Notes:

1. Only test results for 37 markers or more for McCarthys (and surnames associated therewith) have been considered. For other surnames, qualification for inclusion is 111 STR markers or a minimum of 67 STR markers with SNP testing beyond CTS4466 or any of its equivalents. Some kits not meeting these requirements are included where of interest in relation to qualifying kits. Please report any perceived errors to mccarthygen@tiscali.co.uk.

2. Where SNP / InDel Y-chromosome positions are cited, these relate to Human Reference Genome 'Build 38' (hg38 / GRCh38).

3. (Some of these) SNP(s) / InDel(s) (as applicable) may have occurred on a higher branch of this tree, but not as high as the next level above which includes SNPs.

4. Recurrent, but phylogenetically consistent as placed.

5. It is likely that bases marked with this note within a lineage fall within a volatile region of the Y-chromosome or, where very close together, participated in a MNP. In the latter case, since it is much easier for SNP interpretation software to handle single base substitutions rather than complex mutations, they are treated separately.

6. With corresponding change in 389-2 (the allele count for which includes 389-1).

7. This tree assumes CDYb = 37 and DYS 712 = 21 for the ancestral Irish Type II haplotype; they may however be 38 and 20 respectively, in which case appropriate adjustments should be made throughout the subsequent branches.

8. Where tested / revealed.

9. Test on first cousin.

10. It appears that a subsequent 13>12 back mutation at DYS 442 occurred independently on many occasions, implying some instability with 13 at this marker.

11. Where precise location is given for these MacAulays, it is Outer Hebrides (Lewis and Harris).

12. A second MacCarthy Glas descendant has a very different haplotype.

13. Subject to verification for all subclades.

14. There are several distinct O'Sullivan Irish Type II lineages. O'Sullivans and O'Sullivan Beare are also found in the R-DF21>...>Z16526>P314.2 lineage of McCarthy R-L21 Group B.

15. SNP within the 125 bp repetitive zone known as DYZ19 (positions 22216800 to 22512940 (hg37)). They are not shown on this tree unless of potential significance. Cannot be confirmed by Sanger Sequencing.

16. Suspected SNP may be difficult or impossible to confirm by Sanger Sequencing. Note 18 may also apply.

17. Position determined through diligence of James Kane and detailed investigation by Alex Williamson.

18. A defining SNP appears to exist on the Y-chromosome, but its location is uncertain.

19. SNP occurs within a STR and may therefore be unreliable. May also be seen elsewhere but phylogenetically consistent where Note applied.

20. Other configurations of this tree are quite possible from hereon. Full participant testing to 111 STR markers and / or SNP testing is needed for resolution.

21. Alternate configuration based on shared mutation at DYS19/394 possible.

22. Note the phonetic similarity among (McCarthy) Muireagh, Mooney, Moynihan and Minihan. If a back mutation in the Mooney stem is surmised, the Mooneys become closer still to 357642 Moynihan.

23. Clark may alternatively be paired with Sullivan, to the left.

24. Configuration based on reported family history. Otherwise kit 463095 would be shown branching off the stem before the occurrence of mutations at DYS 576 and 532 and thus without the need to conjecture back mutations.

25. Assignment as MacCarthy Muireagh is provisional and requires testing to 111 markers to confirm.

26. SNP occurs at the junction of two homopolymers: may be difficult or impossible to confirm by Sanger Sequencing.

27. Placement of this mutation subject to further investigation.

28. Low quality NGS test result verified by Sanger Sequence Testing.

29. Any of these FTDNA Panel 6 mutations (extracted from Big Y data) could have occurred from the time of SNP FGC11134 up to the time indicated here.

30. These SNPs appear to be shared with a participant wit han as yet unidentified kit number.

IMPORTANT NOTICES

1. The genetic data used to construct this tree comes principally from Family Tree DNA (FTDNA). Some data comes from testing at Full Genomes Corporation (FGC) or YSeq and occasionally the Personal Genome Project (PGP) or other sources as denoted just above the test kit number references (see Legend item (b)).

2. The tree was originally intended to serve 'R-L21 Group A' in the McCarthy Surname Study and includes all 'Irish Type II' McCarthys who have tested to 37 STR markers. It subsequently aimed also to include all members of the R1b-CTS4466 Plus Project (established to represent those with the 'Irish Type II' haplotype) who had tested, by end of July 2017, STRs to 111 markers and / or SNPs beyond CTS4466. Data published since July 2017 continues to be included but may not be exhaustive. Data has also been mined from other projects displaying it in the public domain; in this respect, thanks are due to the haplotype owners and their project administrators for making their data available in the spirit of 'citizen science' for the mutual benefit of all concerned. Projects from which haplotypes have been taken include but are not limited to Ireland yDNA, Munster Irish Project, Personal Genomes Project (PGP), R L21, Z290 and Subclades Project, R1b-L21 South Irish Project, and those pertinent to the following surnames or variants thereof: Bean, Colclough, Cotter, Crowley, Daly, Donovan, Ferguson, Gleeson, Hayes, Healy, Kell(e)y, Lane, Leahy, Lindsay, Moon, Moriarty, Ó Cléirigh, O'Donoghue, O'Keeffe, O'Mahony, Patterson, Reagan, Sheehan, Sullivan.

3. The high level tree structure is largely based on James Kane's work on the FGC11134 and Subclades Project, set up to cater for those who tested positive for SNP FGC11134 but negative for CTS4466 and its many equivalents, and for which thanks are duly given. Not all SNPs / subclades in these sources are necessarily shown and responsibility for any errors arising from interpretation of data or failure to update to the latest available information is mine alone.

