

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_WETHINGTON PAD**

**Wethington 17-7**

**Wethington 17-7**

**Plan: Wethington 17-7 (wp01)**

## **Standard Planning Report**

**04 May, 2011**



Project: COLORADO NORTHERN ZONE - 83  
 Site: WELD\_WETHINGTON PAD  
 Well: Wethington 17-7  
 Wellbore: Wethington 17-7  
 Section:  
 SHL:  
 Design: Wethington 17-7 (wp01)  
 Latitude: 40.068842  
 Longitude: -104.820449  
 GL: 4902.00  
 KB: 15' RKB + 4902' GL @ 4917.00ft

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3319.00	3494.34	PRKM TOP
4559.00	4812.21	SX TOP
5161.00	5417.57	SHN TOP
7113.00	7369.57	NI A TOP
7455.00	7711.57	CDL TOP



Azimuths to True North  
 Magnetic North: 8.88°

Magnetic Field  
 Strength: 52962.7snT  
 Dip Angle: 66.78°  
 Date: 5/3/2011  
 Model: IGRF2010

#### WELL DETAILS: Wethington 17-7

+N/-S	+E/-W	Northing	Ground Level: Easting	4902.00 Latitude	Longitude	Slot
0.00	0.00	1268652.98	3190184.61	40.068842	-104.820449	

