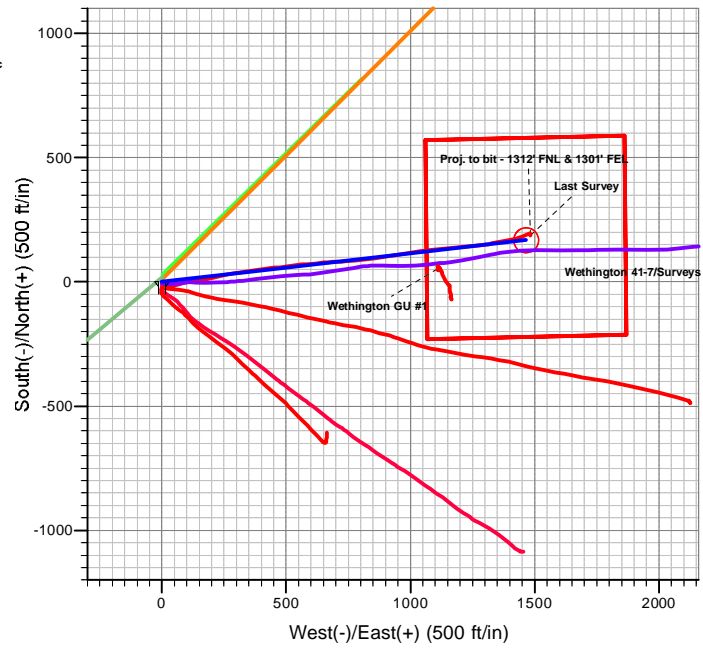
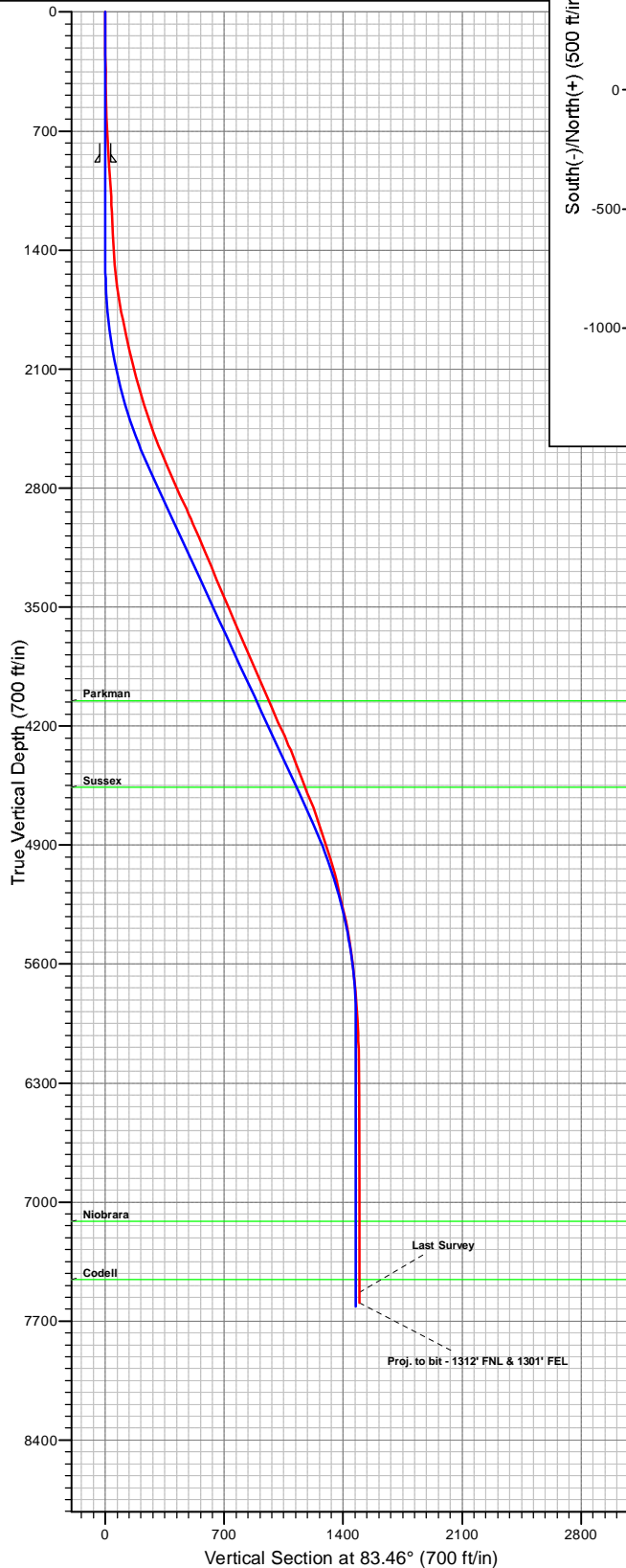




ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Closure	Annotation
1500.00	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP - Build at 2°/100'
2703.15	2741.66	24.83	83.46	30.16	263.17	264.89	264.89	End of Build - Hold at 24.83° Inc
4746.85	4993.59	24.83	83.46	137.83	1202.78	1210.66	1210.66	Drop at 2°/100'
5950.00	6235.25	0.00	0.00	167.99	1465.96	1475.55	1475.55	End of Drop - Hold Vert
7615.00	7900.25	0.00	0.00	167.99	1465.96	1475.55	1475.55	PBHL - 1320' FNL & 1320' FEL



Azimuths to True North
Magnetic North: 8.83°

Magnetic Field
Strength: 52926.4snT
Dip Angle: 66.77°
Date: 09/06/2011
Model: IGRF2010



Departure
Energy Services (US) LP

Departure Energy Services (US) LP

Denver, Colorado
Phone: 303.542.2000

Casper, Wyoming
Phone: 307.265.2231
Fax: 307.472.5064
www.departureus.com



Anadarko Petroleum Corporation

Weld County, Colorado

Section 7 - Township 1 North - Range 66 West

Wethington 17-7

S-Well

Final Surveys

Job Number: 311033

Surface location

NAD 83

Lat: 40.068842°N

Long: 104.820449°W

Final Survey Report

September 26, 2011

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Wethington 17-7
Project:	Weld County, Colorado (Northern Zone)	TVD Reference:	WELL @ 4917.00ft (Original Well Elev)
Site:	Wethington 21-7 Pad	MD Reference:	WELL @ 4917.00ft (Original Well Elev)
Well:	Wethington 17-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Depart

Project	Weld County, Colorado (Northern Zone)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Wethington 21-7 Pad, Sec 7-T1N-R66W				
Site Position:		Northing:	1,268,685.79 ft	Latitude:	40° 4' 8.130 N
From:	Lat/Long	Easting:	3,190,193.28 ft	Longitude:	104° 49' 13.584 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.44 °

Well	Wethington 17-7					
Well Position	+N/-S	0.00 ft	Northing:	1,268,655.52 ft	Latitude:	40° 4' 7.831 N
	+E/-W	0.00 ft	Easting:	3,190,191.00 ft	Longitude:	104° 49' 13.616 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,902.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	09/06/11	8.83	66.77	52,926

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	82.79	

Survey Program	Date	09/26/11			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
71.00	7,850.00	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71.00	0.70	179.31	71.00	-0.43	0.01	-0.05	0.99	0.99	0.00
161.00	0.50	171.20	160.99	-1.37	0.07	-0.10	0.24	-0.22	-9.01
251.00	0.90	157.20	250.99	-2.41	0.41	0.10	0.48	0.44	-15.56
341.00	0.90	148.40	340.98	-3.66	1.05	0.58	0.15	0.00	-9.78
433.00	1.10	135.00	432.96	-4.90	2.05	1.42	0.33	0.22	-14.57
524.00	1.80	122.01	523.93	-6.28	3.88	3.06	0.85	0.77	-14.27
614.00	2.60	120.61	613.86	-8.07	6.84	5.77	0.89	0.89	-1.56
705.00	3.70	119.51	704.73	-10.57	11.17	9.76	1.21	1.21	-1.21
796.00	4.20	114.61	795.51	-13.40	16.76	14.94	0.66	0.55	-5.38

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Wethington 17-7
Project:	Weld County, Colorado (Northern Zone)	TVD Reference:	WELL @ 4917.00ft (Original Well Elev)
Site:	Wethington 21-7 Pad	MD Reference:	WELL @ 4917.00ft (Original Well Elev)
Well:	Wethington 17-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Depart