4. The tree combines postulated relationships based on STR testing with firm definition afforded by SNP testing. Where configurations are not confirmed by SNP testing, different permutations are possible, particularly in the occurrence of more frequently occurring mutations such as those at DYS458, DYS576, CDYa/b, DYS710, DYS533 and DYS712. The postulation of back mutations is highlighted with blue background as indicated in Legend item (d). The reliability can only be improved by more participants testing STRs to 111 or 125 markers and Next Generation Sequence (NGS) testing such as FGC's Elite 2.1 and FTDNA's Big Y-500, identifying SNPs which give firm definition to the branches and twigs (subclades) of the tree.

5. The 'pseudonymised' format of FTDNA kit no. plus Most Distant Known Paternal Ancestor (MDKA) surname (or where the latter is not available the tester's surname or simply the kit no.) has been used for tester identity where the participant

(a) has opted in to sharing his data in the public viewing of FTDNA's Y-DNA results (and for data taken from other projects, where the project has allowed to publicly display its FTDNA Y-DNA Results spreadsheet),"
(b) has provided written permission for the incorporation in this tree of further data derived from analysis of files to which I have been given access, or to which others have been given access in the knowledge they would place their analyses in the public domain.**

Otherwise identities of testers are 'totally anonymised' with an 'XA' series 'dummy' reference number the significance of which is and will remain known only to myself or my successor in maintaining this tree.

6. Should anyone wish his pseudonymised identity be reduced to a totally anonymised one, or his data completely removed from the tree and any back-up records I may hold, he is asked to contact me privately (mccarthygenATtiscaliDOTcoDOTuk).

'Each participant's status with respect to this option will have been determined in a one-off exercise at some time from 15 August 2018 onwards. Should he have subsequently amended this from 'Opt in to sharing' to 'Opt out of sharing', he will please contact me as described at (6).

**** e.g. STR information on FTDNA's Panel 6 and various SNP data extracted from a participant's Big Y-500 files to which I have, as a (Co-)Administrator, been given access, or additional information derived from testing at YSeq where the participant has registered with its Group ID 71, for which I am the Administrator.**

N. McCarthy

McCARTHY (Y-DNA) SURNAME STUDY and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 1 of 13

N McCarthy

Last updated - 06 October 2018

LEGEND:

a) Mutation notations
SNPs and InDels are denoted in bold type face. STR markers are denoted in light type face. The 'DYS' of DYS-prefixed STR markers is omitted; prefixes for all others are shown with a more detailed notation (e.g. DYF395S1a, DYR33, YCAIIb, (Y-)GGAAT 1B07, FTY371).

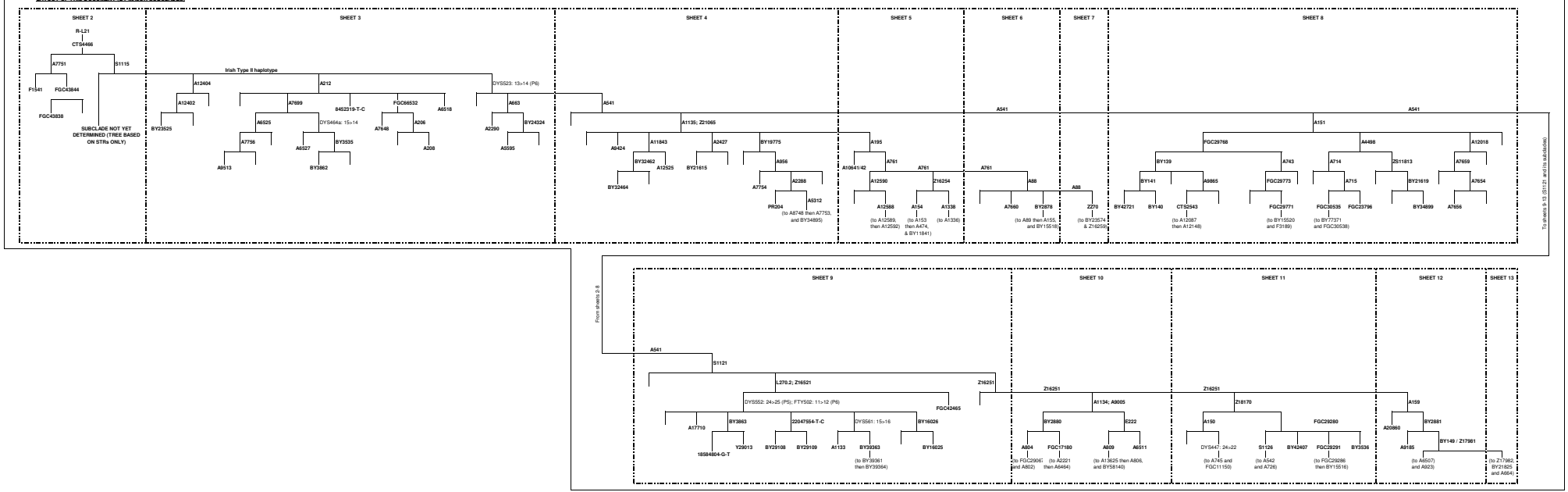
b) Participant kit number and testing details:
No. of STR markers included in the analysis (e.g. Y-DNA37, 67 or 111 at FTDNA).
125: All STRs of FTDNA' s Y-DNA111 test plus additional 14 markers comprising Yseq's 'FTDNA111 to YSeq116' panel. ('14' indicates latter panel only tested).
575 (-n): As '125' + up to 450 STRs extracted from Big Y (FTDNA's Y-500), with n = no. of no-calls
561 (-n): Y-DNA111 + up to 450 STRs extracted from Big Y (FTDNA's Y-500), with n = no. of no-calls.
517 (-n): Y-DNA67 + up to 450 STRs extracted from Big Y (FTDNA's Y-500), with n = no. of no-calls.
487 (-n): Y-DNA37 + up to 450 STRs extracted from Big Y (FTDNA's Y-500), with n = no. of no-calls.
Has taken BigY test,
or 'FE or FGP' = has taken Y Elite test with FGC (YE), or Personal Genome Project respectively
or NG = Nat Geographic Genz 2.0 'NGS' or later test
or Z9MM = has a terminal SNP identified in a Z3andM6 test.
or FO = other "full" Y-genome test elsewhere.
Grey shading indicates that results are not yet available or have not yet been reviewed.
Light grey shading indicates preliminary review only of results undertaken.
Surname in parenthesis if no 'distant paternal ancestor' surname identified.
'Pseudonymised' or totally anonymised tester identity (see 'Important Notices' (above, left), items 5 and 6).

