

Well Name: **Spaur 17-7**

Surface Location: Spaur 8-7 Pad Sec.7-T4N-R67W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

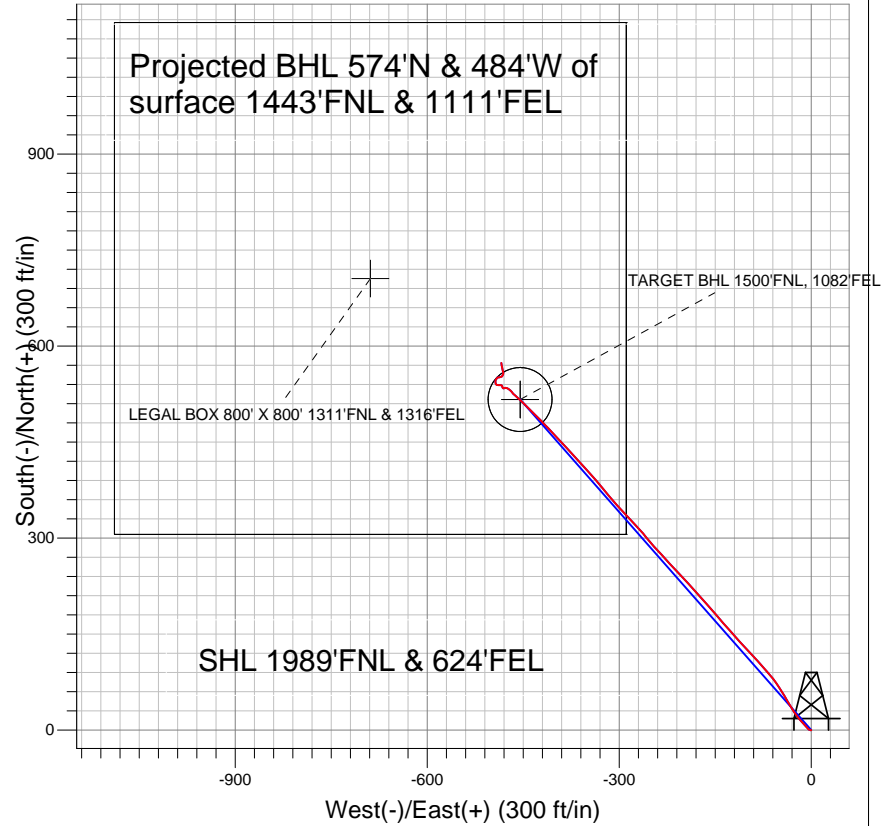
Ground Elevation: 4837.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1363379.93	3160030.73	40° 19' 46.045 N	104° 55' 33.593 W

Original Well Elev WELL @ 4851.0ft (Original Well Elev)