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)
853.00	4.60	117.41	852.34	-15.32	20.68	18.60	0.80	0.70	4.91
952.00	3.30	95.31	951.11	-17.41	27.04	24.64	2.00	-1.31	-22.32
998.00	3.30	95.01	997.03	-17.65	29.68	27.23	0.04	0.00	-0.65
1,089.00	3.90	83.70	1,087.86	-17.54	35.37	32.88	1.02	0.66	-12.43
1,134.00	4.20	87.60	1,132.74	-17.30	38.53	36.06	0.90	0.67	8.67
1,225.00	2.30	84.00	1,223.59	-16.97	43.68	41.20	2.10	-2.09	-3.96
1,316.00	2.30	68.90	1,314.52	-16.12	47.20	44.80	0.66	0.00	-16.59
1,361.00	2.50	61.90	1,359.48	-15.34	48.91	46.60	0.79	0.44	-15.56
1,452.00	4.00	69.30	1,450.33	-13.28	53.63	51.54	1.71	1.65	8.13
1,543.00	6.30	73.50	1,540.96	-10.74	61.39	59.55	2.56	2.53	4.62
1,634.00	8.60	77.40	1,631.19	-7.84	72.81	71.25	2.59	2.53	4.29
1,724.00	9.90	73.50	1,720.01	-4.17	86.80	85.59	1.60	1.44	-4.33
1,815.00	11.10	81.60	1,809.49	-0.67	102.97	102.07	2.09	1.32	8.90
1,906.00	12.10	83.70	1,898.63	1.66	121.11	120.36	1.19	1.10	2.31
1,997.00	13.00	85.40	1,987.46	3.52	140.80	140.13	1.07	0.99	1.87
2,088.00	13.70	80.20	2,076.00	6.18	161.62	161.12	1.53	0.77	-5.71
2,178.00	15.50	77.40	2,163.09	10.62	183.86	183.74	2.15	2.00	-3.11
2,269.00	17.10	75.20	2,250.43	16.69	208.66	209.11	1.88	1.76	-2.42
2,360.00	18.10	75.20	2,337.17	23.72	235.27	236.38	1.10	1.10	0.00
2,451.00	19.20	78.80	2,423.40	30.23	263.61	265.32	1.75	1.21	3.96
2,541.00	21.10	79.80	2,507.88	35.98	294.08	296.27	2.15	2.11	1.11
2,632.00	22.20	82.60	2,592.47	41.09	327.25	329.82	1.66	1.21	3.08
2,723.00	23.40	80.50	2,676.36	46.29	362.12	365.07	1.59	1.32	-2.31
2,814.00	23.60	82.60	2,759.81	51.62	398.01	401.34	0.95	0.22	2.31
2,905.00	24.60	85.40	2,842.88	55.48	434.95	438.48	1.67	1.10	3.08
2,995.00	25.50	83.30	2,924.41	59.25	472.87	476.57	1.41	1.00	-2.33
3,086.00	23.20	82.30	3,007.31	63.93	510.09	514.08	2.57	-2.53	-1.10
3,177.00	22.50	83.70	3,091.17	68.25	545.16	549.42	0.97	-0.77	1.54
3,268.00	23.40	86.10	3,174.97	71.39	580.50	584.87	1.43	0.99	2.64
3,359.00	23.40	84.70	3,258.49	74.28	616.52	620.97	0.61	0.00	-1.54
3,449.00	23.40	84.00	3,341.08	77.80	652.09	656.70	0.31	0.00	-0.78
3,540.00	23.20	87.20	3,424.67	80.57	687.96	692.64	1.41	-0.22	3.52
3,631.00	23.20	87.90	3,508.31	82.10	723.78	728.36	0.30	0.00	0.77
3,722.00	22.90	84.40	3,592.05	84.48	759.31	763.91	1.54	-0.33	-3.85
3,813.00	23.00	84.70	3,675.84	87.85	794.64	799.38	0.17	0.11	0.33
3,903.00	23.60	83.30	3,758.50	91.58	830.04	834.97	0.91	0.67	-1.56
3,994.00	23.40	80.90	3,841.96	96.56	865.97	871.25	1.07	-0.22	-2.64
4,085.00	22.90	81.60	3,925.63	102.01	901.33	907.01	0.63	-0.55	0.77
4,176.00	23.60	80.90	4,009.24	107.48	936.83	942.92	0.83	0.77	-0.77
4,267.00	23.90	80.20	4,092.53	113.49	972.99	979.54	0.45	0.33	-0.77
4,359.00	24.30	81.20	4,176.52	119.56	1,010.06	1,017.08	0.62	0.43	1.09
4,448.00	24.60	83.30	4,257.54	124.53	1,046.55	1,053.91	1.03	0.34	2.36
4,539.00	21.80	81.60	4,341.17	129.21	1,082.09	1,089.75	3.16	-3.08	-1.87
4,630.00	21.80	86.10	4,425.67	132.82	1,115.66	1,123.51	1.84	0.00	4.95

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Wethington 17-7
Project:	Weld County, Colorado (Northern Zone)	TVD Reference:	WELL @ 4917.00ft (Original Well Elev)
Site:	Wethington 21-7 Pad	MD Reference:	WELL @ 4917.00ft (Original Well Elev)
Well:	Wethington 17-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Depart

