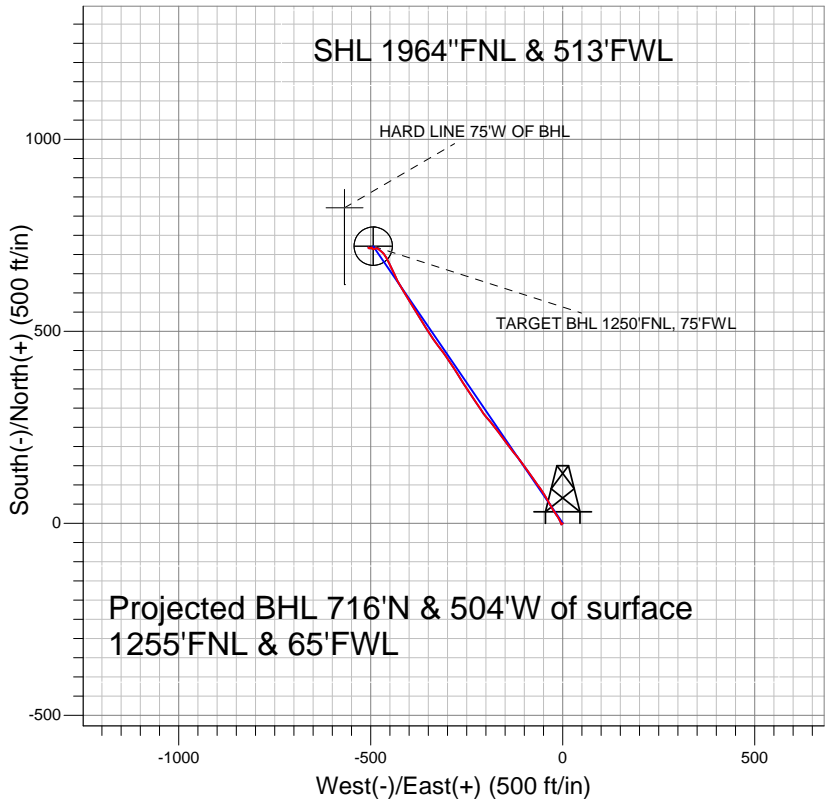


Anadarko, Weld County CO



LEGEND

- △ Five 31-9, Wellbore #1, Plan #1 (9-27-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7480'MD & 7377'TVD @ 876' VS
 0.7 deg Inc 118 deg AZ

Project: SEC.9-T4N-R66W
 Site: Five 31-9 Pad Sec.9-T4N-R66W
 Well: Five 31-9
 Plan: Wellbore #1



Anadarko, Weld County CO

SEC.9-T4N-R66W

Five 31-9 Pad Sec.9-T4N-R66W

Five 31-9

Wellbore #1

Survey: Survey #1

Standard Survey Report

12 October, 2010



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Five 31-9
Project:	SEC.9-T4N-R66W	TVD Reference:	WELL @ 4713.0ft (Original Well Elev)
Site:	Five 31-9 Pad Sec.9-T4N-R66W	MD Reference:	WELL @ 4713.0ft (Original Well Elev)
Well:	Five 31-9	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.9-T4N-R66W, 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	Five 31-9 Pad Sec.9-T4N-R66W		
Site Position:		Northing:	1,363,205.16ft
From:	Lat/Long	Easting:	3,197,659.63ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 41.628 N
		Longitude:	104° 47' 27.744 W
		Grid Convergence:	0.46 °

Well	Five 31-9		
Well Position	+N/-S	0.0 ft	Northing: 1,363,205.14 ft
	+E/-W	0.0 ft	Easting: 3,197,659.63 ft
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft
		Latitude:	40° 19' 41.628 N
		Longitude:	104° 47' 27.744 W
		Ground Level:	4,699.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/27/2010	8.97	67.01	53,167

