

Well Name: **Strear 31-10**

Surface Location: Strear 18-10-9F Pad Sec.10-T2N-R67W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

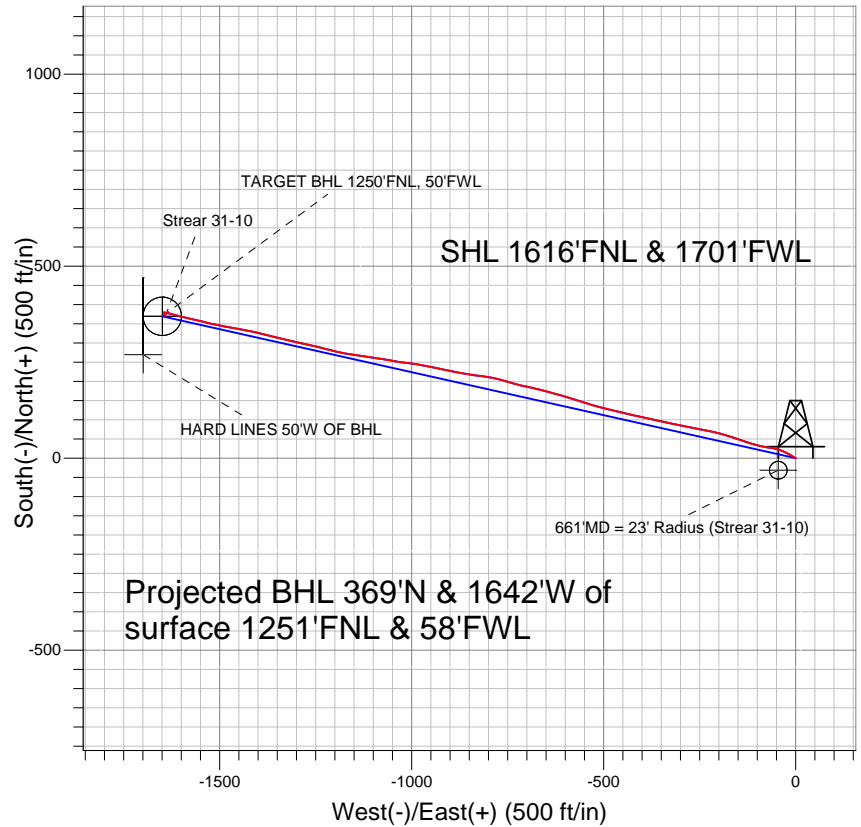
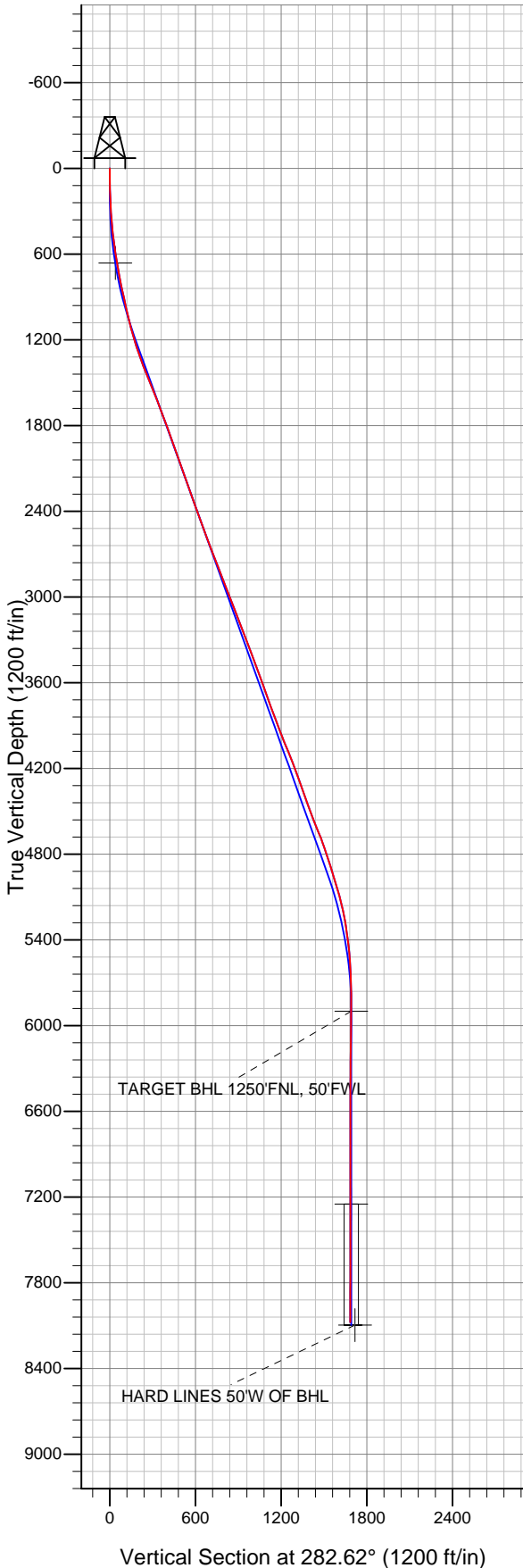
Ground Elevation: 4942.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1300082.09	3173351.82	40.155456	-104.879807