#### CASING DETAILS

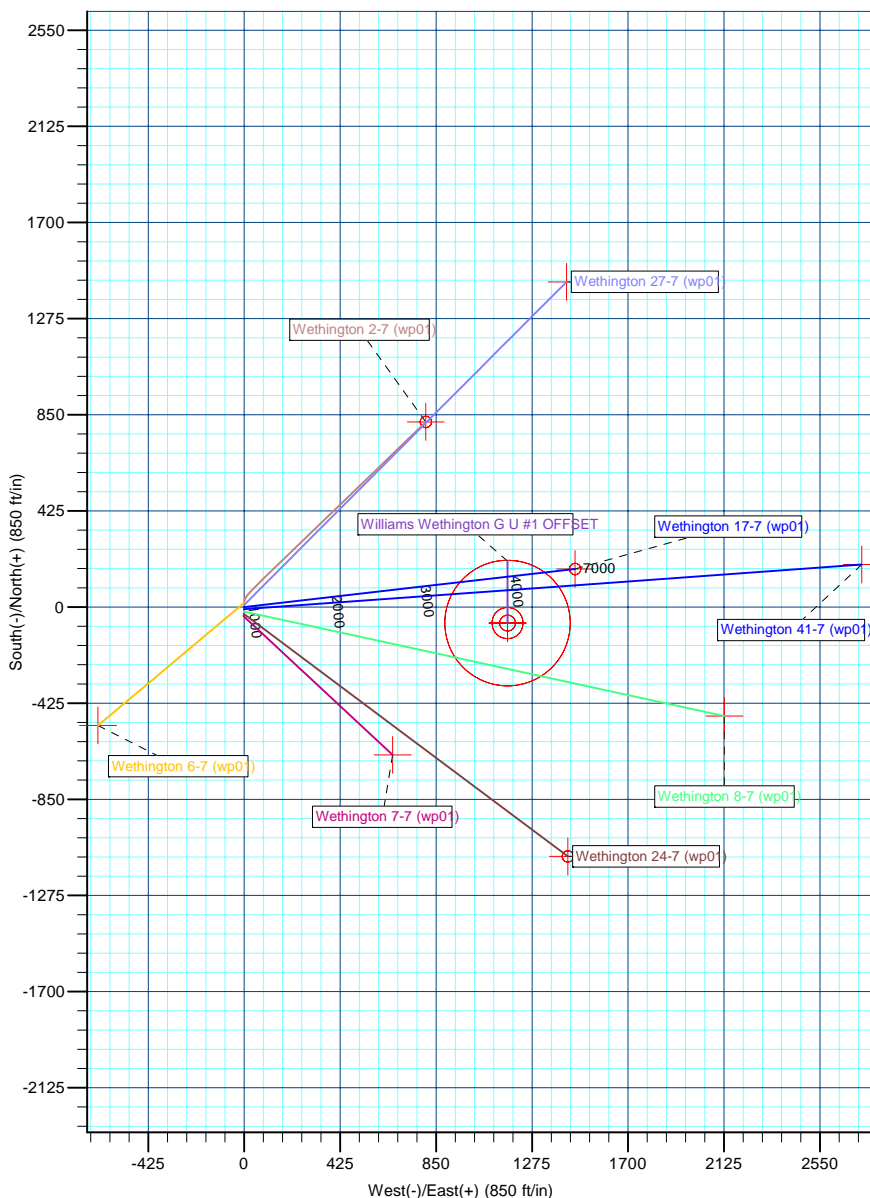
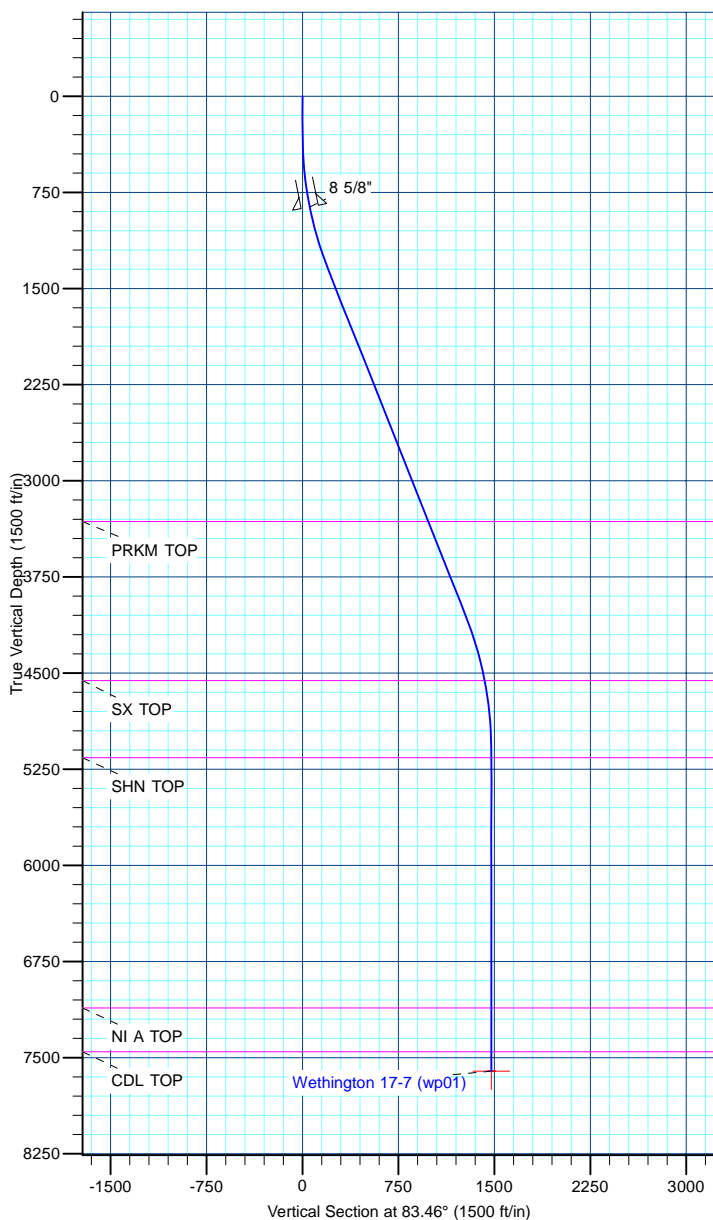
TVD	MD	Name	Size
865.00	868.73	8 5/8"	8-5/8