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	324.88	

Survey Program	Date	10/12/2010			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
587.0	7,480.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
587.0	0.90	225.90	587.0	-3.2	-3.3	-0.7	0.15	0.15	0.00	
682.0	2.20	349.80	682.0	-1.9	-4.2	0.8	2.95	1.37	130.42	
778.0	5.20	335.70	777.7	3.8	-6.3	6.8	3.24	3.13	-14.69	
873.0	6.20	332.20	872.3	12.3	-10.5	16.1	1.11	1.05	-3.68	
968.0	7.50	323.20	966.6	21.8	-16.6	27.4	1.77	1.37	-9.47	
1,063.0	8.70	328.00	1,060.6	32.9	-24.1	40.7	1.45	1.26	5.05	
1,158.0	10.90	331.00	1,154.3	46.8	-32.2	56.8	2.38	2.32	3.16	
1,253.0	12.10	330.20	1,247.3	63.3	-41.5	75.7	1.27	1.26	-0.84	
1,349.0	13.40	326.30	1,341.0	81.3	-52.7	96.8	1.62	1.35	-4.06	
1,444.0	12.90	323.80	1,433.5	99.0	-65.1	118.4	0.80	-0.53	-2.63	
1,539.0	13.80	325.60	1,525.9	116.9	-77.8	140.4	1.04	0.95	1.89	
1,634.0	13.80	324.80	1,618.2	135.5	-90.7	163.0	0.20	0.00	-0.84	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Five 31-9
Project:	SEC.9-T4N-R66W	TVD Reference:	WELL @ 4713.0ft (Original Well Elev)
Site:	Five 31-9 Pad Sec.9-T4N-R66W	MD Reference:	WELL @ 4713.0ft (Original Well Elev)
Well:	Five 31-9	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)	
1,729.0	13.90	322.80	1,710.4	153.9	-104.1	185.8	0.51	0.11	-2.11	
1,824.0	13.40	321.70	1,802.7	171.6	-117.8	208.2	0.59	-0.53	-1.16	
1,920.0	13.40	322.50	1,896.1	189.2	-131.5	230.4	0.19	0.00	0.83	
2,015.0	13.40	322.70	1,988.5	206.7	-144.9	252.4	0.05	0.00	0.21	
2,110.0	13.50	324.20	2,080.9	224.4	-158.0	274.5	0.38	0.11	1.58	
2,205.0	13.10	323.50	2,173.4	242.1	-170.9	296.3	0.45	-0.42	-0.74	
2,300.0	13.10	319.20	2,265.9	258.9	-184.4	317.8	1.03	0.00	-4.53	
2,396.0	13.60	320.50	2,359.3	275.8	-198.7	339.9	0.61	0.52	1.35	
2,491.0	14.60	326.30	2,451.5	294.4	-212.4	363.0	1.82	1.05	6.11	
2,586.0	15.90	326.20	2,543.1	315.2	-226.3	388.0	1.37	1.37	-0.11	
2,681.0	16.50	325.90	2,634.3	337.1	-241.1	414.5	0.64	0.63	-0.32	
2,776.0	16.60	327.60	2,725.4	359.8	-255.9	441.5	0.52	0.11	1.79	
2,871.0	14.40	329.20	2,816.9	381.4	-269.2	466.8	2.36	-2.32	1.68	
2,966.0	15.90	326.00	2,908.6	402.3	-282.6	491.6	1.81	1.58	-3.37	
3,062.0	14.80	326.50	3,001.2	423.4	-296.7	517.0	1.15	-1.15	0.52	
3,157.0	13.70	323.40	3,093.3	442.6	-310.1	540.4	1.41	-1.16	-3.26	
3,252.0	14.40	322.90	3,185.4	461.0	-323.9	563.5	0.75	0.74	-0.53	
3,347.0	14.10	325.30	3,277.5	480.0	-337.6	586.8	0.70	-0.32	2.53	
3,442.0	13.40	328.00	3,369.8	498.8	-350.1	609.4	1.00	-0.74	2.84	
3,537.0	13.30	327.80	3,462.2	517.4	-361.7	631.3	0.12	-0.11	-0.21	
3,632.0	13.60	329.00	3,554.6	536.2	-373.3	653.4	0.43	0.32	1.26	
3,727.0	14.30	328.10	3,646.8	555.8	-385.2	676.2	0.77	0.74	-0.95	
3,823.0	16.30	328.30	3,739.4	577.3	-398.6	701.5	2.08	2.08	0.21	
3,918.0	16.90	329.10	3,830.5	600.5	-412.7	728.6	0.68	0.63	0.84	
4,013.0	16.44	330.30	3,921.5	624.0	-426.4	755.7	0.60	-0.48	1.26	
4,108.0	14.10	335.50	4,013.1	646.2	-437.9	780.5	2.85	-2.46	5.47	
4,203.0	12.70	335.80	4,105.5	666.3	-447.0	802.1	1.48	-1.47	0.32	
4,298.0	11.30	331.80	4,198.4	684.0	-455.7	821.6	1.71	-1.47	-4.21	
4,393.0	8.30	326.50	4,292.1	697.9	-463.8	837.7	3.29	-3.16	-5.58	
4,489.0	7.00	310.70	4,387.2	707.5	-472.1	850.3	2.56	-1.35	-16.46	
4,584.0	5.10	303.60	4,481.7	713.6	-480.0	859.9	2.15	-2.00	-7.47	
4,679.0	2.50	261.20	4,576.5	715.7	-485.6	864.7	3.86	-2.74	-44.63	
4,774.0	0.80	218.70	4,671.4	714.8	-488.0	865.5	2.09	-1.79	-44.74	
4,869.0	0.90	270.20	4,766.4	714.3	-489.2	865.7	0.78	0.11	54.21	
4,964.0	0.80	249.90	4,861.4	714.1	-490.6	866.3	0.33	-0.11	-21.37	
5,059.0	0.80	279.00	4,956.4	714.0	-491.9	866.9	0.42	0.00	30.63	
5,154.0	1.00	244.00	5,051.4	713.7	-493.3	867.5	0.60	0.21	-36.84	
5,251.0	0.80	293.30	5,148.4	713.6	-494.6	868.2	0.80	-0.21	50.82	
5,302.6	0.58	297.96	5,200.0	713.9	-495.2	868.8	0.44	-0.43	9.02	
TARGET BHL 1250'FNL, 75'FWL										
5,346.0	0.40	305.80	5,243.4	714.1	-495.5	869.1	0.44	-0.41	18.08	
5,441.0	0.70	335.50	5,338.4	714.8	-496.0	870.0	0.43	0.32	31.26	
5,536.0	0.50	0.00	5,433.4	715.7	-496.3	870.9	0.34	-0.21	25.79	
5,632.0	0.50	4.00	5,529.4	716.6	-496.2	871.6	0.04	0.00	4.17	
5,727.0	0.30	293.60	5,624.4	717.1	-496.4	872.1	0.51	-0.21	-74.11	
5,822.0	0.40	295.80	5,719.4	717.3	-497.0	872.6	0.11	0.11	2.32	
5,917.0	0.40	284.80	5,814.4	717.5	-497.6	873.2	0.08	0.00	-11.58	
6,012.0	0.50	266.60	5,909.4	717.6	-498.3	873.6	0.18	0.11	-19.16	
6,107.0	0.50	248.70	6,004.4	717.4	-499.1	874.0	0.16	0.00	-18.84	
6,203.0	0.50	224.20	6,100.4	717.0	-499.8	874.0	0.22	0.00	-25.52	
6,298.0	0.60	247.40	6,195.3	716.5	-500.5	874.0	0.25	0.11	24.42	
6,393.0	0.30	236.60	6,290.3	716.2	-501.2	874.1	0.33	-0.32	-11.37	
6,488.0	0.30	244.30	6,385.3	715.9	-501.6	874.2	0.04	0.00	8.11	
6,583.0	0.40	258.30	6,480.3	715.7	-502.2	874.3	0.14	0.11	14.74	