c) Validation of position on tree is indicated as follows:
Position determined by one or more terminal (i.e. most recent shared) SNPs indicated.
Postulated position based on positive test for a higher level SNP and STR mutations being similar to that of (an) other(s) who have tested the terminal SNP(s) shown (and sometimes name similarity).
Postulated position based on STR mutations being similar to that of (an) other(s) who have tested the terminal SNP(s) shown (and sometimes name similarity).

d) STR Mutation frequencies:
Very slow moving' STR markers (very low mutation rates) or very rare multi-step mutation
Slow moving' STR markers (low mutation rates)
Postulated STR back-mutation
} Not yet applied to P6

e) Other
> is used to denote a change in status (the allele, or no. of repeating motifs) at an STR locus, e.g. 576: 18>17 indicates a mutation from 18 to 17 repeating motifs at DYS 576. Elsewhere (in dates) it is used to indicate "later than".
P4 STR marker in FTDNA Panel 4 (38th - 67th markers in FTDNA sequence)
P5 STR marker in FTDNA Panel 5 (68th - 111th markers in FTDNA sequence)
P6 STR marker in FTDNA Panel 6 (112th - 561st markers in FTDNA sequence, extracted from Big Y-500 test data).
YSeq116 STR marker in Yseq's 'FTDNA111toYSeq116' panel
A(A)NNN(NN)+/- Results of individual SNP testing (positive / negative) where an NGS test has not been taken, or taken from an NGS or Pack Test where of particular relevance to kits close by on the tree.
tbc To be confirmed (e.g by Sanger sequencing)
NT Not tested, or 'no call' when tested

LAYOUT OF THIS DOCUMENT (BY MAJOR SUBCLADES)



SNPs R-L21, R-FGC3218, R-L459

SNPs R-DF13, R-CTS8221/Z2542

STRs Estimated ancestral haplotype for R-DF13 (values at CDYa and DYS533 and DYS551 uncertain)

FTDNA Panel 1

393	390	19 / 394	391	385a	385b	426	388	439	389-1	392	389-2
13	24	14	11	11	14	12	12	12	13	13	29

FTDNA Panel 2

458	459a	459b	455	454	447	437	448	449	464a	464b	464c	464d
17	9	10	11	11	25	15	19	29	15	15	17	17

FTDNA Panel 3

460	GATA H4	YCA IIa	YCA IIb	456	607	576	570	CDYa	CDYb	442	438
11	11	19	23	16	15	18	17	36/37	38	12	12
							Value assumed:	36			

FTDNA Panel 4

531	578	DYF 395S1a	DYF 395S1b	590	537	641	472	DYF 406S1	511	425	413a	413b	557	594	436
11	9	15	16	8	10	10	8	10	10	12	23	23	16	10	12

490	534	450	444	481	520	446	617	568	487	572	640	492	565
12	15	8	12	22	20	13	12	11	13	11	11	12	12

FTDNA Panel 5

710	485	632	495	540	714	716	717	505	556	549	589	522	494	533	636
35	15	9	16	12	25	26	19	12	11	13	12	11	9	12/13	12
												Value assumed:		13	

575	638	462	452	445	GATA A10	463	441	GGAAT 1B07	525	712	593	650	532	715	504
10	11	11	30	12	13	24	13	10	10	20	15	19	13	24	17

513	561	552	726	635	587	643	497	510	434	461	435
12	15	24	12	23	18	10	14	17	9	12	11

Panel 6, extracted from Big Y test data.

FTY 371	FTY 303	FTY 10	FTY 284	FTY 219	FTY 324	FTY 327	FTY 394	538	FTY 220	FTY 254	FTY 19	FTY 4	577	FTY 24	FTY 346
5	4	4	4	7	5	4	11	11	4	4	5	4	9	4	4

FTY 160	FTY 62	FTY 400	FTY 114	FTY 246	FTY 26	FTY 368	FTY 173	FTY 209	FTY 337	FTY 81	FTY 387	FTY 361	FTY 330	FTY 65	FTY 168
6	6	4	4	5	4	5	5	5	5	4	5	6	5	7	4

FTY 171	FTY 136	FTY 53	FTY 40	FTY 386	FTY 100	FTY 152	FTY 55	FTY 297	FTY 370	FTY 103	FTY 64	FTY 174	FTY 313	FTY 362	FTY 342
5	4	4	5	6	4	4	6	5	4	4	4	6	10	4	4

FTY 161	FTY 374	FTY 316	FTY 101	FTY 204	477	FTY 192	502	FTY 341	493	FTY 1	FTY 227	499	FTY 391	FTY 353	FTY 332
8	6	5	4	5	8	5	8	5	10	7	7	8	7	5	5

FTY 163	483	FTY 172	FTY 180	581	FTY 179	FTY 188	FTY 369	FTY 70	FTY 63	508	FTY 347	FTY 83	FTY 277	FTY 276	FTY 195
5	12	4	4	8	5	5	7	11	5	11	5	5	5	5	7

FTY 109	FTY 356	FTY 215	FTY 105	FTY 123	FTY 242	FTY 214	FTY 132	FTY 262	FTY 333	FTY 208	DYF 398B	FTY 43	FTY 166	FTY 13	FTY 11
6	6	6	7	5	6	13	4	5	4	4	5	5	5	5	5

