CONFIDENTIAL REPORT

XRD Results

Headwater Mineral Exploration and Development Ltd.
Priority #1 Samples from 005-633

Prepared for Headwater Mineral Exploration and Development Ltd.

By Ellen Friesen
Saskatchewan Research Council
Mining and Minerals Division

SRC Publication No. 10400-14C08
September, 2008

smart science solutions

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Appendix A

Analytical Conditions

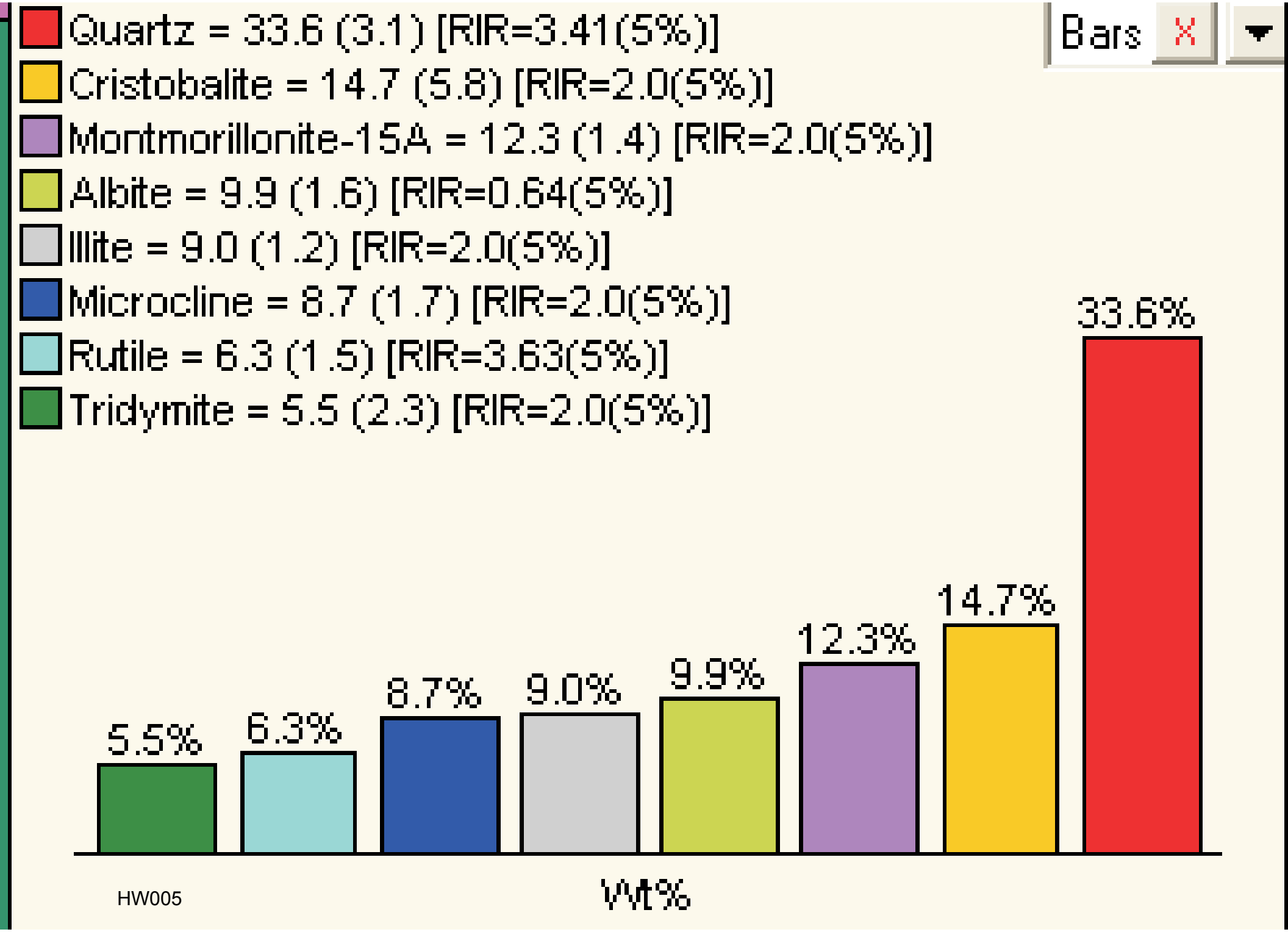
XRD machine	Rigaku Miniflex +
X-ray tube	Cu
Scan Range	2° to 70°
Standard	Silica
Sample Mount	Pressed powder
Rotation	Rotation on; minimizes the effect of crystal preferred orientation and surface imperfections.
Peak Identification Software	Jade v. 8
Mineralogical Database	International Centre Diffraction Data Pattern Diffraction File 4+2007 (PDF4+2007)
Quantitative Software	Rigaku Whole Pattern Fitting

Software Conditions
Jade v. 8 (ICDD PDF4+2007)

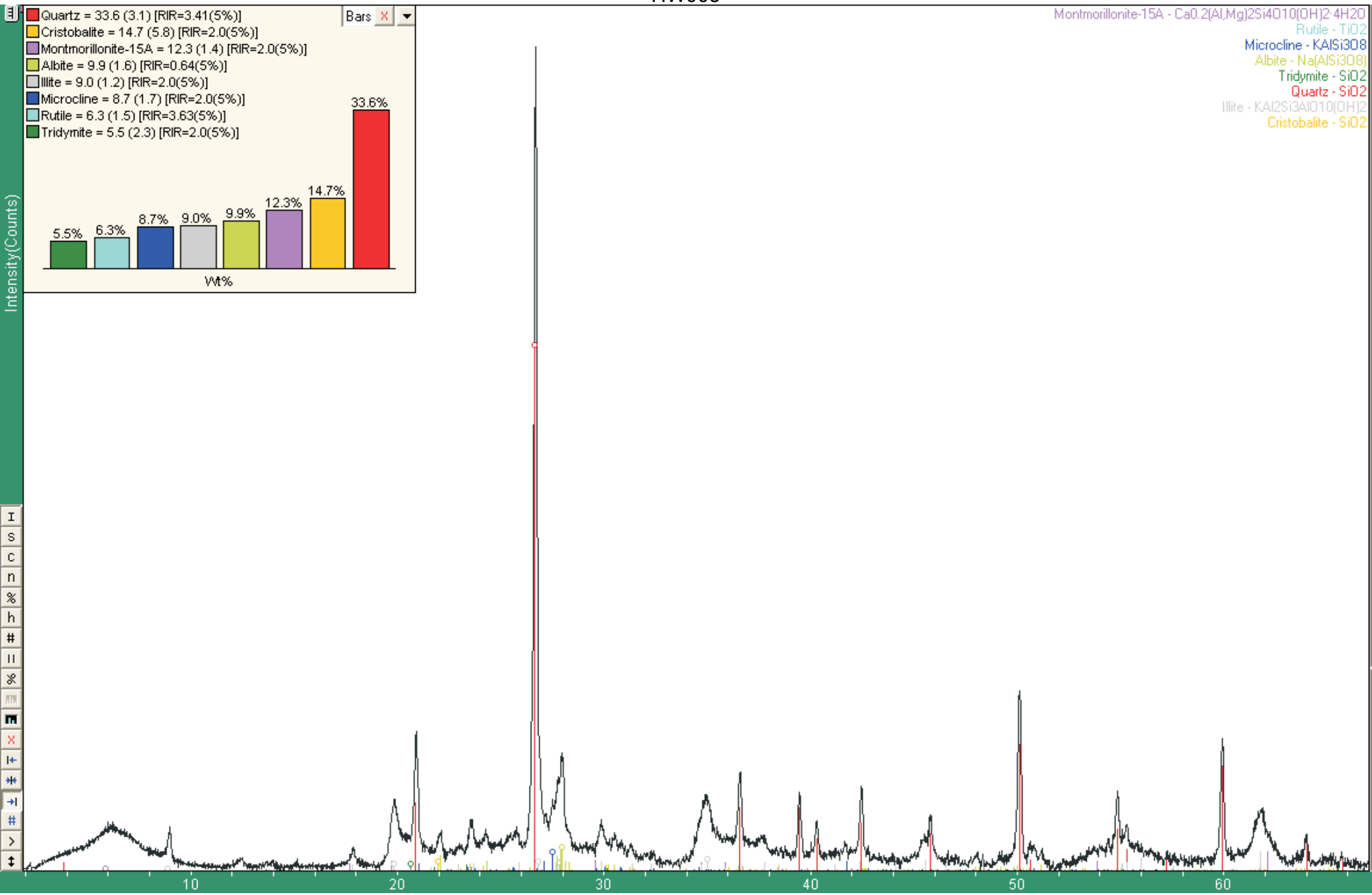
Condition	Application
Background	Cubic spline applied to background.
kα	Stripped

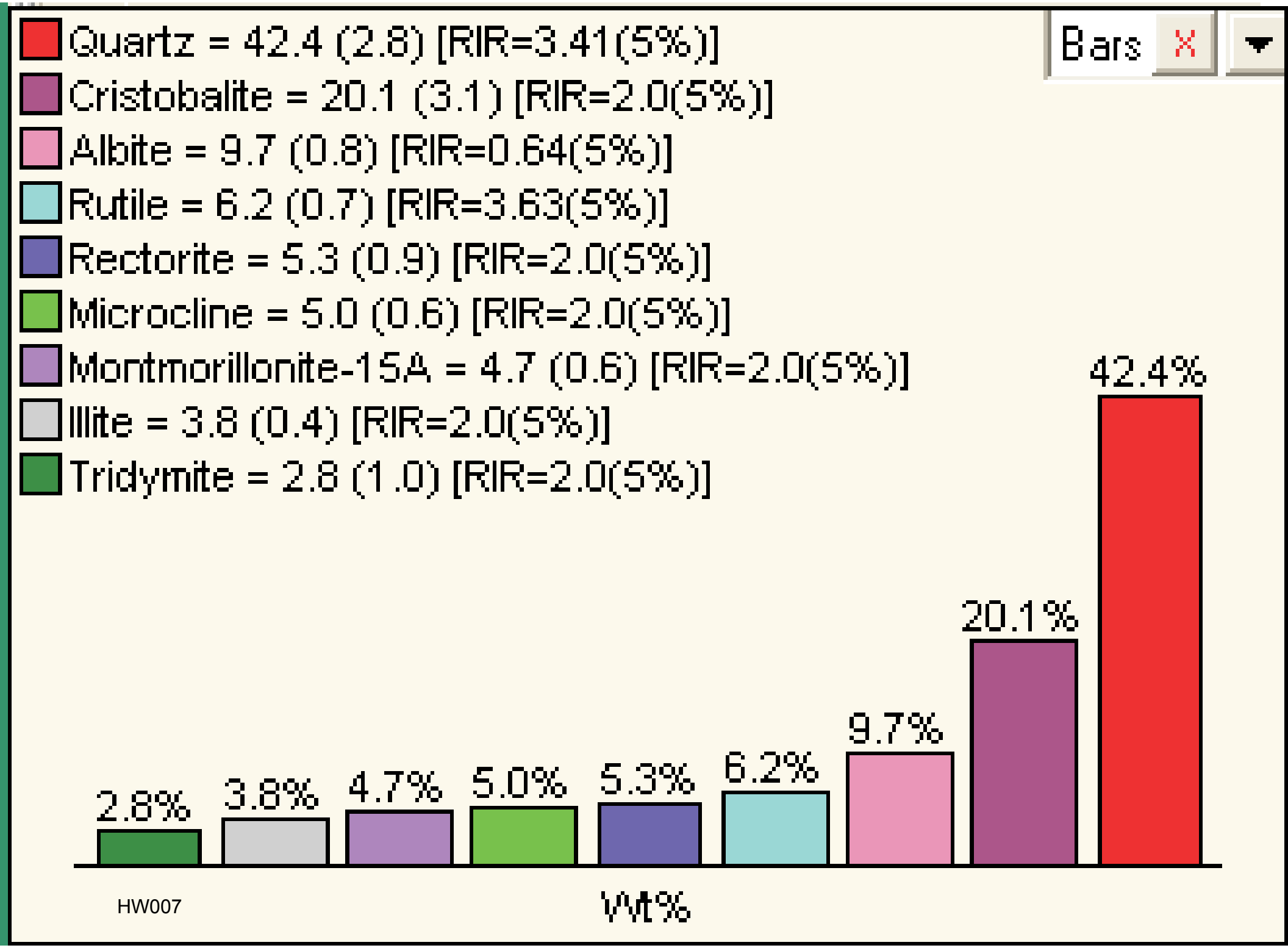
Results

Disclaimer: Due to uncertainty inherent in XRD analysis, the unambiguous identification of poorly crystalline and trace phases is not possible in all instances. In such cases, XRD analysis can, at best, provide an insight into phases that may be present in the sample. Mineral percentages derived by Rietveld analysis should be tempered with this information.