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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)
6,678.0	0.40	265.40	6,575.3	715.6	-502.8	874.6	0.05	0.00	7.47
6,774.0	0.30	269.40	6,671.3	715.6	-503.4	875.0	0.11	-0.10	4.17
6,869.0	0.40	260.60	6,766.3	715.6	-504.0	875.2	0.12	0.11	-9.26
6,964.0	0.30	288.20	6,861.3	715.6	-504.6	875.6	0.20	-0.11	29.05
6,992.6	0.34	303.86	6,890.0	715.7	-504.7	875.7	0.34	0.14	54.68
TARGET CIRCLE 1250'FNL, 75'FWL									
7,059.0	0.50	325.90	6,956.3	716.0	-505.0	876.2	0.34	0.24	33.21
7,154.0	1.10	330.50	7,051.3	717.1	-505.7	877.5	0.63	0.63	4.84
7,249.0	0.50	99.00	7,146.3	717.9	-505.8	878.1	1.54	-0.63	135.26
7,344.0	0.60	151.70	7,241.3	717.4	-505.1	877.4	0.52	0.11	55.47
7,426.0	0.70	118.00	7,323.3	716.8	-504.5	876.5	0.47	0.12	-41.10
7,471.4	0.70	118.00	7,368.7	716.5	-504.0	876.0	0.00	0.00	0.00
HARD LINE 75'W OF BHL									
7,480.0	0.70	118.00	7,377.3	716.4	-503.9	875.9	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____