

## Chapter 14B

# Triangulation on Chromosome 15 Involving My Oakley Ancestors and Their Descendants

[19 August 2019, updated 20 January 2020]

### ***Introduction***

I have been using DNA analysis to assist with my genealogical research. I have my DNA profile on the Ancestry.com website, but this site only informs users that they have a DNA match with someone – it doesn't provide any details about the DNA match itself. I have DNA matches with some people where we have as many as four couples in common in our pedigrees. Which family line is responsible for the DNA match?

The free GEDmatch.com website has very powerful tools that allow users to examine DNA matches at the chromosome level. Unfortunately, very few people have taken the simple steps of downloading their DNA profiles from Ancestry.com, 23andme.com, or FamilyTreeDNA.com, and then uploading them to GEDmatch.com. So it always is nice when I encounter DNA relatives who have their DNA profiles on GEDmatch.com.

In this chapter, I present some of my findings from the GEDmatch.com website, which shed new light on my DNA matches with some of our distant Oakley cousins and help to confirm our lineage back to the “Westchester Branch” of the Oakley family.<sup>1</sup>

### ***Triangulation***

In this chapter, I will discuss my use of genetic triangulation, which is a very powerful approach to verifying family trees. Let me begin by presenting some material written in 2016 by the noted genetic genealogist Blaine T. Bettinger.<sup>2</sup>

So What is Triangulation?

Triangulation – a process or method by which three or more people all sharing an overlapping segment of DNA in common compare their family trees in order to identify a common ancestor or ancestral couple shared by all.

Triangulation Group (“TG”) – a group of three or more people who all share an overlapping segment of DNA in common with each other. Members of a TG can work together to identify a shared ancestor that might explain the shared overlapping segment of DNA.

Triangulated Segment – an overlapping segment of DNA shared in common by three or more people. A segment of DNA can be triangulated even if a common ancestor or ancestral couple has not yet been identified.

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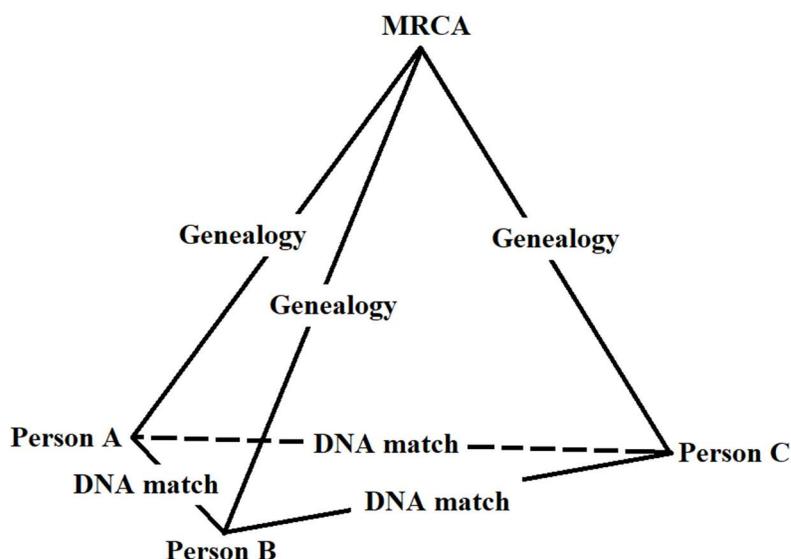
<sup>1</sup> <http://www.burksoakley.com/QuincyOakleyGenealogy/2-OakleyGenealogy.pdf>

<sup>2</sup> <https://thegeneticgenealogist.com/2016/06/19/a-triangulation-intervention/>

Triangulation requires at least three test-takers. The members of a TG must do more than share an overlapping segment of DNA. Triangulation requires that ALL of those test-takers share an overlapping segment of DNA in common with each other.

### ***Triangle Diagram***

In previous chapters, I have used the following diagram to explain genetic triangulation:



In this chart, individuals A, B, and C have a DNA match (more specifically, they all share an overlapping segment of DNA on a single chromosome). In addition, all three of these individuals have family trees that connect them back to their Most Recent Common Ancestor (MRCA). The shared DNA segment originated in the MRCA and was passed down over many generations to individuals A, B, and C. The goal of triangulation is to have the science (the DNA matches) support the genealogical record (the family trees). Of course, this approach becomes much more powerful if there also are individuals D, E, F, and G .... who share the DNA match and the MRCA.

### ***Triangulated Segment on Chromosome 15***

Several years ago, I identified a Triangulated Segment on Chromosome 15. Let me present this again in some detail. I will take advantage of 20/20 hindsight and present this in a logical manner (rather than how it actually happened).

