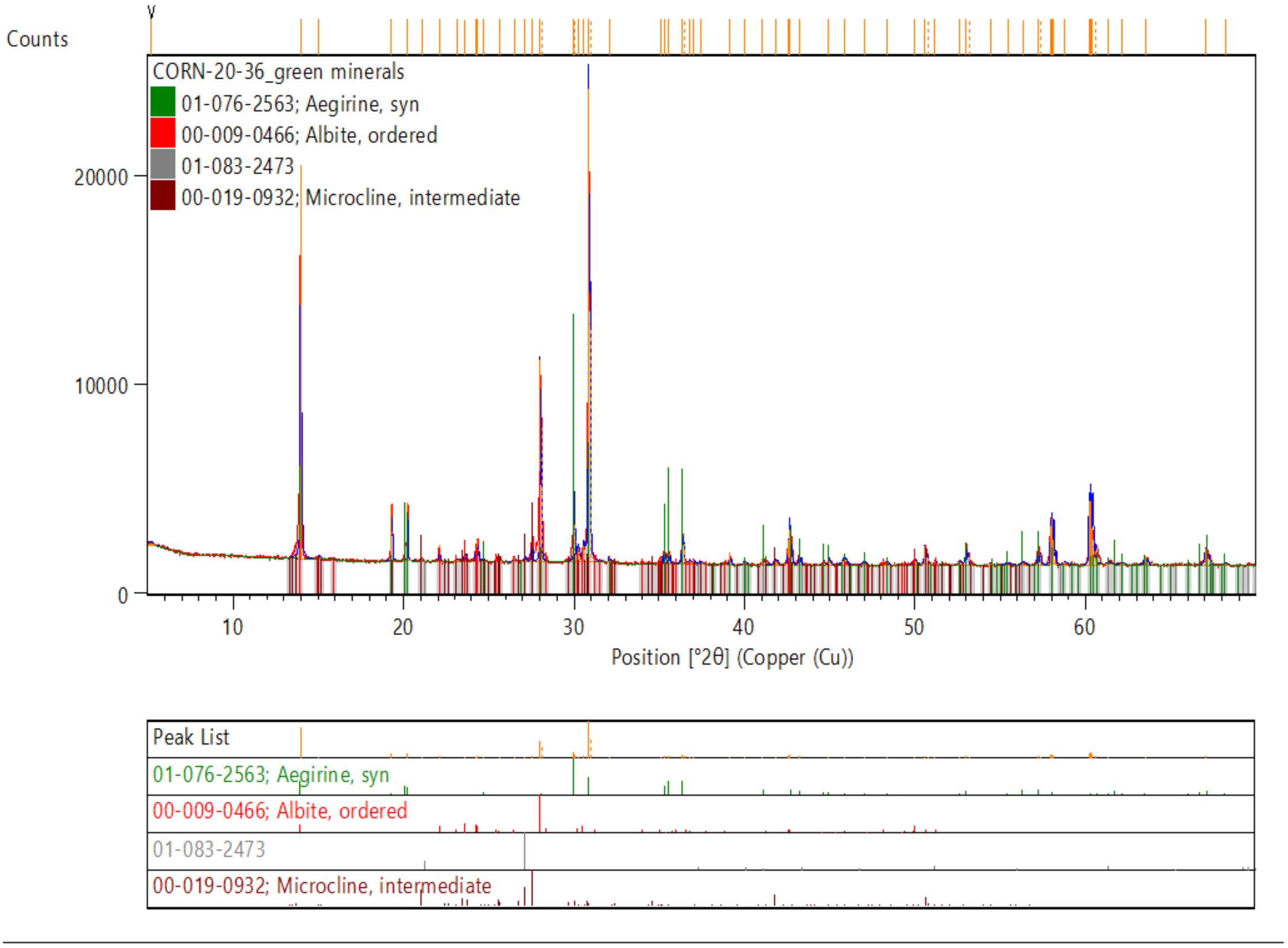
APPENDIX 6. XRD spectra data.

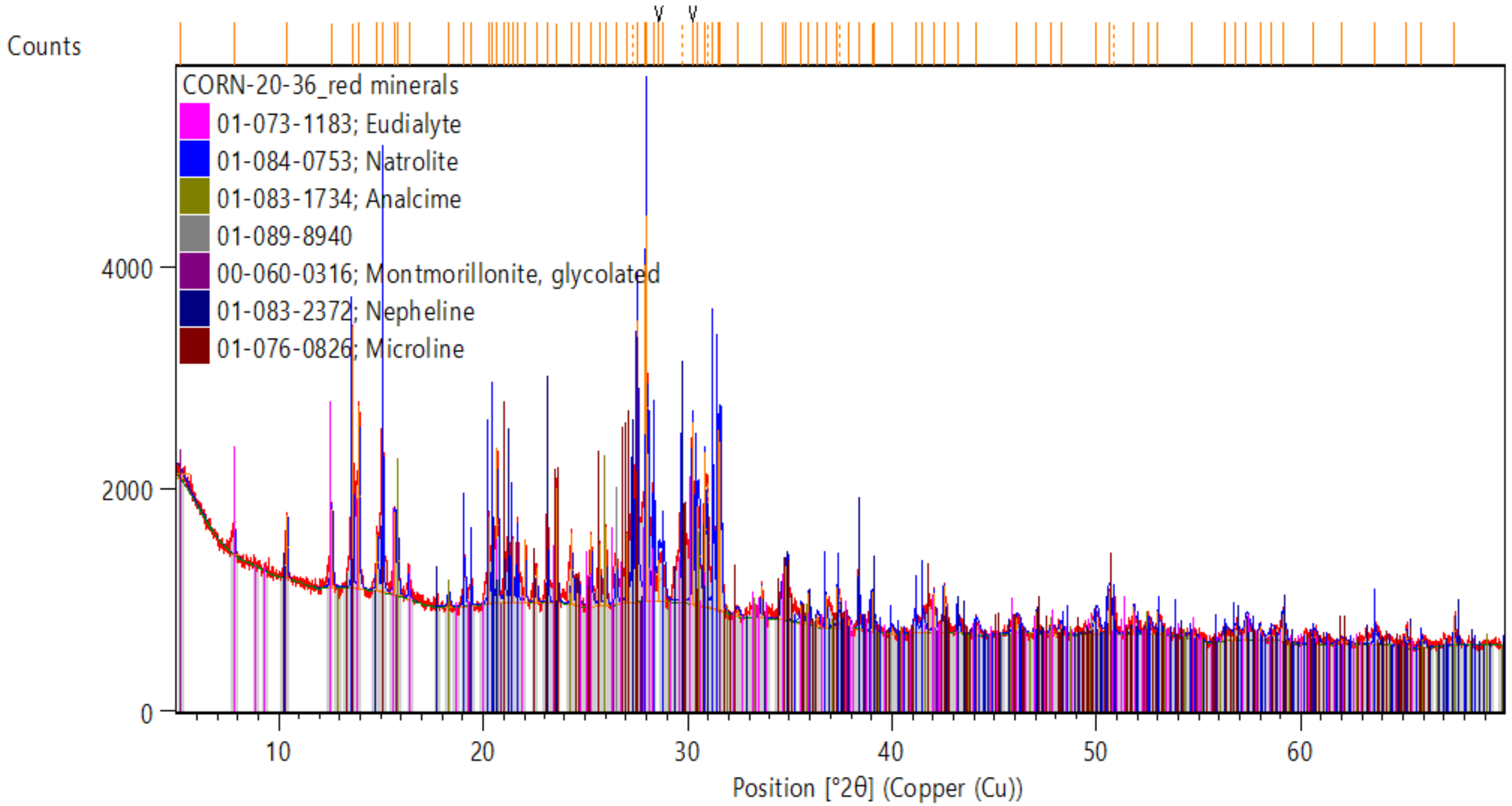
Each sample is listed with the most likely mineral identification based on the composition (name can be found below spectra). Samples are grouped by intrusion and further grouped by mineral type. Table 6-1 is a summary of the samples and identified minerals. Formulas for mineral species are in Table 3 of the main report.

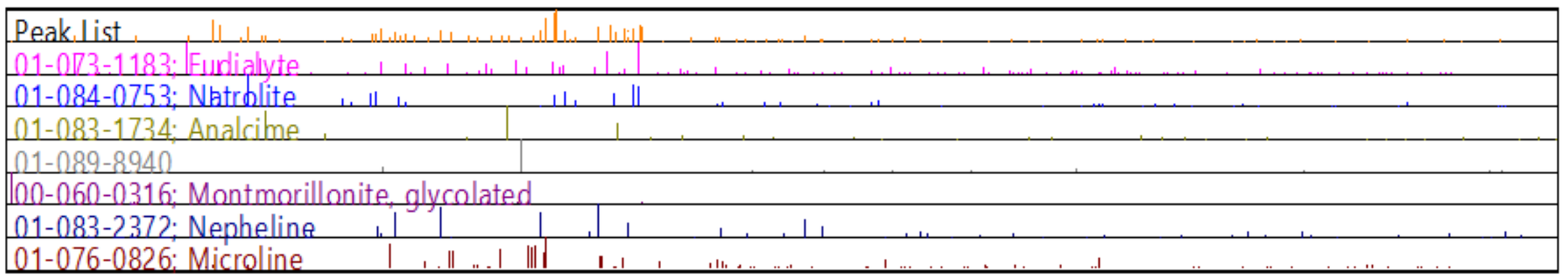
TABLE 6-1. Summary of mineral species identified by XRD. Latitude and longitude are in NAD27. *=whole rock chemistry in Appendix 4.