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Wethington 17-7 BHL	7605.00	167.99	1465.95	1268832.20	3191649.24	40.069303	-104.815211	Circle (Radius: 25.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
1385.38	21.71	83.46	1359.60	23.13	201.84	2.00	83.46	203.16
4276.19	21.71	83.46	4045.40	144.86	1264.11	0.00	0.00	1272.39
5361.57	0.00	0.00	5105.00	167.99	1465.95	2.00	180.00	1475.55
7861.57	0.00	0.00	7605.00	167.99	1465.95	0.00	0.00	1475.55



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site:</b>	WELD_WETHINGTON PAD	<b>North Reference:</b>	True
<b>Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wethington 17-7		
<b>Design:</b>	Wethington 17-7 (wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		WELD_WETHINGTON PAD			
Site Position:		Northing:	1,268,683.25 ft	Latitude:	40.068925
From:	Lat/Long	Easting:	3,190,186.90 ft	Longitude:	-104.820440
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.44 °

Well	Wethington 17-7					
Well Position	+N-S	-30.25 ft	Northing:	1,268,652.98 ft	Latitude:	40.068842
	+E-W	-2.52 ft	Easting:	3,190,184.61 ft	Longitude:	-104.820449
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,902.00 ft

<b>Wellbore</b>	Wethington 17-7				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	5/3/2011	8.88	66.78	52,963

<b>Design</b>	Wethington 17-7 (wp01)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	83.46

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,385.38	21.71	83.46	1,359.60	23.13	201.84	2.00	2.00	0.00	83.46	
4,276.19	21.71	83.46	4,045.40	144.86	1,264.11	0.00	0.00	0.00	0.00	
5,361.57	0.00	0.00	5,105.00	167.99	1,465.95	2.00	-2.00	0.00	180.00	
7,861.57	0.00	0.00	7,605.00	167.99	1,465.95	0.00	0.00	0.00	0.00	Wethington 17-7 Bt

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site:</b>	WELD_WETHINGTON PAD	<b>North Reference:</b>	True
<b>Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wethington 17-7		
<b>Design:</b>	Wethington 17-7 (wp01)		