Original Well Elev WELL @ 4957.0ft (Original Well Elev)

Slot

Anadarko, Weld County CO



LEGEND

- △ Strear 31-10, Wellbore #1, Plan #1 (8-23-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
8358'MD & 8076'TVD @ 1683'VS
1.2 deg Inc 182.4 deg AZ

Project: SEC.10-T2N-R67W
Site: Strear 18-10-9F Pad Sec.10-T2N-R67W
Well: Strear 31-10
Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.10-T2N-R67W

Strear 18-10-9F Pad Sec.10-T2N-R67W

Strear 31-10

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 September, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Strear 31-10
Project:	SEC.10-T2N-R67W	TVD Reference:	WELL @ 4957.0ft (Original Well Elev)
Site:	Strear 18-10-9F Pad Sec.10-T2N-R67W	MD Reference:	WELL @ 4957.0ft (Original Well Elev)
Well:	Strear 31-10	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.10-T2N-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	Strear 18-10-9F Pad Sec.10-T2N-R67W				
Site Position:		Northing:	1,300,092.30ft	Latitude:	40.155484
From:	Lat/Long	Easting:	3,173,351.75ft	Longitude:	-104.879807
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.40 °

Well	Strear 31-10					
Well Position	+N-S	0.0 ft	Northing:	1,300,082.09 ft	Latitude:	40.155456
	+E-W	0.0 ft	Easting:	3,173,351.82 ft	Longitude:	-104.879807
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,942.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/30/2011	8.88	66.83	52,967