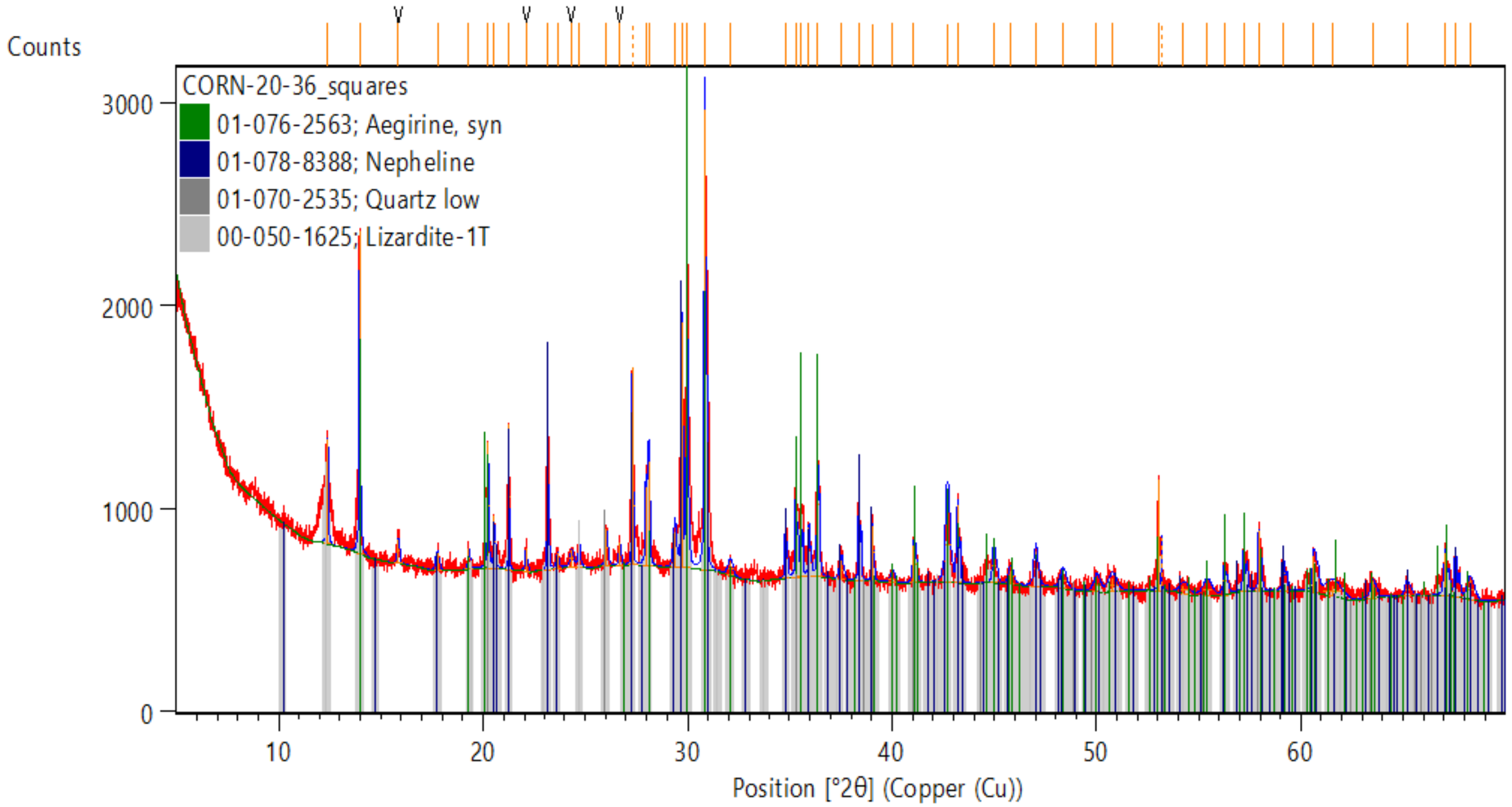
Sample No.	Latitude	Longitude	Locality, map unit	Minerals identified
CORN20-35*	32.02384	-105.527451	Wind Mountain phonolite dike	Aegirine, albite, microcline
CORN20-36				Eudialyte, natrolite, analcime, montmorillonite, nepheline, microcline, aegirine, quartz, lizardite
CORN69*	32.04462189	-105.539157	Chess Draw syenite	Quartz, kaolinite, hematite, svanbergite
CORN70*	32.0446582	-105.539083	Chess Draw skarn	Kaolinite, illite, anatase
WMEB-1*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Analcime, albite, muscovite, microcline, kaolinite, aegirine, gyrolite
WMEB-2*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Quartz, calcite, hematite, analcime, albite, chloritoid, sepiolite
WMEB-6*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Analcime
WMEB-6-215*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Analcime, albite, calcite, pigeonite, magnesioferrite, diopside, nepheline
WMEB-6-217*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Aegirine, quartz, albite, calcite, magnesioferrite
WMEB-6-238*	32.028683	-105.499442	Wind Mountain nepheline syenite, PENSP2	Analcime, quartz, canclite, aegirine, albite

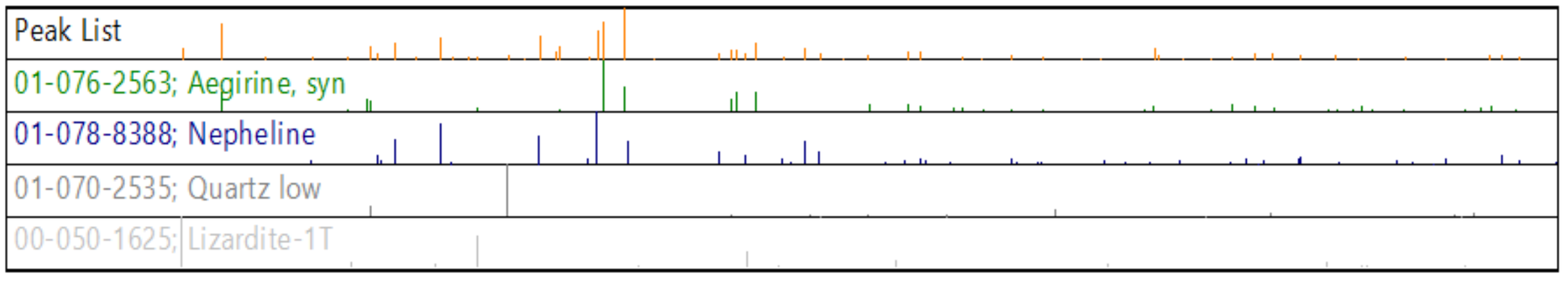

Counts
CORN-20-36_green minerals
01-076-2563; Aegirine, syn
00-009-0466; Albite, ordered
01-083-2473
00-019-0932; Microcline, intermediate
20000
10000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

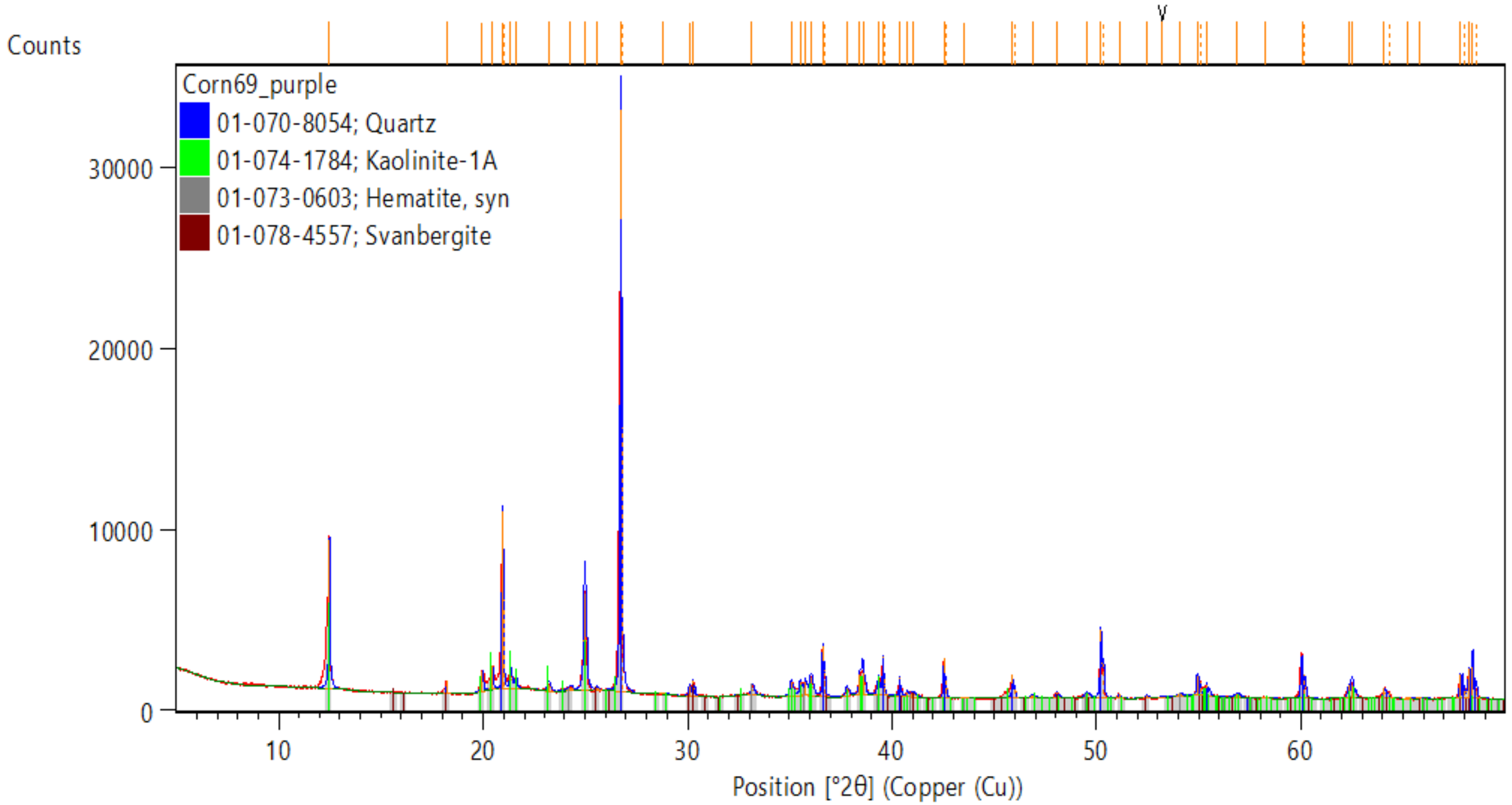
Peak List
01-076-2563; Aegirine, syn
00-009-0466; Albite, ordered
01-083-2473
00-019-0932; Microcline, intermediate