Slot

Anadarko, Weld County CO

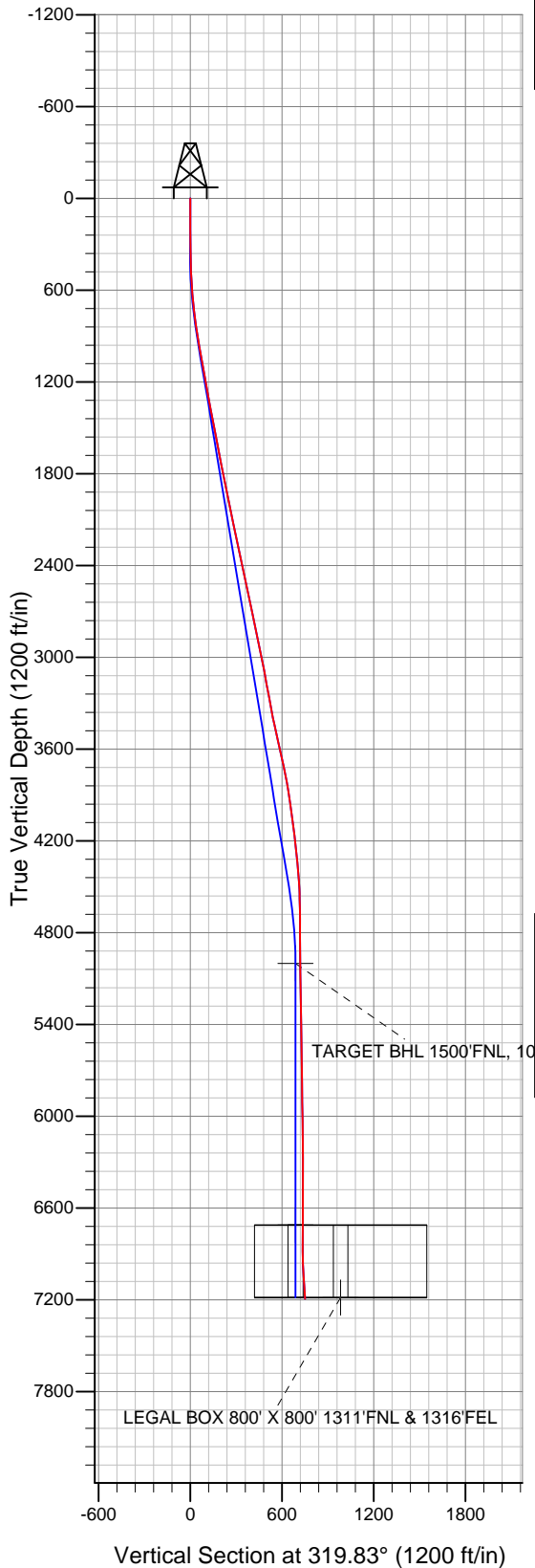


LEGEND

- Spaur 17-7, Wellbore #1, Plan #1 (12-20-10) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
7260'MD & 7193'TVD @ 751' VS
4.3 deg Inc 350.6 deg AZ



Project: SEC.7-T4N-R67W
Site: Spaur 8-7 Pad Sec.7-T4N-R67W
Well: Spaur 17-7
Plan: Wellbore #1



Anadarko, Weld County CO

SEC.7-T4N-R67W

Spaur 8-7 Pad Sec.7-T4N-R67W

Spaur 17-7

Wellbore #1

Survey: Survey #1

Standard Survey Report

11 January, 2011



Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Spaur 17-7
Project:	SEC.7-T4N-R67W	TVD Reference:	WELL @ 4851.0ft (Original Well Elev)
Site:	Spaur 8-7 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Well:	Spaur 17-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.7-T4N-R67W		
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	Spaur 8-7 Pad Sec.7-T4N-R67W		
Site Position:		Northing:	1,363,379.94 ft
From:	Lat/Long	Easting:	3,160,030.73 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40° 19' 46.045 N
		Longitude:	104° 55' 33.593 W
		Grid Convergence:	0.37 °

Well	Spaur 17-7		
Well Position	+N-S	0.0 ft	Northing: 1,363,379.93 ft
	+E-W	0.0 ft	Easting: 3,160,030.73 ft
Position Uncertainty		0.0 ft	Wellhead Elevation: ft
			Latitude: 40° 19' 46.045 N
			Longitude: 104° 55' 33.593 W
			Ground Level: 4,837.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/8/2010	9.01	66.98	53,131

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	319.83	

Survey Program	Date	1/11/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
108.0	7,260.0	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	
108.0	0.50	226.90	108.0	-0.3	-0.3	0.0	0.46	0.46	0.00	
201.0	0.70	307.80	201.0	-0.3	-1.1	0.5	0.85	0.22	86.99	
294.0	0.70	289.60	294.0	0.3	-2.1	1.6	0.24	0.00	-19.57	
402.0	1.10	295.30	402.0	1.0	-3.6	3.1	0.38	0.37	5.28	
491.0	2.30	317.80	490.9	2.6	-5.6	5.6	1.52	1.35	25.28	
579.0	4.00	317.90	578.8	6.2	-8.8	10.5	1.93	1.93	0.11	
668.0	5.50	317.40	667.5	11.7	-13.8	17.8	1.69	1.69	-0.56	
730.0	6.70	320.80	729.1	16.7	-18.1	24.4	2.02	1.94	5.48	
771.0	7.20	320.70	769.8	20.5	-21.3	29.4	1.22	1.22	-0.24	
846.0	7.90	326.80	844.2	28.5	-27.1	39.2	1.42	0.93	8.13	
934.0	9.70	330.50	931.1	40.0	-34.0	52.5	2.14	2.05	4.20	
1,023.0	10.40	329.20	1,018.8	53.4	-41.8	67.8	0.83	0.79	-1.46	