584	608	FTY 95	FTY 151	FTY 388	FTY 256	580	FTY 234	FTY 268	FTY 139	FTY 27	FTY 75	512	FTY 329	FTY 320	FTY 7
8	9	6	5	6	6	9	5	4	4	5	5	11	5	5	5

FTY 247	FTY 211	474	FTY 39	FTY 376	FTY 37	FTY 373	475
4	5	8	4	4	4	4	8

FTY 138	FTY 288	FTY 264	FTY 93	FTY 380	FTY 18	FTY 115	569	FTY 390	FTY 46	FTY 243	FTY 322	FTY 281	FTY 153	FTY 181	FTY 184
5	6	6	4	4	4	5	11	4	6	6	6	4	4	4	4

FTY 359	FTY 121	FTY 74	FTY 279	530	FTY 45	573	542	FTY 36	FTY 304	FTY 203	FTY 291	FTY 142	FTY 191	FTY 183	FTY 141
5	6	6	4	9	4	10	12	4	5	5	8	6	11	6	5

FTY 299	FTY 193	FTY 124	FTY 16	FTY 236	FTY 185	FTY 378	FTY 225	FTY 397	FTY 3	FTY 67	FTY 182	FTY 334	623	FTY 348	FTY 357
11	5	6	6	5	8	4	4	4	6	4	4	5	11	7	5

FTY 275	FTY 306	FTY 383	FTY 253	FTY 285	645	FTY 17	FTY 85	598	FTY 375	FTY 325	FTY 12	FTY 365	FTY 35	FTY 237	FTY 238
11	5	5	4	12	8	6	10	7	5	4	4	5	5	8	4

FTY 305	FTY 56	FTY 129	FTY 352	FTY 292	FTY 154	539	FTY 301	FTY 366	FTY 231	618	FTY 216	FTY 82	FTY 393	FTY 155	FTY 68
6	7	10	4	6	4	10	11	4	5	12	7	4	5	6	11

FTY 32	FTY 265	FTY 300	FTY 143	FTY 201	FTY 199	FTY 86	FTY 98	FTY 144	541	507	FTY 20	FTY 116	FTY 308	FTY 177	FTY 89
6	8	5	4	8	5	5	5	9	12	10	6	6	6	8	4

FTY 158	FTY 22	FTY 84	FTY 186	FTY 396	FTY 91	FTY 29	FTY 78	FTY 229	FTY 260	FTY 250	FTY 364	476	FTY 221	FTY 57	FTY 377
6	4	7	4	7	5	8	5	6	5	7	4	11	5	6	4

FTY 384	466	FTY 363	FTY 137	FTY 69	FTY 72	FTY 251	FTY 2
5	7	4	4	4	7	5	4

FTY 217	FTY 257	FTY 120	FTY 25	FTY 252	FTY 33	FTY 42	FTY 54	FTY 372	480	FTY 176	FTY 76	FTY 66	FTY 197	FTY 385	FTY 270
7	6	5	6	9	5	5	6	8	8	6	6	6	4	4	6

FTY 298	FTY 198	FTY 117	544	FTY 159	FTY 232	FTY 156	FTY 343	FTY 296	FTY 311	FTY 344	FTY 178	FTY 367	FTY 73	FTY 112	FTY 295
4	10	13	10	6	6	4	6	5	5	5	4	4	5	13	5

616	FTY 338	FTY 196	FTY 157	FTY 162	551	FTY 148	FTY 94	FTY 52	FTY 131	FTY 9	FTY 194	FTY 8	FTY 318	FTY 317	FTY 99
14	4	5	8	6	13/14	10	7	5	5	6	12	4	6	7	6
			Value assumed:		13										

FTY 289	FTY 169	FTY 51	FTY 345	FTY 398	FTY 111	FTY 273	FTY 382	FTY 47	FTY 30	FTY 147	615	FTY 302	FTY 354	FTY 326	FTY 88
14	4	5	6	5	5	6	5	5	5	5	8	10	11	4	4

FTY 248	FTY 267	FTY 170	FTY 60	453	FTY 249	FTY 167	624	FTY 134	FTY 235	FTY 145	FTY 14	FTY 80	FTY 50	514	FTY 340
9	11	7	4	11	4	5	9	10	9	11	10	5	4	15	5

585	516	FTY 293	FTY 207	FTY 278	FTY 210	523	FTY 269	FTY 530	FTY 1156	FTY 1070	FTY 906	FTY 1004	FTY 331	FTY 31	FTY 226
10	13	5	4	7	7	13	11	10	4	10	5	4	6	5	4

FTY 335	583	FTY 339	FTY 113	FTY 280	FTY 255	FTY 59	620	FTY 349	FTY 130	FTY 119	DYF 398A	FTY 58	FTY 127	FTY 321	FTY 92
4	8	4	6	4	7	5	8	5	4	8	14	11	4	7	5

FTY 392	DYF 392	FTY 290	FTY 312	FTY 135	FTY 150	FTY 294	FTY 244
8	8	4	7	5	9	5	6

FTY 48	FTY 282	489	FTY 272	FTY 239	FTY 258	FTY 49	574	FTY 41	FTY 905	FTY 1103	FTY 502	FTY 743	FTY 443	FTY 670	FTY 883
4	6	11	5	4	6	4	10	6	6	4	11	7	6	11	4

631	FTY 1042	FTY 510	389B	FTY 512	FTY 837	642	FTY 407	FTY 935	FTY 563	FTY 1016	FTY 1091	FTY 1049	FTY 1155	602	FTY 587
11	11	10	10	5	5	9	4	4	10	10	4	8	5	12	5

FTY 635	FTY 904	543	FTY 1148	FTY 861	FTY 742	FTY 433	FTY 1039	FTY 71	FTY 259	FTY 108	FTY 336	FTY 44	FTY 233	FTY 274	FTY 34
11	4	11	4	11	4	5	5	4	5	5	5	11	11	6	5

