

DNA Match Exploration:

Going from “New Match” to “Known Cousin”

This process first appeared as a series of six parts in the Genetic Genealogy Tips & Techniques group on Facebook (<https://www.facebook.com/groups/geneticgenealogytipsandtechniques>) in August 2018. The series is NOT meant to be the only way to do such an analysis, and this isn't the same process I always use. It is meant merely to be an example of a method you might use. Of course, ALL names are changed to protect privacy.

DNA Match Exploration Part 1

I thought it would be fun to share a sample process showing how I might work with an unknown match to reach a hypothesis about how we're related. In this initial step, I've identified a new match at AncestryDNA, and I open his match page for review. I see that he is active (last logged in 3 days ago), which is a good sign, but his tree only has four names. I don't recognize any of the surnames from my own tree. In the next step, I'll review how much DNA we share to get a relationship estimate.

The screenshot shows the AncestryDNA match page for James Graham. At the top, there's a profile section with a star icon, a profile picture, the name "James Graham", and the text "Member since 2016, last logged in 3 days ago". To the right is a green "Send Message" button. Below the profile is a section for the predicted relationship: "Predicted relationship: 4th Cousins" with a possible range of "4th - 6th cousins" and a link "What does this mean?". A progress bar indicates "Confidence: High". To the right of this is an "Ethnicity" section listing "Regions: Europe West, Ireland/Scotland/Wales, Scandinavia, Iberian Peninsula, Great Britain" and "Trace Regions: Europe South, Finland/Northwest Russia". Below these are tabs for "Pedigree and Surnames", "Shared Matches", and "Map and Locations". The "Pedigree and Surnames" tab is active, showing "James Graham's tree" with 5 people. On the left, a list of surnames (Chrisman, Graham, Derouin) is shown with a "1" next to each. On the right, a pedigree chart shows the tree structure across generations 1st to 7th. The tree shows James Graham at the 1st generation, with parents John Graham and Private at the 2nd generation. John Graham is married to Nancy Chrisman, and Private is married to Maxine Derouin. James Graham is the son of John and Private.

James Graham

Member since 2016, last logged in 3 days ago

Send Message

Predicted relationship: 4th Cousins

Possible range: 4th - 6th cousins ([What does this mean?](#))

Confidence: High

Ethnicity

Regions: Europe West, Ireland/Scotland/Wales, Scandinavia, Iberian Peninsula, Great Britain

Trace Regions: Europe South, Finland/Northwest Russia

Pedigree and Surnames | Shared Matches | Map and Locations

James Graham's tree

5 people

View Full Tree

Surnames (10 generation pedigree)

- > Chrisman 1
- > Graham 1
- > Derouin 1

1ST GEN 2ND GEN 3RD GEN 4TH GEN 5TH GEN 6TH GEN 7TH GEN

John Graham

Private

Nancy Chrisman

James Graham

Maxine Derouin

FIG. 1. AncestryDNA Match Page for James Graham

DNA Match Exploration Part 2

In the first part of this series, we quickly reviewed this new match. Now, let's click the "I" (shown in FIG. 2) to show the total shared cM and the number of segments. The match shares 35 cM across 1 segment. AncestryDNA estimates 4th-6th cousin, however I ignore company estimates and go to the Shared cM Project, and the relationship probabilities, to obtain an estimate.

Going to the Shared cM Project (easily accessed at <https://dnapainter.com/tools/sharedcmv4>), I see that 35 cM fits numerous different relationships because it is a smallish segment (FIG. 3). Reviewing the probabilities, I see that 35 cM has a 51% probability of being roughly more distant than a 4C (FIG. 4). It could be closer, including as close as 3C. It is very unlikely to be closer than a 3C, so, when looking for a common ancestor, it is almost certainly not closer than great-great-grandparents (3Cs) and is most likely great-great-grandparents or further (4C or more).

James Graham
Member since 2016, last logged in 4 days ago

Predicted relationship: 4th Cousins
Possible range: 4th - 6th cousins (What does this mean?)
Confidence: High

Amount of Shared DNA
35 centimorgans shared across 1 DNA segment
What does this mean?

