The Lancashire Group

Original STR Testing Results:

There are nine DNA results, all with a Lancashire origin, which are matches, but sometimes not very close. The situation is complicated because there are two who were tested with DNA Heritage, with the rest tested at Family Tree DNA. One test was a 12 marker test which also tested positive for SNP marker A15056, despite having 4 differences from the mode in 12 markers. It is excluded from the table below, but was from the Edenfield clan which is now represented by a kit 363975.

The Time to Most Recent Common Ancestor (TMRCA) was calculated for each pair based on the genetic distance, using the appropriate tables in the **Mutations Table** document for the average number of generations, multiplying generations by 35 years per generation, and subtracting the result from 1945. The results are shown in the table below:

Origin		Radcliffe		Bury/ WA		Edenfield		Bury/ MS		Turton		Haslingden		Utah		Tottington	
	Kit	H1584		IN14246		363975		316620		H1582		225866		416619		211606	
GD from Mode			GD		GD	GD			GD		GD		GD		GD		GD
Radcliffe	H1584	0		1770	0	1770	0	1770	2	1490	2	1070	3	545	5	825	4
Bury/WA	IN14246	1770	0	0		1594	2	1595	2	1315	2	1280	5	825	7	1000	6
Edenfield	363975	1770	0	1595	2	2		1455	3	1315	2	1280	4	1000	7	825	7
Bury/Mass	316620	1770	0	1595	2	1455	3	2		1315	2	1280	4	375	9	265	7
Turton	H1582	1490	2	1315	2	1315	4	1315	4	2		1070	3	20	7	265	6
Haslingden	225866	1070	3	1280	5	1280	4	1280	4	1070	3	5		1000	6	650	8
Haslingden/Utah	416619	545	5	825	7	1000	6	375	9	20	7	1000	6	7		375	9
Tottington	211606	825	4	1000	6	825	7	265	7	265	6	650	8	375	9	6	

Average TMRCA Based on STR Results

Notes:

1. The excluded Edenfield 12 marker test was tested for SNPs despite the 4 differences from modal values because DYS390=23, and DYS392=14 were low frequency alleles shared with the other members. The positive result for A15056 confirmed the match.
2. The quoted dates are the averages of quite wide date ranges. The experience with the Edenfield 12 marker test suggests a possible level of volatility in the results which might mean the actual TMRCAs are closer to the recent end of the ranges.
3. Hnnn kits were 43 marker tests from DNA Heritage; 32 markers common with FTDNA 37 marker tests.
4. Bury, Edenfield and Tottington are BigY tested.
5. Only the Turton clan is not documented in clan trees. Edenfield has the earliest ancestor (16th century) with the others dating from the 17th or early 18th century, except Haslingden/Utah which is not known beyond 1823.
6. The Turton, Haslingden and Haslingden/Utah tests have not been followed up with SNP tests.
7. The Tottington clan shares no SNPs below S6881 with the others, so it split before the introduction of surnames. Either two related men adopted the Warburton name independently, or there was a non-paternal event where the biological father was distantly related to the other clans.
8. Haslingden and especially Haslingden/Utah are distant from each other and all the other results, so they may also have common ancestors who lived before surnames were introduced. Both these tests are from Utah but whilst the Haslingden clan originated in Haslingden, and is well established there, nothing is known of the ancestor of the Utah clan other than he was born in Haslingden.This is interesting because the tests for the two clans are from descendants of supposed half brothers who lived in the mid-19th century, yet the TMRCA calculation puts him at 1000 AD (230 AD - 1350 AD).

Uncommon Alleles

Although these dates do not look promising the results share some uncommon alleles that suggest the match is real rather than random.

Each marker in a DNA result has a value representing the number of times a short sequence of DNA is repeated at that location. Some values will be more common than others within the population as a whole. Each possible value is known as an allele. The allele distribution is the proportion of the total results found for each allele. For example marker DYD464d has a value of 17 in 49% of people in Haplogroup R-U106.

The chances of randomly sharing several uncommon alleles can be very low. The Lancashire group all share 3 allele values which are less common. These are DYS447 value 24 which has a 31% probability, DYS464d value 19 which has a 4% probability, and

DYS442 value 13 which has a 15% probability. When I first explored this there was a fourth uncommon allele, the value 23 at DYS390. However within U106the frequency of this allele has been found to be 59%. Multiplying just these 4 values gives a probability of any two people at random having all four values of about 0.01%. This gives added confidence that the Lancashire group share a common ancestor.

The **Mutation Table** includes allele frequencies within the R1b-U106 haplogroup for a number of markers.

Lancashire Group Haplotree

The **Lancashire Group Haplotree** is presented as a separate document. Three of the nine members of the Lancashire Group have taken a Big Y test. They were Eric of the Bury and Massachusetts clan, Stanley recently shown to be a member of the Edenfield clan, and Ian of the Tottington clan. Eric and Stanley share SNP A15056. A SNP panel was set up at YSEQ based on Eric's unique SNPs. Robert of Edenfield, Brian of Bury and Western Australia, and David of Radcliffe tested this panel and were positive for A15056, but negative for Eric's 5 other unique SNPs. Stanley only had one usable unique SNP at A20939. David tested negative for this.

This establishes a group of 4 clans under A15056. It is assumed the Turton clan is close enough to be grouped with this group pending an A15056 SNP test.However it seems there are no SNPs available that would help define the sequence in which these clans divided.

Ian however is on a separate branch under S6881, so he is not close enough to the others to indicate a common Warburton ancestor. S6881 is dated at 604 AD with a 95% probability it falls between 120 AD and 977 AD. This encompasses most of the TMRCA calculations comparing Ian's STR results with the other group members.

The village of Warburton was founded in the 10th century as a fortified Mercian (Saxon) settlement near a ford on the river Mersey. It was probably established with a handful of families, and either one or more of these founders carried the S6881 mutation, or it just possibly occurred in the village soon after. Some 3-400 years later when surnames were being adopted, many villagers would be descended from the initial carriers of the S6881 SNP. In particular the males would stay in the village, although wives might come from neighbouring villages. So it is possible that two carriers of the S6881 SNP moved away and took the village name as their own. Although they both became Warburtons their common ancestor had lived, possibly centuries earlier.

Alternatively it must be recognised that the majority of modern day S6881 carriers trace their ancestry to Lancashire so it is possible a non-paternal event occurred involving one of them. The close geographical proximity of all the clans of the Lancashire Group suggests they are interrelated even if it is inevitable that some lines experienced non-paternal events.

Future testing

The Turton result has STR TMRCA dates of 1315 and 1490 when compared with the Edenfield and related clans. Given the wide ranges given to these dates a descent from the same shared SNP is probable, but needs to be checked. Also there is scope for several private variants to be uncovered. A new Big Y would be desirable, but specific SNP tests, beginning wit SNP 15056 would be a helpful first step.

The Haslingden clan has slightly older tests than Turton. The same comments apply though the probability of an A15056 test being positive are slightly lower.

TheHaslingden/Utah clan looks even more distant so a new Big Y test is particularly desirable.

None of the above clans have SNP results so far, and it is not possible to retest the original testers, so alternative testers need to be found.