I found that I have a large DNA match with Rev. Timothy Bever, who is the pastor of Wesley United Methodist Church in Parsons, Kansas. I first found this DNA match on Ancestry.com, and I then encouraged Tim to put his DNA profile on the free GEDmatch.com website.

Once his DNA profile was on Ancestry.com, I found that we have a shared DNA segment on Chromosome 15:

# GEDmatch<sup>®</sup> Autosomal One-to-one Comparison

Comparing Kit A122463 (Burks Oakley II) [Migration - F2 - A] and ZR2798817 (\*Tim) [Ancestry]

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
15	38,994,113	81,179,553	45.7	6,181

Largest segment = 45.7 cM

Our DNA match on Chromosome 15 that is 45.7 cM in size. Recall that a centiMorgan (abbreviated cM) is a measure of the size of a DNA match; very roughly, one centiMorgan is one million base pairs along a chromosome. DNA matches that are larger than 7 cM are generally thought to have genealogical significance. So our single matching segment of 45.7 cM is indeed significant.

I next used a software tool on GEDmatch.com to see who else in the GEDmatch database shares all or part of this same segment on Chromosome 15. I entered our kit numbers into this tool:

## People who match both kits, or 1 of 2 kits

Enter first kit number:

Enter second kit number:

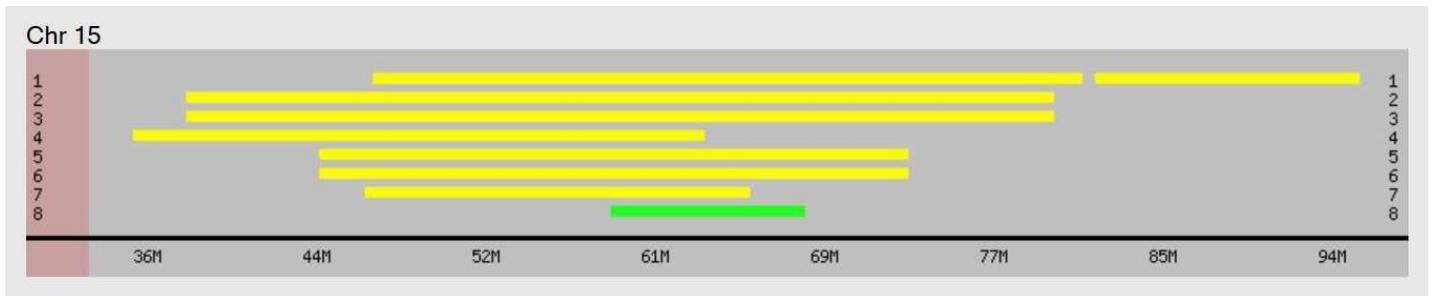
cM threshold of largest segment to qualify as a match:

cM threshold of total matching segments to qualify as a match. Must be greater than or equal to largest segment threshold.

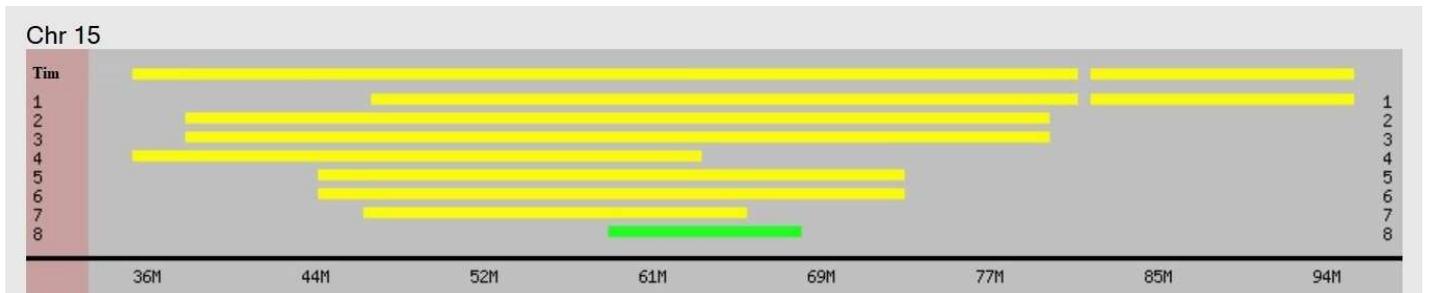
This software tool then gave me a long list of people who share part of this segment, which I now will call a "Triangulated Segment". And the long list of people will now be called the "Triangulation Group". After much work, I was able to come up with a subset of the Triangulation Group who all share a common ancestor. Those people are shown here:

Match ID	Name	Matching segments on Chromosome 15	Overlap with previous match
1	Jeani Trana(A685139)	48098423 - 82573255 (40.238 cM), 83221392 - 95999729 (25.040 cM)	root
2	Burks Oakley II(A122463)	38994113 - 81179553 (45.743 cM)	48098423 - 81179553
3	*Amy.Oakley(A059368)	39046212 - 81180981 (45.642 cM)	39046212 - 81179553
4	Kathy Hill Orr(A657657)	27050817 - 28962131 (7.068 cM), 36417486 - 64176308 (31.113 cM)	39046212 - 64176308
5	*EBW91(A127417)	45457458 - 74107677 (34.271 cM)	45457458 - 64176308
6	*Mark628(A171585)	45457458 - 74111343 (34.271 cM)	45457458 - 74107677
7	*VMF(A869209)	47723981 - 66386217 (20.089 cM)	47723981 - 66386217
8	*Chuck: paternal uncle(A556561)	59696523 - 69024703 (12.577 cM)	59696523 - 66386217

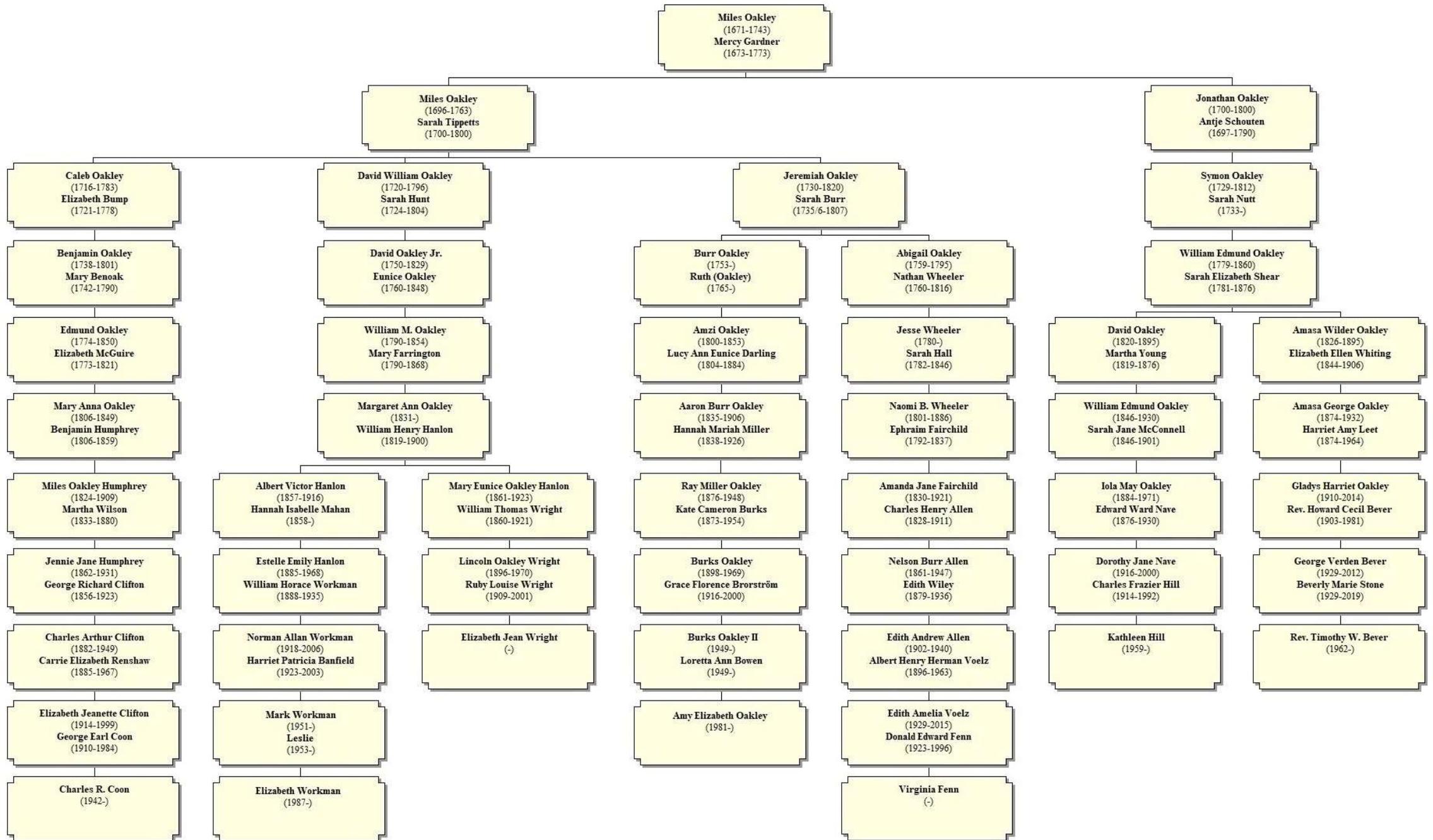
The overlapping shared DNA segments are shown graphically in the following chart (omitting one small segment for Kathy Hill Orr):