Ethnicity
Regions: Europe West, Ireland/Scotland/Wales, Scandinavia, Iberian Peninsula, Great Britain
Trace Regions: Europe South, Finland/Northwest Russia

Send Message

Add note

Shared Matches **Map and Locations**

FIG. 2. AncestryDNA Match Page for James Graham, Showing Total Shared cM (35 cM)

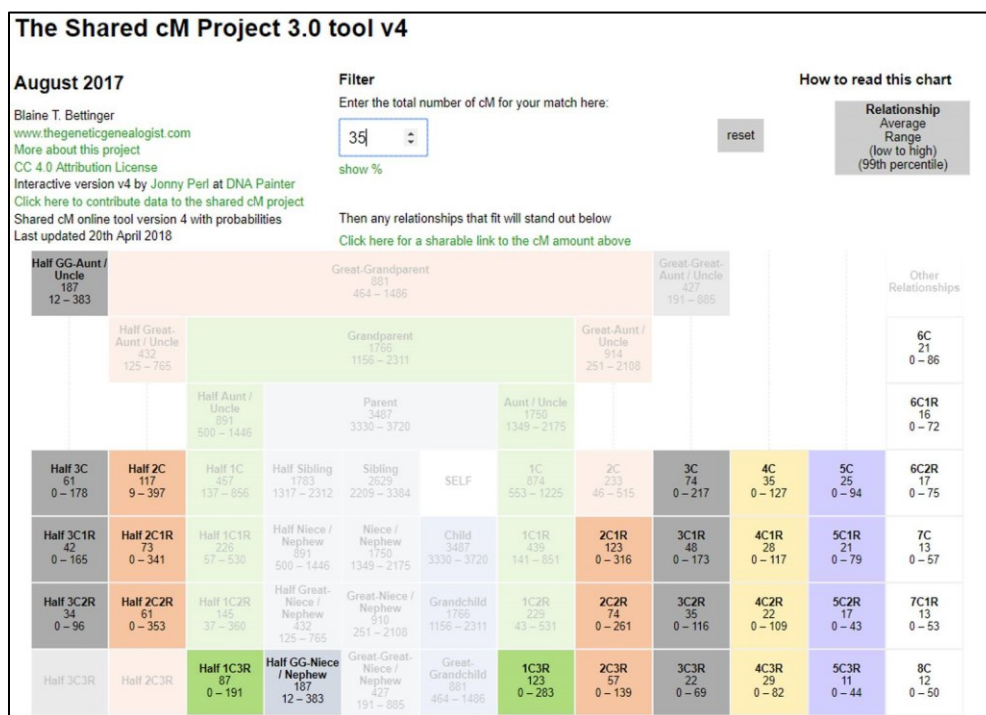


FIG. 3. Relationships Encompassing 35 cM in the Shared cM Project (Via DNA Painter)

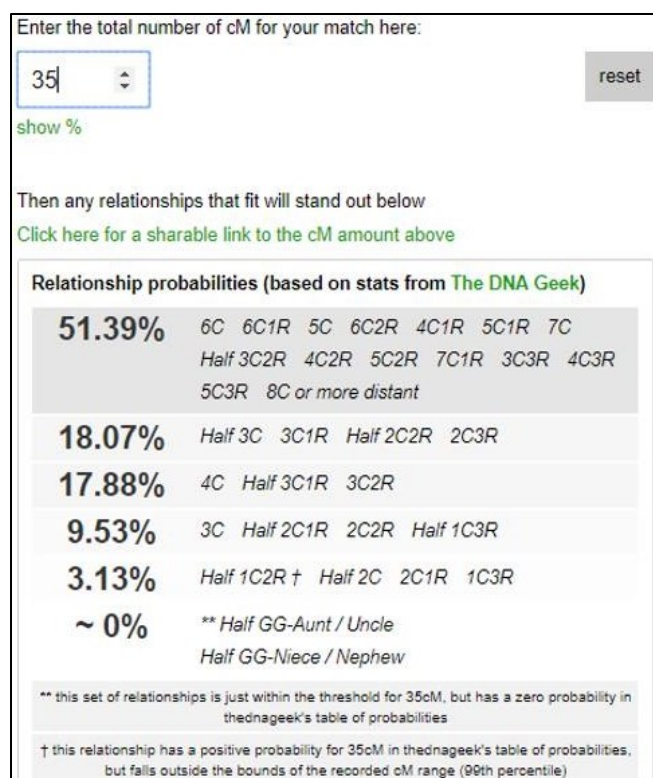


FIG. 4. Probabilities of Genealogical Relationships Based on Sharing 35 cM (Via DNA Painter)

DNA Match Exploration Part 3

We've reviewed this new match (James Graham) and we've checked the amount of total shared cM to get a very rough relationship estimate. Now we're going to use our most powerful Secret Weapon, shared matches!