Planned 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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	83.46	399.98	0.20	1.73	1.75	2.00	2.00	0.00
500.00	4.00	83.46	499.84	0.79	6.93	6.98	2.00	2.00	0.00
600.00	6.00	83.46	599.45	1.79	15.59	15.69	2.00	2.00	0.00
700.00	8.00	83.46	698.70	3.17	27.70	27.88	2.00	2.00	0.00
800.00	10.00	83.46	797.47	4.96	43.24	43.52	2.00	2.00	0.00
868.73	11.37	83.46	865.00	6.41	55.90	56.27	2.00	2.00	0.00
8 5/8"									
900.00	12.00	83.46	895.62	7.13	62.20	62.60	2.00	2.00	0.00
1,000.00	14.00	83.46	993.06	9.69	84.54	85.10	2.00	2.00	0.00
1,100.00	16.00	83.46	1,089.64	12.63	110.26	110.98	2.00	2.00	0.00
1,200.00	18.00	83.46	1,185.27	15.96	139.30	140.21	2.00	2.00	0.00
1,300.00	20.00	83.46	1,279.82	19.67	171.64	172.77	2.00	2.00	0.00
1,385.38	21.71	83.46	1,359.60	23.13	201.84	203.16	2.00	2.00	0.00
1,400.00	21.71	83.46	1,373.18	23.75	207.21	208.57	0.00	0.00	0.00
1,500.00	21.71	83.46	1,466.09	27.96	243.96	245.56	0.00	0.00	0.00
1,600.00	21.71	83.46	1,559.00	32.17	280.71	282.54	0.00	0.00	0.00
1,700.00	21.71	83.46	1,651.91	36.38	317.45	319.53	0.00	0.00	0.00
1,800.00	21.71	83.46	1,744.82	40.59	354.20	356.52	0.00	0.00	0.00
1,900.00	21.71	83.46	1,837.72	44.80	390.95	393.50	0.00	0.00	0.00
2,000.00	21.71	83.46	1,930.63	49.01	427.69	430.49	0.00	0.00	0.00
2,100.00	21.71	83.46	2,023.54	53.22	464.44	467.48	0.00	0.00	0.00
2,200.00	21.71	83.46	2,116.45	57.43	501.18	504.47	0.00	0.00	0.00
2,300.00	21.71	83.46	2,209.36	61.64	537.93	541.45	0.00	0.00	0.00
2,400.00	21.71	83.46	2,302.27	65.86	574.68	578.44	0.00	0.00	0.00
2,500.00	21.71	83.46	2,395.17	70.07	611.42	615.43	0.00	0.00	0.00
2,600.00	21.71	83.46	2,488.08	74.28	648.17	652.41	0.00	0.00	0.00
2,700.00	21.71	83.46	2,580.99	78.49	684.92	689.40	0.00	0.00	0.00
2,800.00	21.71	83.46	2,673.90	82.70	721.66	726.39	0.00	0.00	0.00
2,900.00	21.71	83.46	2,766.81	86.91	758.41	763.37	0.00	0.00	0.00
3,000.00	21.71	83.46	2,859.72	91.12	795.16	800.36	0.00	0.00	0.00
3,100.00	21.71	83.46	2,952.62	95.33	831.90	837.35	0.00	0.00	0.00
3,200.00	21.71	83.46	3,045.53	99.54	868.65	874.34	0.00	0.00	0.00
3,300.00	21.71	83.46	3,138.44	103.75	905.40	911.32	0.00	0.00	0.00
3,400.00	21.71	83.46	3,231.35	107.97	942.14	948.31	0.00	0.00	0.00
3,494.34	21.71	83.46	3,319.00	111.94	976.81	983.20	0.00	0.00	0.00
PRKM TOP									
3,500.00	21.71	83.46	3,324.26	112.18	978.89	985.30	0.00	0.00	0.00
3,600.00	21.71	83.46	3,417.17	116.39	1,015.64	1,022.28	0.00	0.00	0.00
3,700.00	21.71	83.46	3,510.07	120.60	1,052.38	1,059.27	0.00	0.00	0.00
3,800.00	21.71	83.46	3,602.98	124.81	1,089.13	1,096.26	0.00	0.00	0.00
3,900.00	21.71	83.46	3,695.89	129.02	1,125.88	1,133.25	0.00	0.00	0.00
4,000.00	21.71	83.46	3,788.80	133.23	1,162.62	1,170.23	0.00	0.00	0.00
4,100.00	21.71	83.46	3,881.71	137.44	1,199.37	1,207.22	0.00	0.00	0.00
4,200.00	21.71	83.46	3,974.62	141.65	1,236.12	1,244.21	0.00	0.00	0.00
4,276.19	21.71	83.46	4,045.40	144.86	1,264.11	1,272.39	0.00	0.00	0.00
4,300.00	21.23	83.46	4,067.56	145.85	1,272.77	1,281.10	2.00	-2.00	0.00
4,400.00	19.23	83.46	4,161.39	149.79	1,307.13	1,315.68	2.00	-2.00	0.00
4,500.00	17.23	83.46	4,256.36	153.35	1,338.21	1,346.97	2.00	-2.00	0.00
4,600.00	15.23	83.46	4,352.37	156.53	1,365.98	1,374.92	2.00	-2.00	0.00
4,700.00	13.23	83.46	4,449.30	159.33	1,390.40	1,399.50	2.00	-2.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site:</b>	WELD_WETHINGTON PAD	<b>North Reference:</b>	True
<b>Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wethington 17-7		
<b>Design:</b>	Wethington 17-7 (wp01)		