Quartz = 33.6 (3.1) [RIR=3.41(5%)]
Cristobalite = 14.7 (5.8) [RIR=2.0(5%)]
Montmorillonite-15A = 12.3 (1.4) [RIR=2.0(5%)]
Albite = 9.9 (1.6) [RIR=0.64(5%)]
Illite = 9.0 (1.2) [RIR=2.0(5%)]
Microcline = 8.7 (1.7) [RIR=2.0(5%)]
Rutile = 6.3 (1.5) [RIR=3.63(5%)]
Tridymite = 5.5 (2.3) [RIR=2.0(5%)]
Bars
5.5%
6.3%
8.7%
9.0%
9.9%
12.3%
14.7%
33.6%
HW005
Wt%

HW005


Quartz = 33.6 (3.1) [RIR=3.41(5%)]
Cristobalite = 14.7 (5.8) [RIR=2.0(5%)]
Montmorillonite-15A = 12.3 (1.4) [RIR=2.0(5%)]
Albite = 9.9 (1.6) [RIR=0.64(5%)]
Illite = 9.0 (1.2) [RIR=2.0(5%)]
Microcline = 8.7 (1.7) [RIR=2.0(5%)]
Rutile = 6.3 (1.5) [RIR=3.63(5%)]
Tridymite = 5.5 (2.3) [RIR=2.0(5%)]
Bars
5.5%
6.3%
8.7%
9.0%
9.9%
12.3%
14.7%
33.6%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Tridymite - SiO2
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60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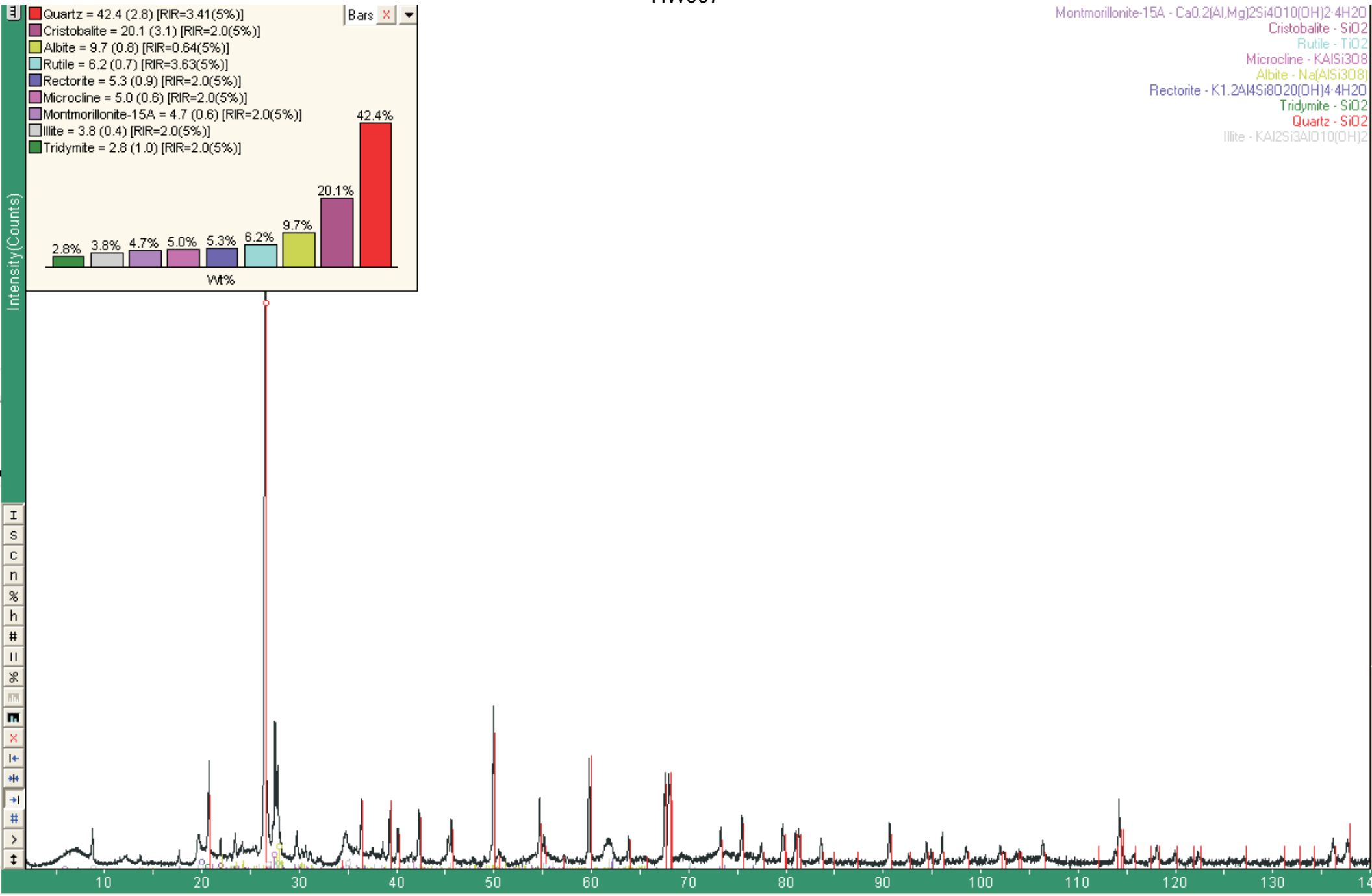
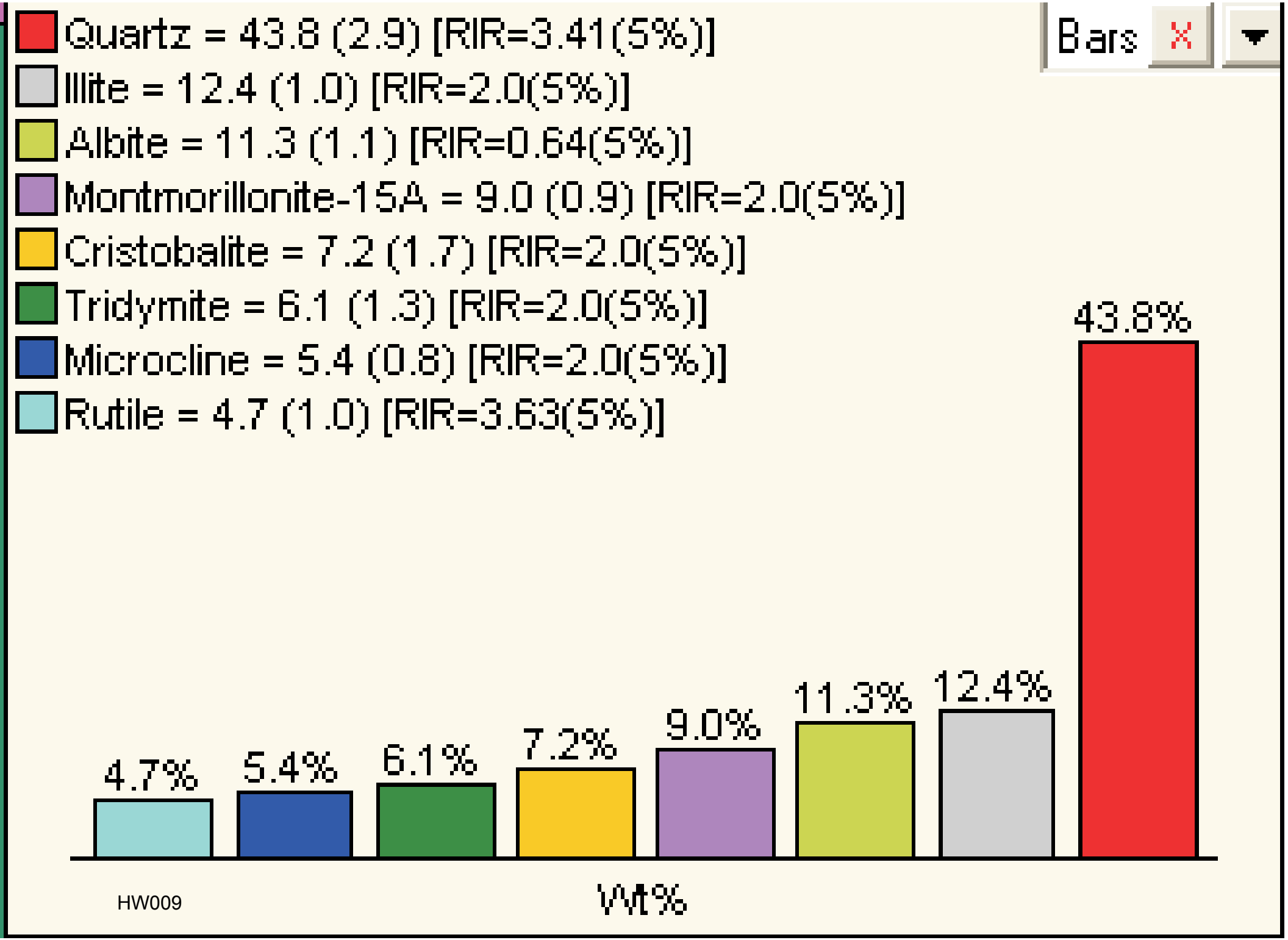
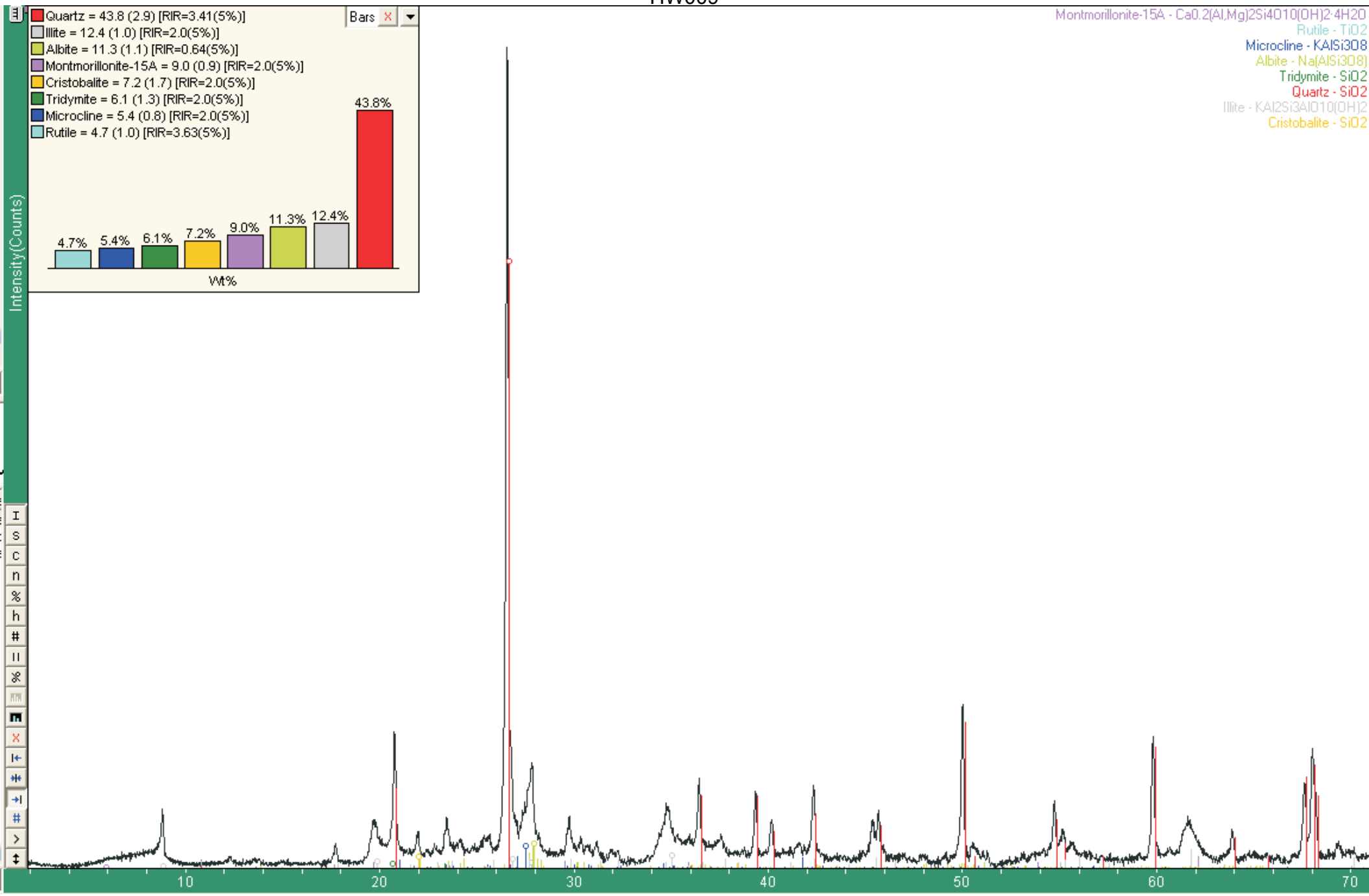
Cristobalite = 20.1 (3.1) [RIR=2.0(5%)]
Albite = 9.7 (0.8) [RIR=0.64(5%)]
Rutile = 6.2 (0.7) [RIR=3.63(5%)]
Rectorite = 5.3 (0.9) [RIR=2.0(5%)]
Microcline = 5.0 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 4.7 (0.6) [RIR=2.0(5%)]
Illite = 3.8 (0.4) [RIR=2.0(5%)]
Tridymite = 2.8 (1.0) [RIR=2.0(5%)]
Bars
2.8%
3.8%
4.7%
5.0%
5.3%
6.2%
9.7%
20.1%
42.4%
HW007
Wt%

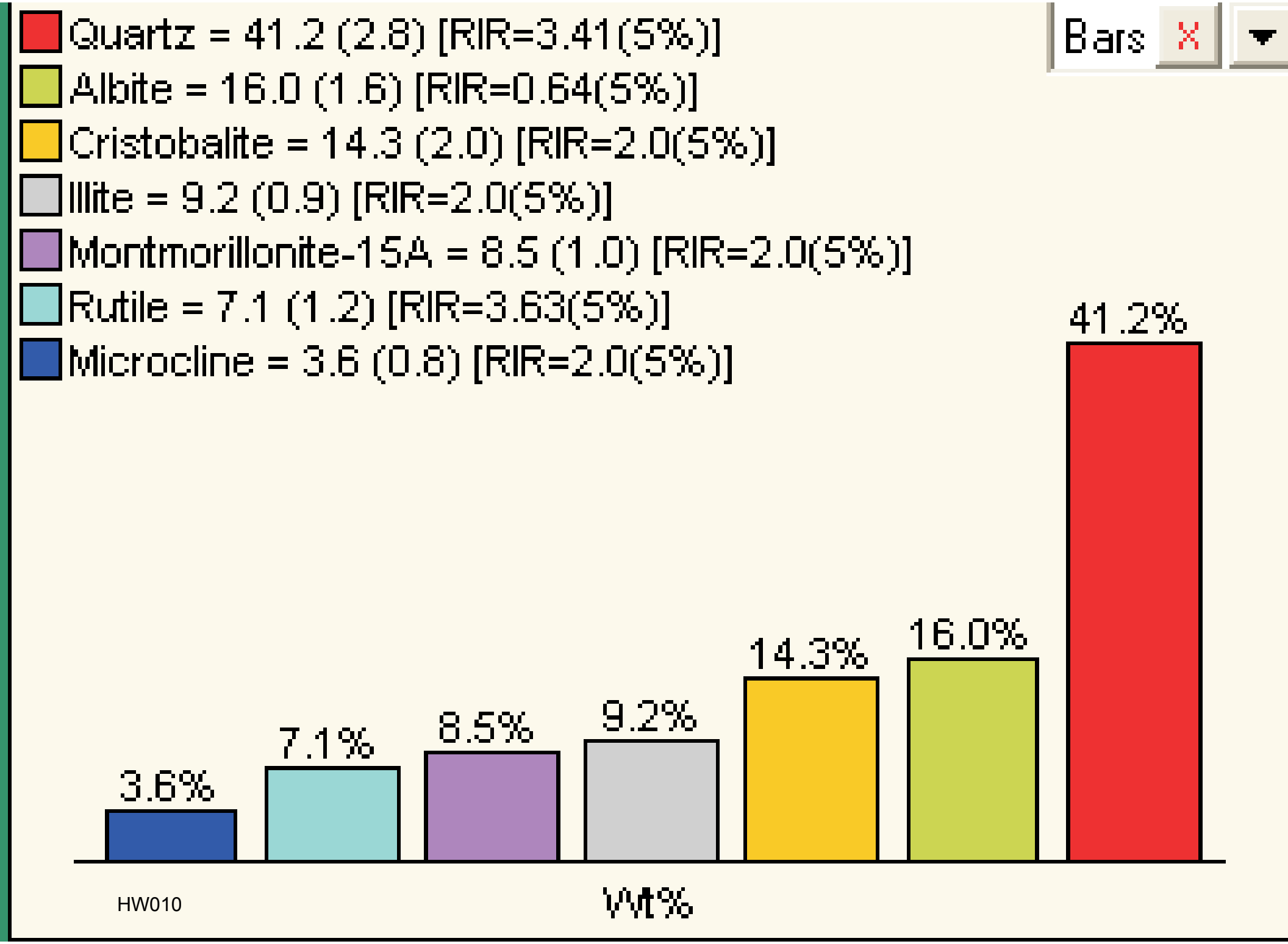
HW007


Quartz = 42.4 (2.8) [RIR=3.41(5%)]
Cristobalite = 20.1 (3.1) [RIR=2.0(5%)]
Albite = 9.7 (0.8) [RIR=0.64(5%)]
Rutile = 6.2 (0.7) [RIR=3.63(5%)]
Rectorite = 5.3 (0.9) [RIR=2.0(5%)]
Microcline = 5.0 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 4.7 (0.6) [RIR=2.0(5%)]
Illite = 3.8 (0.4) [RIR=2.0(5%)]
Tridymite = 2.8 (1.0) [RIR=2.0(5%)]
Bars
2.8%
3.8%
4.7%
5.0%
5.3%
6.2%
9.7%
20.1%
42.4%
Wt%
Intensity(Counts)
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Rectorite - K1.2Al4Si8O20(OH)4·4H2O
Tridymite - SiO2
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
10
20
30
40
50
60
70
80
90
100
110
120
130

