	-0.79	
1,677.0	16.40	175.00	1,640.6	-293.4	27.0	-293.4	0.63	-0.46	-1.49	
1,766.0	16.00	175.50	1,726.1	-318.2	29.0	-318.2	0.48	-0.45	0.56	
1,853.0	15.80	175.30	1,809.7	-341.9	31.0	-341.9	0.24	-0.23	-0.23	
1,944.0	14.50	174.30	1,897.6	-365.6	33.1	-365.6	1.46	-1.43	-1.10	
2,034.0	14.30	173.40	1,984.7	-387.8	35.5	-387.8	0.33	-0.22	-1.00	
2,124.0	14.90	178.20	2,071.8	-410.5	37.1	-410.5	1.50	0.67	5.33	
2,215.0	14.30	174.30	2,159.9	-433.3	38.6	-433.3	1.27	-0.66	-4.29	
2,304.0	14.90	172.40	2,246.0	-455.6	41.2	-455.6	0.86	0.67	-2.13	
2,393.0	13.80	171.80	2,332.3	-477.5	44.3	-477.5	1.25	-1.24	-0.67	
2,483.0	14.70	171.90	2,419.5	-499.4	47.4	-499.4	1.00	1.00	0.11	
2,572.0	14.00	172.00	2,505.7	-521.2	50.5	-521.2	0.79	-0.79	0.11	
2,661.0	13.90	172.70	2,592.1	-542.5	53.3	-542.5	0.22	-0.11	0.79	
2,749.0	13.20	173.80	2,677.6	-563.0	55.8	-563.0	0.85	-0.80	1.25	
2,840.0	12.70	174.00	2,766.3	-583.2	57.9	-583.2	0.55	-0.55	0.22	
2,930.0	13.60	173.30	2,854.0	-603.6	60.2	-603.6	1.02	1.00	-0.78	
3,019.0	16.80	171.60	2,939.8	-626.7	63.3	-626.7	3.63	3.60	-1.91	
3,109.0	17.40	170.80	3,025.9	-652.9	67.4	-652.9	0.72	0.67	-0.89	
3,198.0	18.50	170.80	3,110.5	-679.9	71.7	-679.9	1.24	1.24	0.00	
3,287.0	17.80	173.70	3,195.1	-707.4	75.5	-707.4	1.28	-0.79	3.26	
3,376.0	17.50	174.90	3,279.9	-734.3	78.2	-734.3	0.53	-0.34	1.35	
3,465.0	18.30	174.90	3,364.6	-761.5	80.6	-761.5	0.90	0.90	0.00	
3,555.0	17.80	175.00	3,450.2	-789.3	83.1	-789.3	0.56	-0.56	0.11	
3,646.0	17.30	176.20	3,536.9	-816.6	85.2	-816.6	0.68	-0.55	1.32	
3,736.0	17.80	176.00	3,622.7	-843.7	87.0	-843.7	0.56	0.56	-0.22	
3,826.0	17.60	173.90	3,708.5	-871.0	89.4	-871.0	0.74	-0.22	-2.33	
3,917.0	18.00	176.20	3,795.1	-898.7	91.8	-898.7	0.89	0.44	2.53	
4,005.0	16.40	178.90	3,879.2	-924.7	93.0	-924.7	2.03	-1.82	3.07	
4,096.0	15.40	176.50	3,966.7	-949.6	93.9	-949.6	1.31	-1.10	-2.64	
4,186.0	15.40	177.40	4,053.5	-973.4	95.2	-973.4	0.27	0.00	1.00	
4,277.0	16.40	177.40	4,141.0	-998.3	96.3	-998.3	1.10	1.10	0.00	
4,365.0	15.20	176.00	4,225.7	-1,022.3	97.7	-1,022.3	1.43	-1.36	-1.59	
4,454.0	17.10	175.90	4,311.1	-1,046.9	99.5	-1,046.9	2.14	2.13	-0.11	
4,543.0	14.70	175.90	4,396.7	-1,071.3	101.2	-1,071.3	2.70	-2.70	0.00	
4,632.0	14.40	178.90	4,482.9	-1,093.6	102.2	-1,093.6	0.91	-0.34	3.37	
4,719.0	13.00	176.00	4,567.4	-1,114.2	103.1	-1,114.2	1.79	-1.61	-3.33	
4,810.0	12.50	176.50	4,656.2	-1,134.2	104.4	-1,134.2	0.56	-0.55	0.55	
4,897.0	13.60	176.70	4,740.9	-1,153.8	105.6	-1,153.8	1.27	1.26	0.23	
4,987.0	15.70	178.10	4,828.0	-1,176.6	106.6	-1,176.6	2.37	2.33	1.56	
5,078.0	13.00	178.70	4,916.1	-1,199.1	107.2	-1,199.1	2.97	-2.97	0.66	
5,165.0	10.20	180.60	5,001.4	-1,216.6	107.4	-1,216.6	3.25	-3.22	2.18	
5,255.0	9.40	173.30	5,090.0	-1,231.9	108.2	-1,231.9	1.64	-0.89	-8.11	