Clicking on the Shared Matches tab (see the red arrow in FIG. 5), we get the list of shared matches (see FIG. 6). There are 16 people total in the match list, and due to Ancestry's shared match threshold, all 16 people must be 4C or closer (estimated) to both the test taker and the match. Six of the people in the list were previously tentatively identified by me as being related through the Vance family of Upstate New York! About half of the six were shown by documentary evidence to be descendants of this Vance family, and the other half were tentatively assigned based on shared matching with these Vance family descendants.

A hypothesis is forming, namely that the new match James Graham is related through the Vance family, or that portion of the test taker's ancestry. Thus, we hypothesize that we are likely to run into a Vance family (or the test taker's lines that married into the Vance family) if we review the family tree of James Graham.

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However, at this point, we have **proven** ****NOTHING**** about this genealogical relationship. We have a hypothesis we can test, but that's all we have. In the remainder of the series, we're going to try to find additional evidence - both DNA and non-DNA - to test our Vance family hypothesis. At some point during the series we will also discuss how we would approach this match if we didn't have any shared match clues.



FIG. 5. AncestryDNA Match Page for James Graham, Showing the Shared Matches Tab

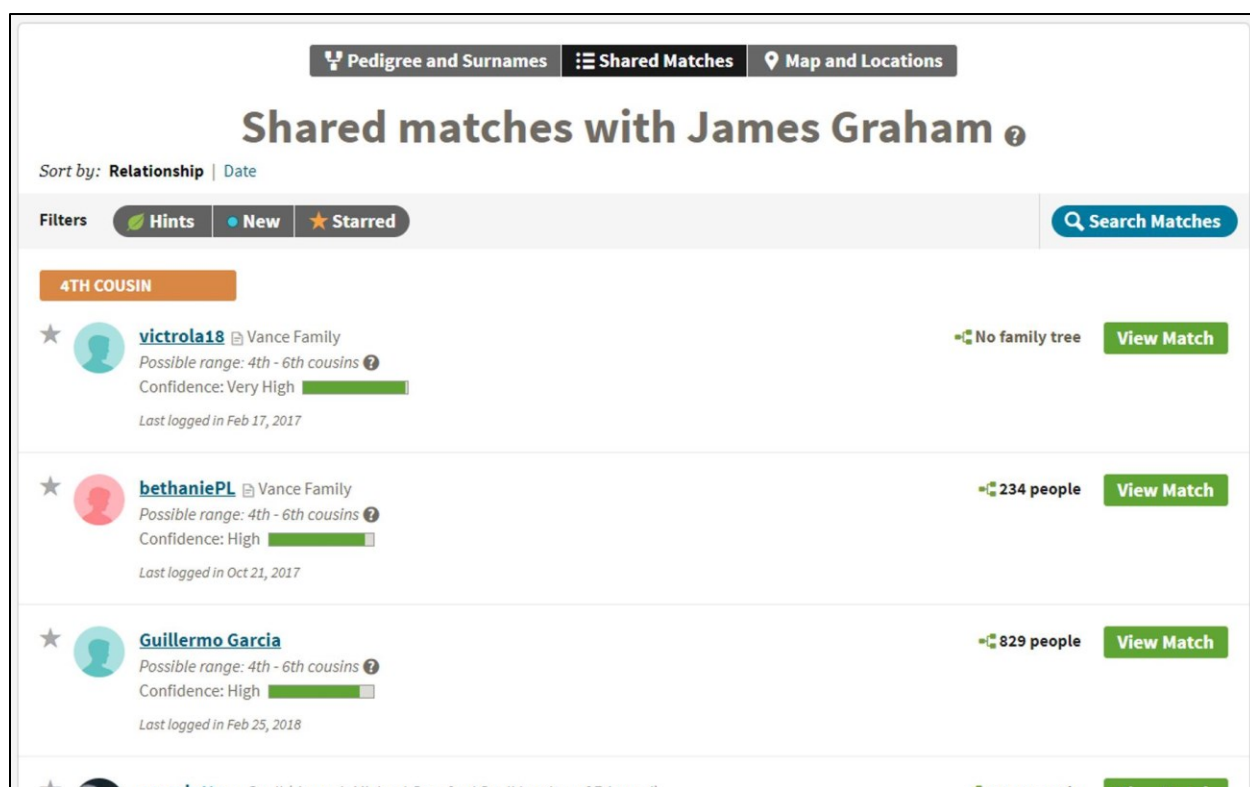


FIG. 6. AncestryDNA Match Page for James Graham, Showing Shared Matches

DNA Match Exploration Part 4

Based on shared matching, we've hypothesized that this match is related via the Vance family or a related line. Now we'll review the match's tree in greater detail.