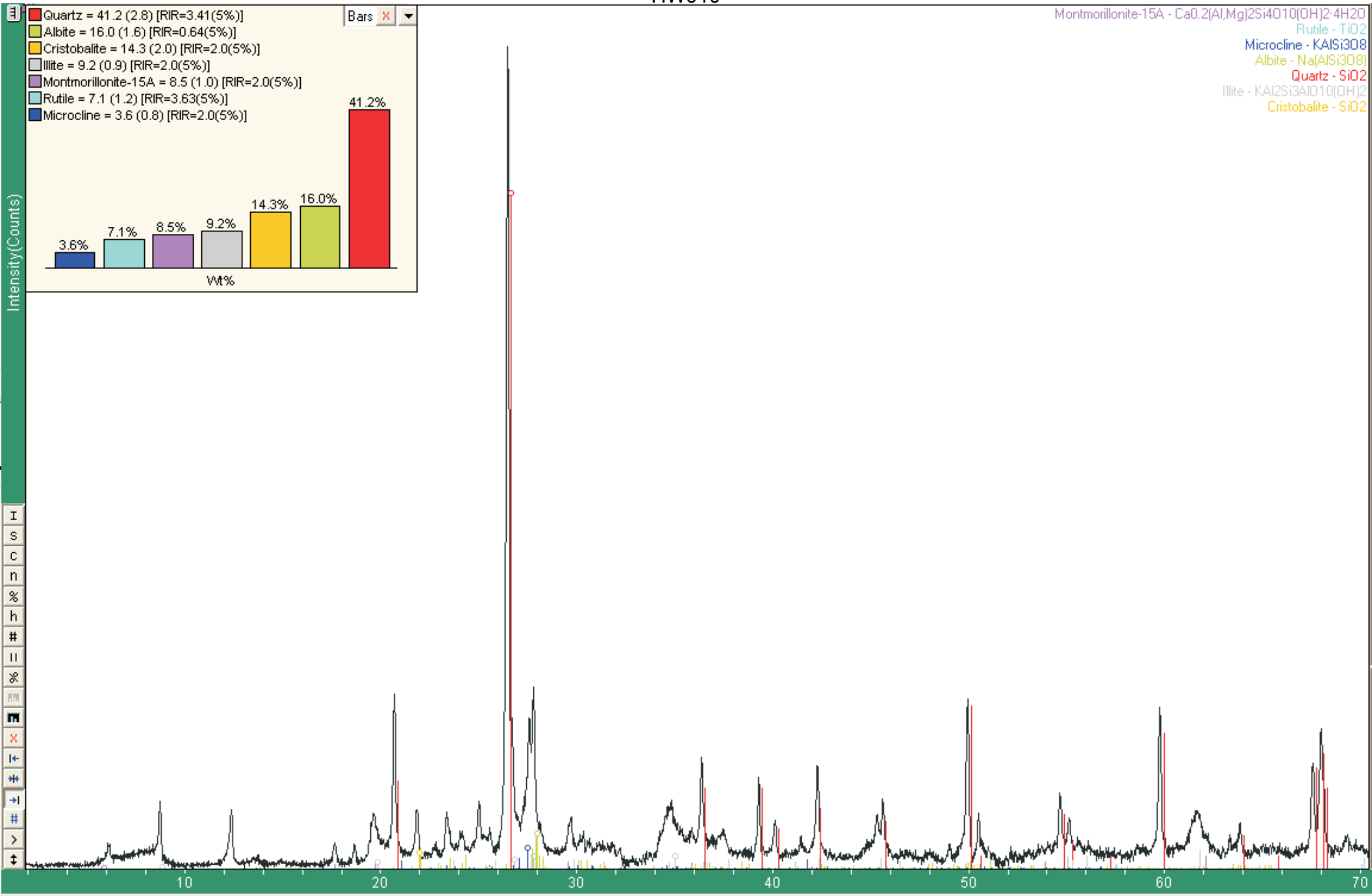

Quartz = 43.8 (2.9) [RIR=3.41(5%)]
Illite = 12.4 (1.0) [RIR=2.0(5%)]
Albite = 11.3 (1.1) [RIR=0.64(5%)]
Montmorillonite-15A = 9.0 (0.9) [RIR=2.0(5%)]
Cristobalite = 7.2 (1.7) [RIR=2.0(5%)]
Tridymite = 6.1 (1.3) [RIR=2.0(5%)]
Microcline = 5.4 (0.8) [RIR=2.0(5%)]
Rutile = 4.7 (1.0) [RIR=3.63(5%)]
Bars
4.7%
5.4%
6.1%
7.2%
9.0%
11.3%
12.4%
43.8%
HW009
Wt%

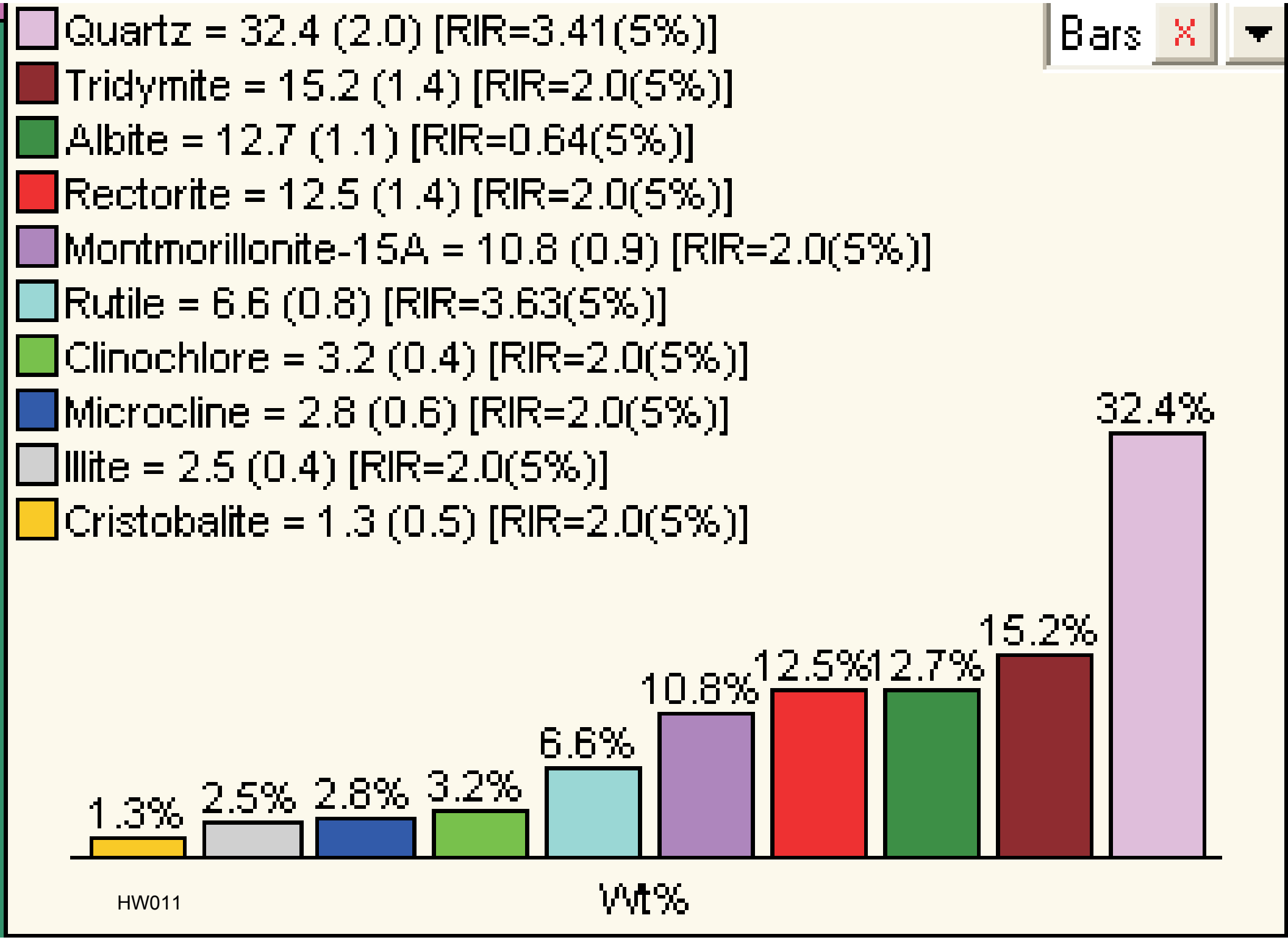
HW009


Quartz = 43.8 (2.9) [RIR=3.41(5%)]
Illite = 12.4 (1.0) [RIR=2.0(5%)]
Albite = 11.3 (1.1) [RIR=0.64(5%)]
Montmorillonite-15A = 9.0 (0.9) [RIR=2.0(5%)]
Cristobalite = 7.2 (1.7) [RIR=2.0(5%)]
Tridymite = 6.1 (1.3) [RIR=2.0(5%)]
Microcline = 5.4 (0.8) [RIR=2.0(5%)]
Rutile = 4.7 (1.0) [RIR=3.63(5%)]
Bars
4.7%
5.4%
6.1%
7.2%
9.0%
11.3%
12.4%
43.8%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Tridymite - SiO2
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

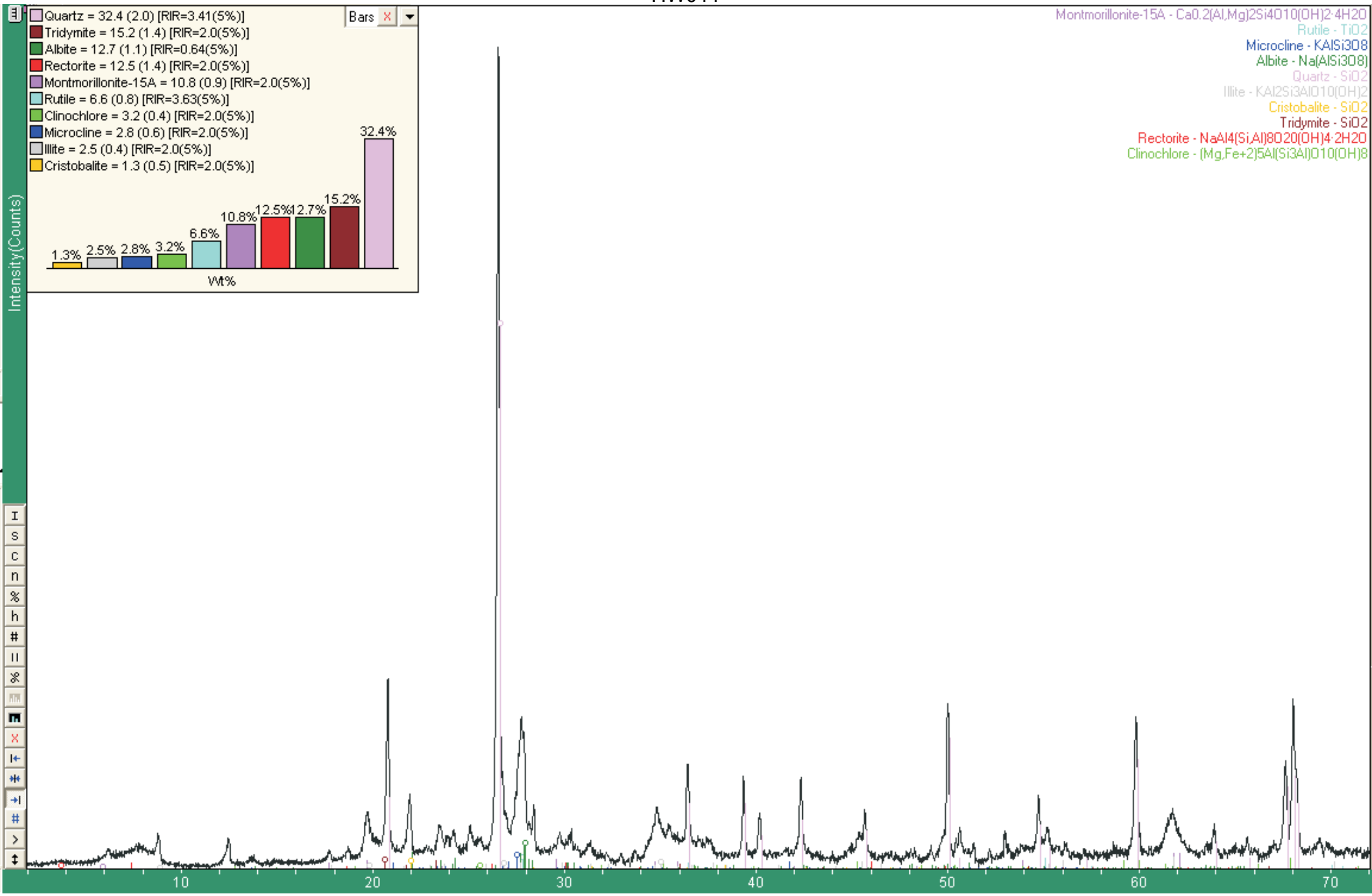

Quartz = 41.2 (2.8) [RIR=3.41(5%)]
Albite = 16.0 (1.6) [RIR=0.64(5%)]
Cristobalite = 14.3 (2.0) [RIR=2.0(5%)]
Illite = 9.2 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 8.5 (1.0) [RIR=2.0(5%)]
Rutile = 7.1 (1.2) [RIR=3.63(5%)]
Microcline = 3.6 (0.8) [RIR=2.0(5%)]
Bars
3.6%
7.1%
8.5%
9.2%
14.3%
16.0%
41.2%
HW010
Wt%

