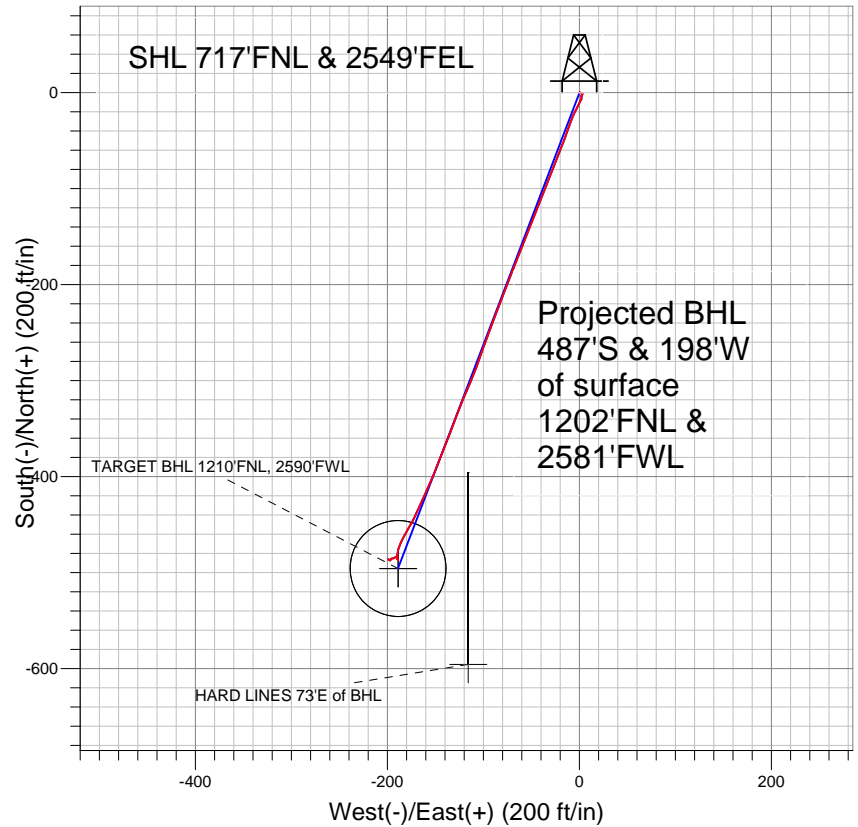


Anadarko, Weld County CO



LEGEND

- Pierson 21-34, Wellbore #1, Plan #1 (1-11-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7916'MD & 7868'TVD @ 526'VS
0.7 deg Inc 119.0 deg AZ

Project: SEC.34-T4N-R66W
Site: Pierson 21-34 Pad Sec.34-T4N-R66W
Well: Pierson 21-34
Plan: Wellbore #1



Directional

Anadarko, Weld County CO

SEC.34-T4N-R66W

Pierson 21-34 Pad Sec.34-T4N-R66W

Pierson 21-34

Wellbore #1

Survey: Survey #1

Standard Survey Report

21 March, 2011

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Pierson 21-34
Project:	SEC.34-T4N-R66W	TVD Reference:	WELL @ 4797.0ft (Original Well Elev)
Site:	Pierson 21-34 Pad Sec.34-T4N-R66W	MD Reference:	WELL @ 4797.0ft (Original Well Elev)
Well:	Pierson 21-34	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.34-T4N-R66W		
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	Pierson 21-34 Pad Sec.34-T4N-R66W		
Site Position:		Northing:	1,343,327.65 ft
From:	Lat/Long	Easting:	3,205,642.81 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 16' 24.557 N
		Longitude:	104° 45' 46.800 W
		Grid Convergence:	0.48 °

Well	Pierson 21-34		
Well Position	+N-S	0.0 ft	Northing: 1,343,327.63 ft
	+E-W	0.0 ft	Easting: 3,205,642.81 ft
Position Uncertainty		0.0 ft	Wellhead Elevation: ft
			Latitude: 40° 16' 24.557 N
			Longitude: 104° 45' 46.800 W
			Ground Level: 4,783.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/21/2011	8.91	66.96	53,107