Note that Tim Bever is NOT shown in this graph – this chart only shows where everyone else matches him. I next edited this chart to include the DNA segment that I infer for Tim:



I selected this particular subset of the Triangulation Group because everyone in this subset has a family tree tracing their ancestral lines back to Miles Oakley (1671-1743) and his wife Mercy Gardner (1673-1773). All this is shown in the extended family tree on the next page. There are branches in this tree for Charles Coon (aka Chuck: Paternal Uncle), Mark Workman (aka \*Mark628) and his daughter Elizabeth Workman (aka \*EBW91), Elizabeth Jean Wright (aka Jeani Trana), me (Burks Oakley II) and my daughter Amy Oakley, Virginia Fenn (aka \*VMF and Ginny Fossa), Kathleen Hill (aka Kathy Hill Orr), and Tim Bever:



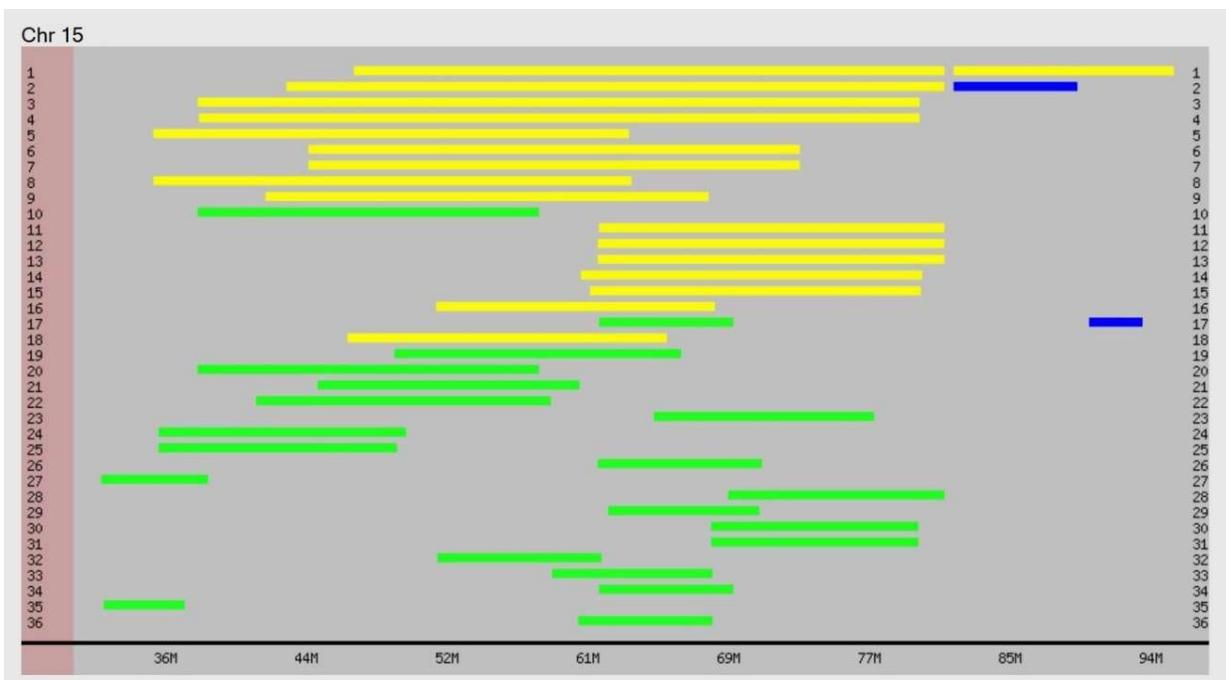
The shared overlapping DNA segment on Chromosome 15, combined with the family trees, provide strong support for the claim that we all are descended from Miles Oakley (1671-1743) and his wife Mercy Gardner (1673-1773).