Planned 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)
4,800.00	11.23	83.46	4,547.02	161.75	1,411.45	1,420.68	2.00	-2.00	0.00
4,812.21	10.99	83.46	4,559.00	162.01	1,413.78	1,423.04	2.00	-2.00	0.00
<b>SX TOP</b>									
4,900.00	9.23	83.46	4,645.43	163.77	1,429.09	1,438.44	2.00	-2.00	0.00
5,000.00	7.23	83.46	4,744.39	165.40	1,443.31	1,452.76	2.00	-2.00	0.00
5,100.00	5.23	83.46	4,843.80	166.63	1,454.10	1,463.61	2.00	-2.00	0.00
5,200.00	3.23	83.46	4,943.52	167.47	1,461.43	1,470.99	2.00	-2.00	0.00
5,300.00	1.23	83.46	5,043.44	167.92	1,465.30	1,474.89	2.00	-2.00	0.00
5,361.57	0.00	0.00	5,105.00	167.99	1,465.95	1,475.55	2.00	-2.00	0.00
5,400.00	0.00	0.00	5,143.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
5,417.57	0.00	0.00	5,161.00	167.99	1,465.95	1,475.55	0.00	0.00	0.00
<b>SHN TOP</b>									
5,500.00	0.00	0.00	5,243.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
5,600.00	0.00	0.00	5,343.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
5,700.00	0.00	0.00	5,443.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
5,800.00	0.00	0.00	5,543.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
5,900.00	0.00	0.00	5,643.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,000.00	0.00	0.00	5,743.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,100.00	0.00	0.00	5,843.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,200.00	0.00	0.00	5,943.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,300.00	0.00	0.00	6,043.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,400.00	0.00	0.00	6,143.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,243.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,343.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,443.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,543.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,643.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,743.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,100.00	0.00	0.00	6,843.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,200.00	0.00	0.00	6,943.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,043.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,369.57	0.00	0.00	7,113.00	167.99	1,465.95	1,475.55	0.00	0.00	0.00
<b>NI A TOP</b>									
7,400.00	0.00	0.00	7,143.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,500.00	0.00	0.00	7,243.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,343.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,443.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,711.57	0.00	0.00	7,455.00	167.99	1,465.95	1,475.55	0.00	0.00	0.00
<b>CDL TOP</b>									
7,800.00	0.00	0.00	7,543.43	167.99	1,465.95	1,475.55	0.00	0.00	0.00
7,861.57	0.00	0.00	7,605.00	167.99	1,465.95	1,475.55	0.00	0.00	0.00
<b>Wethington 17-7 BHL</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Wethington 17-7 BHL	0.00	0.00	7,605.00	167.99	1,465.95	1,268,832.20	3,191,649.24	40.069303	-104.815211
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 25.00)									

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site:</b>	WELD_WETHINGTON PAD	<b>North Reference:</b>	True
<b>Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wethington 17-7		
<b>Design:</b>	Wethington 17-7 (wp01)		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
868.73	865.00	8 5/8"	8-5/8	11

Formations				
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°) Dip Direction (°)
3,494.34	3,319.00	PRKM TOP		
4,812.21	4,559.00	SX TOP		
5,417.57	5,161.00	SHN TOP		
7,369.57	7,113.00	NI A TOP		
7,711.57	7,455.00	CDL TOP		

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83  
WELD\_WETHINGTON PAD  
Wethington 17-7**

**Wethington 17-7  
Wethington 17-7 (wp01)**

## **Anticollision Summary Report**

**04 May, 2011**



**APC**  
Anticollision Summary Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Reference Site:</b>	WELD_WETHINGTON PAD	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wethington 17-7	<b>Database:</b>	edm5000p
<b>Reference Design:</b>	Wethington 17-7 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Wethington 17-7 (wp01)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 25.00ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 1,000.00 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b> 5/4/2011			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	7,861.57	Wethington 17-7 (wp01) (Wethington 17-7	MWD	MWD - Standard