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	282.62	

Survey Program	Date	9/30/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
148.0	8,358.0	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	
148.0	1.20	293.30	148.0	0.6	-1.4	1.5	0.81	0.81	0.00	
236.0	2.20	302.80	235.9	1.9	-3.7	4.0	1.18	1.14	10.80	
328.0	4.40	301.90	327.8	4.7	-8.2	9.0	2.39	2.39	-0.98	
420.0	5.90	299.10	419.4	8.9	-15.3	16.9	1.65	1.63	-3.04	
512.0	7.60	296.80	510.8	13.9	-24.9	27.3	1.87	1.85	-2.50	
604.0	9.10	291.90	601.8	19.4	-37.0	40.4	1.80	1.63	-5.33	
656.0	9.80	287.50	653.1	22.2	-45.1	48.9	1.93	1.35	-8.46	
663.4	9.86	286.99	660.4	22.6	-46.3	50.1	1.44	0.82	-6.92	
661'MD = 23' Radius (Strear 31-10)										
726.0	10.40	282.90	722.0	25.4	-56.9	61.1	1.44	0.86	-6.53	
818.0	11.30	277.10	812.4	28.4	-74.0	78.4	1.54	0.98	-6.30	
912.0	12.50	282.60	904.3	31.8	-93.0	97.7	1.76	1.28	5.85	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Strear 31-10
Project:	SEC.10-T2N-R67W	TVD Reference:	WELL @ 4957.0ft (Original Well Elev)
Site:	Strear 18-10-9F Pad Sec.10-T2N-R67W	MD Reference:	WELL @ 4957.0ft (Original Well Elev)
Well:	Strear 31-10	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)
1,007.0	12.90	288.20	997.0	37.3	-113.1	118.6	1.36	0.42	5.89
1,103.0	14.10	288.00	1,090.4	44.3	-134.4	140.9	1.25	1.25	-0.21
1,198.0	16.70	288.20	1,182.0	52.1	-158.4	166.0	2.74	2.74	0.21
1,293.0	18.60	286.40	1,272.5	60.7	-185.9	194.7	2.08	2.00	-1.89
1,388.0	20.60	282.60	1,362.0	68.6	-216.8	226.5	2.50	2.11	-4.00
1,483.0	21.90	281.30	1,450.5	75.7	-250.5	260.9	1.46	1.37	-1.37
1,578.0	21.90	281.50	1,538.7	82.7	-285.2	296.4	0.08	0.00	0.21
1,674.0	21.40	280.80	1,627.9	89.6	-319.9	331.8	0.59	-0.52	-0.73
1,769.0	20.70	282.00	1,716.5	96.3	-353.4	365.9	0.87	-0.74	1.26
1,864.0	20.30	282.60	1,805.5	103.4	-385.9	399.2	0.48	-0.42	0.63
1,959.0	19.50	283.80	1,894.9	110.8	-417.4	431.5	0.95	-0.84	1.26
2,054.0	19.60	282.20	1,984.4	117.9	-448.3	463.3	0.57	0.11	-1.68
2,150.0	19.50	284.30	2,074.8	125.3	-479.6	495.4	0.74	-0.10	2.19
2,245.0	19.30	284.00	2,164.5	133.0	-510.2	526.9	0.24	-0.21	-0.32
2,342.0	20.70	287.80	2,255.6	142.1	-542.1	560.0	1.97	1.44	3.92
2,437.0	19.80	288.00	2,344.7	152.2	-573.4	592.8	0.95	-0.95	0.21
2,532.0	19.30	284.50	2,434.3	161.1	-603.9	624.5	1.34	-0.53	-3.68
2,628.0	19.70	287.30	2,524.8	169.9	-634.7	656.5	1.06	0.42	2.92
2,723.0	20.10	283.10	2,614.1	178.4	-665.9	688.8	1.56	0.42	-4.42
2,818.0	22.20	282.00	2,702.7	185.8	-699.3	723.0	2.25	2.21	-1.16
2,913.0	21.30	285.90	2,790.9	194.3	-733.5	758.2	1.79	-0.95	4.11
3,009.0	21.30	285.40	2,880.4	203.7	-767.1	793.0	0.19	0.00	-0.52
3,104.0	21.80	278.90	2,968.7	211.0	-801.1	827.9	2.57	0.53	-6.84
3,199.0	20.00	276.90	3,057.5	215.7	-834.7	861.6	2.04	-1.89	-2.11
3,294.0	21.70	281.00	3,146.3	221.0	-868.1	895.4	2.36	1.79	4.32
3,389.0	21.70	280.80	3,234.5	227.6	-902.6	930.5	0.08	0.00	-0.21
3,484.0	20.40	282.40	3,323.2	234.5	-936.0	964.6	1.50	-1.37	1.68
3,580.0	20.30	281.20	3,413.2	241.3	-968.7	998.0	0.45	-0.10	-1.25
3,675.0	19.90	276.80	3,502.4	246.4	-1,000.9	1,030.5	1.65	-0.42	-4.63
3,770.0	19.60	278.70	3,591.8	250.7	-1,032.7	1,062.5	0.75	-0.32	2.00
3,865.0	20.40	279.60	3,681.1	255.9	-1,064.8	1,094.9	0.90	0.84	0.95
3,960.0	20.40	278.50	3,770.1	261.1	-1,097.5	1,128.0	0.40	0.00	-1.16
4,055.0	21.10	278.40	3,859.0	266.0	-1,130.8	1,161.6	0.74	0.74	-0.11
4,150.0	20.70	279.40	3,947.7	271.3	-1,164.2	1,195.4	0.56	-0.42	1.05
4,245.0	22.00	283.80	4,036.2	278.3	-1,198.1	1,229.9	2.17	1.37	4.63
4,340.0	22.00	283.80	4,124.3	286.8	-1,232.6	1,265.5	0.00	0.00	0.00
4,436.0	20.90	282.60	4,213.6	294.8	-1,266.8	1,300.6	1.23	-1.15	-1.25
4,531.0	19.10	281.90	4,302.9	301.7	-1,298.6	1,333.1	1.91	-1.89	-0.74
4,626.0	18.60	284.00	4,392.8	308.6	-1,328.5	1,363.8	0.89	-0.53	2.21
4,721.0	21.20	283.60	4,482.1	316.3	-1,359.9	1,396.1	2.74	2.74	-0.42
4,816.0	21.90	284.30	4,570.5	324.7	-1,393.7	1,431.0	0.78	0.74	0.74
4,912.0	21.50	280.80	4,659.7	332.4	-1,428.4	1,466.5	1.41	-0.42	-3.65
5,007.0	19.30	279.10	4,748.7	338.1	-1,461.0	1,499.6	2.40	-2.32	-1.79
5,102.0	17.90	281.50	4,838.8	343.5	-1,490.8	1,529.8	1.68	-1.47	2.53
5,197.0	17.10	283.60	4,929.4	349.7	-1,518.7	1,558.4	1.07	-0.84	2.21
5,296.0	16.90	282.70	5,024.1	356.3	-1,546.9	1,587.3	0.33	-0.20	-0.91
5,391.0	15.10	282.60	5,115.4	362.1	-1,572.4	1,613.5	1.89	-1.89	-0.11
5,486.0	11.30	283.10	5,207.8	366.9	-1,593.6	1,635.2	4.00	-4.00	0.53
5,581.0	8.80	285.20	5,301.4	370.9	-1,609.6	1,651.8	2.66	-2.63	2.21
5,676.0	7.30	286.30	5,395.4	374.5	-1,622.4	1,665.1	1.59	-1.58	1.16
5,772.0	5.70	282.60	5,490.8	377.2	-1,632.9	1,675.9	1.72	-1.67	-3.85
5,867.0	3.60	277.50	5,585.5	378.6	-1,640.5	1,683.6	2.25	-2.21	-5.37
5,962.0	1.50	282.90	5,680.4	379.3	-1,644.7	1,687.8	2.22	-2.21	5.68
6,057.0	0.40	201.50	5,775.4	379.3	-1,646.0	1,689.1	1.57	-1.16	-85.68