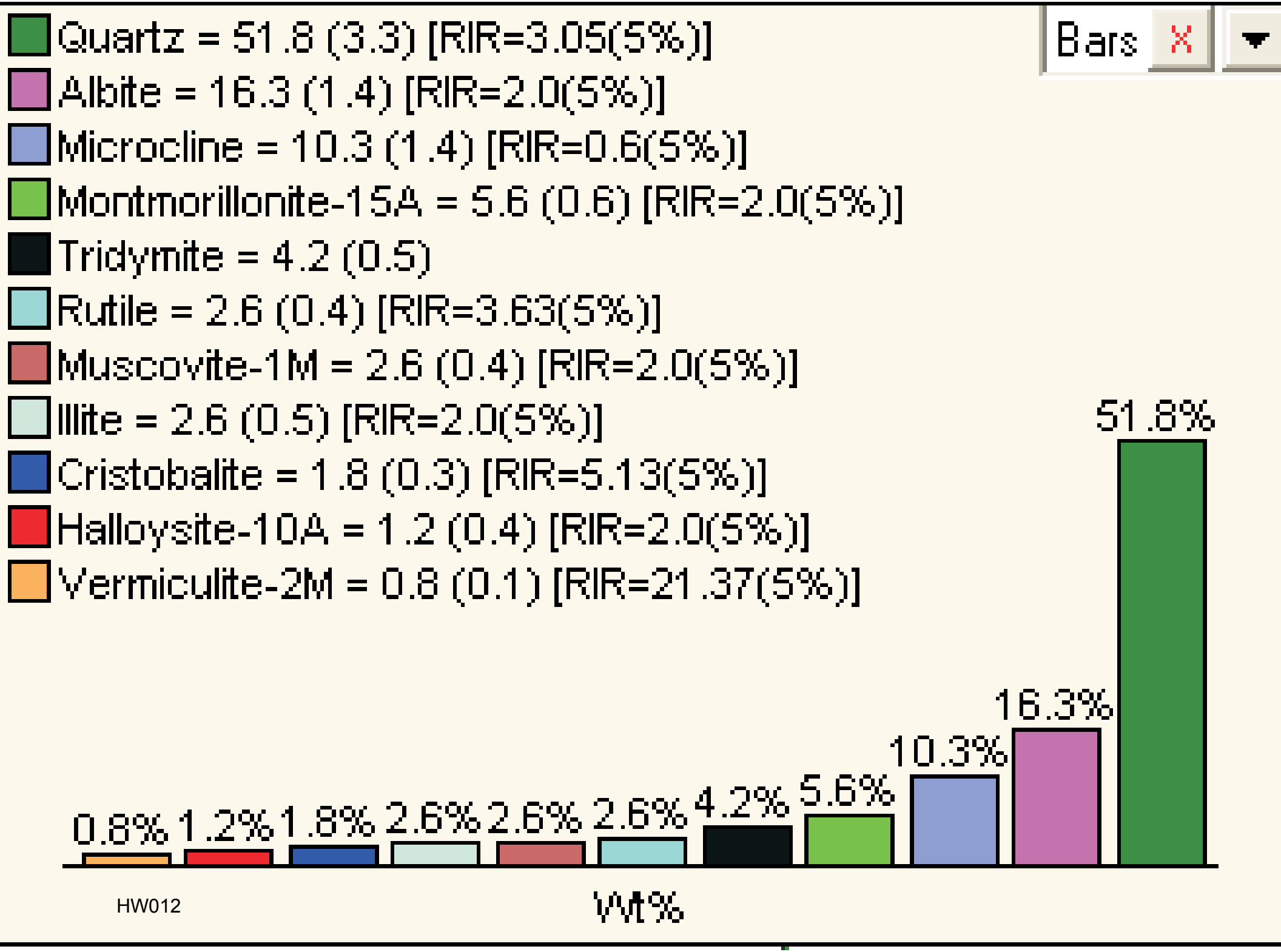
HW010


Quartz = 41.2 (2.8) [RIR=3.41(5%)]
Albite = 16.0 (1.6) [RIR=0.64(5%)]
Cristobalite = 14.3 (2.0) [RIR=2.0(5%)]
Illite = 9.2 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 8.5 (1.0) [RIR=2.0(5%)]
Rutile = 7.1 (1.2) [RIR=3.63(5%)]
Microcline = 3.6 (0.8) [RIR=2.0(5%)]
Bars
3.6%
7.1%
8.5%
9.2%
14.3%
16.0%
41.2%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

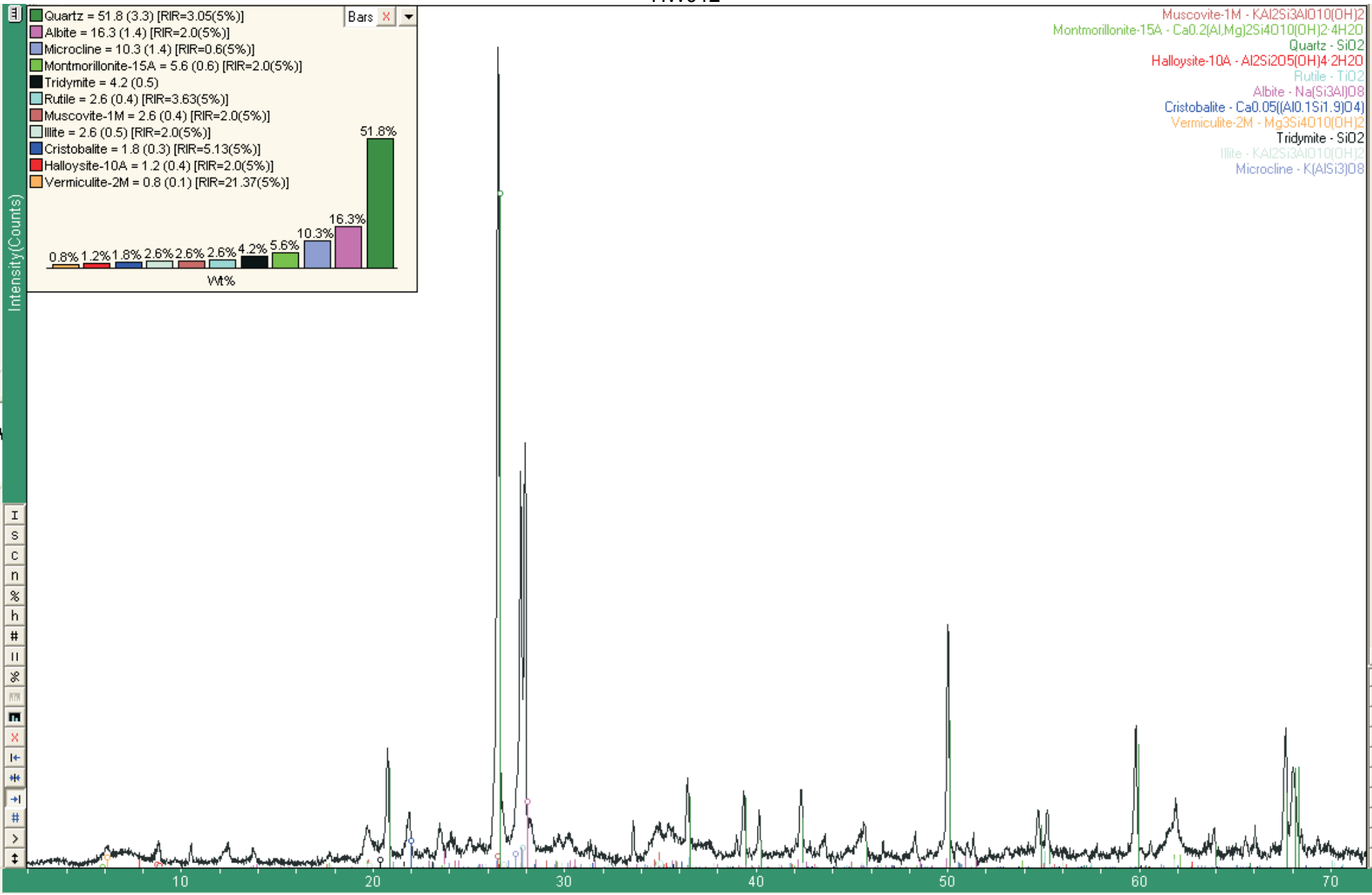

Quartz = 32.4 (2.0) [RIR=3.41(5%)]
Tridymite = 15.2 (1.4) [RIR=2.0(5%)]
Albite = 12.7 (1.1) [RIR=0.64(5%)]
Rectorite = 12.5 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 10.8 (0.9) [RIR=2.0(5%)]
Rutile = 6.6 (0.8) [RIR=3.63(5%)]
Clinochlore = 3.2 (0.4) [RIR=2.0(5%)]
Microcline = 2.8 (0.6) [RIR=2.0(5%)]
Illite = 2.5 (0.4) [RIR=2.0(5%)]
Cristobalite = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
2.5%
2.8%
3.2%
6.6%
10.8%
12.5%
12.7%
15.2%
32.4%
HW011
Wt%

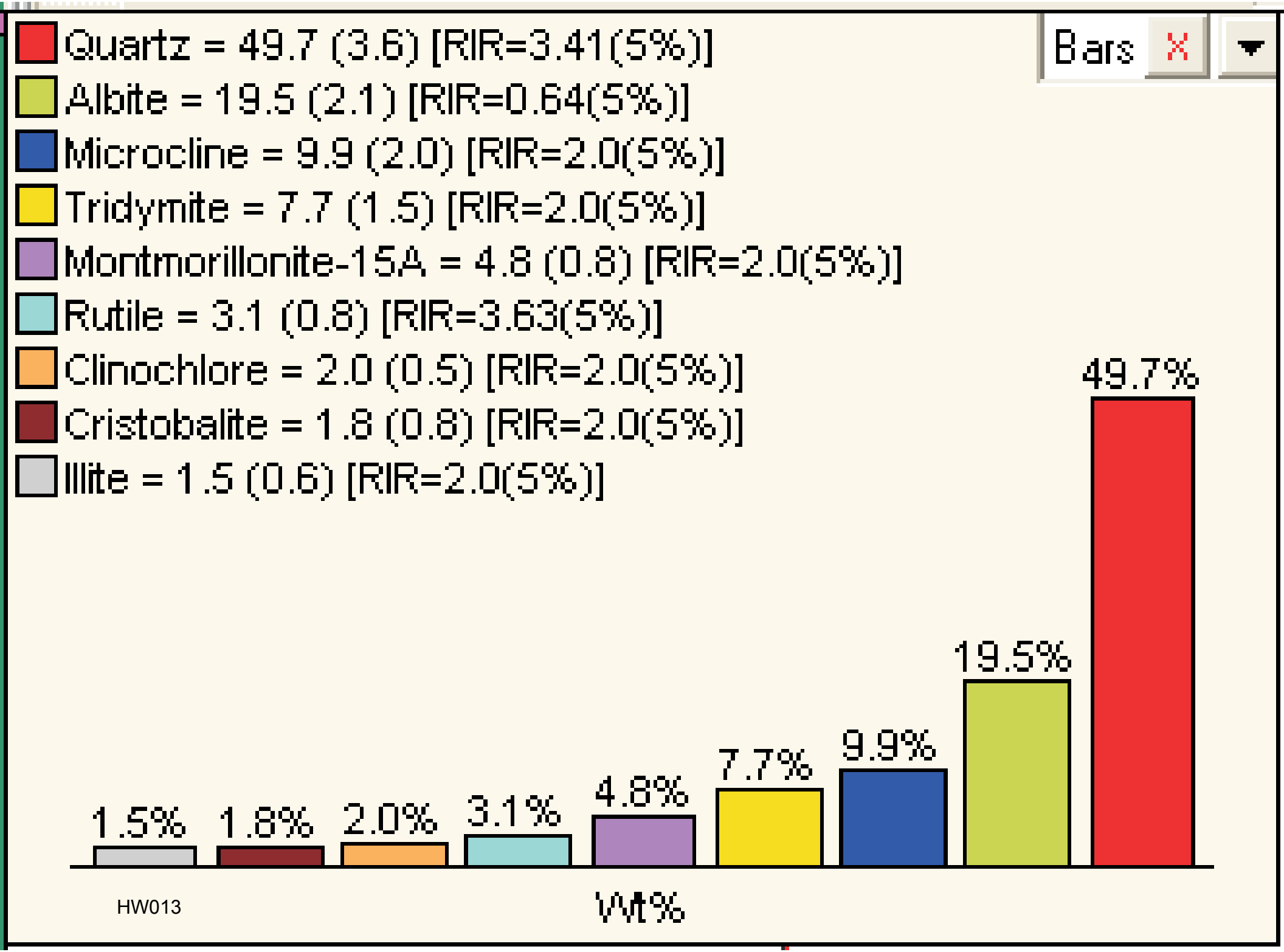
HW011


Quartz = 32.4 (2.0) [RIR=3.41(5%)]
Tridymite = 15.2 (1.4) [RIR=2.0(5%)]
Albite = 12.7 (1.1) [RIR=0.64(5%)]
Rectorite = 12.5 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 10.8 (0.9) [RIR=2.0(5%)]
Rutile = 6.6 (0.8) [RIR=3.63(5%)]
Clinochlore = 3.2 (0.4) [RIR=2.0(5%)]
Microcline = 2.8 (0.6) [RIR=2.0(5%)]
Illite = 2.5 (0.4) [RIR=2.0(5%)]
Cristobalite = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
2.5%
2.8%
3.2%
6.6%
10.8%
12.5%
12.7%
15.2%
32.4%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70