Company:	Anadarko, Weld County CO	Local Co-ordinate Reference:	Well Spaur 17-7
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Site:	Spaur 8-7 Pad Sec.7-T4N-R67W	MD Reference:	WELL @ 4851.0ft (Original Well Elev)
Well:	Spaur 17-7	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)
1,112.0	10.40	327.70	1,106.3	67.1	-50.2	83.7	0.30	0.00	-1.69
1,200.0	10.50	321.10	1,192.9	80.0	-59.5	99.5	1.36	0.11	-7.50
1,289.0	10.10	318.50	1,280.4	92.2	-69.8	115.5	0.69	-0.45	-2.92
1,378.0	10.50	317.90	1,368.0	104.1	-80.4	131.4	0.47	0.45	-0.67
1,466.0	10.90	317.20	1,454.5	116.1	-91.4	147.7	0.48	0.45	-0.80
1,555.0	11.00	317.40	1,541.8	128.5	-102.9	164.6	0.12	0.11	0.22
1,643.0	11.40	317.90	1,628.2	141.2	-114.4	181.7	0.47	0.45	0.57
1,732.0	11.20	318.40	1,715.4	154.2	-126.0	199.1	0.25	-0.22	0.56
1,821.0	11.30	318.70	1,802.7	167.2	-137.5	216.4	0.13	0.11	0.34
1,909.0	10.90	319.20	1,889.1	179.9	-148.6	233.4	0.47	-0.45	0.57
1,998.0	11.30	318.70	1,976.4	192.9	-159.9	250.5	0.46	0.45	-0.56
2,087.0	11.40	318.30	2,063.7	206.0	-171.5	268.0	0.14	0.11	-0.45
2,175.0	11.40	317.70	2,149.9	218.9	-183.1	285.4	0.13	0.00	-0.68
2,264.0	12.00	316.90	2,237.1	232.2	-195.4	303.4	0.70	0.67	-0.90
2,353.0	12.80	317.90	2,324.0	246.2	-208.3	322.5	0.93	0.90	1.12
2,439.0	12.70	317.10	2,407.9	260.2	-221.1	341.5	0.24	-0.12	-0.93
2,528.0	12.00	317.40	2,494.8	274.2	-234.1	360.5	0.79	-0.79	0.34
2,615.0	11.00	317.50	2,580.1	287.0	-245.8	377.8	1.15	-1.15	0.11
2,701.0	12.50	321.60	2,664.3	300.3	-257.1	395.3	2.00	1.74	4.77
2,786.0	12.10	315.70	2,747.3	313.9	-269.0	413.4	1.55	-0.47	-6.94
2,869.0	12.40	317.90	2,828.5	326.8	-281.1	431.0	0.67	0.36	2.65
2,958.0	11.70	317.50	2,915.5	340.5	-293.6	449.6	0.79	-0.79	-0.45
3,046.0	11.30	318.60	3,001.7	353.5	-305.3	467.1	0.52	-0.45	1.25
3,135.0	10.40	318.70	3,089.1	366.1	-316.4	483.9	1.01	-1.01	0.11
3,224.0	10.50	322.70	3,176.7	378.6	-326.6	500.0	0.82	0.11	4.49
3,312.0	10.30	318.10	3,263.2	390.8	-336.7	515.9	0.97	-0.23	-5.23
3,401.0	10.70	318.00	3,350.7	402.9	-347.6	532.1	0.45	0.45	-0.11
3,490.0	12.50	317.70	3,437.9	416.2	-359.6	550.0	2.02	2.02	-0.34
3,578.0	12.60	317.20	3,523.8	430.3	-372.5	569.1	0.17	0.11	-0.57
3,667.0	12.60	316.90	3,610.7	444.5	-385.7	588.5	0.07	0.00	-0.34
3,755.0	12.20	317.90	3,696.6	458.4	-398.5	607.3	0.52	-0.45	1.14
3,844.0	11.10	316.40	3,783.8	471.6	-410.7	625.3	1.28	-1.24	-1.69
3,933.0	9.30	314.50	3,871.4	482.8	-421.8	641.0	2.06	-2.02	-2.13
4,021.0	8.30	315.50	3,958.3	492.3	-431.3	654.4	1.15	-1.14	1.14
4,110.0	7.40	315.70	4,046.5	501.0	-439.8	666.5	1.01	-1.01	0.22
4,199.0	7.00	314.90	4,134.8	508.9	-447.7	677.7	0.46	-0.45	-0.90
4,287.0	6.60	312.70	4,222.2	516.1	-455.2	688.0	0.54	-0.45	-2.50
4,376.0	6.00	311.70	4,310.6	522.7	-462.4	697.7	0.69	-0.67	-1.12
4,465.0	4.70	318.40	4,399.2	528.5	-468.3	705.9	1.62	-1.46	7.53
4,553.0	3.60	305.90	4,487.0	532.8	-472.9	712.2	1.61	-1.25	-14.20
4,642.0	1.70	278.00	4,575.9	534.7	-476.5	715.9	2.52	-2.13	-31.35
4,775.0	0.60	243.60	4,708.9	534.6	-479.1	717.6	0.94	-0.83	-25.86
4,908.0	0.60	257.40	4,841.9	534.2	-480.4	718.1	0.11	0.00	10.38
5,041.0	0.60	281.60	4,974.9	534.2	-481.7	718.9	0.19	0.00	18.20
5,065.8	0.58	298.93	4,999.7	534.2	-482.0	719.1	0.72	-0.07	69.90
TARGET BHL 1500'FNL, 1082'FEL									
5,174.0	1.00	350.20	5,107.9	535.4	-482.6	720.5	0.72	0.39	47.38
5,307.0	1.10	341.10	5,240.8	537.8	-483.2	722.7	0.15	0.08	-6.84
5,440.0	1.60	275.50	5,373.8	539.2	-485.5	725.2	1.14	0.38	-49.32
5,573.0	1.40	267.30	5,506.8	539.3	-489.0	727.5	0.22	-0.15	-6.17
5,706.0	0.70	294.70	5,639.7	539.5	-491.3	729.2	0.63	-0.53	20.60
5,839.0	0.80	322.90	5,772.7	540.6	-492.6	730.9	0.28	0.08	21.20
5,971.0	0.90	350.60	5,904.7	542.4	-493.4	732.7	0.32	0.08	20.98
6,104.0	1.10	354.60	6,037.7	544.7	-493.6	734.6	0.16	0.15	3.01