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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)
6,152.0	0.40	227.90	5,870.4	378.8	-1,646.4	1,689.4	0.19	0.00	27.79
6,181.7	0.46	193.74	5,900.1	378.6	-1,646.5	1,689.4	0.87	0.20	-114.99
TARGET BHL 1250'FNL, 50'FWL									
6,248.0	0.90	159.90	5,966.4	377.8	-1,646.4	1,689.1	0.87	0.66	-51.05
6,343.0	0.60	124.40	6,061.4	376.8	-1,645.7	1,688.3	0.57	-0.32	-37.37
6,438.0	0.80	110.30	6,156.4	376.3	-1,644.7	1,687.2	0.28	0.21	-14.84
6,533.0	0.40	97.60	6,251.4	376.1	-1,643.7	1,686.2	0.44	-0.42	-13.37
6,628.0	0.50	101.90	6,346.4	375.9	-1,643.0	1,685.4	0.11	0.11	4.53
6,723.0	0.40	104.20	6,441.4	375.8	-1,642.3	1,684.7	0.11	-0.11	2.42
6,818.0	0.20	315.30	6,536.4	375.8	-1,642.1	1,684.5	0.61	-0.21	-156.74
6,914.0	0.20	202.20	6,632.4	375.8	-1,642.2	1,684.7	0.35	0.00	-117.81
7,009.0	0.20	246.70	6,727.4	375.5	-1,642.4	1,684.8	0.16	0.00	46.84
7,104.0	0.20	39.10	6,822.4	375.6	-1,642.5	1,684.9	0.41	0.00	160.42
7,294.0	0.20	44.00	7,012.4	376.1	-1,642.1	1,684.6	0.01	0.00	2.58
7,389.0	0.30	192.60	7,107.4	376.0	-1,642.0	1,684.5	0.51	0.11	156.42
7,485.0	0.30	252.30	7,203.3	375.7	-1,642.3	1,684.7	0.31	0.00	62.19
7,531.7	0.32	223.29	7,250.1	375.5	-1,642.5	1,684.9	0.33	0.03	-62.11
TARGET CIRCLE 1250'FNL & 50'FWL									
7,580.0	0.40	201.20	7,298.3	375.3	-1,642.6	1,685.0	0.33	0.17	-45.74
7,675.0	0.30	167.80	7,393.3	374.7	-1,642.7	1,684.9	0.23	-0.11	-35.16
7,770.0	0.20	169.00	7,488.3	374.3	-1,642.6	1,684.7	0.11	-0.11	1.26
7,865.0	0.10	100.10	7,583.3	374.1	-1,642.5	1,684.6	0.20	-0.11	-72.53
7,960.0	0.30	175.00	7,678.3	373.9	-1,642.4	1,684.4	0.31	0.21	78.84
8,056.0	0.40	154.60	7,774.3	373.3	-1,642.2	1,684.1	0.16	0.10	-21.25
8,141.0	0.50	171.50	7,859.3	372.7	-1,642.1	1,683.8	0.19	0.12	19.88
8,237.0	1.10	173.10	7,955.3	371.4	-1,641.9	1,683.4	0.63	0.63	1.67
8,308.0	1.20	182.40	8,026.3	369.9	-1,641.8	1,683.0	0.30	0.14	13.10
8,358.0	1.20	182.40	8,076.3	368.9	-1,641.9	1,682.8	0.00	0.00	0.00
HARD LINES 50'W OF BHL									

Checked By: _____	Approved By: _____	Date: _____
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