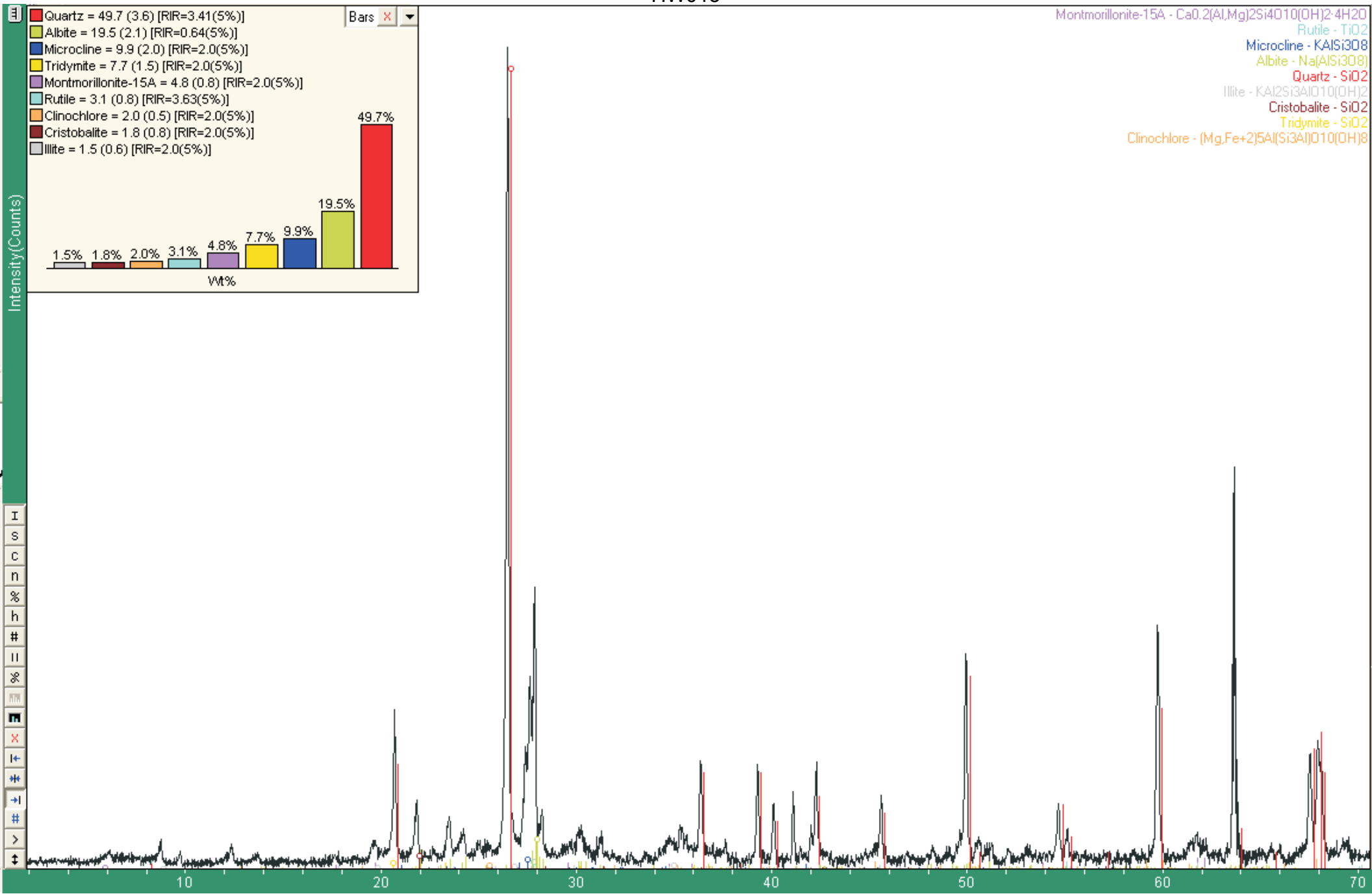

Quartz = 51.8 (3.3) [RIR=3.05(5%)]
Albite = 16.3 (1.4) [RIR=2.0(5%)]
Microcline = 10.3 (1.4) [RIR=0.6(5%)]
Montmorillonite-15A = 5.6 (0.6) [RIR=2.0(5%)]
Tridymite = 4.2 (0.5)
Rutile = 2.6 (0.4) [RIR=3.63(5%)]
Muscovite-1M = 2.6 (0.4) [RIR=2.0(5%)]
Illite = 2.6 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.3) [RIR=5.13(5%)]
Halloysite-10A = 1.2 (0.4) [RIR=2.0(5%)]
Vermiculite-2M = 0.8 (0.1) [RIR=21.37(5%)]
Bars
0.8%
1.2%
1.8%
2.6%
2.6%
2.6%
4.2%
5.6%
10.3%
16.3%
51.8%
HW012
Wt%

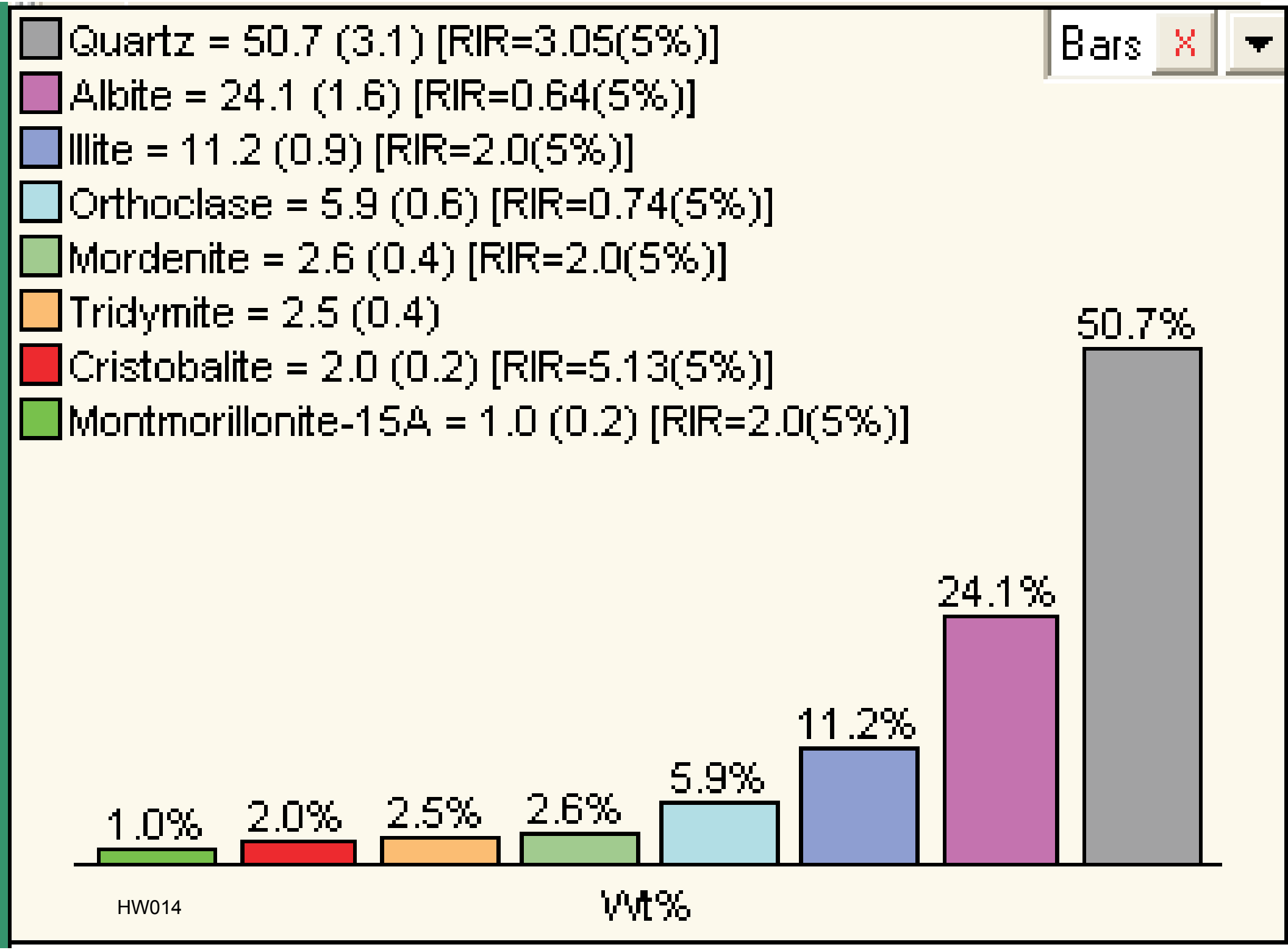
HW012


Quartz = 51.8 (3.3) [RIR=3.05(5%)]
Albite = 16.3 (1.4) [RIR=2.0(5%)]
Microcline = 10.3 (1.4) [RIR=0.6(5%)]
Montmorillonite-15A = 5.6 (0.6) [RIR=2.0(5%)]
Tridymite = 4.2 (0.5)
Rutile = 2.6 (0.4) [RIR=3.63(5%)]
Muscovite-1M = 2.6 (0.4) [RIR=2.0(5%)]
Illite = 2.6 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.3) [RIR=5.13(5%)]
Halloysite-10A = 1.2 (0.4) [RIR=2.0(5%)]
Vermiculite-2M = 0.8 (0.1) [RIR=21.37(5%)]
Bars
0.8% 1.2% 1.8% 2.6% 2.6% 2.6% 4.2% 5.6% 10.3% 16.3% 51.8%
Wt%
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Albite - Na(Si3Al)O8
Cristobalite - Ca0.05((Al0.1Si1.9)O4)
Vermiculite-2M - Mg3Si4O10(OH)2
Tridymite - SiO2
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3)O8
Intensity(Counts)
10
20
30
40
50
60
70

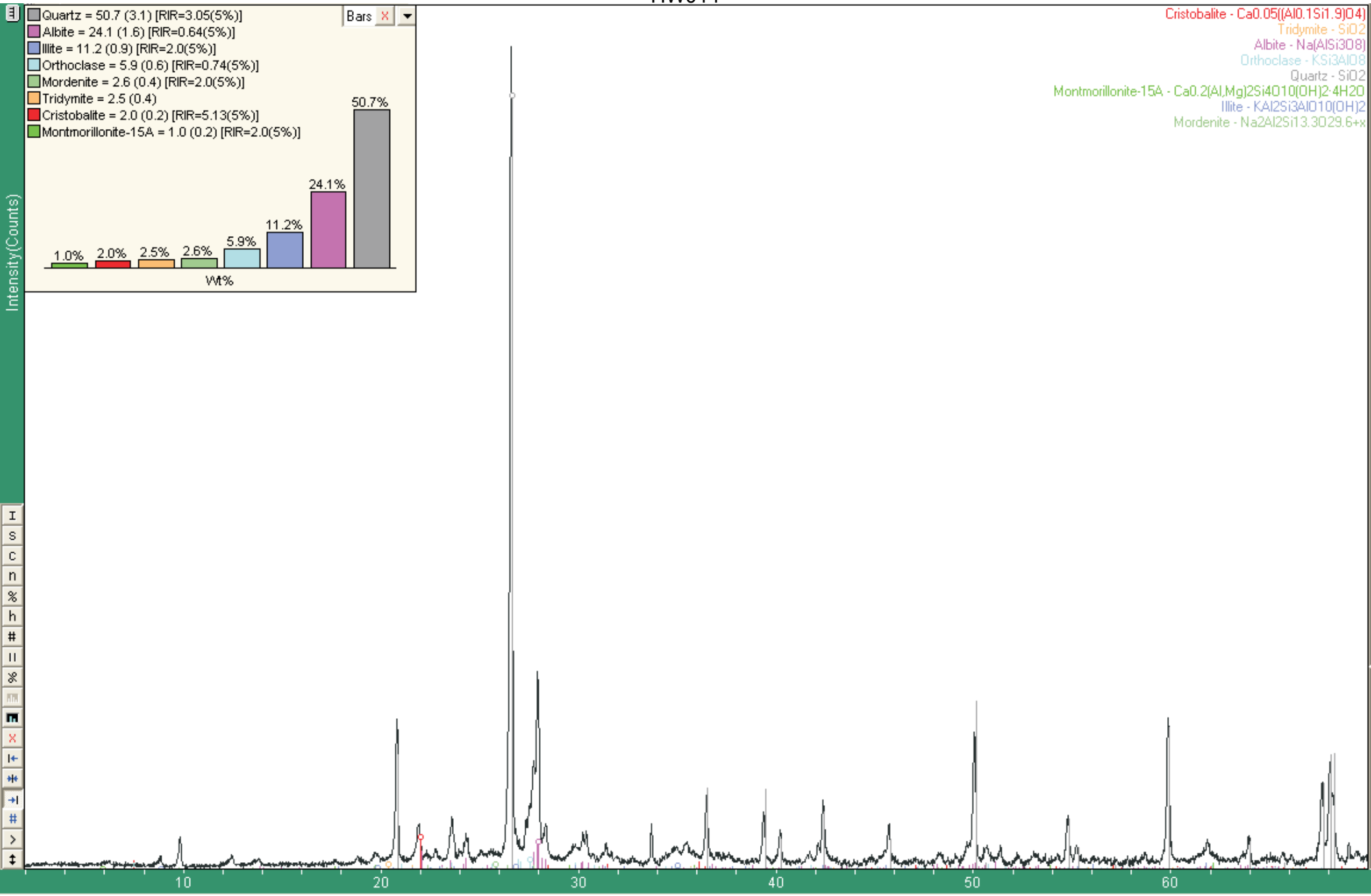

Quartz = 49.7 (3.6) [RIR=3.41(5%)]
Albite = 19.5 (2.1) [RIR=0.64(5%)]
Microcline = 9.9 (2.0) [RIR=2.0(5%)]
Tridymite = 7.7 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.8) [RIR=2.0(5%)]
Rutile = 3.1 (0.8) [RIR=3.63(5%)]
Clinochlore = 2.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.8) [RIR=2.0(5%)]
Illite = 1.5 (0.6) [RIR=2.0(5%)]
Bars
1.5%
1.8%
2.0%
3.1%
4.8%
7.7%
9.9%
19.5%
49.7%
HW013
Wt%