An alternative version of this section, with more of an historical perspective, can be found in Chapter 14A:

<http://www.burksoakley.com/QuincyOakleyGenealogy/14A-DeepTriangulationConfirmsOurOakleyLineage.pdf>

### ***Revisiting the Triangulation Group on GEDmatch.com***

From time-to-time, I have revisited the Triangulation Group – more specifically, the people in the GEDmatch.com database who match both Rev. Timothy Bever and me on some chromosome, and match Tim specifically on Chromosome 15. Here is the entire Triangulation Group as of mid-August 2019:



Again, these are the individuals who match Tim on Chromosome 15; Tim isn't shown, and I'm in line 3. The entire Triangulation Group is much larger than the subset with the Oakley-Gardner MRCA. While I would like to think that being a member of this Triangulation Group means that we all share the same MRCA, I can't be sure about this. Many of the individuals in this group don't have family trees online, or their family trees don't go back far enough, or they haven't responded to e-mail requests for information about their family trees.

But I got lucky with one of the members of this Triangulation Group. Read on!

### ***Anne Ely Wain***

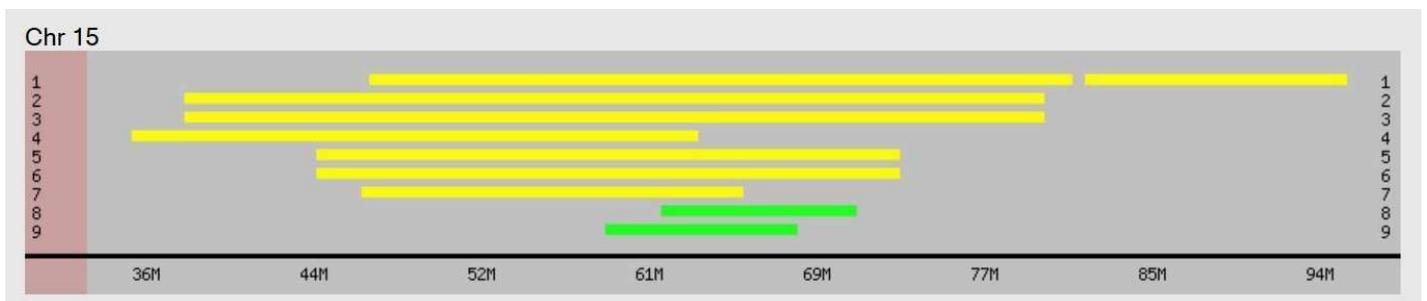
As I went through the details of the entire Triangulation Group, I looked especially for kit numbers on GEDmatch.com that begin with the letter A, since that means that the DNA test came from the Ancestry.com website (for example, my kit number is A122463 and Mark Workman's kit number is A171585, and we both are on Ancestry.com). I was hoping that if I could find these people on Ancestry.com, then maybe I could view their family trees and search for Oakley ancestors.

It turns out that the person (\*AEW) with kit number A348886 fit the bill to a T (how's that for a mixed metaphor!). She is line 26 in the graph for the entire Triangulation Group on the previous page.

Here is the same subset of the Triangulation Group, but with one additional match – \*AEW (kit number A348886):

Match ID	Name	Matching segments on Chromosome 15	Overlap with previous match
1	Jeani Trana(A685139)	48098423 - 82573255 (40.238 cM), 83221392 - 95999729 (25.040 cM)	root
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7	*VMF(A869209)	47723981 - 66386217 (20.089 cM)	47723981 - 66386217
8	*AEW(A348886)	62424649 - 71921839 (14.182 cM)	62424649 - 66386217
9	*Chuck: paternal uncle(A556561)	59696523 - 69024703 (12.577 cM)	62424649 - 69024703

Again, here is a graphical representation of the overlapping shared segment:



This individual (\*AEW – line 8 in the chart) clearly fits as a member of this Triangulation Group. She has to have the same MRCA as the rest of us!

I looked her up on the GEDmatch.com website:

### GEDmatch User Lookup

Kit Number: A348886

Name: \*AEW

Email: anneewain@[REDACTED].com

GEDCOMs : NONE FOUND

Again, her kit number starting with an A indicates that her DNA test is from the Ancestry.com website. My e-mail is: burkso2@gmail.com and my username on Ancestry.com is **burkso2**. So not having a better approach, I looked for **anneewain** as a username on Ancestry.com:

### Find a specific member

**Search**

### Search results

User Name	Member Since	Last Signed In
 <b>Anne Ely Wain</b>	21 Mar 2018	3 days ago

25 Results per page 1 of 1

Bingo! Her name is Anne Ely Wain. Here is our DNA match on Ancestry.com:

DNA Relationship to Burks Oakley (you) ▾




**5th-8th Cousin**

Shared DNA: 9 cM across 1 segments ⓘ

As an aside, her ethnicity is 100% England, Wales, and Northwestern Europe:

### DNA Summary

**Ethnicity Estimate**

Estimate 100%

**England, Wales & Northwestern Europe**

[View Map](#)

I'm used to seeing much more diversity in these "Ethnicity Estimates" – in fact, I don't think I ever saw an estimate that was 100% of one ethnicity for *any* of my DNA matches on Ancestry.com.