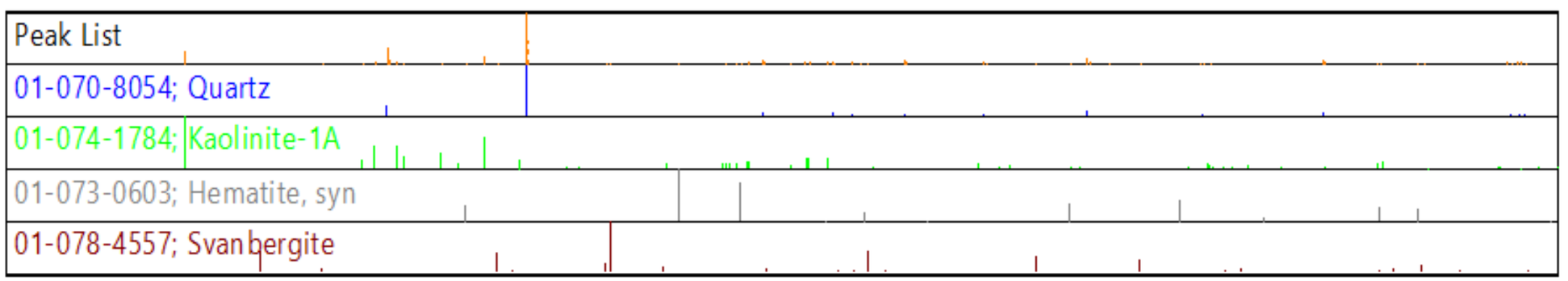

Counts
CORN-20-36_red minerals
01-073-1183; Eudialyte
01-084-0753; Natrolite
01-083-1734; Analcime
01-089-8940
00-060-0316; Montmorillonite, glycolated
01-083-2372; Nepheline
01-076-0826; Microline
4000
2000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

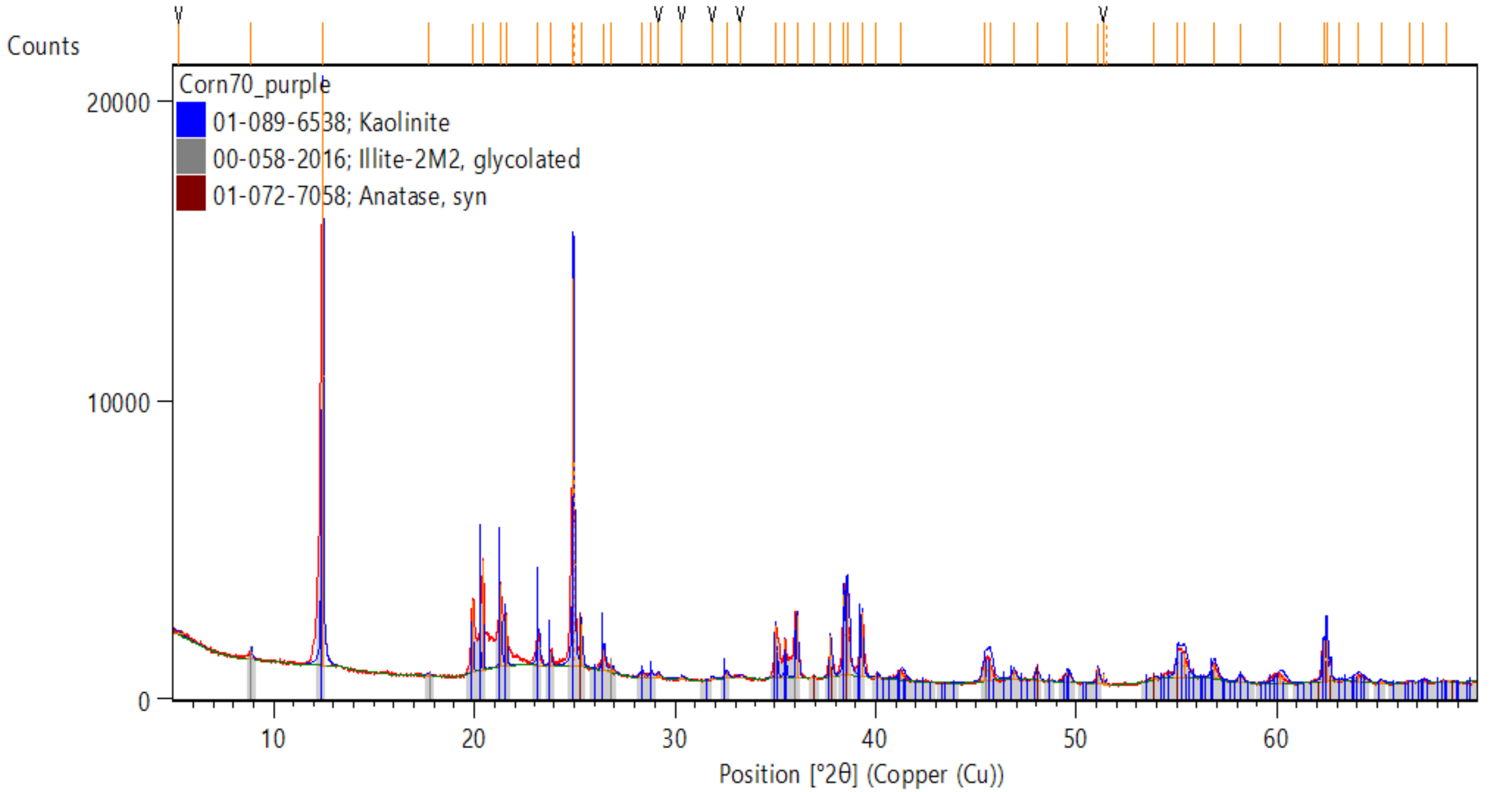

Peak List
01-073-1183; Eudialyte
01-084-0753; Natrolite
01-083-1734; Analcime
01-089-8940
00-060-0316; Montmorillonite, glycolated
01-083-2372; Nepheline
01-076-0826; Microline

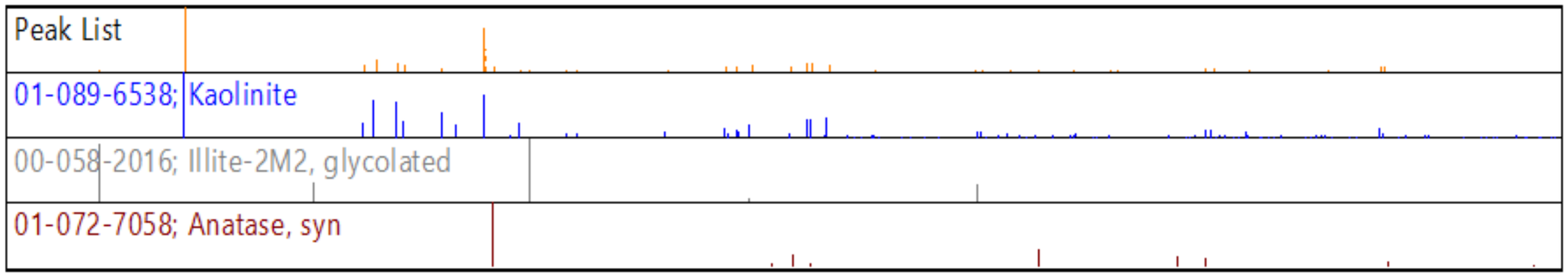

Counts
CORN-20-36_squares
01-076-2563; Aegirine, syn
01-078-8388; Nepheline
01-070-2535; Quartz low
00-050-1625; Lizardite-1T
3000
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