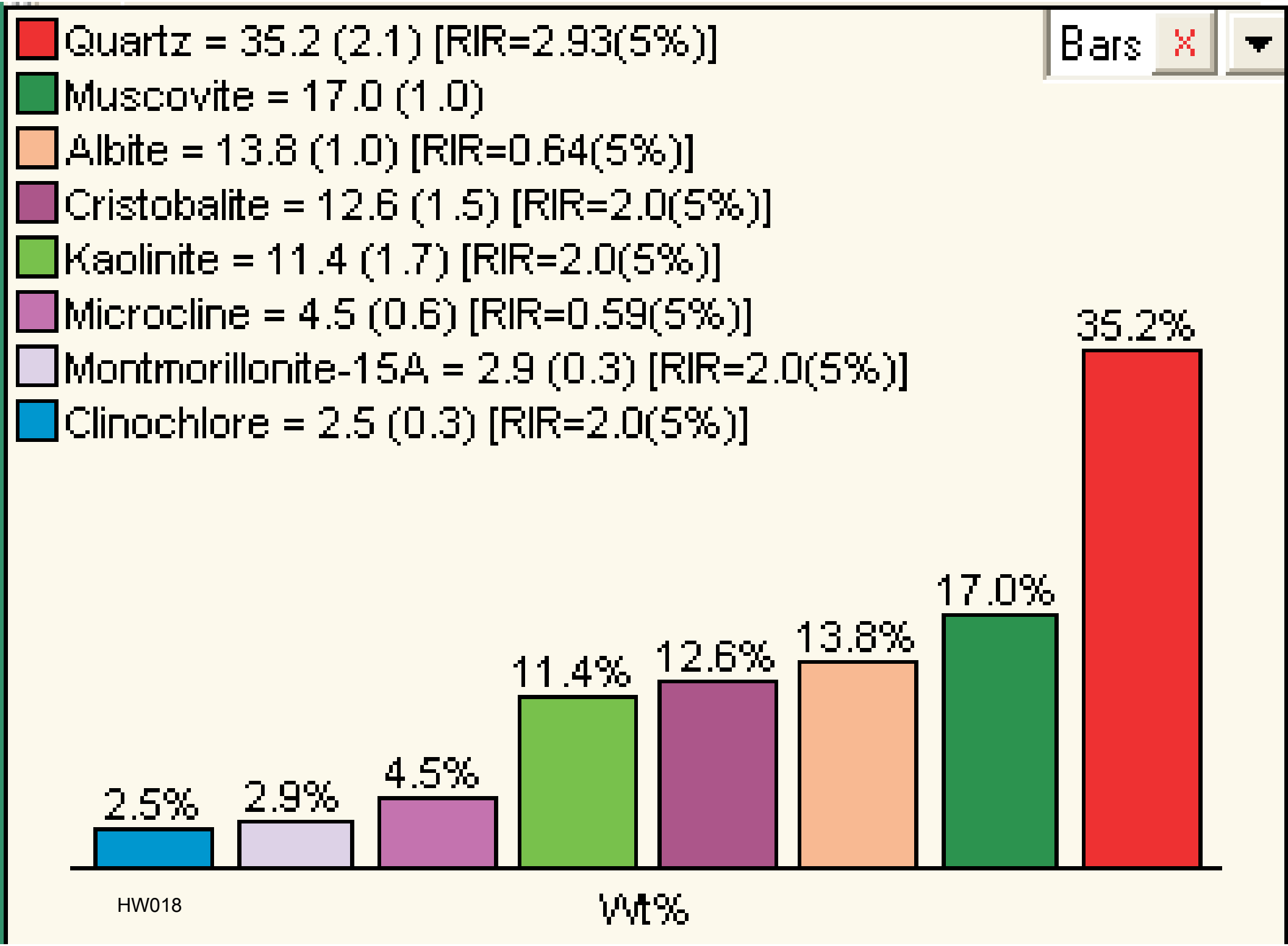
HW013


Quartz = 49.7 (3.6) [RIR=3.41(5%)]
Albite = 19.5 (2.1) [RIR=0.64(5%)]
Microcline = 9.9 (2.0) [RIR=2.0(5%)]
Tridymite = 7.7 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.8) [RIR=2.0(5%)]
Rutile = 3.1 (0.8) [RIR=3.63(5%)]
Clinochlore = 2.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.8) [RIR=2.0(5%)]
Illite = 1.5 (0.6) [RIR=2.0(5%)]
Bars
1.5%
1.8%
2.0%
3.1%
4.8%
7.7%
9.9%
19.5%
49.7%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70

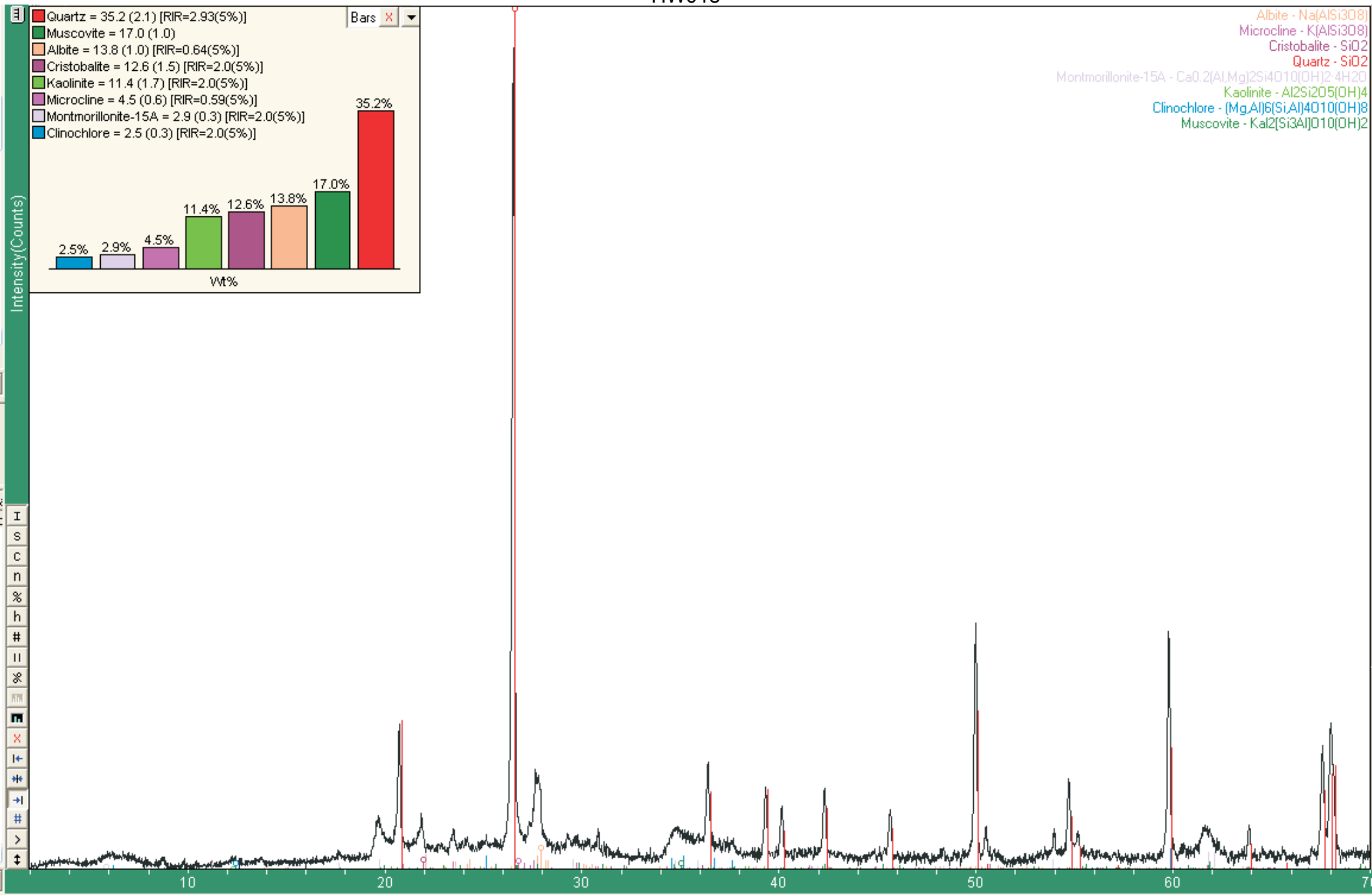

Quartz = 50.7 (3.1) [RIR=3.05(5%)]
Albite = 24.1 (1.6) [RIR=0.64(5%)]
Illite = 11.2 (0.9) [RIR=2.0(5%)]
Orthoclase = 5.9 (0.6) [RIR=0.74(5%)]
Mordenite = 2.6 (0.4) [RIR=2.0(5%)]
Tridymite = 2.5 (0.4)
Cristobalite = 2.0 (0.2) [RIR=5.13(5%)]
Montmorillonite-15A = 1.0 (0.2) [RIR=2.0(5%)]
Bars
1.0%
2.0%
2.5%
2.6%
5.9%
11.2%
24.1%
50.7%
HW014
Wt%

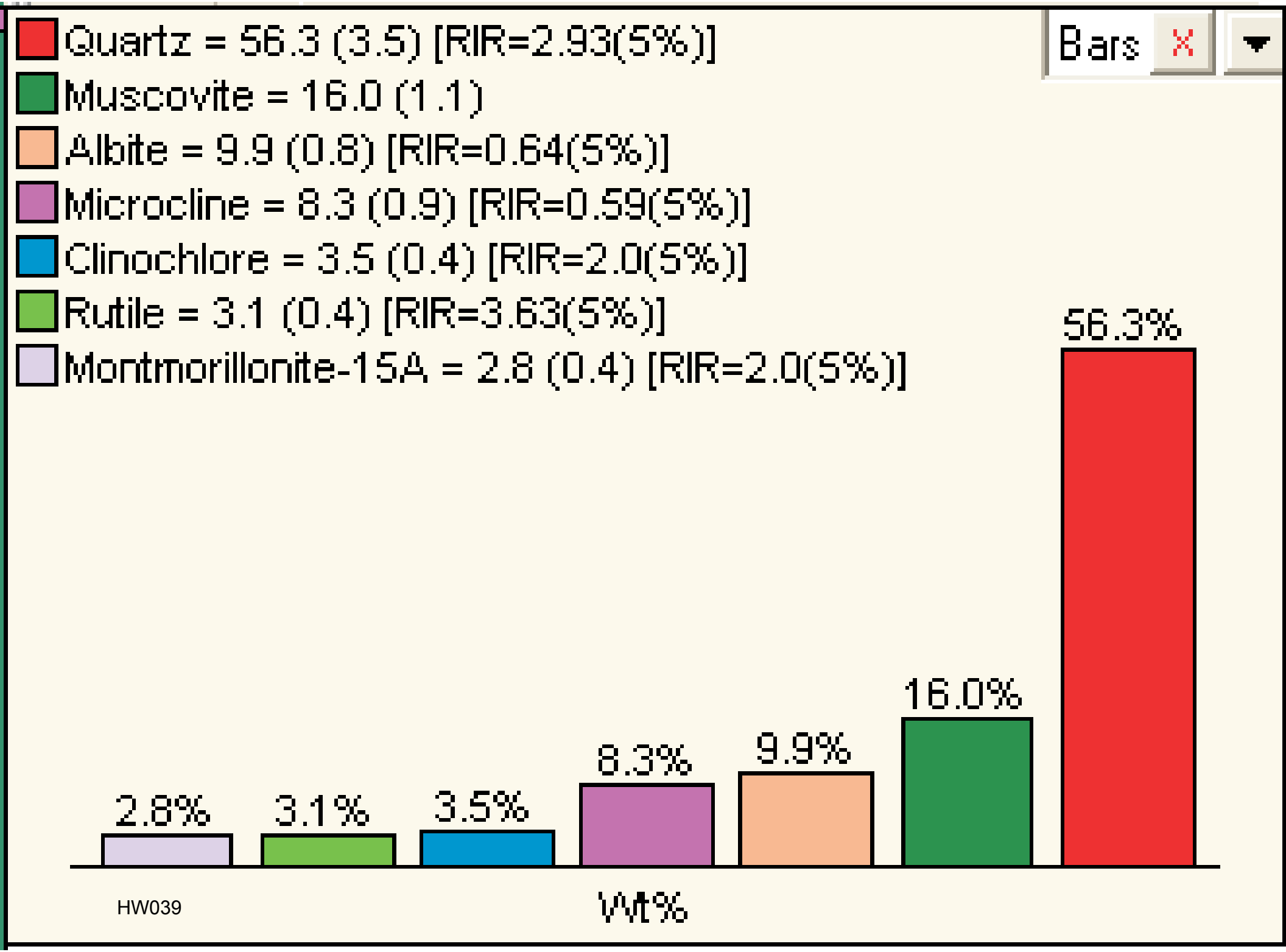
HW014


Quartz = 50.7 (3.1) [RIR=3.05(5%)]
Albite = 24.1 (1.6) [RIR=0.64(5%)]
Illite = 11.2 (0.9) [RIR=2.0(5%)]
Orthoclase = 5.9 (0.6) [RIR=0.74(5%)]
Mordenite = 2.6 (0.4) [RIR=2.0(5%)]
Tridymite = 2.5 (0.4)
Cristobalite = 2.0 (0.2) [RIR=5.13(5%)]
Montmorillonite-15A = 1.0 (0.2) [RIR=2.0(5%)]
Bars
1.0%
2.0%
2.5%
2.6%
5.9%
11.2%
24.1%
50.7%
Wt%
Cristobalite - Ca0.05((Al0.1Si1.9)O4)
Tridymite - SiO2
Albite - Na(AlSi3O8)
Orthoclase - KSi3AlO8
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Illite - KAl2Si3AlO10(OH)2
Mordenite - Na2Al2Si13.3O29.6+x
Intensity(Counts)
10
20
30
40
50
60

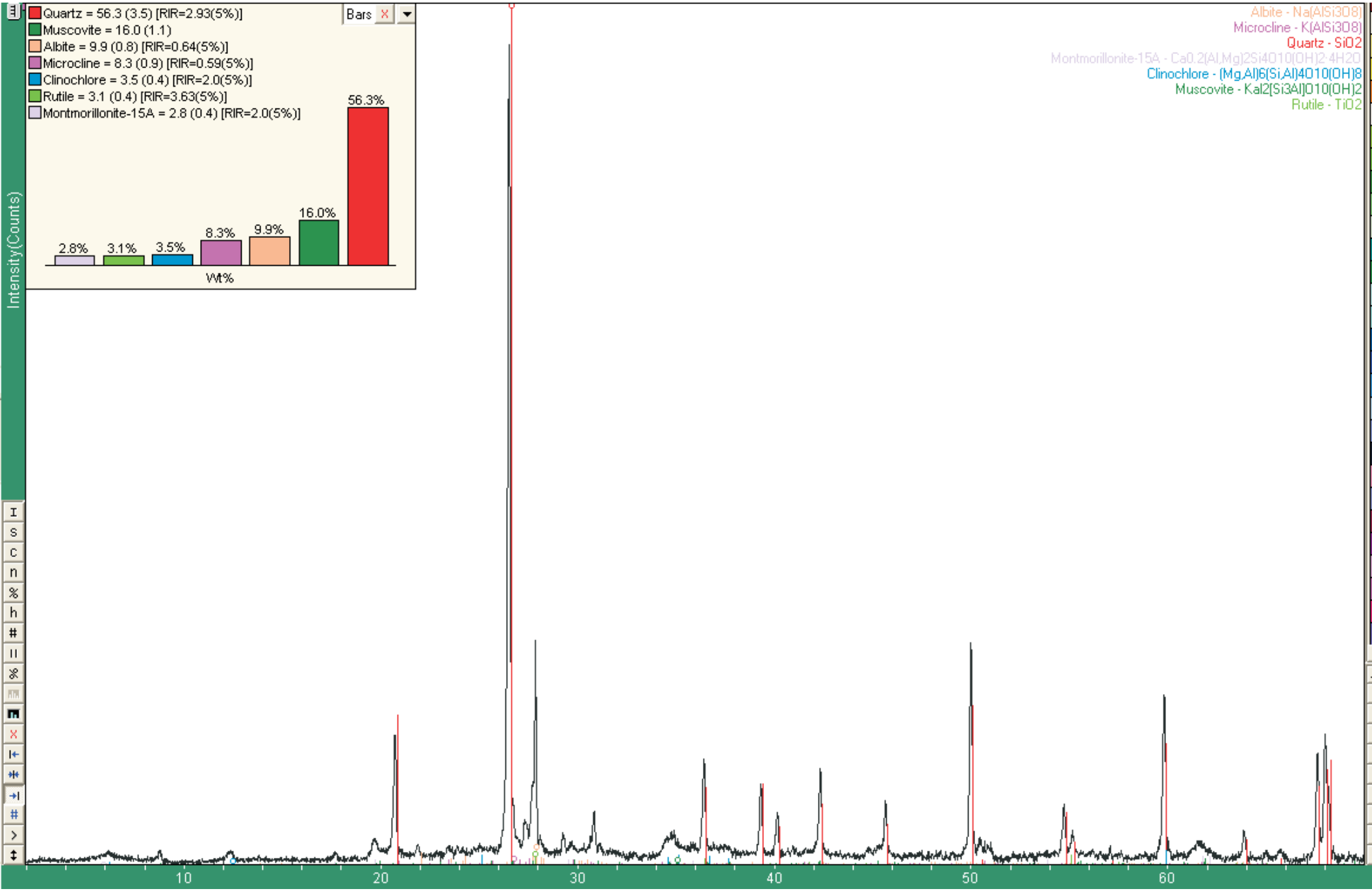

Quartz = 35.2 (2.1) [RIR=2.93(5%)]
Muscovite = 17.0 (1.0)
Albite = 13.8 (1.0) [RIR=0.64(5%)]
Cristobalite = 12.6 (1.5) [RIR=2.0(5%)]
Kaolinite = 11.4 (1.7) [RIR=2.0(5%)]
Microcline = 4.5 (0.6) [RIR=0.59(5%)]
Montmorillonite-15A = 2.9 (0.3) [RIR=2.0(5%)]
Clinochlore = 2.5 (0.3) [RIR=2.0(5%)]
Bars
2.5%
2.9%
4.5%
11.4%
12.6%
13.8%
17.0%
35.2%
HW018
Wt%