Anne has two trees on Ancestry.com – our DNA match is in the first one (indicated by the blue helix logo):

### Family History

**Family Trees**



**Ely Wilson Mott Bunnell Family Tree**

**1,772** **3,885** **384**

People    Records    Media

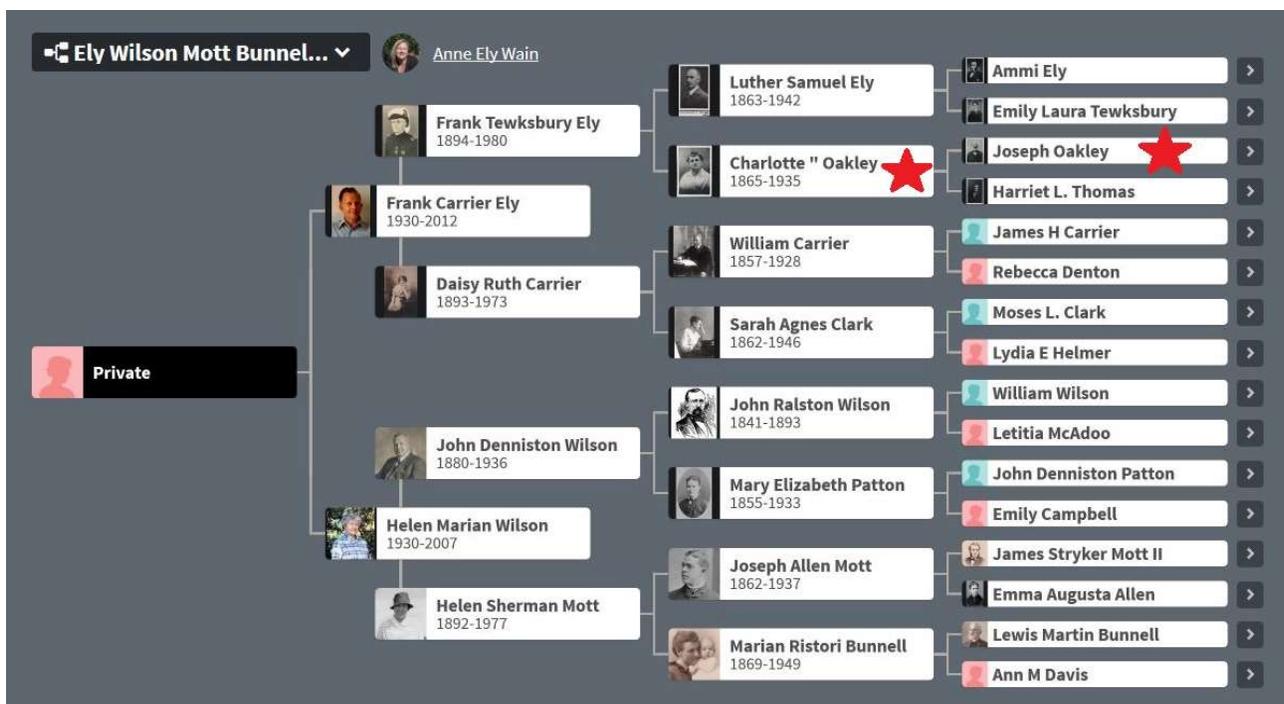


**Wain Family Tree**

**106** **187** **14**

People    Records    Media

Here is the first part of her pedigree:



OMG – She is descended from Charlotte “Lottie” Oakley (1865-1935) and Lottie’s father Joseph Oakley (1829-1901). I then went on and looked at Joseph Oakley’s pedigree – it just has to go back to Miles Oakley and Mercy Gardner, doesn’t it?

Drum roll, please ....

Scroll down .....



OMG – This line of Oakleys goes back to Miles Oakley Sr. (1645-1682) and his wife Mary Wilmot (1649-1698). They were the *parents* of Miles Oakley Jr. (1681-1743), from whom everyone else in the subset of the Triangulation Group is descended.

This takes the triangulated segment (the overlapping matching segment) on Chromosome 15 back another generation, since anyone descended from Miles Oakley Jr. (1681-1743) is also descended from his parents – incredible!!