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)
4,721.00	21.10	85.80	4,510.36	135.17	1,148.86	1,156.74	0.78	-0.77	-0.33
4,812.00	21.80	84.00	4,595.06	138.14	1,182.00	1,189.99	1.06	0.77	-1.98
4,903.00	21.30	86.10	4,679.70	141.03	1,215.30	1,223.39	1.01	-0.55	2.31
4,994.00	19.40	84.40	4,765.02	143.63	1,246.83	1,255.00	2.19	-2.09	-1.87
5,085.00	16.90	83.70	4,851.48	146.55	1,275.02	1,283.33	2.76	-2.75	-0.77
5,175.00	18.80	81.90	4,937.15	150.03	1,302.38	1,310.92	2.20	2.11	-2.00
5,265.00	16.20	78.81	5,022.98	154.51	1,329.06	1,337.95	3.07	-2.89	-3.43
5,356.00	13.00	77.01	5,111.03	159.28	1,351.50	1,360.80	3.55	-3.52	-1.98
5,447.00	13.40	78.81	5,199.62	163.63	1,371.81	1,381.50	0.63	0.44	1.98
5,538.00	13.00	78.81	5,288.22	167.66	1,392.20	1,402.23	0.44	-0.44	0.00
5,629.00	10.70	77.41	5,377.27	171.49	1,410.49	1,420.86	2.55	-2.53	-1.54
5,720.00	9.00	76.71	5,466.93	174.97	1,425.66	1,436.34	1.87	-1.87	-0.77
5,810.00	7.60	74.51	5,555.99	178.17	1,438.25	1,449.23	1.59	-1.56	-2.44
5,901.00	6.30	70.71	5,646.32	181.43	1,448.76	1,460.07	1.51	-1.43	-4.18
5,992.00	5.60	63.61	5,736.83	185.05	1,457.45	1,469.15	1.11	-0.77	-7.80
6,083.00	4.60	61.91	5,827.46	188.74	1,464.64	1,476.75	1.11	-1.10	-1.87
6,174.00	3.50	61.51	5,918.24	191.79	1,470.31	1,482.75	1.21	-1.21	-0.44
6,264.00	2.80	63.31	6,008.10	194.09	1,474.68	1,487.38	0.79	-0.78	2.00
6,355.00	1.10	70.31	6,099.04	195.38	1,477.49	1,490.33	1.88	-1.87	7.69
6,446.00	0.50	85.81	6,190.03	195.70	1,478.71	1,491.58	0.70	-0.66	17.03
6,537.00	0.70	99.21	6,281.03	195.64	1,479.66	1,492.51	0.27	0.22	14.73
6,627.00	0.90	118.51	6,371.02	195.22	1,480.82	1,493.61	0.37	0.22	21.44
6,718.00	0.50	138.51	6,462.01	194.58	1,481.71	1,494.42	0.51	-0.44	21.98
6,809.00	0.70	142.00	6,553.01	193.84	1,482.32	1,494.92	0.22	0.22	3.84
6,900.00	0.50	137.50	6,644.00	193.11	1,482.93	1,495.44	0.23	-0.22	-4.95
6,990.00	0.40	154.00	6,734.00	192.54	1,483.33	1,495.77	0.18	-0.11	18.33
7,081.00	0.50	144.90	6,825.00	191.93	1,483.70	1,496.05	0.13	0.11	-10.00
7,172.00	0.50	177.60	6,915.99	191.21	1,483.94	1,496.21	0.31	0.00	35.93
7,263.00	0.40	215.50	7,006.99	190.55	1,483.77	1,495.96	0.34	-0.11	41.65
7,354.00	0.40	186.30	7,097.99	189.98	1,483.55	1,495.67	0.22	0.00	-32.09
7,444.00	0.40	218.30	7,187.99	189.42	1,483.33	1,495.37	0.25	0.00	35.56
7,581.00	0.40	207.10	7,324.98	188.62	1,482.81	1,494.76	0.06	0.00	-8.18
7,671.00	0.20	187.70	7,414.98	188.18	1,482.65	1,494.54	0.25	-0.22	-21.56
7,789.00	0.20	149.10	7,532.98	187.80	1,482.73	1,494.57	0.11	0.00	-32.71
Last Survey									
7,850.00	0.20	149.10	7,593.98	187.62	1,482.83	1,494.66	0.00	0.00	0.00
Proj. to bit - 1312' FNL & 1301' FEL									

Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Wethington 17-7
Project:	Weld County, Colorado (Northern Zone)	TVD Reference:	WELL @ 4917.00ft (Original Well Elev)
Site:	Wethington 21-7 Pad	MD Reference:	WELL @ 4917.00ft (Original Well Elev)
Well:	Wethington 17-7	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM Depart