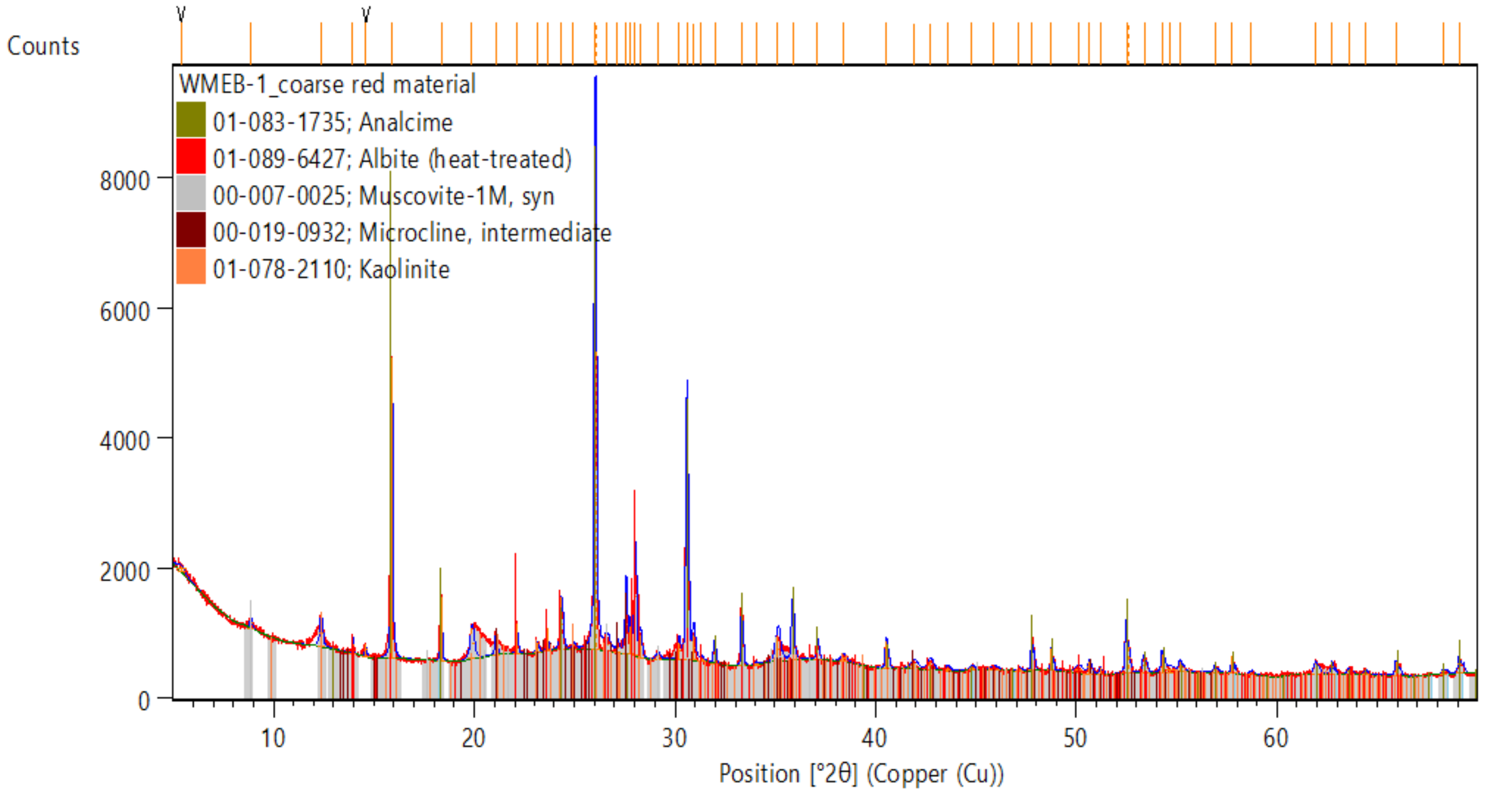

Peak List
01-076-2563; Aegirine, syn
01-078-8388; Nepheline
01-070-2535; Quartz low
00-050-1625; Lizardite-1T

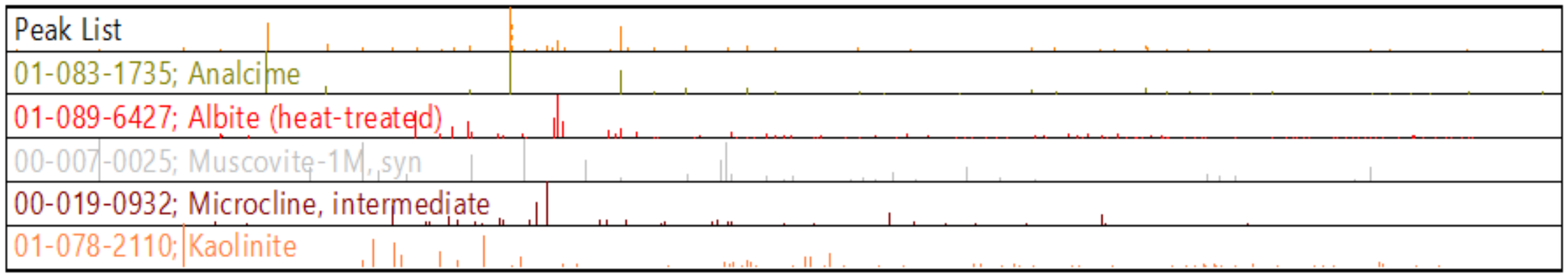

Counts
Corn69_purple
01-070-8054; Quartz
01-074-1784; Kaolinite-1A
01-073-0603; Hematite, syn
01-078-4557; Svanbergite
30000
20000
10000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

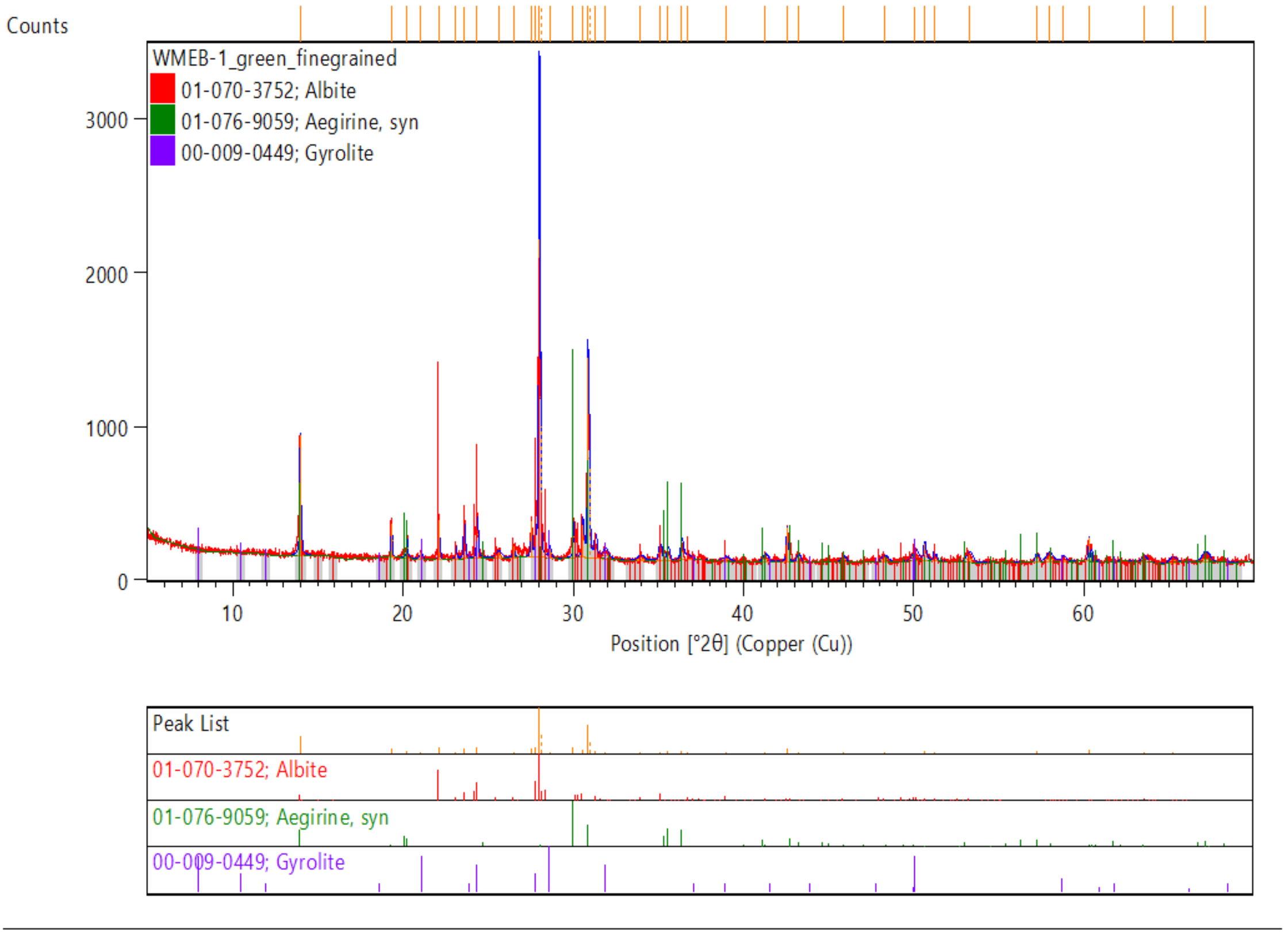

Peak List
01-070-8054; Quartz
01-074-1784; Kaolinite-1A
01-073-0603; Hematite, syn
01-078-4557; Svanbergite


Counts
Corn70_purple
01-089-6538; Kaolinite
00-058-2016; Illite-2M2, glycolated
01-072-7058; Anatase, syn
20000
10000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