5,346.0	7.80	174.50	5,180.0	-1,245.4	109.6	-1,245.4	1.77	-1.76	1.32	
5,432.0	6.50	175.30	5,265.3	-1,256.1	110.6	-1,256.1	1.52	-1.51	0.93	
5,523.0	4.40	174.20	5,355.9	-1,264.7	111.4	-1,264.7	2.31	-2.31	-1.21	
5,567.3	3.51	181.33	5,400.1	-1,267.7	111.5	-1,267.7	2.29	-2.01	16.09	
TARGET BHL 2590'FNL, 1320'FWL										
5,612.0	2.70	193.10	5,444.8	-1,270.1	111.2	-1,270.1	2.29	-1.81	26.33	
5,703.0	1.00	211.10	5,535.7	-1,272.9	110.3	-1,272.9	1.95	-1.87	19.78	
5,791.0	1.60	340.00	5,623.7	-1,272.4	109.5	-1,272.4	2.68	0.68	146.48	

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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)
5,880.0	0.80	344.50	5,712.7	-1,270.6	108.9	-1,270.6	0.90	-0.90	5.06
5,971.0	0.50	330.80	5,803.7	-1,269.6	108.6	-1,269.6	0.37	-0.33	-15.05
6,060.0	0.30	319.30	5,892.7	-1,269.1	108.2	-1,269.1	0.24	-0.22	-12.92
6,149.0	0.30	310.60	5,981.7	-1,268.8	107.9	-1,268.8	0.05	0.00	-9.78
6,238.0	0.40	289.80	6,070.7	-1,268.5	107.4	-1,268.5	0.18	0.11	-23.37
6,327.0	0.40	268.70	6,159.7	-1,268.4	106.8	-1,268.4	0.16	0.00	-23.71
6,415.0	0.70	307.90	6,247.7	-1,268.1	106.1	-1,268.1	0.53	0.34	44.55
6,505.0	0.70	310.80	6,337.7	-1,267.4	105.2	-1,267.4	0.04	0.00	3.22
6,594.0	0.70	303.80	6,426.6	-1,266.8	104.4	-1,266.8	0.10	0.00	-7.87
6,684.0	0.50	299.20	6,516.6	-1,266.3	103.6	-1,266.3	0.23	-0.22	-5.11
6,862.0	0.30	290.20	6,694.6	-1,265.7	102.5	-1,265.7	0.12	-0.11	-5.06
6,953.0	0.30	347.70	6,785.6	-1,265.4	102.2	-1,265.4	0.32	0.00	63.19
7,043.0	0.20	355.30	6,875.6	-1,265.0	102.1	-1,265.0	0.12	-0.11	8.44
7,133.0	0.00	279.10	6,965.6	-1,264.9	102.1	-1,264.9	0.22	-0.22	0.00
7,224.0	0.20	332.30	7,056.6	-1,264.7	102.0	-1,264.7	0.22	0.22	0.00
7,314.0	0.30	266.00	7,146.6	-1,264.6	101.7	-1,264.6	0.32	0.11	-73.67
7,494.0	0.40	278.00	7,326.6	-1,264.6	100.6	-1,264.6	0.07	0.06	6.67
7,582.0	0.40	276.00	7,414.6	-1,264.5	100.0	-1,264.5	0.02	0.00	-2.27
7,672.0	0.00	99.00	7,504.6	-1,264.4	99.7	-1,264.4	0.44	-0.44	0.00
7,762.0	0.30	152.40	7,594.6	-1,264.7	99.8	-1,264.7	0.33	0.33	0.00
7,853.0	0.40	99.00	7,685.6	-1,264.9	100.2	-1,264.9	0.36	0.11	-58.68
7,943.0	0.60	94.10	7,775.6	-1,265.0	101.0	-1,265.0	0.23	0.22	-5.44
8,033.0	0.20	88.90	7,865.6	-1,265.0	101.6	-1,265.0	0.45	-0.44	-5.78
8,123.0	0.30	127.00	7,955.6	-1,265.2	102.0	-1,265.2	0.21	0.11	42.33
8,214.0	0.40	73.30	8,046.6	-1,265.2	102.5	-1,265.2	0.36	0.11	-59.01
8,305.0	0.30	41.70	8,137.6	-1,264.9	103.0	-1,264.9	0.23	-0.11	-34.73
8,396.0	0.30	40.00	8,228.6	-1,264.6	103.3	-1,264.6	0.01	0.00	-1.87
8,431.0	0.30	40.00	8,263.6	-1,264.4	103.4	-1,264.4	0.00	0.00	0.00
HARDLINE 50'S OF NRC 22-9 BHL									

Checked By: _____	Approved By: _____	Date: _____
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