FTY 942	FTY 1068	FTY 945	FTY 1051	FTY 658	FTY 625	FTY 800	FTY 818	FTY 971	FTY 509	FTY 1025	FTY 835	FTY 984	637	FTY 832	FTY 689
5	10	4	5	7	4	14	5	4	4	12	4	5	11	4	11

FTY 998	FTY 520	FTY 445	FTY 809	FTY 428	FTY 562	FTY 897	FTY 1064	FTY 1088	FTY 1052	DYF 405	FTY 310	FTY 189	488	FTY 283	FTY 28
8	6	10	5	9	9	5	7	4	7	6	10	5	13	8	7

FTY 578	484	FTY 858	FTY 596	FTY 915	FTY 446	FTY 452	FTY 1006	FTY 612	FTY 507
4	13	8	4	4	11	4	13	12	9

Yseq FTDNA111 to YSeq116 Panel:

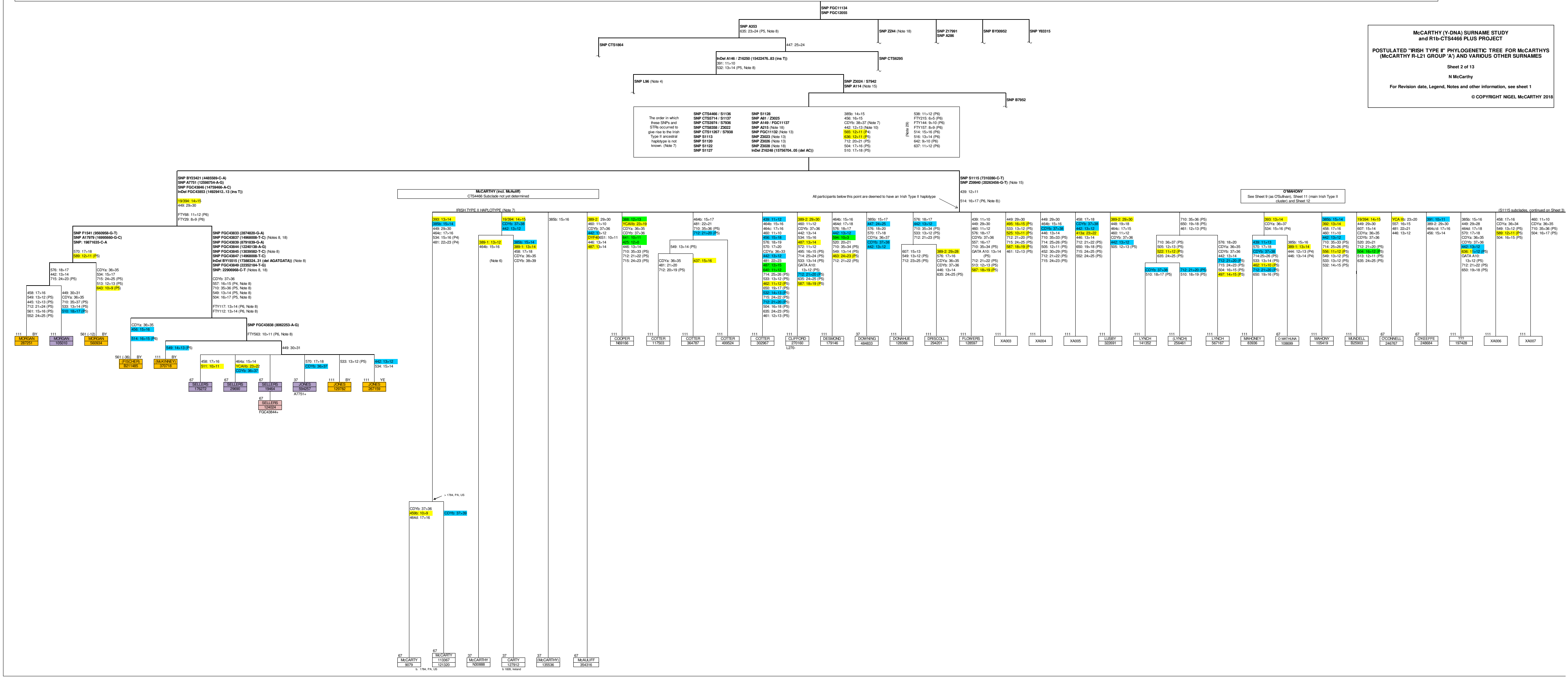
DYR 33	DYR 76	DYR 112	DYR 157	518	614	626	644	684	711	713	723	727	728

McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



McCARTHY (Y-DNA) SURNAME STUDY and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 3 of 13