Using Anne’s line back to Miles Oakley Sr. and Mary Wilmot, I constructed a chart showing how she and my daughter Amy are related:



Anne and Amy are ninth-cousins. And they still have a DNA match. It is very unusual for ninth-cousins to have a DNA match, since after that many generations, autosomal DNA matches usually are “diluted” to an insignificant level.

### *Sticky Segment*

Based on the size of the DNA match that I have with Anne, the software on the GEDmatch.com website predicts that our “Estimated number of generations to MRCA” is 5.0:

## GEDmatch® Autosomal One-to-one Comparison

Comparing Kit A122463 (Burks Oakley II) [Migration - F2 - A] and A348886 (\*AEW) [Migration - F2 - A]

Chr	B37 Start Pos'n	B37 End Pos'n	Centimorgans (cM)	SNPs
15	62,418,186	71,740,069	13.9	1,404

Largest segment = 13.9 cM

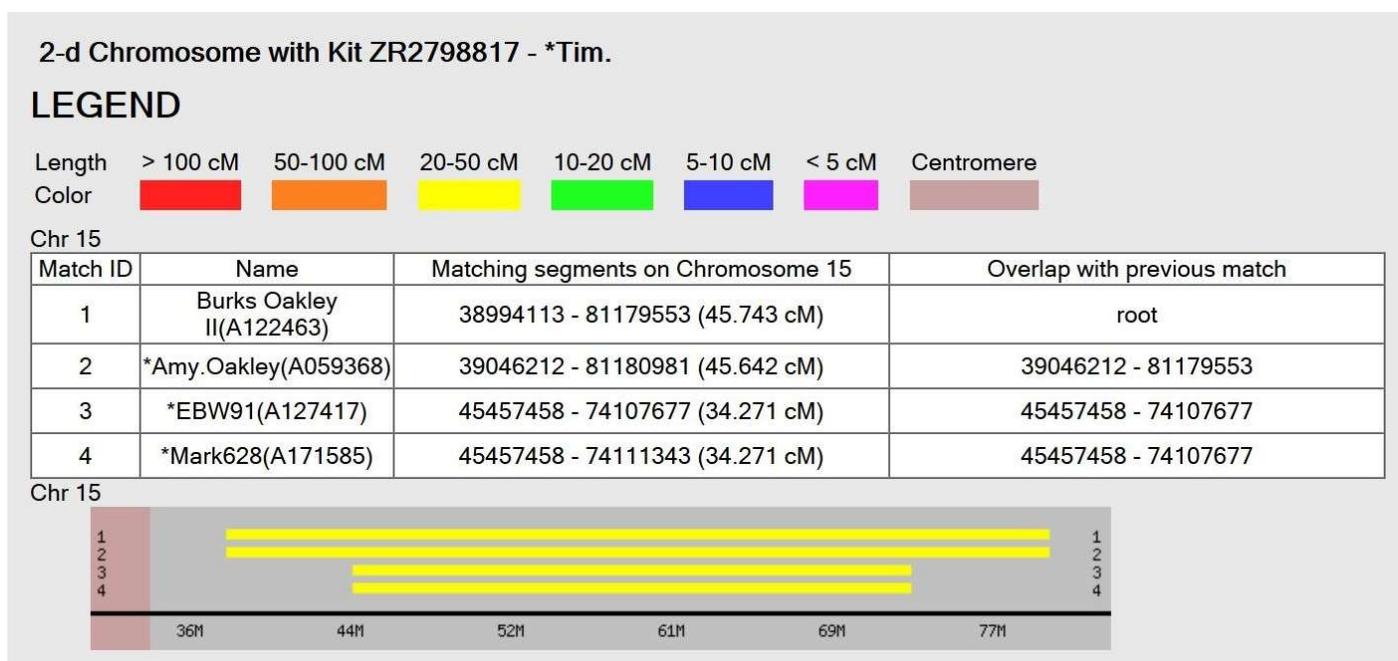
Total Half-Match segments (HIR) = 13.9 cM (0.387 Pct)

Estimated number of generations to MRCA = 5.0

1 shared segments found for this comparison.

An MRCA of 5.0 means that our common ancestors are 5.0 generations in the past (our third-great grandparents). But our MRCA is 10 generations back for Anne, and 9 generations back for me. This means our actual MRCA is 9.5 (rather than 5.0).