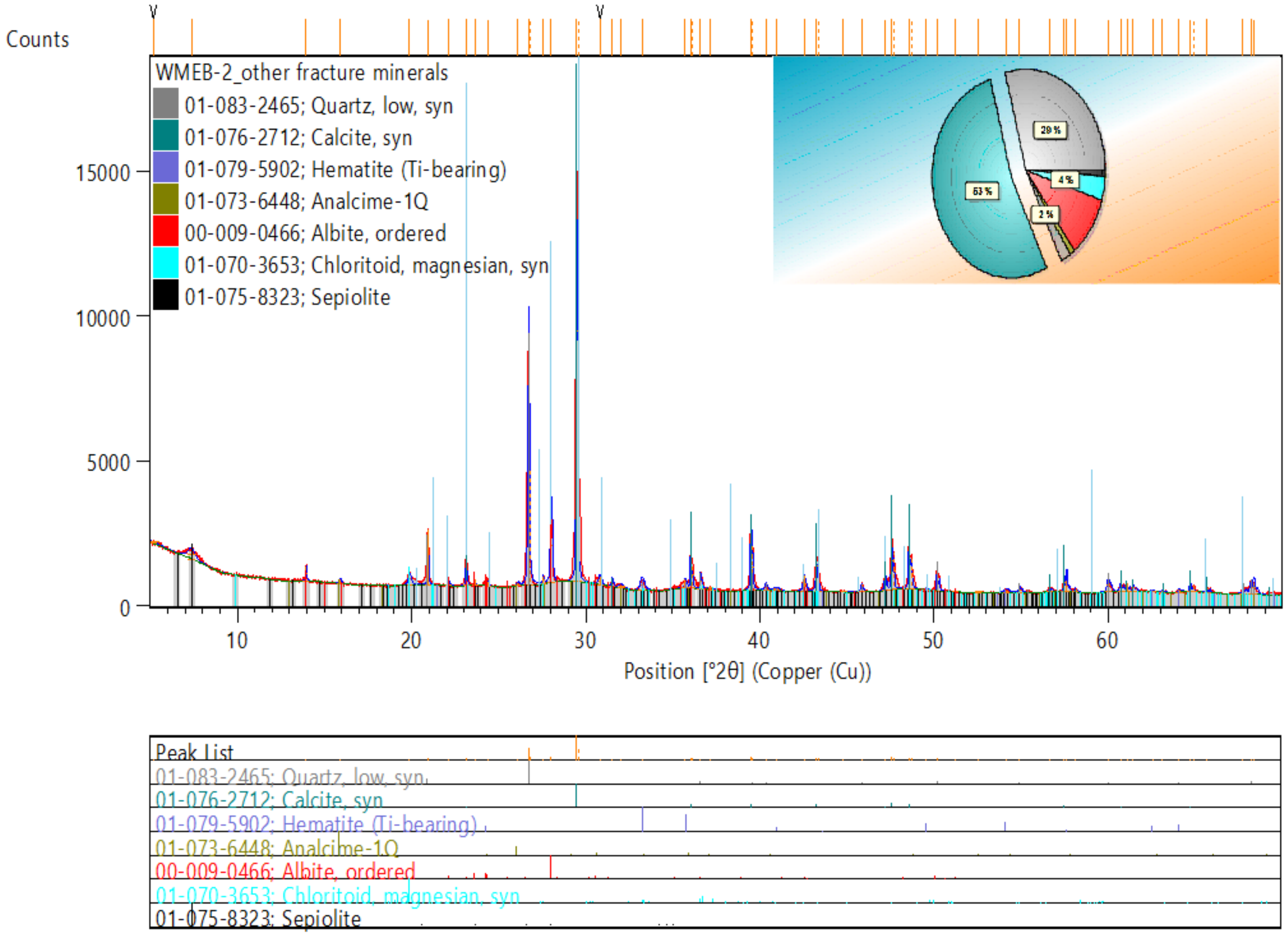

Peak List
01-089-6538; Kaolinite
00-058-2016; Illite-2M2, glycolated
01-072-7058; Anatase, syn

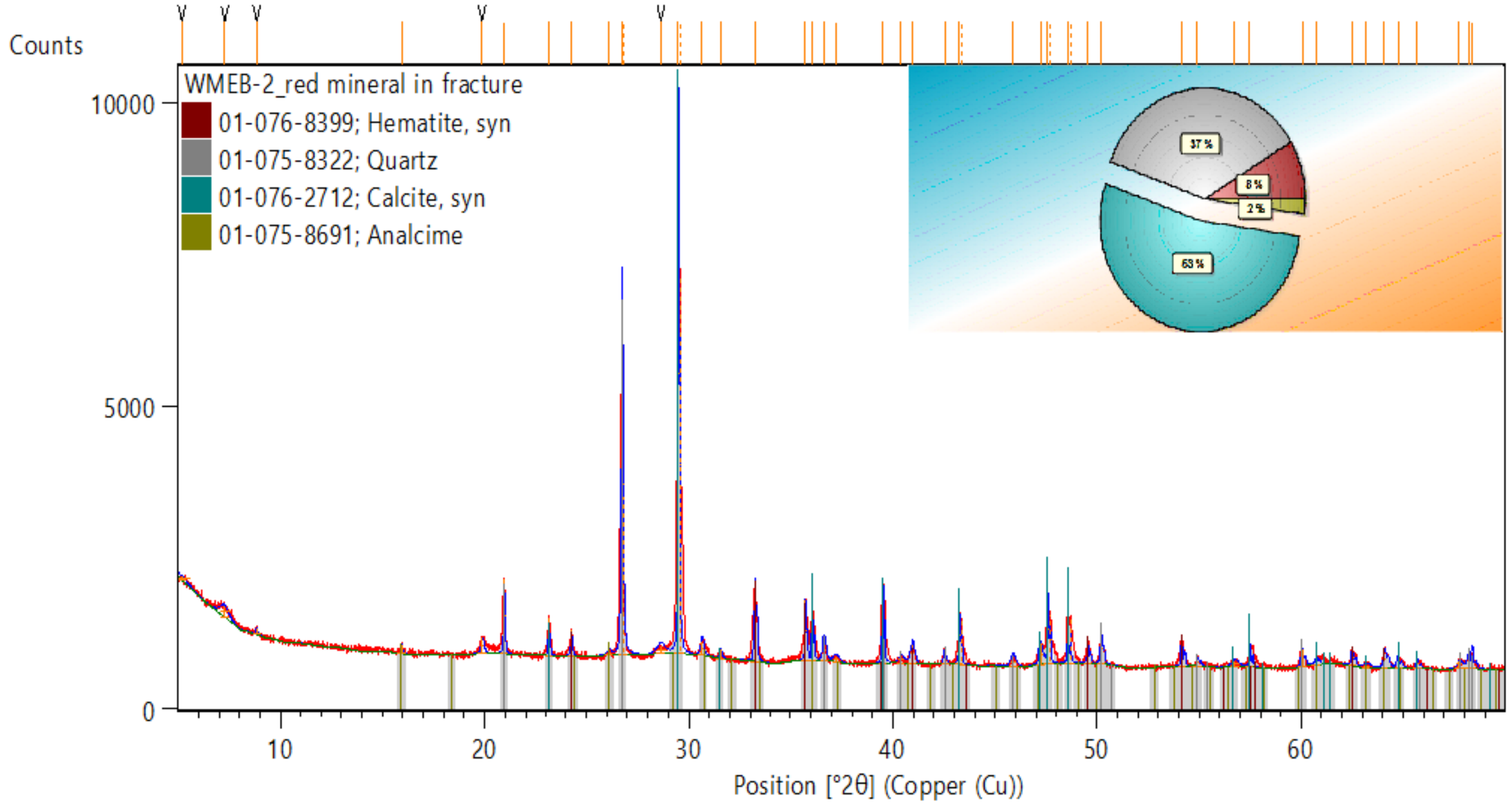

Counts
WMEB-1_coarse red material
01-083-1735; Analcime
01-089-6427; Albite (heat-treated)
00-007-0025; Muscovite-1M, syn
00-019-0932; Microcline, intermediate
01-078-2110; Kaolinite
8000
6000
4000
2000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

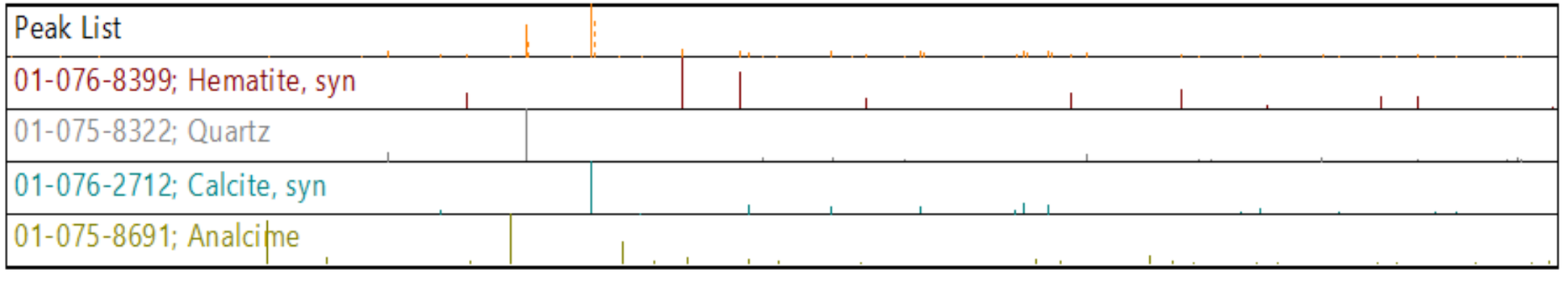

Peak List
01-083-1735; Analcime
01-089-6427; Albite (heat-treated)
00-007-0025; Muscovite-1M, syn
00-019-0932; Microcline, intermediate
01-078-2110; Kaolinite