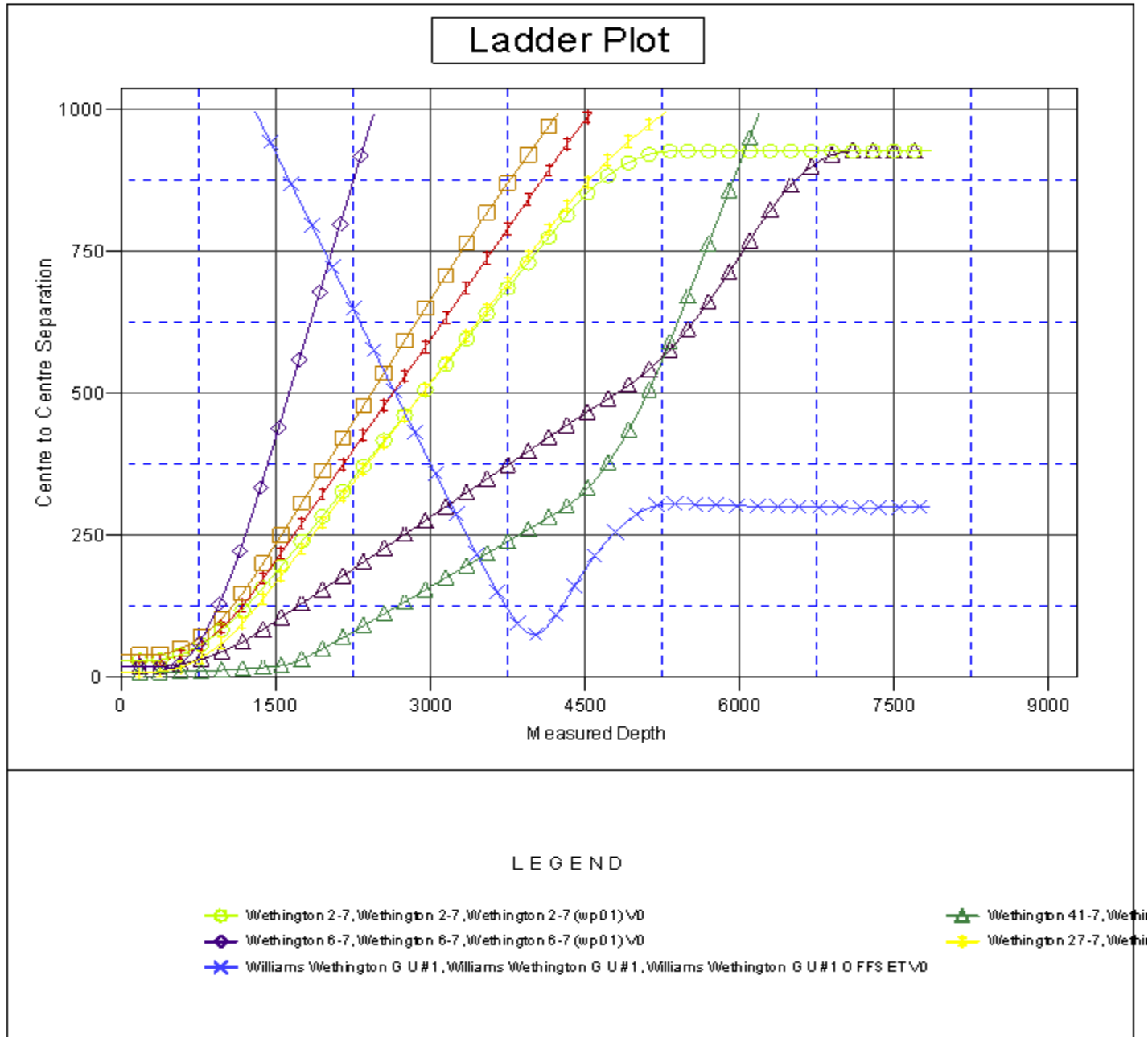
Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
WELD_WETHINGTON PAD						
Wethington 24-7 - Wethington 24-7 - Wethington 24-7 (w	300.00	300.00	29.97	28.88	27.495	CC
Wethington 24-7 - Wethington 24-7 - Wethington 24-7 (w	325.00	324.86	30.05	28.86	25.148	ES
Wethington 24-7 - Wethington 24-7 - Wethington 24-7 (w	650.00	647.38	45.49	42.81	17.030	SF
Wethington 2-7 - Wethington 2-7 - Wethington 2-7 (wp01	300.00	300.00	30.35	29.26	27.839	CC
Wethington 2-7 - Wethington 2-7 - Wethington 2-7 (wp01	325.00	324.74	30.43	29.23	25.373	ES
Wethington 2-7 - Wethington 2-7 - Wethington 2-7 (wp01	7,861.57	7,760.39	927.44	872.89	17.002	SF
Wethington 27-7 - Wethington 27-7 - Wethington 27-7 (w	300.00	300.00	10.23	9.14	9.388	CC
Wethington 27-7 - Wethington 27-7 - Wethington 27-7 (w	325.00	324.93	10.30	9.10	8.586	ES
Wethington 27-7 - Wethington 27-7 - Wethington 27-7 (w	450.00	449.55	12.52	10.78	7.164	SF
Wethington 41-7 - Wethington 41-7 - Wethington 41-7 (w	300.00	300.00	9.87	8.78	9.055	CC
Wethington 41-7 - Wethington 41-7 - Wethington 41-7 (w	750.00	750.24	11.33	8.01	3.414	ES
Wethington 41-7 - Wethington 41-7 - Wethington 41-7 (w	1,525.00	1,525.44	20.60	8.77	1.741	SF
Wethington 6-7 - Wethington 6-7 - Wethington 6-7 (wp01	468.08	468.38	17.75	15.95	9.870	CC
Wethington 6-7 - Wethington 6-7 - Wethington 6-7 (wp01	475.00	475.27	17.76	15.94	9.723	ES
Wethington 6-7 - Wethington 6-7 - Wethington 6-7 (wp01	500.00	500.09	18.17	16.24	9.414	SF
Wethington 7-7 - Wethington 7-7 - Wethington 7-7 (wp01	300.00	300.00	39.85	38.76	36.554	CC
Wethington 7-7 - Wethington 7-7 - Wethington 7-7 (wp01	325.00	324.79	39.94	38.74	33.433	ES