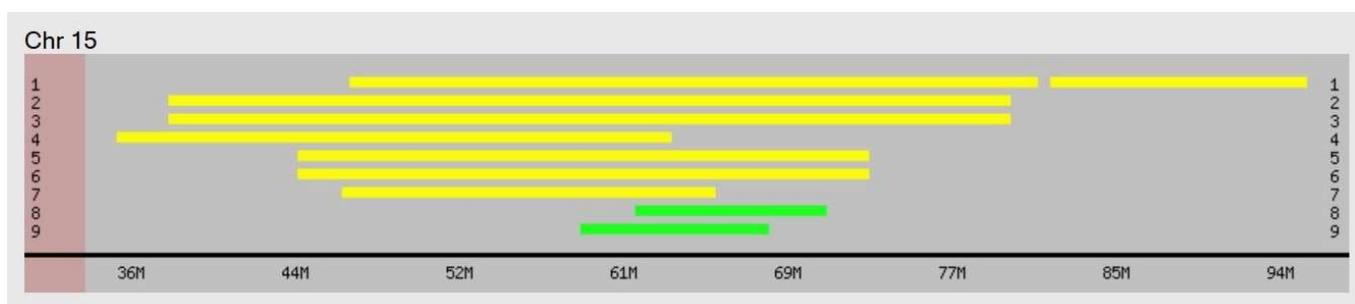
The DNA in our shared segment on Chromosome 15 has not been “diluted” through the generations. This is apparent when I look just at a smaller subset of DNA matches with Rev. Timothy Bever. The following chart shows the DNA matches on Chromosome 15 for me and my daughter Amy, as well as Mark Workman and his daughter Elizabeth:



Note that Amy’s DNA segment is essentially the same as mine (45.743 cM vs. 45.642 cM), and Elizabeth’s is exactly the same as Mark’s (both are 34.271 cM). The segment just is passed from one generation to the next without any appreciable loss. It appears to be a sticky segment.<sup>3</sup>

### *Anne’s Connection to the Triangulation Group*

Once again, here is the subset of the Triangulation Group, where all these individuals have family trees going back to the Oakley-Wilmot couple:



This chart shows where each individual matches Tim Bever on Chromosome 15. Anne is line 8 in this chart. Note that her DNA segment overlaps completely with lines 1, 2, 3, 5, and 6 (and Tim Bever, of course). Anne’s segment overlaps partly with line 9. But the small overlap that her segment has with line 4 (Kathy Hill Orr) and line 7 (Virginia Fenn, aka Ginny Fossa) is not enough to say that they have a DNA match in a one-to-one comparison.

<sup>3</sup> <https://whoareyoumadeof.com/blog/2018/05/30/does-a-long-dna-segment-always-mean-a-recent-ancestor/>





## ***Conclusion***

In this chapter, I have discussed a Triangulated DNA Segment on Chromosome 15 and the associated Triangulation Group. I previously knew that a subset of this Triangulation Group was descended from Miles Oakley Jr. (1671-1743) and his wife Mercy Gardner (1673-1773). The members of this sub-group are:

- Timothy Bever
- Elizabeth Jean Wright (Jeani Trana)
- Mark Workman and his daughter Elizabeth Workman
- Kathy Hill Orr
- Virginia Fenn (Ginny Fossa)
- Charles Coon
- Burks Oakley II and his daughter Amy Oakley

I now have found that Anne Elizabeth Ely Wain shares this segment of DNA on Chromosome 15, and she is descended from Miles Oakley Sr. (1645-1682) and his wife Mary Wilmot (1649-1698), who were the parents of Miles Oakley Jr. (1671-1743). This extends the MRCA for the entire sub-group back one more generation than was previously known.

I also discussed how this Triangulated Segment is much larger than would be expected and how it appears to be a “sticky segment”.

Finally, I showed that there are a large number of people in the Triangulation Group whose family trees are unknown to me at this time. I clearly have a lot of work to do to hunt them all down.

## ***Appendix – Miles Oakley Sr. (1645-1682)***

Miles Oakley Sr. was born in Oakley Parish, England, in 1645, and immigrated to Boston, Massachusetts, with his father and brother Thomas in 1651. Miles Oakley married Mary Wilmot, daughter of John Wilmot and Bridget Waters, in 1669 at Great Neck, Long Island, New York. He settled in the Borough Town of Westchester, in an area that is now part of The Bronx, New York. In fact, his farm was part of the present-day Westchester Square neighborhood of the Bronx. He served as the first Mayor of the Borough Town of Westchester, which was incorporated in 1675.

Miles Oakley died on May 16, 1682, in the Borough Town of Westchester, New York, at age 36. He was buried on 17 May 1682, in St. Peter’s Episcopal Churchyard, the Borough Town of Westchester, New York. The inscription on his gravestone reads “Beneath this Stone Lie the Remains of Miles Oakley, born in Oakley Grove, in the Parish of Oakley, England, Fifteenth of July 1645, Died in the Borough Town of Westchester, May 1682.”