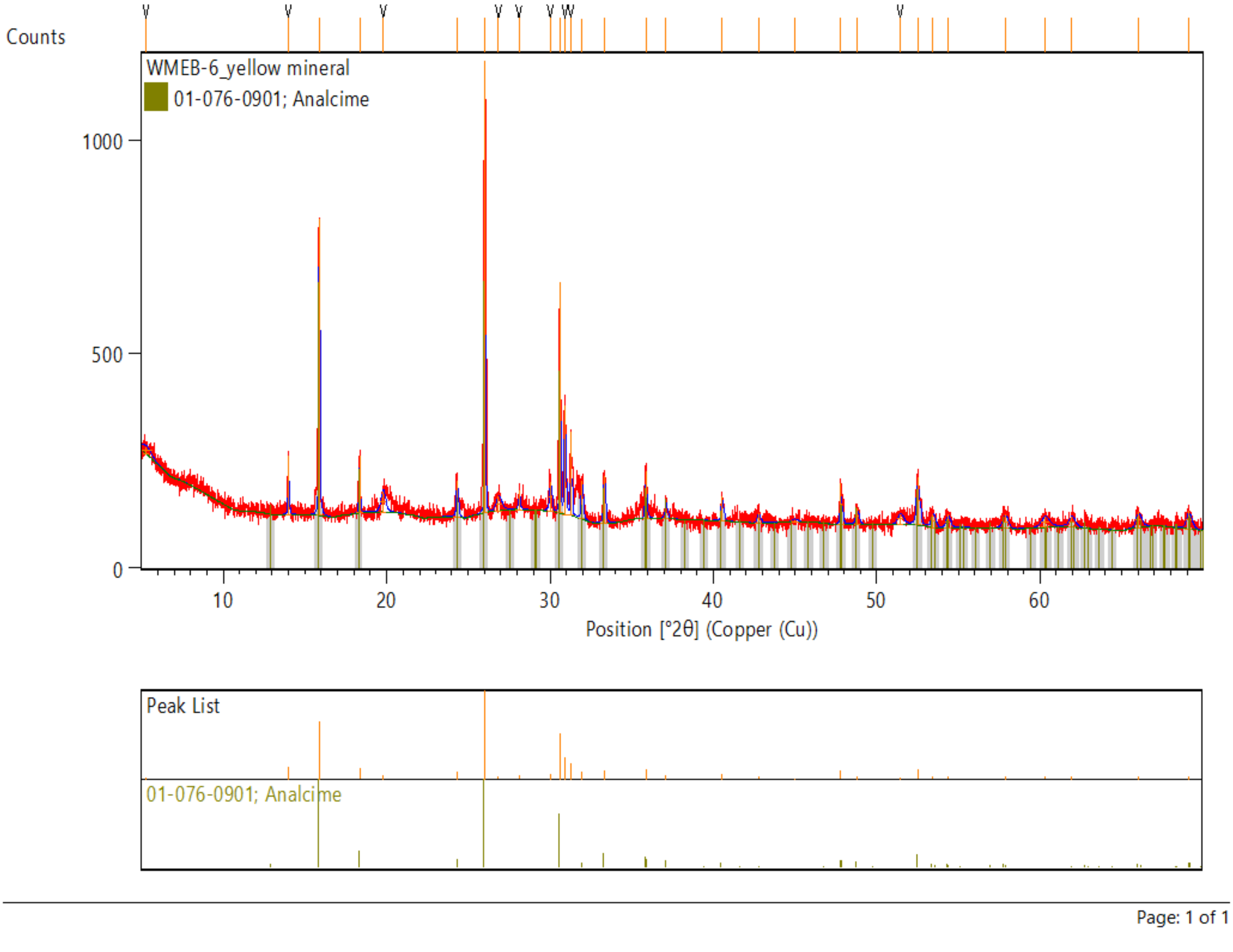

Counts
WMEB-1_green_finegrained
01-070-3752; Albite
01-076-9059; Aegirine, syn
00-009-0449; Gyrolite
3000
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

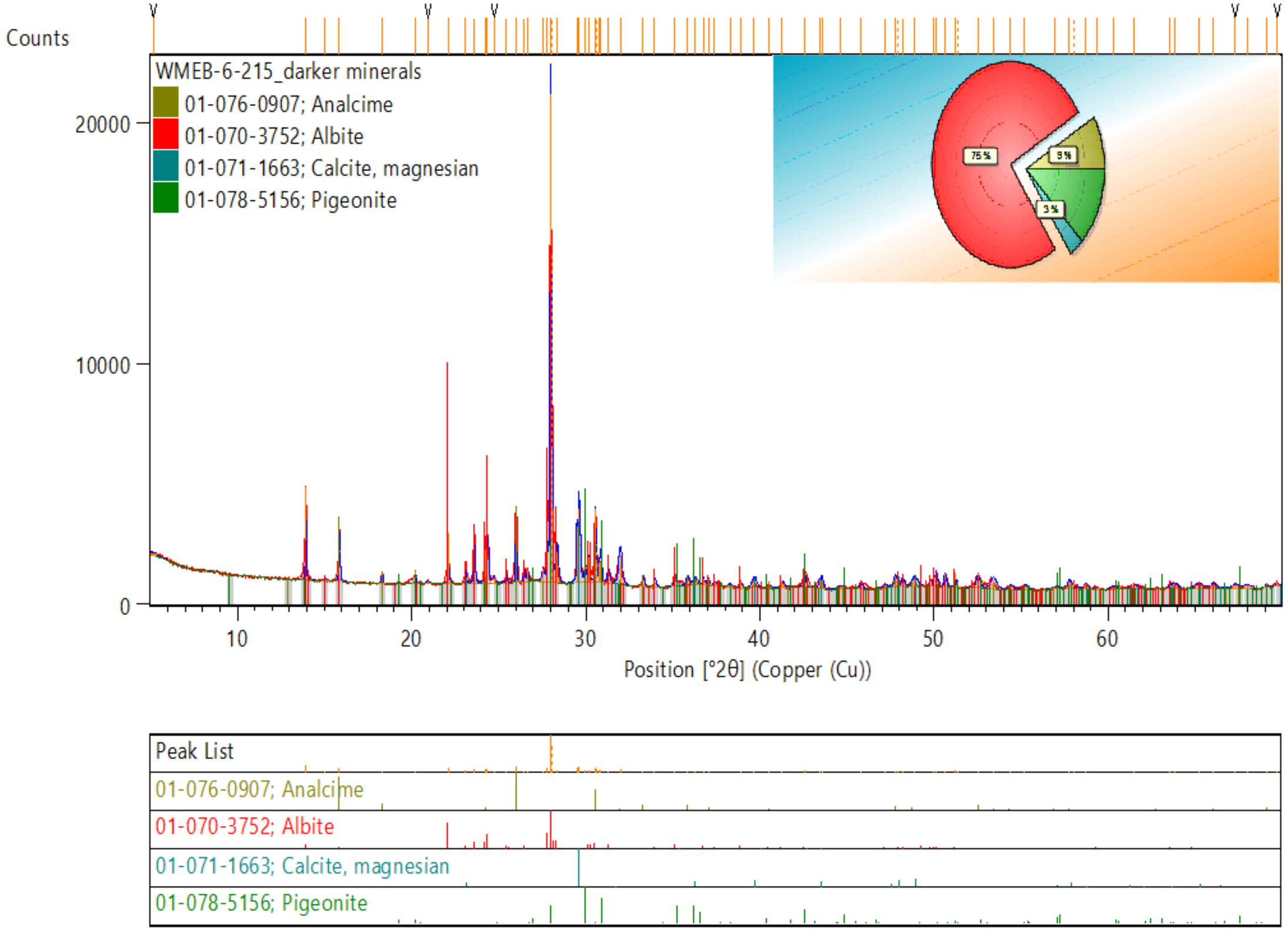
Peak List
01-070-3752; Albite
01-076-9059; Aegirine, syn
00-009-0449; Gyrolite


Counts
WMEB-2_other fracture minerals
01-083-2465; Quartz, low, syn
01-076-2712; Calcite, syn
01-079-5902; Hematite (Ti-bearing)
01-073-6448; Analcime-1Q
00-009-0466; Albite, ordered
01-070-3653; Chloritoid, magnesian, syn
01-075-8323; Sepiolite
29 %
4 %
63 %
2 %
15000
10000
5000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
01-083-2465; Quartz, low, syn
01-076-2712; Calcite, syn
01-079-5902; Hematite (Ti-bearing)
01-073-6448; Analcime-1Q
00-009-0466; Albite, ordered
01-070-3653; Chloritoid, magnesian, syn
01-075-8323; Sepiolite