Although the tree is a bit meager, it will prove to be a wealth of information. Usually, one or two people are all you need! As shown in FIG. 7, the tree has 5 people. One is the match, and another is only listed as Private. When I click on EACH person in the tree, there is absolutely no date or location information, as shown in FIG. 8. This date/location information is often extremely useful when building a match tree. However, with two couples (John and Nancy (Chrisman) Graham, and ? and Maxine (Derouin) Graham), we should be able to identify this family.

When I use the Public Member Tree search function at Ancestry, using "John Graham" with spouse last name "chrisman", I get a list of trees that identify this Graham family, as shown in FIG. 9. If this didn't work, I could try other search combinations, including Maxine (Derouin) Graham. I could also Google the names to look for obituaries (and when I search for Maxine (Derouin) Graham, the very first hit is her Find A Grave memorial). There are many possible avenues for identifying the match and his ancestry thanks to the information he has provided.

Now that we've identified him and his family, what do we do with this information? In Part 5, we'll build a tree for James Graham!

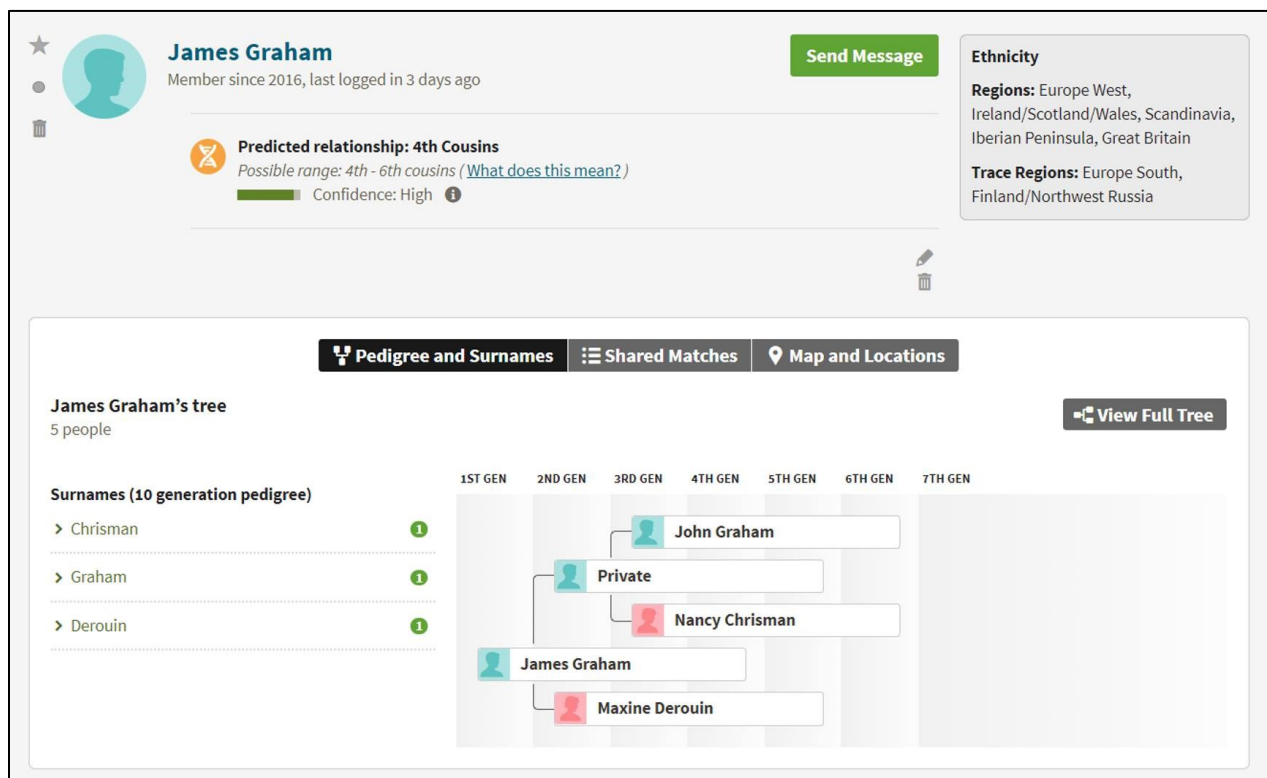