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,789.00	7,532.98	187.80	1,482.73	Last Survey
7,850.00	7,593.98	187.62	1,482.83	Proj. to bit - 1312' FNL & 1301' FEL

Checked By: _____	Approved By: _____	Date: _____
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Departure
Energy Services (US) LP

Anadarko Petroleum Corporation

**Weld County, Colorado (Northern Zone)
Wethington 21-7 Pad
Wethington 17-7**

**Wellbore #1
Survey: Survey #1**

Anticollision Report

26 September, 2011



Company:	Anadarko Petroleum Corporation	Local Co-ordinate Reference:	Well Wethington 17-7
Project:	Weld County, Colorado (Northern Zone)	TVD Reference:	WELL @ 4917.00ft (Original Well Elev)
Reference Site:	Wethington 21-7 Pad	MD Reference:	WELL @ 4917.00ft (Original Well Elev)
Site Error:	0.00 ft	North Reference:	True
Reference Well:	Wethington 17-7	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM Depart
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Reference	Survey: Survey #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,267.85 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Program	Date	09/26/11		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
71.00	7,850.00	Survey #1 (Wellbore #1)	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
Offset Well - Wellbore - Design						
Wethington 21-7 Pad						
Wethington 17-7 - Wellbore #1 - Plan #3	0.00	0.00	0.00			
Wethington 17-7 - Wellbore #1 - Plan #3	5,500.00	5,530.46	8.64	-44.50	0.163	Level 1, SF
Wethington 17-7 - Wellbore #1 - Plan #3	5,700.00	5,730.18	11.33	-48.87	0.188	Level 1, ES
Wethington 24-7 - Wellbore #1 - Surveys	375.11	374.82	28.90	27.48	20.349	CC
Wethington 24-7 - Wellbore #1 - Surveys	400.00	399.57	28.92	27.39	18.914	ES
Wethington 24-7 - Wellbore #1 - Surveys	900.00	897.64	44.37	40.52	11.508	SF
Wethington 2-7 - Wellbore #1 - Plan #1	0.00	0.00	30.34			
Wethington 2-7 - Wellbore #1 - Plan #1	1,500.00	1,496.29	73.15	66.66	11.276	SF
Wethington 27-7 - Wellbore #1 - Plan #1	0.00	0.00	10.24			
Wethington 27-7 - Wellbore #1 - Plan #1	400.00	399.32	17.54	16.01	11.430	SF
Wethington 41-7 - Wellbore #1 - Surveys	423.63	423.61	4.12	2.48	2.516	CC, ES, SF
Wethington 6-7 - Wellbore #1 - Plan #1	0.00	0.00	20.11			
Wethington 6-7 - Wellbore #1 - Plan #1	500.00	500.65	21.38	19.43	10.960	ES
Wethington 6-7 - Wellbore #1 - Plan #1	600.00	600.01	25.17	22.72	10.307	SF
Wethington 7-7 - Original Hole - Surveys	173.69	173.26	39.02	38.48	71.685	CC, ES
Wethington 7-7 - Original Hole - Surveys	900.00	894.95	67.82	63.97	17.602	SF
Wethington 8-7 - Wellbore #1 - Surveys	0.00	0.00	19.74			
Wethington 8-7 - Wellbore #1 - Surveys	700.00	697.91	33.88	30.91	11.399	SF
Wethington Gas Unit #1						
Wethington GU #1 - Offset Well - Offset Well	4,700.00	4,500.02	114.06	78.89	3.243	ES, SF
Wethington GU #1 - Offset Well - Offset Well	4,700.81	4,500.77	114.06	78.89	3.243	CC

Offset Design	Wethington 21-7 Pad - Wethington 17-7 - Wellbore #1 - Plan #3											Offset Site Error:	0.00 ft
Survey Program:	0-MWD											Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
100.00	100.00	100.00	100.00	0.13	0.10	-178.37	0.00	0.00	0.77	0.55	0.22	3.454	
200.00	199.99	199.99	199.99	0.33	0.32	-168.42	0.00	0.00	1.76	1.11	0.65	2.704	
300.00	299.98	299.98	299.98	0.55	0.55	-165.68	0.00	0.00	3.19	2.10	1.09	2.925	
400.00	399.97	399.97	399.97	0.77	0.77	-159.36	0.00	0.00	4.75	3.21	1.53	3.096	
500.00	499.94	499.94	499.94	0.99	0.99	-153.47	0.00	0.00	6.74	4.76	1.98	3.404	

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