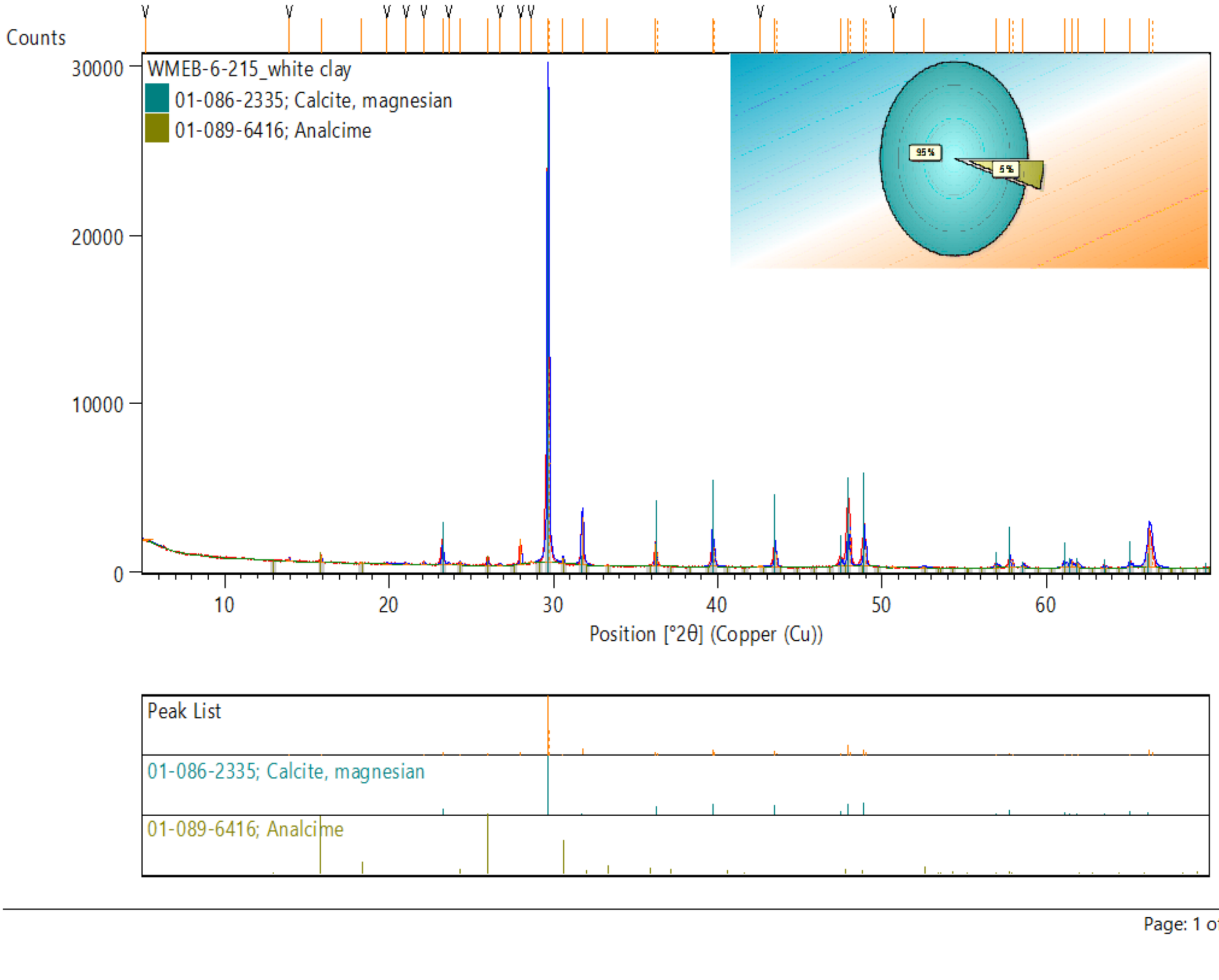

Counts
WMEB-2_red mineral in fracture
01-076-8399; Hematite, syn
01-075-8322; Quartz
01-076-2712; Calcite, syn
01-075-8691; Analcime
10000
5000
0
37 %
8 %
2 %
53 %
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))


Peak List
01-076-8399; Hematite, syn
01-075-8322; Quartz
01-076-2712; Calcite, syn
01-075-8691; Analcime

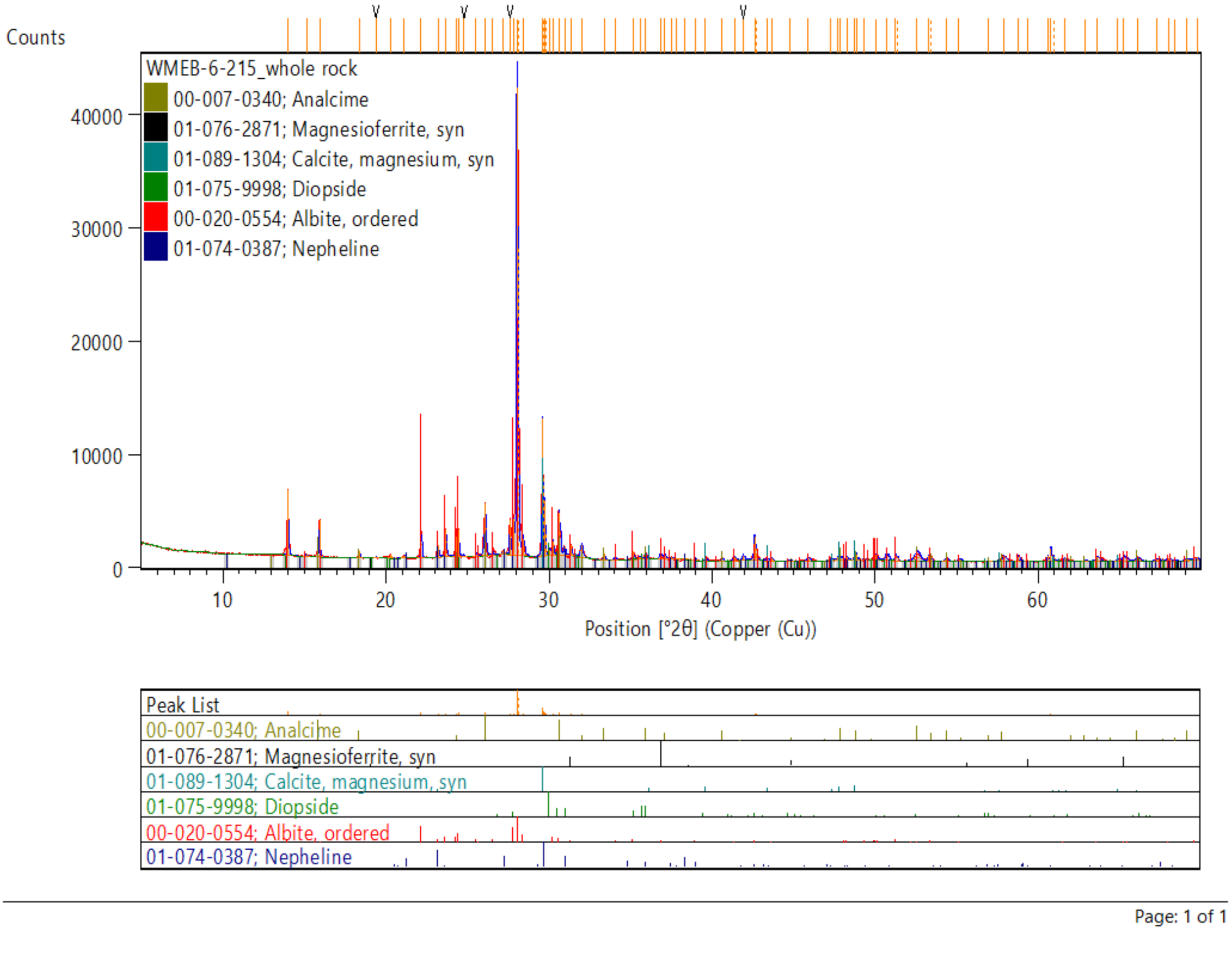

Counts
WMEB-6_yellow mineral
01-076-0901; Analcime
1000
500
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
01-076-0901; Analcime

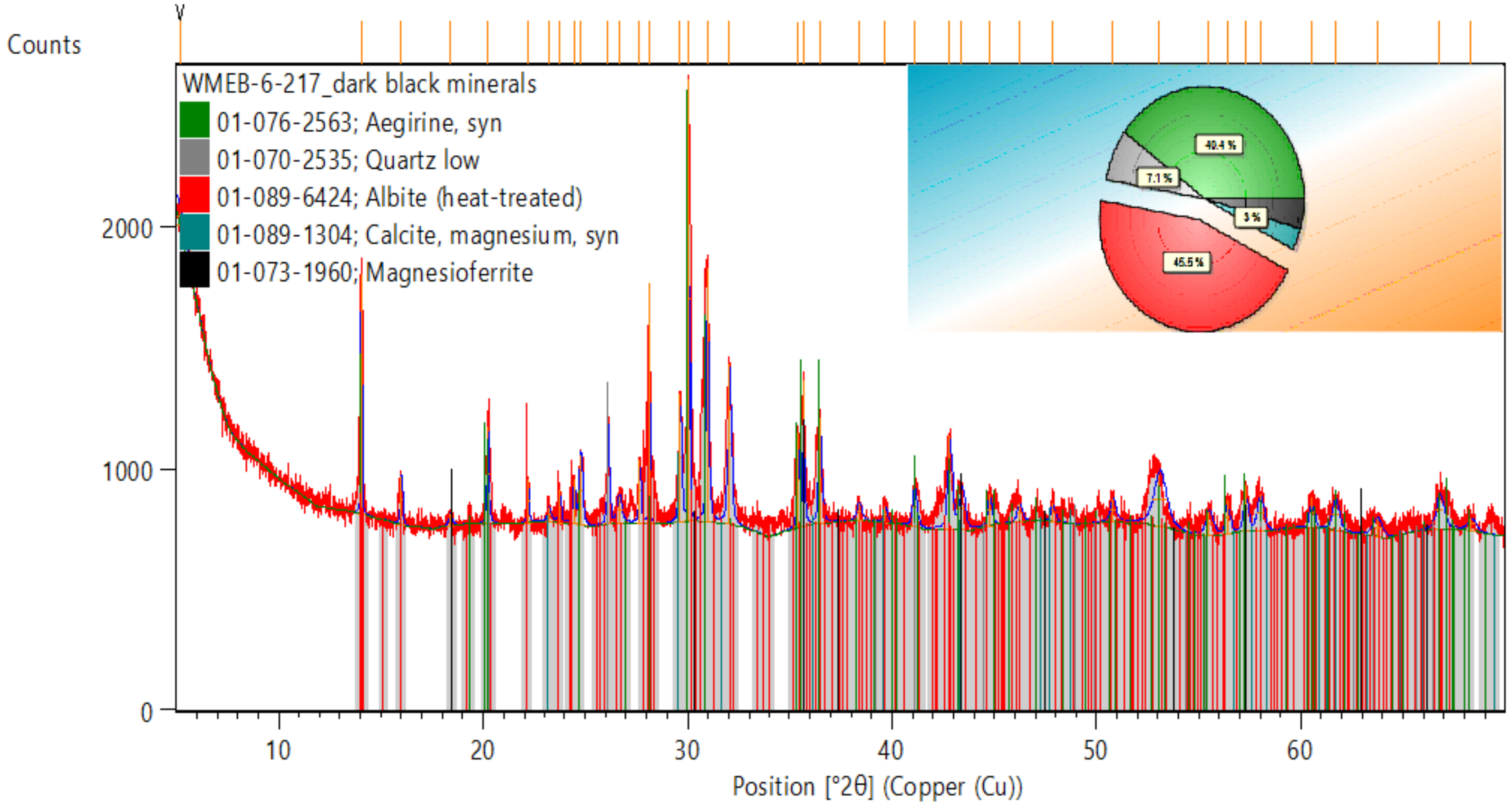

Counts
WMEB-6-215_darker minerals
01-076-0907; Analcime
01-070-3752; Albite
01-071-1663; Calcite, magnesian
01-078-5156; Pigeonite
20000
10000
0
75 %
9 %
3 %
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