Wethington 7-7 - Wethington 7-7 - Wethington 7-7 (wp01	750.00	744.30	68.65	65.43	21.295	SF
Wethington 8-7 - Wethington 8-7 - Wethington 8-7 (wp01	300.00	300.00	19.74	18.65	18.107	CC
Wethington 8-7 - Wethington 8-7 - Wethington 8-7 (wp01	325.00	324.98	19.77	18.58	16.525	ES
Wethington 8-7 - Wethington 8-7 - Wethington 8-7 (wp01	4,276.19	4,249.52	438.62	384.96	8.175	SF
Williams Wethington G U #1 - Williams Wethington G U #	4,005.13	3,783.44	75.97	48.87	2.804	CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Reference Site:</b>	WELD_WETHINGTON PAD	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wethington 17-7	<b>Database:</b>	edm5000p
<b>Reference Design:</b>	Wethington 17-7 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to 15' RKB + 4902' GL @ 4917.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Wethington 17-7  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.44°



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well Wethington 17-7
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>TVD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Reference Site:</b>	WELD_WETHINGTON PAD	<b>MD Reference:</b>	15' RKB + 4902' GL @ 4917.00ft
<b>Site Error:</b>	0.00 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Wethington 17-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Wethington 17-7	<b>Database:</b>	edm5000p
<b>Reference Design:</b>	Wethington 17-7 (wp01)	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to 15' RKB + 4902' GL @ 4917.00ft  
Offset Depths are relative to Offset Datum  
Central Meridian is -105.500000

Coordinates are relative to: Wethington 17-7  
Coordinate System is US State Plane 1983, Colorado Northern Zone  
Grid Convergence at Surface is: 0.44°