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	200.86	

Survey Program	Date	3/21/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
83.0	7,916.0	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	
83.0	0.40	98.50	83.0	0.0	0.3	-0.1	0.48	0.48	0.00	
207.0	0.40	107.40	207.0	-0.2	1.1	-0.2	0.05	0.00	7.18	
331.0	0.80	114.20	331.0	-0.7	2.3	-0.2	0.33	0.32	5.48	
452.0	0.40	136.10	452.0	-1.4	3.4	0.1	0.38	-0.33	18.10	
510.0	0.90	232.30	510.0	-1.8	3.2	0.5	1.76	0.86	165.86	
597.0	0.20	232.20	597.0	-2.3	2.5	1.3	0.80	-0.80	-0.11	
688.0	0.30	211.60	688.0	-2.6	2.3	1.6	0.15	0.11	-22.64	
777.0	0.20	207.90	777.0	-2.9	2.1	2.0	0.11	-0.11	-4.16	
865.0	0.40	171.30	865.0	-3.4	2.0	2.4	0.30	0.23	-41.59	
954.0	0.50	162.40	954.0	-4.1	2.2	3.0	0.14	0.11	-10.00	
1,043.0	0.10	194.00	1,043.0	-4.5	2.3	3.4	0.47	-0.45	35.51	
1,131.0	0.30	194.60	1,131.0	-4.8	2.2	3.7	0.23	0.23	0.68	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Pierson 21-34
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Site:	Pierson 21-34 Pad Sec.34-T4N-R66W	MD Reference:	WELL @ 4797.0ft (Original Well Elev)
Well:	Pierson 21-34	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)
1,220.0	0.50	184.50	1,220.0	-5.4	2.1	4.3	0.24	0.22	-11.35
1,309.0	0.30	144.60	1,309.0	-6.0	2.2	4.8	0.37	-0.22	-44.83
1,397.0	0.80	202.40	1,397.0	-6.7	2.1	5.5	0.78	0.57	65.68
1,486.0	2.40	211.00	1,485.9	-8.9	0.9	8.0	1.81	1.80	9.66
1,575.0	4.20	204.90	1,574.8	-13.5	-1.4	13.1	2.06	2.02	-6.85
1,663.0	6.00	207.10	1,662.4	-20.5	-4.8	20.9	2.06	2.05	2.50
1,752.0	7.30	199.60	1,750.8	-30.0	-8.9	31.1	1.75	1.46	-8.43
1,840.0	8.70	200.00	1,838.0	-41.5	-13.0	43.4	1.59	1.59	0.45
1,929.0	9.90	201.30	1,925.8	-54.9	-18.1	57.8	1.37	1.35	1.46
2,018.0	10.80	203.10	2,013.3	-69.7	-24.1	73.8	1.07	1.01	2.02
2,106.0	10.80	200.20	2,099.8	-85.1	-30.2	90.2	0.62	0.00	-3.30
2,195.0	10.20	200.50	2,187.3	-100.3	-35.9	106.5	0.68	-0.67	0.34
2,284.0	10.00	201.30	2,274.9	-114.8	-41.4	122.1	0.27	-0.22	0.90
2,372.0	10.80	203.20	2,361.5	-129.5	-47.4	137.9	0.99	0.91	2.16
2,461.0	11.20	201.20	2,448.8	-145.3	-53.9	154.9	0.62	0.45	-2.25
2,550.0	11.30	201.00	2,536.1	-161.5	-60.1	172.3	0.12	0.11	-0.22
2,638.0	11.80	201.90	2,622.3	-177.9	-66.6	189.9	0.60	0.57	1.02
2,727.0	12.80	201.70	2,709.3	-195.5	-73.6	208.9	1.12	1.12	-0.22
2,816.0	12.80	201.80	2,796.1	-213.8	-80.9	228.6	0.02	0.00	0.11
2,904.0	12.60	199.50	2,881.9	-231.9	-87.7	247.9	0.62	-0.23	-2.61
2,993.0	12.00	200.90	2,968.9	-249.7	-94.3	266.9	0.75	-0.67	1.57
3,081.0	13.20	198.80	3,054.8	-267.7	-100.8	286.1	1.46	1.36	-2.39
3,170.0	12.60	200.40	3,141.5	-286.4	-107.4	305.9	0.78	-0.67	1.80
3,259.0	12.30	204.20	3,228.4	-304.2	-114.7	325.1	0.98	-0.34	4.27
3,347.0	11.70	201.20	3,314.5	-321.1	-121.8	343.4	0.98	-0.68	-3.41
3,436.0	11.60	202.70	3,401.7	-337.7	-128.5	361.3	0.36	-0.11	1.69
3,525.0	11.20	199.00	3,488.9	-354.2	-134.7	378.9	0.94	-0.45	-4.16
3,613.0	11.30	202.80	3,575.2	-370.2	-140.9	396.1	0.85	0.11	4.32
3,702.0	10.10	200.20	3,662.7	-385.5	-146.9	412.6	1.45	-1.35	-2.92
3,791.0	11.10	203.60	3,750.2	-400.7	-153.1	429.0	1.32	1.12	3.82
3,879.0	11.20	203.40	3,836.5	-416.3	-159.9	446.0	0.12	0.11	-0.23
3,968.0	10.60	205.50	3,923.9	-431.7	-166.8	462.8	0.81	-0.67	2.36
4,056.0	9.30	207.20	4,010.6	-445.3	-173.5	477.9	1.51	-1.48	1.93
4,145.0	8.20	208.90	4,098.5	-457.2	-179.9	491.3	1.27	-1.24	1.91
4,234.0	6.00	205.50	4,186.8	-467.0	-185.0	502.2	2.52	-2.47	-3.82
4,322.0	5.20	200.80	4,274.4	-474.9	-188.4	510.8	1.05	-0.91	-5.34
4,411.0	3.40	179.70	4,363.2	-481.3	-189.8	517.3	2.66	-2.02	-23.71
4,500.0	2.10	167.20	4,452.1	-485.5	-189.4	521.1	1.60	-1.46	-14.04
4,588.0	0.50	130.30	4,540.0	-487.3	-188.8	522.6	1.96	-1.82	-41.93
4,721.0	0.50	310.90	4,673.0	-487.3	-188.8	522.6	0.75	0.00	-134.89
4,854.0	0.40	324.50	4,806.0	-486.6	-189.5	522.1	0.11	-0.08	10.23
4,987.0	0.40	341.40	4,939.0	-485.7	-189.9	521.5	0.09	0.00	12.71
5,047.9	0.40	342.82	4,999.9	-485.3	-190.0	521.2	0.02	0.00	2.33
TARGET BHL 1210'FNL, 2590'FWL									
5,120.0	0.40	344.50	5,072.0	-484.9	-190.2	520.8	0.02	0.00	2.33
5,253.0	0.40	5.30	5,205.0	-484.0	-190.2	520.0	0.11	0.00	15.64
5,386.0	0.40	22.60	5,338.0	-483.1	-190.0	519.1	0.09	0.00	13.01
5,519.0	0.09	213.30	5,471.0	-482.7	-189.9	518.7	0.37	-0.23	-127.29
5,652.0	0.10	257.50	5,604.0	-482.8	-190.1	518.9	0.05	0.01	33.23
5,785.0	0.50	233.10	5,737.0	-483.2	-190.6	519.4	0.31	0.30	-18.35
5,918.0	0.80	240.10	5,870.0	-484.0	-191.9	520.6	0.23	0.23	5.26
6,051.0	0.20	215.90	6,003.0	-484.7	-192.9	521.6	0.47	-0.45	-18.20
6,184.0	0.30	238.60	6,136.0	-485.0	-193.3	522.1	0.10	0.08	17.07
6,317.0	0.40	253.20	6,269.0	-485.4	-194.0	522.6	0.10	0.08	10.98