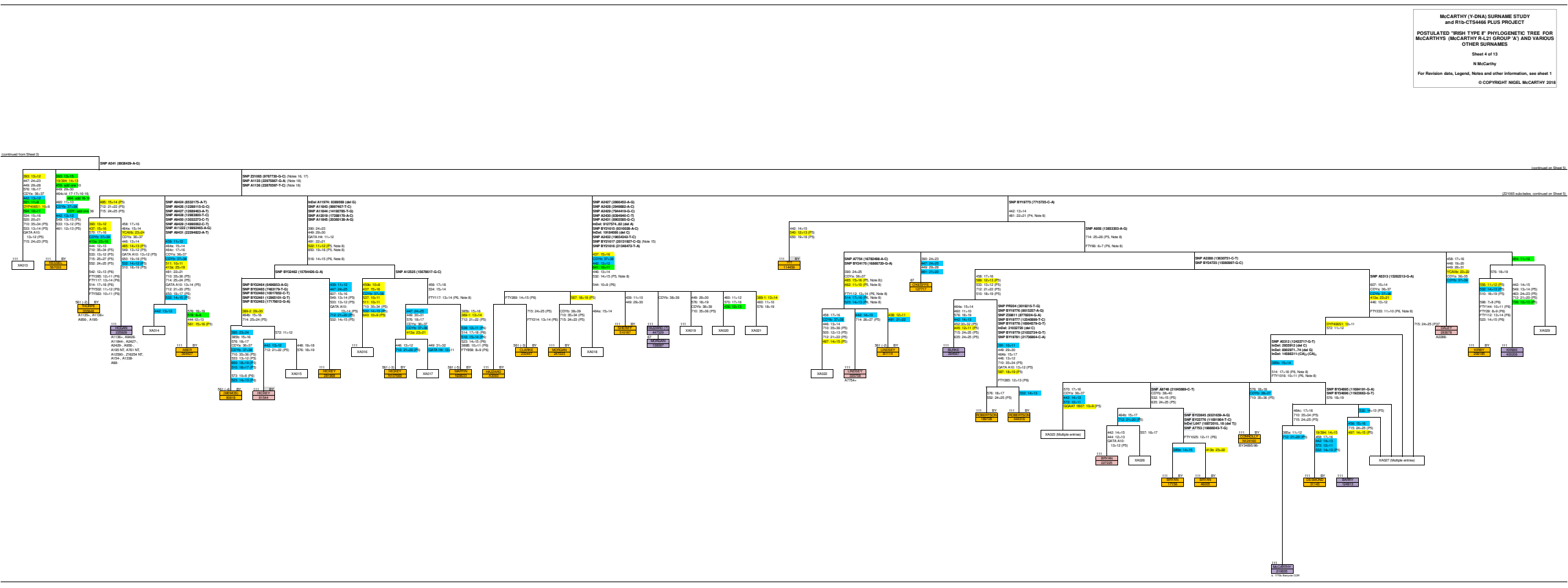
N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1

(continued from Sheet 2)

IRISH TYPE II (MP) CONTINUE (Note 7)

(1)>(13) subclades, continued on Sheet 4)


McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT
POSTULATED "IRISH TYPE 8" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES
Sheet 4 of 13
N McCarthy
For Revision date, Legend, Notes and other information, see sheet 1
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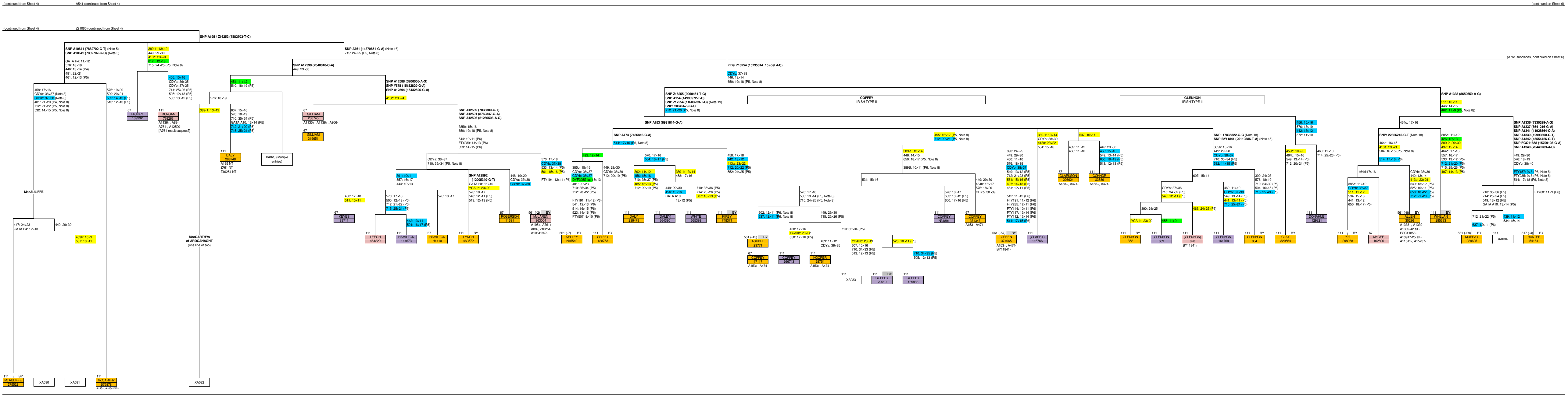
(continued from Sheet 3)
SNP A541 (8938429-A-G)
(continued on Sheet 5)
SNP Z21065 (9767730-G-C) (Notes 16, 17)
SNP A1133 (23978567-G-A) (Note 18)
SNP A1136 (23978567-T-C) (Note 18)
(Z21065 subclades, continued on Sheet 5)
SNP A1974 (8389569 (del G)
SNP A1942 (8607467-T-C)
SNP A1944 (14192785-T-G)
SNP A12019 (17288170-A-C)
SNP A1945 (20306138-A-G)
SNP A2427 (3856452-A-G)
SNP A2428 (3949882-A-C)
SNP A2429 (7944418-G-C)
SNP A2430 (8394968-C-T)
SNP A2431 (9902585-G-C)
InDel: 9127274..82 (del 4)
SNP BY21615 (9310328-A-C)
InDel: 19184056 (del C)
SNP A2432 (19654342-T-C)
SNP BY21617 (20131927-C-G) (Note 15)
SNP BY21616 (21364572-T-A)
SNP BY19775 (7717252-C-A)
SNP A555 (13853303-A-G)
SNP A4434 (8532175-A-T)
SNP A9426 (11289115-G-C)
SNP A9427 (12689463-A-T)
SNP A9428 (13883920-T-C)
SNP A9450 (13332273-C-T)
SNP A9429 (14899082-C-T)
SNP A11222 (15992465-A-G)
SNP A9431 (23294822-A-T)
SNP BY32462 (1579426-G-A)
SNP A12525 (15678017-G-C)
SNP BY32464 (6496653-A-G)
SNP BY32465 (7483178-T-C)
SNP BY32466 (10017652-C-T)
SNP BY32461 (12982103-G-T)
SNP BY32463 (17795813-G-A)
SNP A7754 (16782488-A-C)
SNP BY24170 (16866720-G-A)
SNP BY32467 (1579426-G-A)
SNP A2288 (13630751-C-T)
SNP BY34725 (13980997-G-C)
SNP A6313 (15282313-G-A)
SNP PS204 (3018215-T-G)
SNP BY19776 (5612257-A-G)
SNP Z38811 (8778324-C-A)
SNP BY19777 (12540859-T-C)
SNP BY19778 (16994579-G-T)
InDel: 21630720 (del C)
SNP BY19779 (21032734-G-T)
SNP BY19781 (21736864-C-A)
SNP A5312 (12423717-G-T)
InDel: 2935912 (del C)
InDel: 6603071..74 (del G)
InDel: 14586311-(CA)2-(CA)3
SNP BY34695 (11926193-G-A)
SNP BY34696 (15226563-G-T)
SNP A6748 (21045889-C-T)
SNP BY32645 (9321659-A-G)
SNP BY22776 (11691994-T-C)
InDel L497 (16872010..16 (del T))
SNP A7753 (19866043-T-G)
XA015
XA016
XA017
XA018
XA019
XA020
XA021
XA022
XA022 (Multiple entries)
XA026
XA027 (Multiple entries)
XA029
A1135+, A1136+
A555-, A195-
A1136+, A9426-
A11944-, A2427-,
A2429-, A956-
A195 NT, A761 NT,
A12580-, Z16254 NT,
A154-, A1338-
A89-
A7754+
A2288-
S. O'Tiffe Maryrver.com

McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

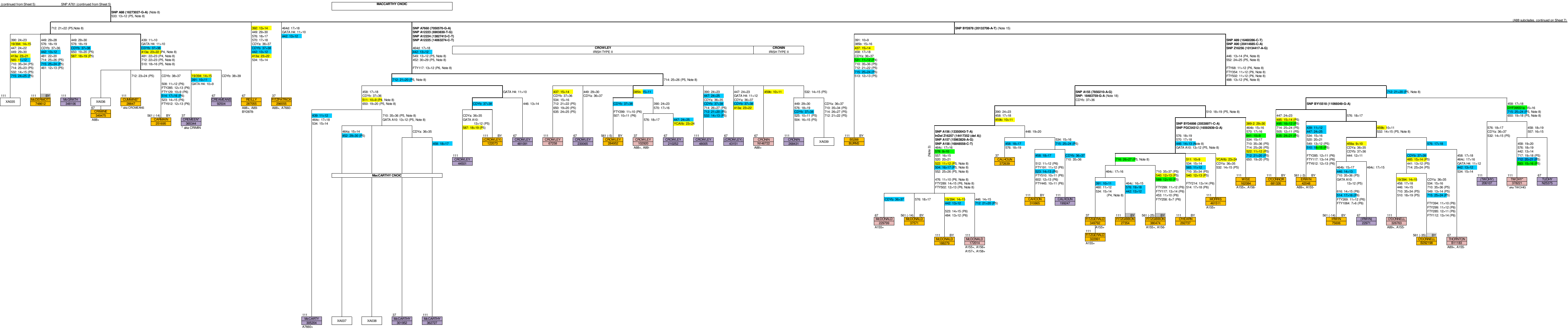
POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1

(continued from Sheet 5) SNP A541 (continued from Sheets 4 and 5)

(continued on Sheet 7)

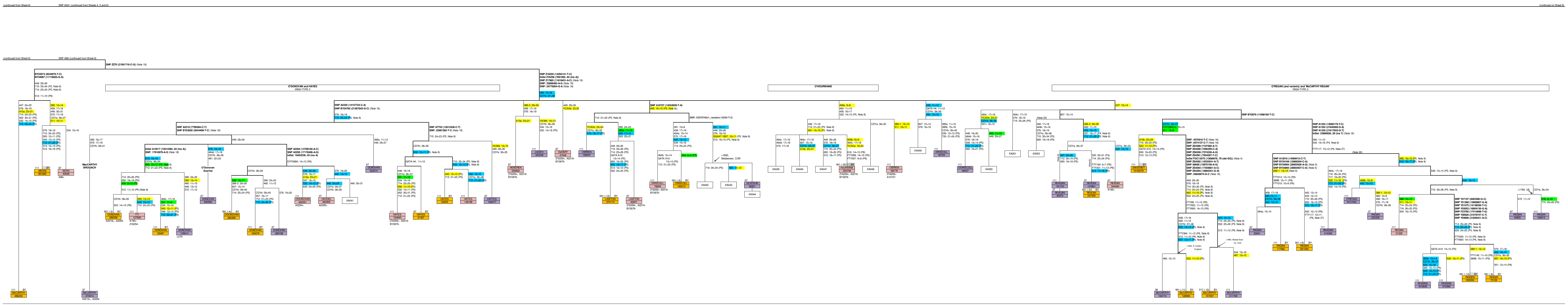


McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



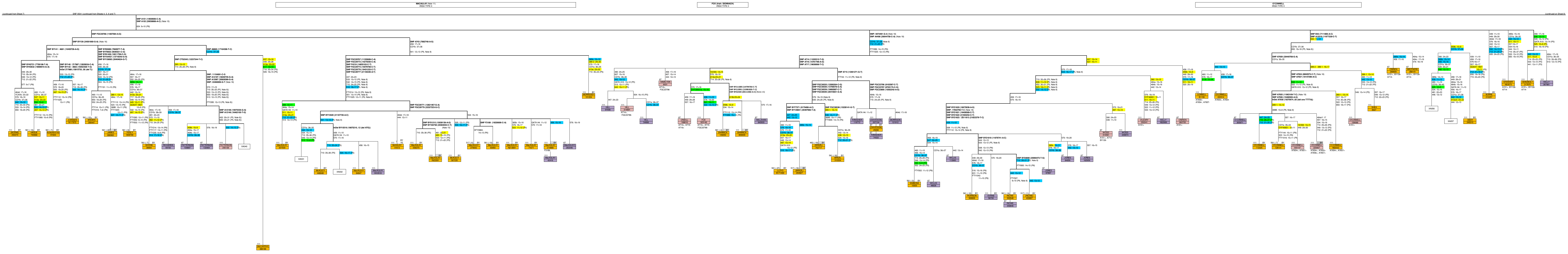
McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 8 of 13