FIG. 7. AncestryDNA Match Page for James Graham, Showing James Graham's Tree

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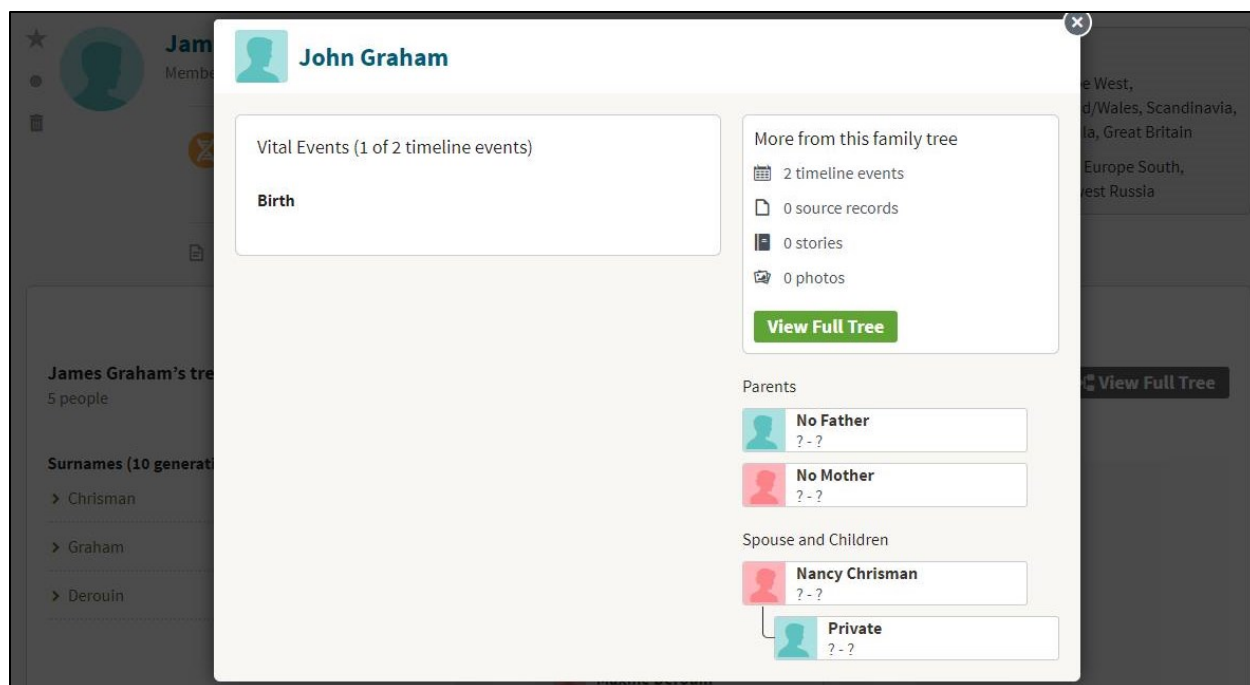


FIG. 8. AncestryDNA Match Page for James Graham, Showing James Graham's Tree



FIG. 9. Public Tree Member Search Results for "John Graham" and Spouse "Chrisman"

DNA Match Exploration Part 5

Based on previous steps in the analysis, we've identified this match as potentially being related through the Vance line using shared matching, but we found only a few names in the family tree without dates or location. However, we were able to find information about the family (using the Public Tree search function at Ancestry, although there are MANY other methods).

Now we're going to build a GRAHAM family tree, beginning with the match James Graham. To do this, we're going to create a NEW tree at Ancestry (or you can use your own software, or

another platform). When you do this, be sure to make it a *private and unsearchable* tree (see FIG. 10) for at least two reasons: (1) we're going to build a QUICK & DIRTY (Q&D) tree, so we don't want to perpetuate what will unquestionably be some bad information; and (2) people can be upset by finding their close family members in another tree.