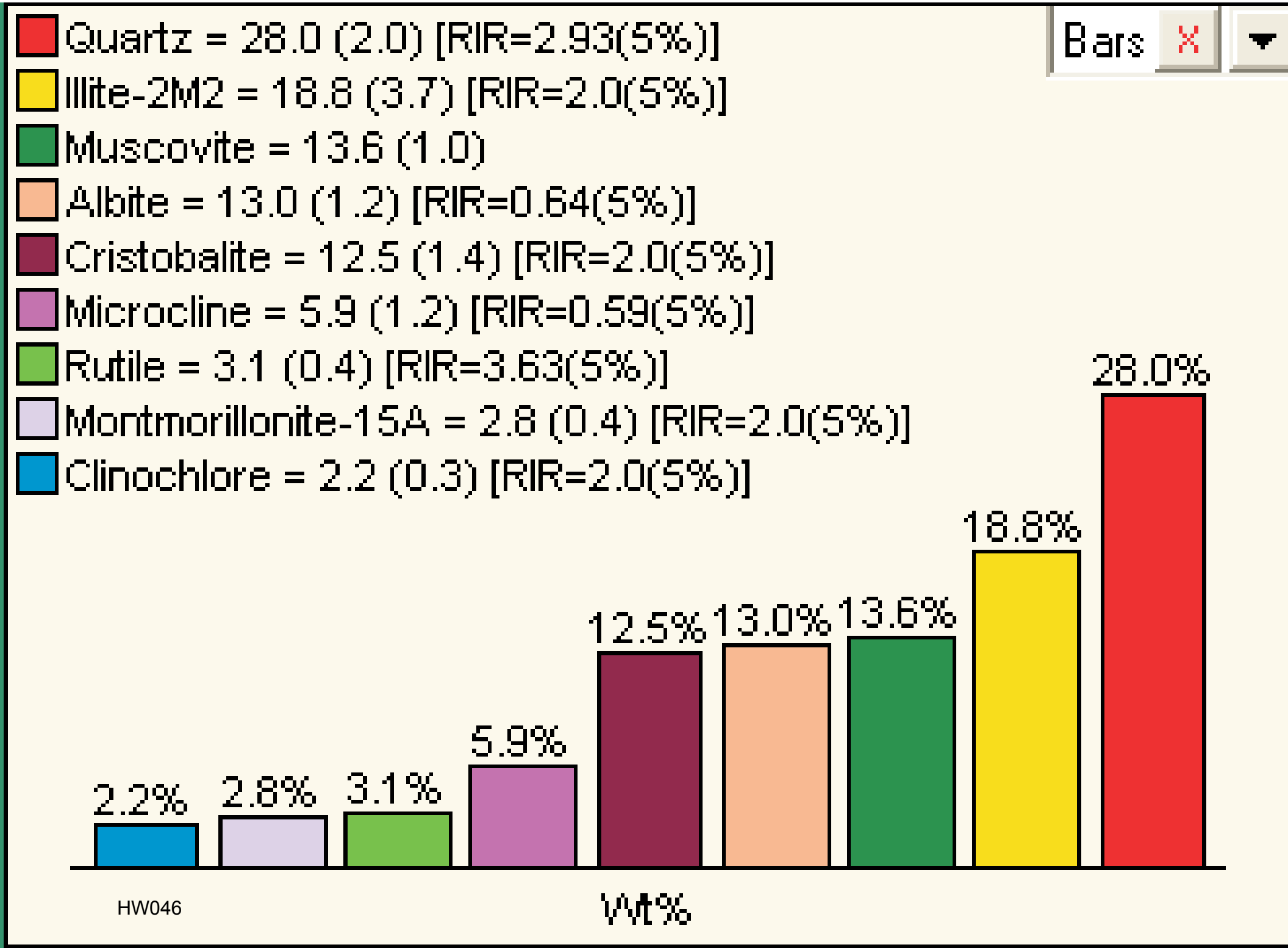
HW018


Quartz = 35.2 (2.1) [RIR=2.93(5%)]
Muscovite = 17.0 (1.0)
Albite = 13.8 (1.0) [RIR=0.64(5%)]
Cristobalite = 12.6 (1.5) [RIR=2.0(5%)]
Kaolinite = 11.4 (1.7) [RIR=2.0(5%)]
Microcline = 4.5 (0.6) [RIR=0.59(5%)]
Montmorillonite-15A = 2.9 (0.3) [RIR=2.0(5%)]
Clinochlore = 2.5 (0.3) [RIR=2.0(5%)]
Bars
2.5%
2.9%
4.5%
11.4%
12.6%
13.8%
17.0%
35.2%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Kaolinite - Al2Si2O5(OH)4
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Intensity(Counts)
10
20
30
40
50
60

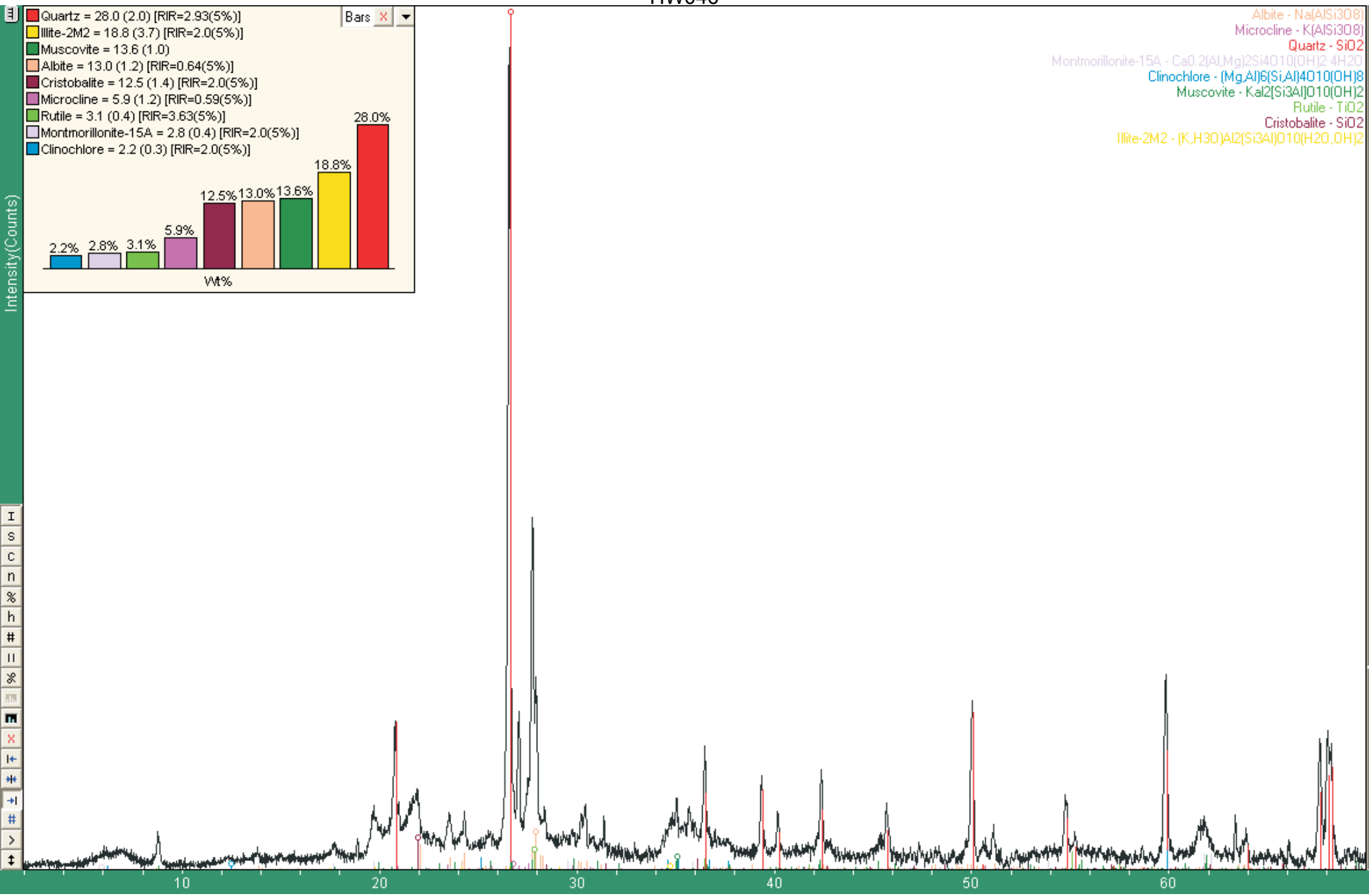

Quartz = 56.3 (3.5) [RIR=2.93(5%)]
Muscovite = 16.0 (1.1)
Albite = 9.9 (0.8) [RIR=0.64(5%)]
Microcline = 8.3 (0.9) [RIR=0.59(5%)]
Clinochlore = 3.5 (0.4) [RIR=2.0(5%)]
Rutile = 3.1 (0.4) [RIR=3.63(5%)]
Montmorillonite-15A = 2.8 (0.4) [RIR=2.0(5%)]
Bars
2.8%
3.1%
3.5%
8.3%
9.9%
16.0%
56.3%
HW039
Wt%

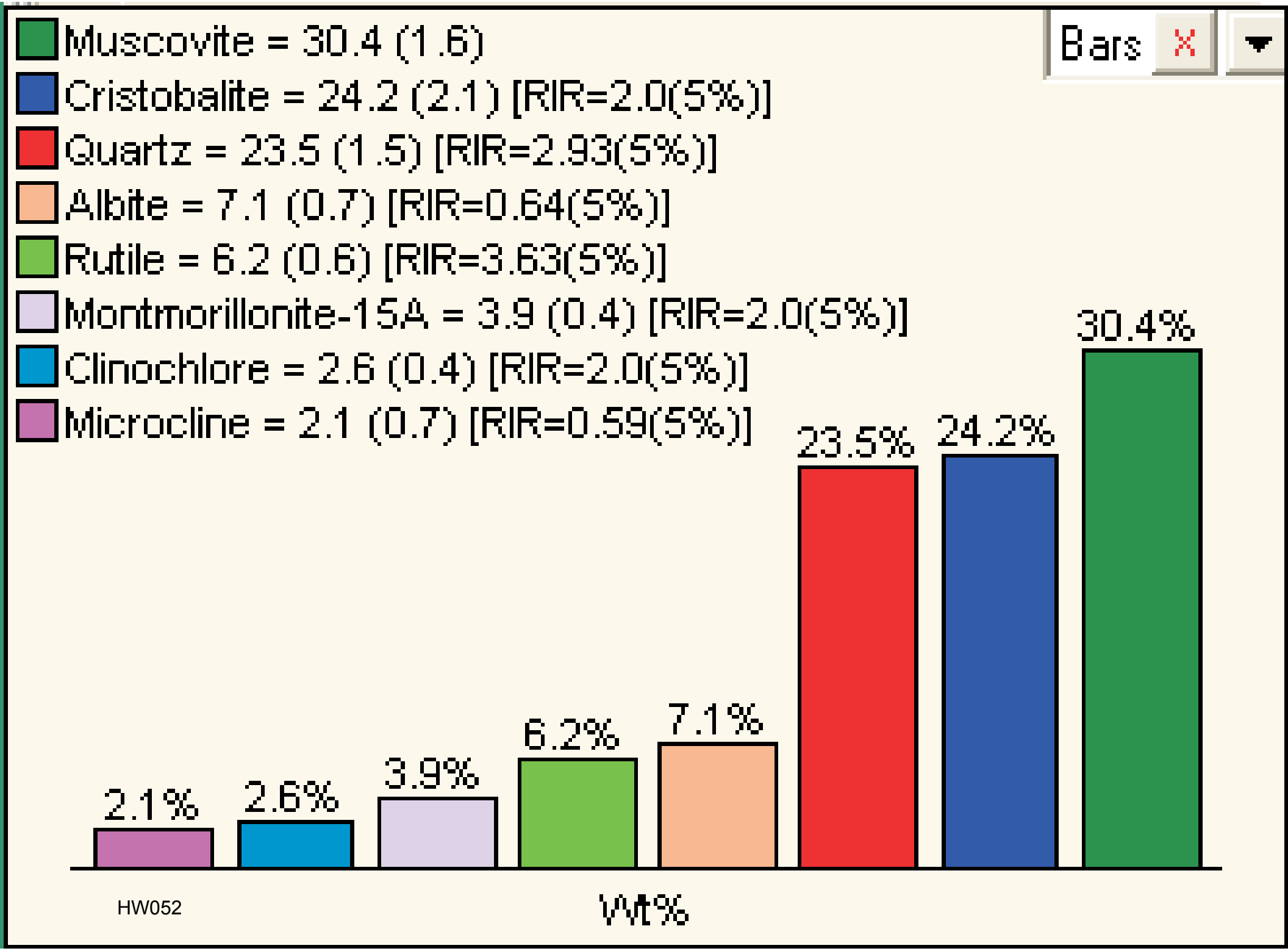
HW039


Quartz = 56.3 (3.5) [RIR=2.93(5%)]
Muscovite = 16.0 (1.1)
Albite = 9.9 (0.8) [RIR=0.64(5%)]
Microcline = 8.3 (0.9) [RIR=0.59(5%)]
Clinochlore = 3.5 (0.4) [RIR=2.0(5%)]
Rutile = 3.1 (0.4) [RIR=3.63(5%)]
Montmorillonite-15A = 2.8 (0.4) [RIR=2.0(5%)]
Bars
2.8%
3.1%
3.5%
8.3%
9.9%
16.0%
56.3%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Rutile - TiO2
Intensity(Counts)
10
20
30
40
50
60