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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)
6,450.0	0.40	268.80	6,402.0	-485.5	-194.9	523.1	0.08	0.00	11.73
6,583.0	0.30	269.30	6,535.0	-485.5	-195.8	523.4	0.08	-0.08	0.38
6,716.0	0.20	221.80	6,668.0	-485.7	-196.3	523.7	0.17	-0.08	-35.71
6,849.0	0.10	227.80	6,801.0	-485.9	-196.5	524.1	0.08	-0.08	4.51
6,982.0	0.50	189.40	6,934.0	-486.6	-196.7	524.7	0.32	0.30	-28.87
7,010.0	0.44	188.61	6,962.0	-486.8	-196.7	525.0	0.23	-0.23	-2.82
TARGET CIRCLE 1210'FNL & 2590'FWL									
7,115.0	0.20	181.20	7,067.0	-487.4	-196.8	525.5	0.23	-0.23	-7.06
7,247.0	0.40	291.30	7,199.0	-487.5	-197.2	525.7	0.38	0.15	83.41
7,380.0	0.50	304.60	7,332.0	-487.0	-198.1	525.6	0.11	0.08	10.00
7,513.0	0.30	323.70	7,465.0	-486.3	-198.8	525.3	0.18	-0.15	14.36
7,646.0	0.10	233.60	7,598.0	-486.1	-199.1	525.2	0.24	-0.15	-67.74
7,779.0	0.40	144.20	7,731.0	-486.6	-198.9	525.5	0.31	0.23	-67.22
7,870.0	0.70	119.00	7,822.0	-487.1	-198.3	525.8	0.42	0.33	-27.69
7,903.5	0.70	119.00	7,855.5	-487.3	-197.9	525.8	0.00	0.00	0.00
HARD LINES 73'E of BHL									
7,916.0	0.70	119.00	7,868.0	-487.4	-197.8	525.9	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____