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6,237.0	1.20	29.00	6,170.7	547.2	-493.1	736.2	0.52	0.08		25.86
6,370.0	1.22	41.53	6,303.6	549.5	-491.5	736.9	0.20	0.02		9.42
6,503.0	0.30	51.70	6,436.6	550.7	-490.3	737.1	0.70	-0.69		7.65
6,636.0	0.60	67.20	6,569.6	551.2	-489.3	736.9	0.24	0.23		11.65
6,769.0	1.50	91.50	6,702.6	551.4	-487.0	735.5	0.74	0.68		18.27
6,778.1	1.52	88.62	6,711.7	551.4	-486.7	735.3	0.85	0.18		-31.71
TARGET CIRCLE 1500'FNL, 1082'FEL										
6,858.0	1.80	67.00	6,791.6	552.0	-484.5	734.3	0.85	0.36		-27.05
6,947.0	2.70	30.00	6,880.5	554.3	-482.2	734.6	1.87	1.01		-41.57
7,035.0	3.20	351.80	6,968.4	558.5	-481.5	737.4	2.26	0.57		-43.41
7,124.0	4.00	347.20	7,057.2	564.0	-482.5	742.3	0.95	0.90		-5.17
7,212.0	4.30	350.60	7,145.0	570.3	-483.8	747.8	0.44	0.34		3.86
7,260.0	4.30	350.60	7,192.8	573.8	-484.3	750.9	0.00	0.00		0.00
LEGAL BOX 800' X 800' 1311'FNL & 1316'FEL										

Checked By: _____	Approved By: _____	Date: _____
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