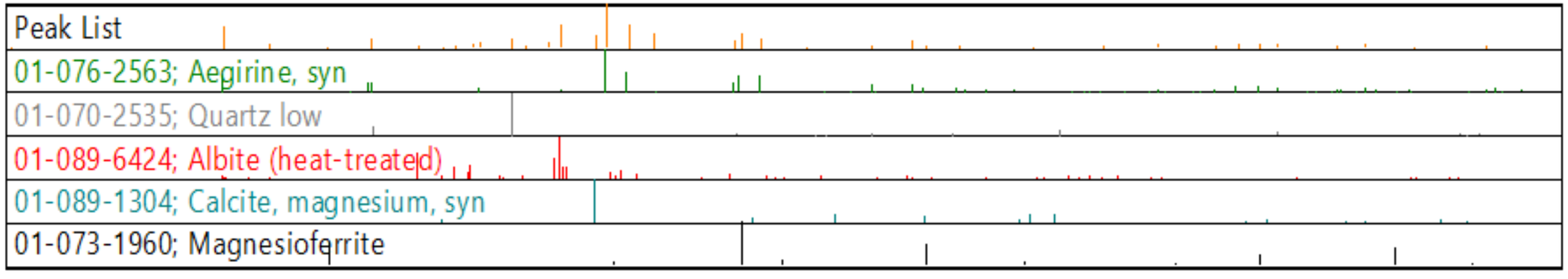
Peak List
01-076-0907; Analcime
01-070-3752; Albite
01-071-1663; Calcite, magnesian
01-078-5156; Pigeonite

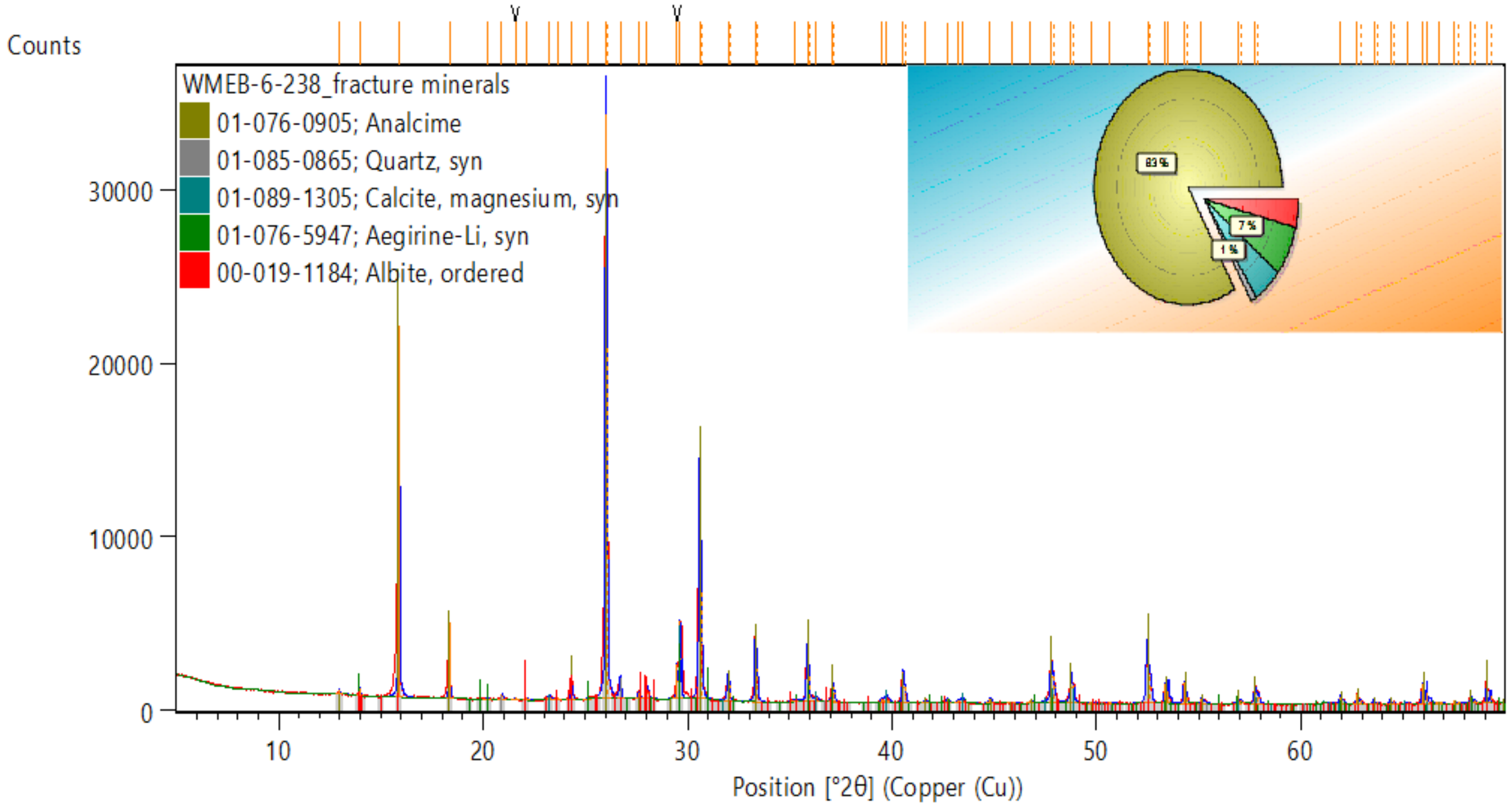

Counts
30000
20000
10000
0
WMEB-6-215_white clay
01-086-2335; Calcite, magnesian
01-089-6416; Analcime
95 %
5 %
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))

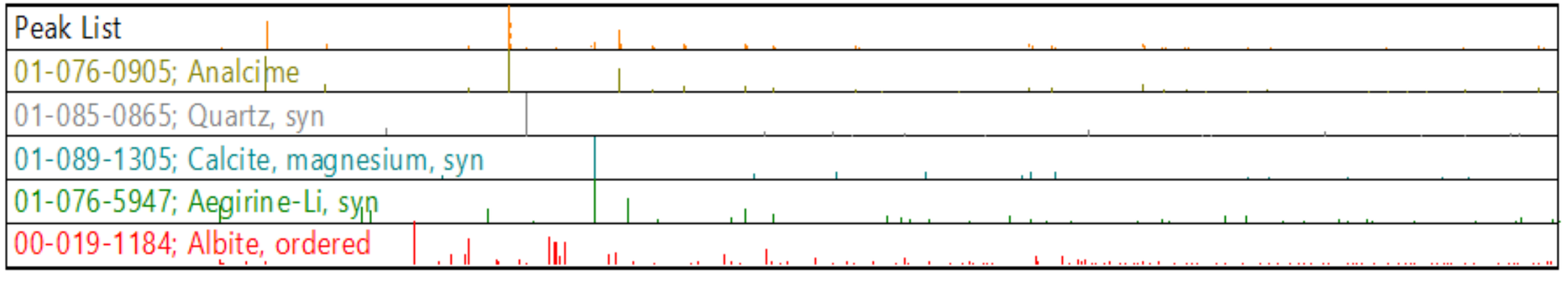
Peak List
01-086-2335; Calcite, magnesian
01-089-6416; Analcime


Counts
WMEB-6-215_whole rock
00-007-0340; Analcime
01-076-2871; Magnesioferrite, syn
01-089-1304; Calcite, magnesium, syn
01-075-9998; Diopside
00-020-0554; Albite, ordered
01-074-0387; Nepheline
40000
30000
20000
10000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))
Peak List
00-007-0340; Analcime
01-076-2871; Magnesioferrite, syn
01-089-1304; Calcite, magnesium, syn
01-075-9998; Diopside
00-020-0554; Albite, ordered
01-074-0387; Nepheline


Counts
WMEB-6-217_dark black minerals
01-076-2563; Aegirine, syn
01-070-2535; Quartz low
01-089-6424; Albite (heat-treated)
01-089-1304; Calcite, magnesium, syn
01-073-1960; Magnesioferrite
40.4 %
7.1 %
3 %
45.5 %
2000
1000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))


Peak List
01-076-2563; Aegirine, syn
01-070-2535; Quartz low
01-089-6424; Albite (heat-treated)
01-089-1304; Calcite, magnesium, syn
01-073-1960; Magnesioferrite


Counts
WMEB-6-238_fracture minerals
01-076-0905; Analcime
01-085-0865; Quartz, syn
01-089-1305; Calcite, magnesium, syn
01-076-5947; Aegirine-Li, syn
00-019-1184; Albite, ordered
83 %
7 %
1 %
30000
20000
10000
0
10
20
30
40
50
60
Position [°2θ] (Copper (Cu))


Peak List
01-076-0905; Analcime
01-085-0865; Quartz, syn
01-089-1305; Calcite, magnesium, syn
01-076-5947; Aegirine-Li, syn
00-019-1184; Albite, ordered