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1

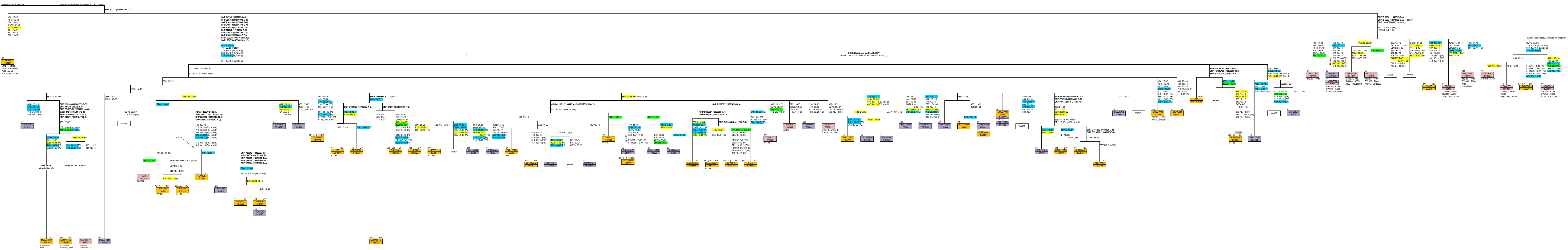


McCARTHY (Y-DNA) SURNAME STUDY and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



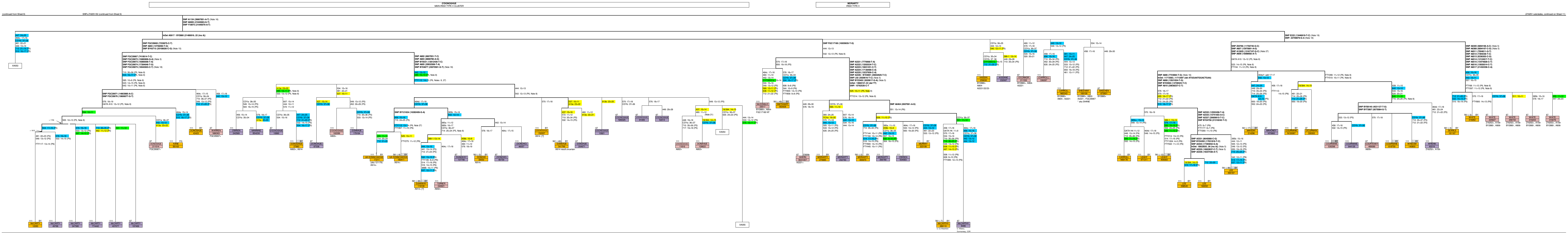
McCARTHY (Y-DNA) SURNAME STUDY and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 10 of 13

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



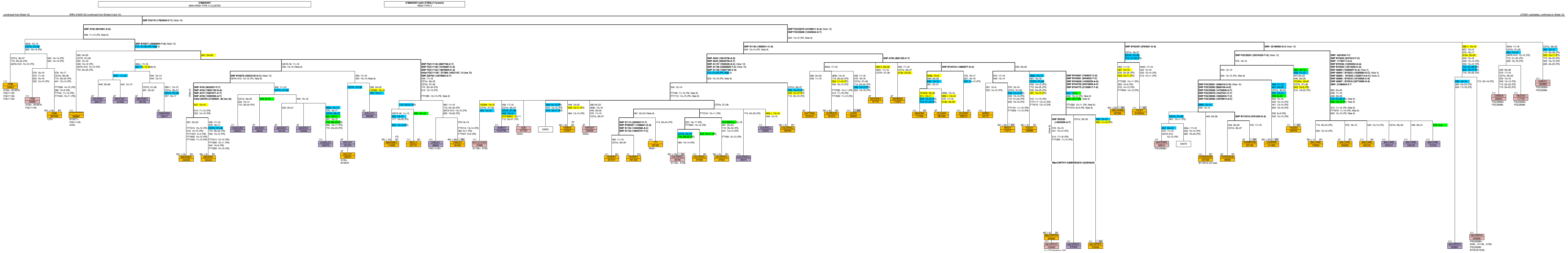
McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 11 of 13

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1



McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE 4" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 12 of 13

N McCarthy

For Revision data, Legend, Notes and other information, see sheet 1

(continued from Sheet 11)

SNPs ZS4251/52 (continued from Sheets 9, 10 and 11)

O'KEEFFE
IRISH TYPE 1 (See also Sheet 4)

O'SULLIVAN
BEARE (4), (Note 14)

DENNEHY
IRISH TYPE 3

CAREY
IRISH TYPE 3

SHEEHAN
IRISH TYPE 3

JBY1449 subclades, continued on Sheet 13)

McCARTHY (Y-DNA) SURNAME STUDY
and R1b-CTS4466 PLUS PROJECT

POSTULATED "IRISH TYPE II" PHYLOGENETIC TREE FOR McCARTHYS (McCARTHY R-L21 GROUP 'A') AND VARIOUS OTHER SURNAMES

Sheet 13 of 13

N McCarthy

For Revision date, Legend, Notes and other information, see sheet 1