Why a Q&D tree? Because we're going to quickly build a tree to look for possible connections. If we built something more than a Q&D tree, we'd never get this process done for more than a tiny handful of matches. IF we find one or more possible connections, we will then dive in further and document the tree as necessary. For now, we're still on the hunt for clues.

To build the Q&D Graham tree, we're going to use any resources we have, including shaky leaf/tree hints, other people's trees, and so on. YES! We really are! We can also use any of the innumerable available record sources, including FamilySearch.org, Newspapers.com, and so on. At this stage, however, the records are primarily online sources due to the time constraints.

After doing this, we find that James' great-great-grandmother was likely a VANCE! See FIG. 11. I've also built the tree back another generation in an attempt to prevent any misleading conclusions. Failing to consider Tree Completeness is one of the biggest errors we make when using DNA evidence. So far, I don't recognize any of the other surnames or locations (and one Swiss line helps me eliminate possibilities, since the test taker has no known Swiss ancestry).

So now what do we do?

Again, we have **proven** ****NOTHING**** about this genealogical relationship. We have a hypothesis with several pieces of evidence (shared DNA, a cluster of shared matching, and a putative genealogical connection), but we have NOT come even close to a point where we can consider this a conclusion.

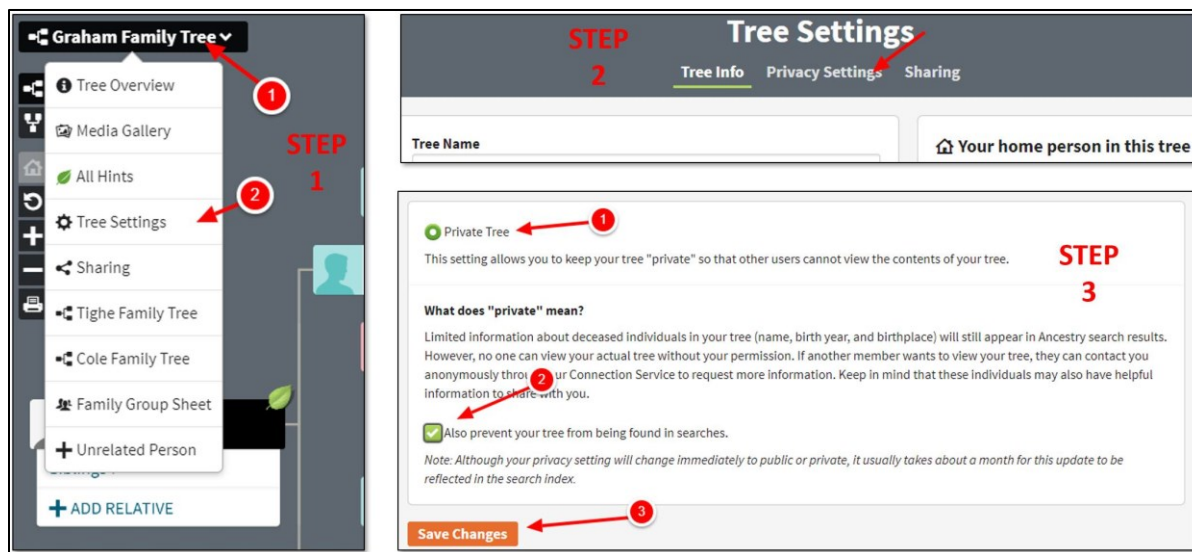


FIG. 10. Steps for Making an Ancestry Family Tree Private and Unsearchable

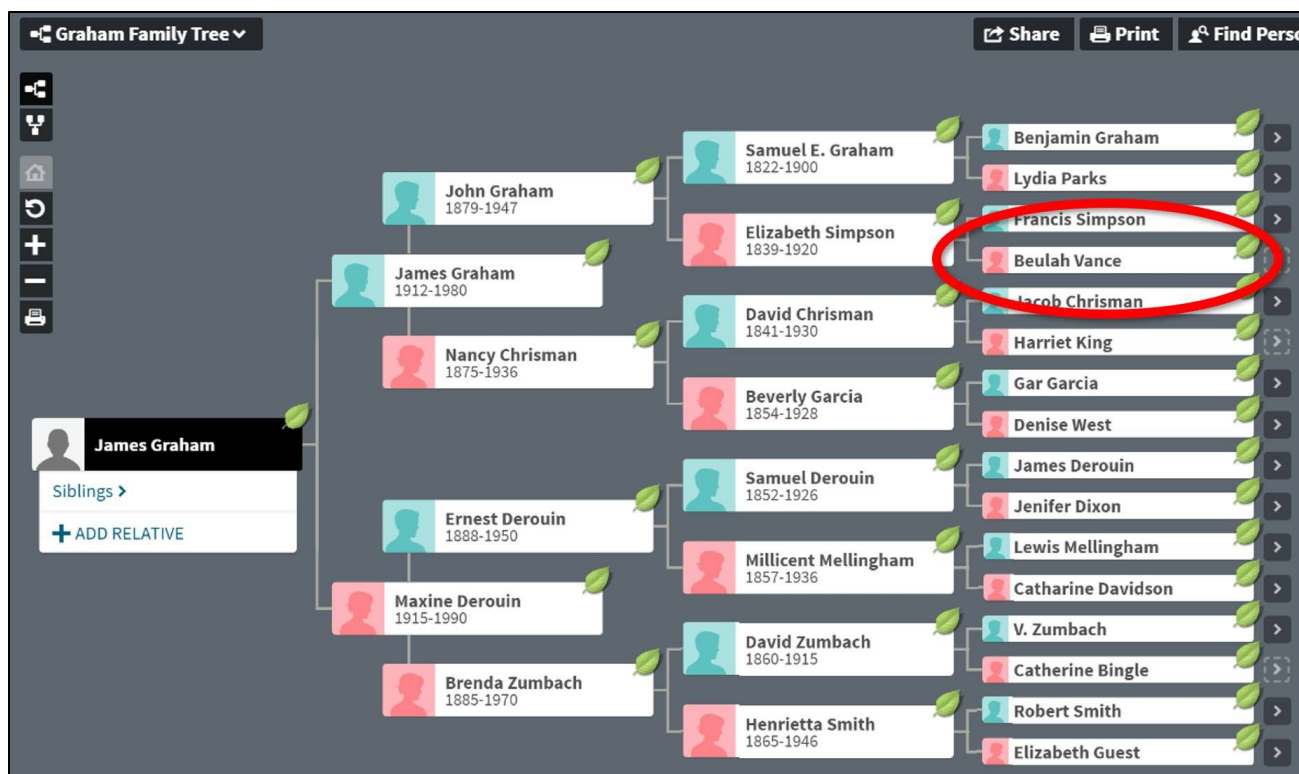


FIG. 11. Quick & Dirty Tree at Ancestry for James Graham

DNA Match Exploration Part 6

Via Parts 1-5, we've hypothesized that James Graham is related through the Vance family. We identified James and then built his family tree, which found a Vance ancestor. Although this Vance connection is likely to explain the 35 cM segment that James shares with the test taker, the connection may only be a coincidence, so we must use caution making any conclusions.

One thing that **MUST** be done at this stage is to document the discovery. I recommend at least two methods of documentation. The first is to generate a detailed note in the notes field of the match. There is a notes field at EVERY testing company, and almost no one uses them sufficiently. In the image, I've created a note in the Ancestry notes field. Because I use [MedBetterDNA](#), a Chrome extension, this note will show on the main match page, as shown in the second figure below. The second is entirely separate from the testing platform, such as a notebook, document, or family tree software.

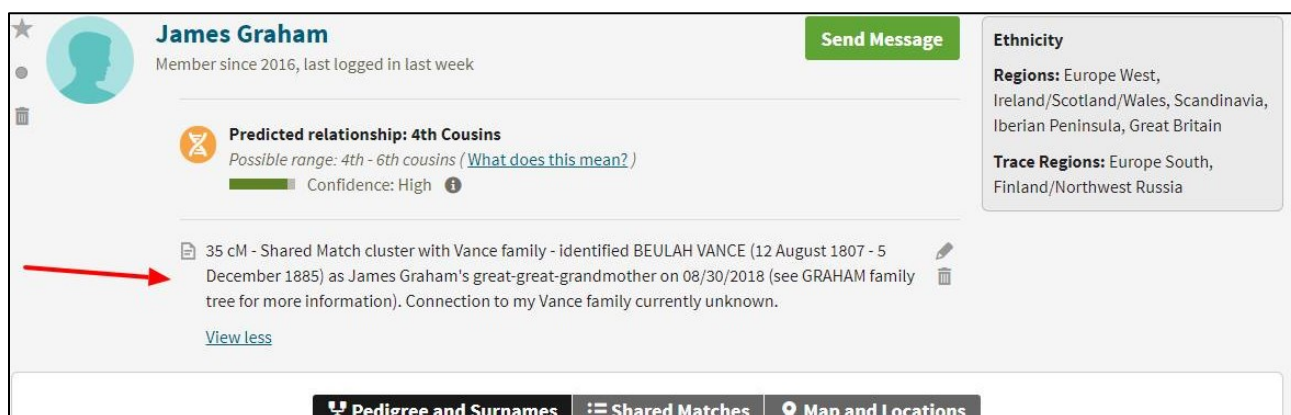
After finding a possible Vance ancestor in the Quick & Dirty (Q&D) tree, there are a wide variety of "next steps" that can be taken, including but not limited to:

1. Go back and verify/document the line from Beulah to James Graham using documentary evidence gathered from both Ancestry.com and non-Ancestry.com, online and offline sources;

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2. Tie James' Vance ancestor, Beulah Vance, into the test taker's Vance family (is it the same family?);
3. Contact the match to see if they have any additional information (although, frankly, this is often unnecessary for this stage; in the current example, I haven't need to contact the match for anything) or to get segment data (for example, I may want to ask them to transfer to GEDmatch or if they've tested at FTDNA, MyHeritage, or 23andMe where I can get segment data);
4. Use your chromosome map to examine the 35 cM segment shared with James Graham, if you can determine the segment. In this example, James transferred to GEDmatch and the segment aligned with the test taker's paternal grandmother's DNA, which is the grandparent having the Vance family.

Have we established this relationship based on the evidence we gathered in Parts 1-5? No, I don't think we've reached that point, especially because we have not yet specifically tied the two Vance families together, but we absolutely have a very strong hypothesis that has not yet been disproven by the evidence we've gathered.



James Graham
Member since 2016, last logged in last week

Predicted relationship: 4th Cousins
Possible range: 4th - 6th cousins ([What does this mean?](#))
Confidence: High

35 cM - Shared Match cluster with Vance family - identified BEULAH VANCE (12 August 1807 - 5 December 1885) as James Graham's great-great-grandmother on 08/30/2018 (see GRAHAM family tree for more information). Connection to my Vance family currently unknown.

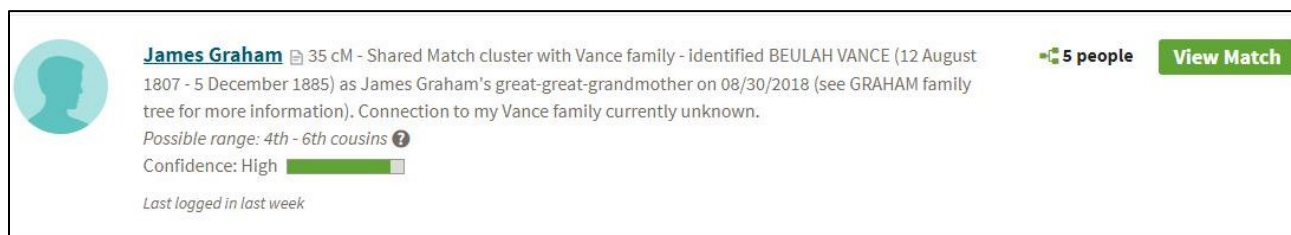
[View less](#)

Ethnicity
Regions: Europe West, Ireland/Scotland/Wales, Scandinavia, Iberian Peninsula, Great Britain
Trace Regions: Europe South, Finland/Northwest Russia

[Send Message](#)

[Pedigree and Surnames](#) [Shared Matches](#) [Map and Locations](#)

FIG. 12. AncestryDNA Match Page for James Graham, Showing Notes



James Graham 35 cM - Shared Match cluster with Vance family - Identified BEULAH VANCE (12 August 1807 - 5 December 1885) as James Graham's great-great-grandmother on 08/30/2018 (see GRAHAM family tree for more information). Connection to my Vance family currently unknown.

Possible range: 4th - 6th cousins
Confidence: High

Last logged in last week

[View Match](#)

FIG. 13. AncestryDNA Matches Page, Showing Notes for James Graham