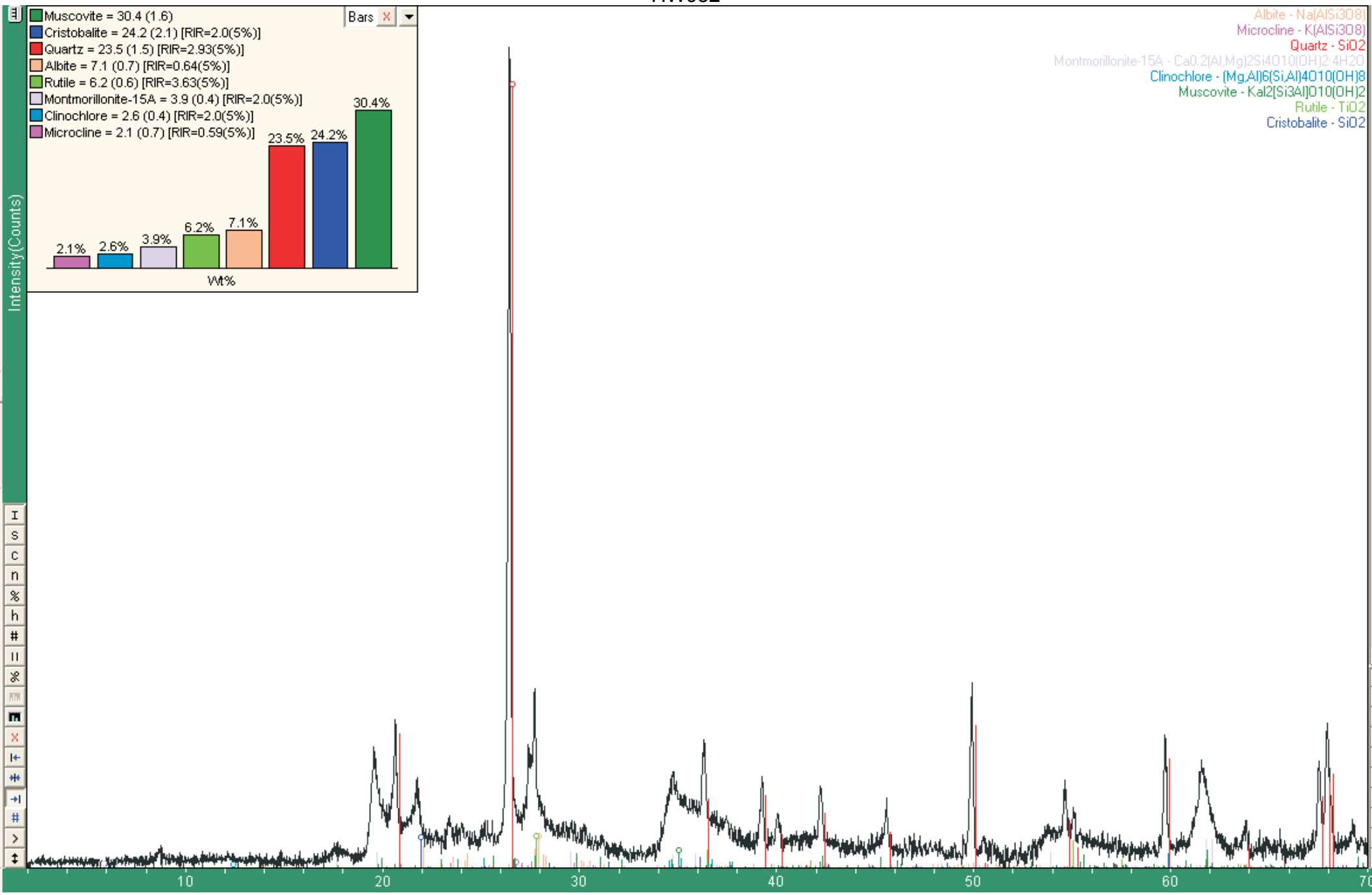

Quartz = 28.0 (2.0) [RIR=2.93(5%)]
Illite-2M2 = 18.8 (3.7) [RIR=2.0(5%)]
Muscovite = 13.6 (1.0)
Albite = 13.0 (1.2) [RIR=0.64(5%)]
Cristobalite = 12.5 (1.4) [RIR=2.0(5%)]
Microcline = 5.9 (1.2) [RIR=0.59(5%)]
Rutile = 3.1 (0.4) [RIR=3.63(5%)]
Montmorillonite-15A = 2.8 (0.4) [RIR=2.0(5%)]
Clinochlore = 2.2 (0.3) [RIR=2.0(5%)]
Bars
2.2%
2.8%
3.1%
5.9%
12.5%
13.0%
13.6%
18.8%
28.0%
HW046
Wt%

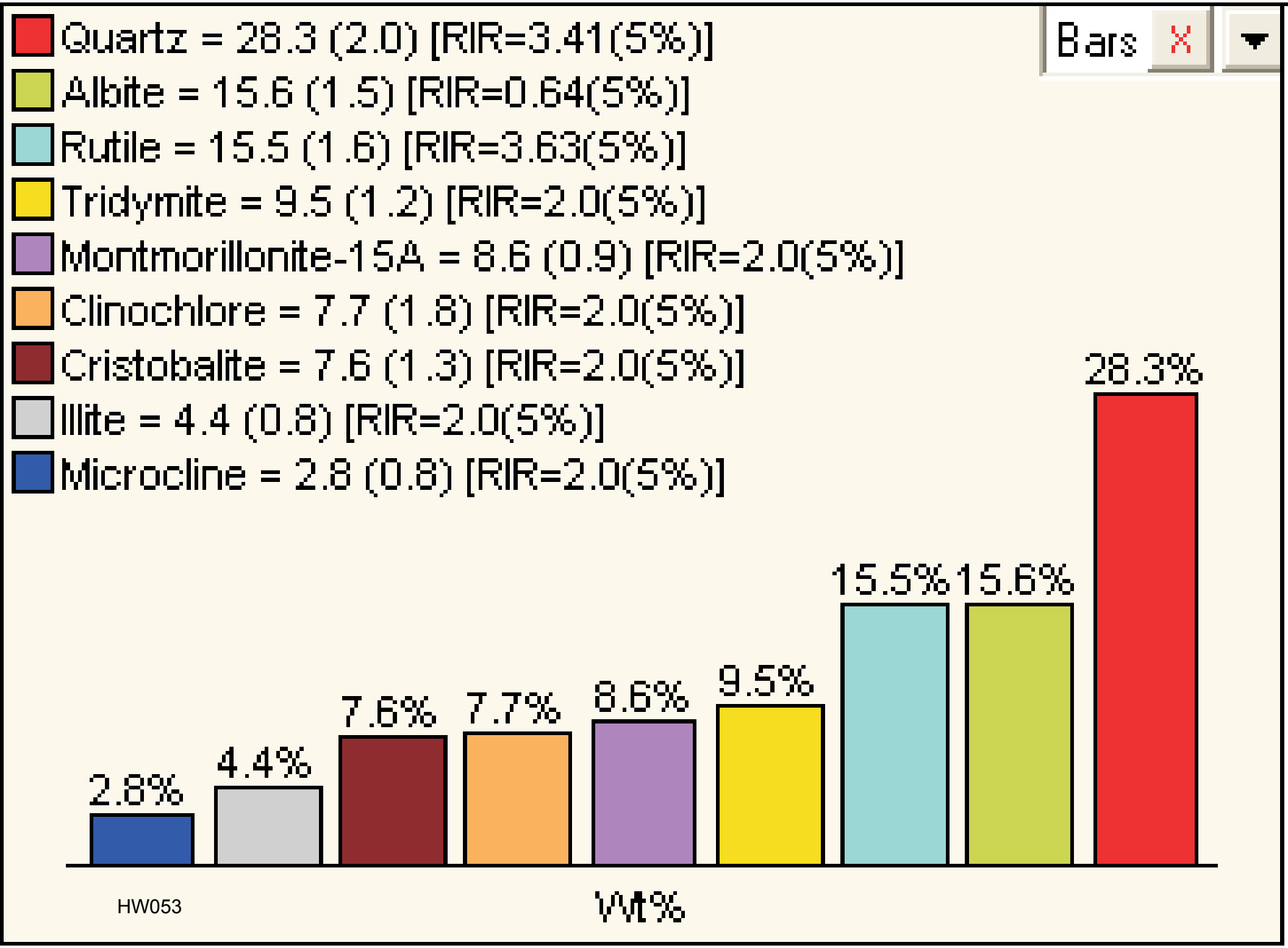
HW046


Quartz = 28.0 (2.0) [RIR=2.93(5%)]
Illite-2M2 = 18.8 (3.7) [RIR=2.0(5%)]
Muscovite = 13.6 (1.0)
Albite = 13.0 (1.2) [RIR=0.64(5%)]
Cristobalite = 12.5 (1.4) [RIR=2.0(5%)]
Microcline = 5.9 (1.2) [RIR=0.59(5%)]
Rutile = 3.1 (0.4) [RIR=3.63(5%)]
Montmorillonite-15A = 2.8 (0.4) [RIR=2.0(5%)]
Clinochlore = 2.2 (0.3) [RIR=2.0(5%)]
Bars
2.2%
2.8%
3.1%
5.9%
12.5%
13.0%
13.6%
18.8%
28.0%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Rutile - TiO2
Cristobalite - SiO2
Illite-2M2 - (K,H3O)Al2(Si3Al)O10(H2O,OH)2
Intensity(Counts)
10
20
30
40
50
60

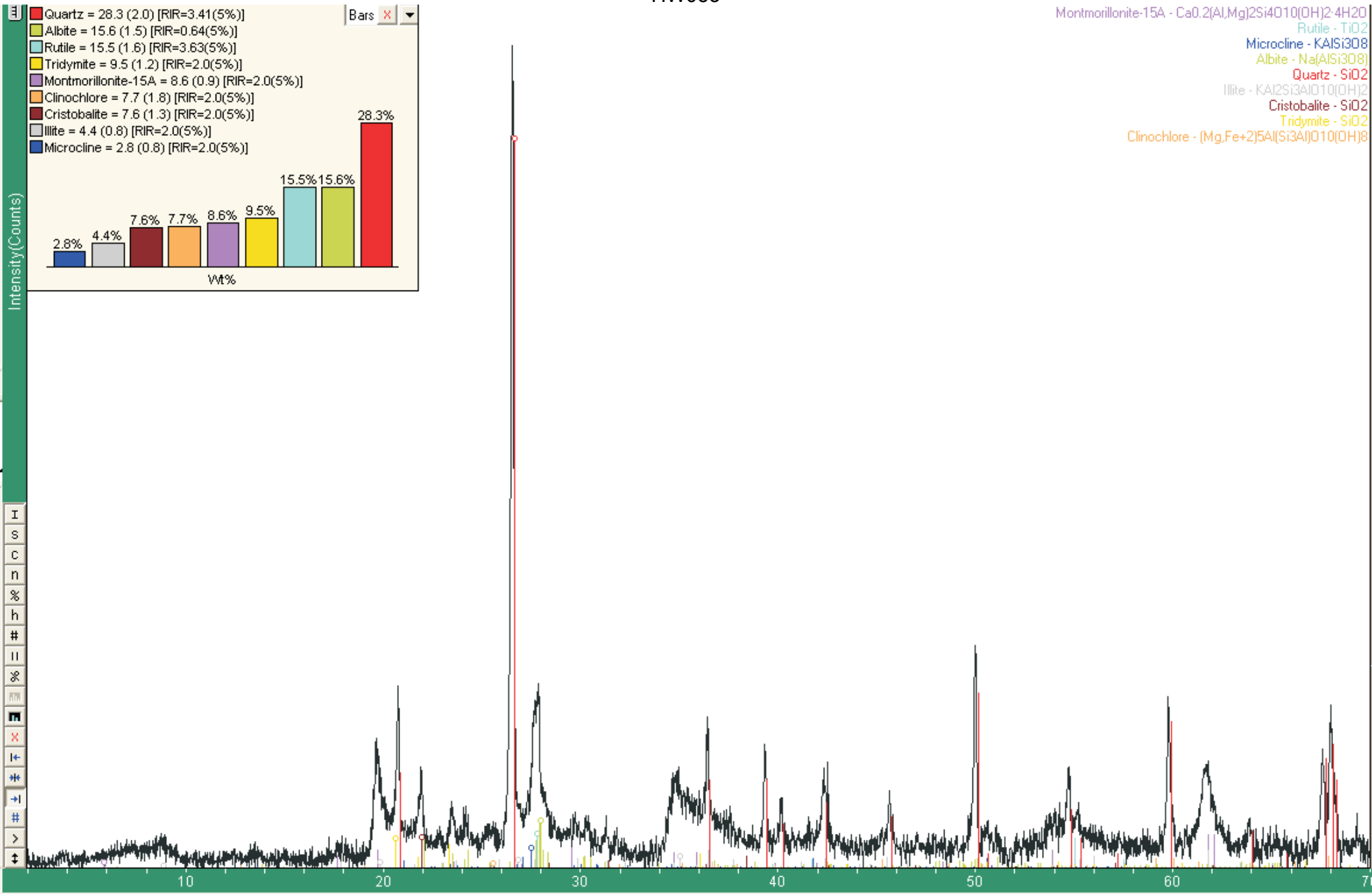

Muscovite = 30.4 (1.6)
Cristobalite = 24.2 (2.1) [RIR=2.0(5%)]
Quartz = 23.5 (1.5) [RIR=2.93(5%)]
Albite = 7.1 (0.7) [RIR=0.64(5%)]
Rutile = 6.2 (0.6) [RIR=3.63(5%)]
Montmorillonite-15A = 3.9 (0.4) [RIR=2.0(5%)]
Clinochlore = 2.6 (0.4) [RIR=2.0(5%)]
Microcline = 2.1 (0.7) [RIR=0.59(5%)]
Bars
2.1%
2.6%
3.9%
6.2%
7.1%
23.5%
24.2%
30.4%
HW052
Wt%

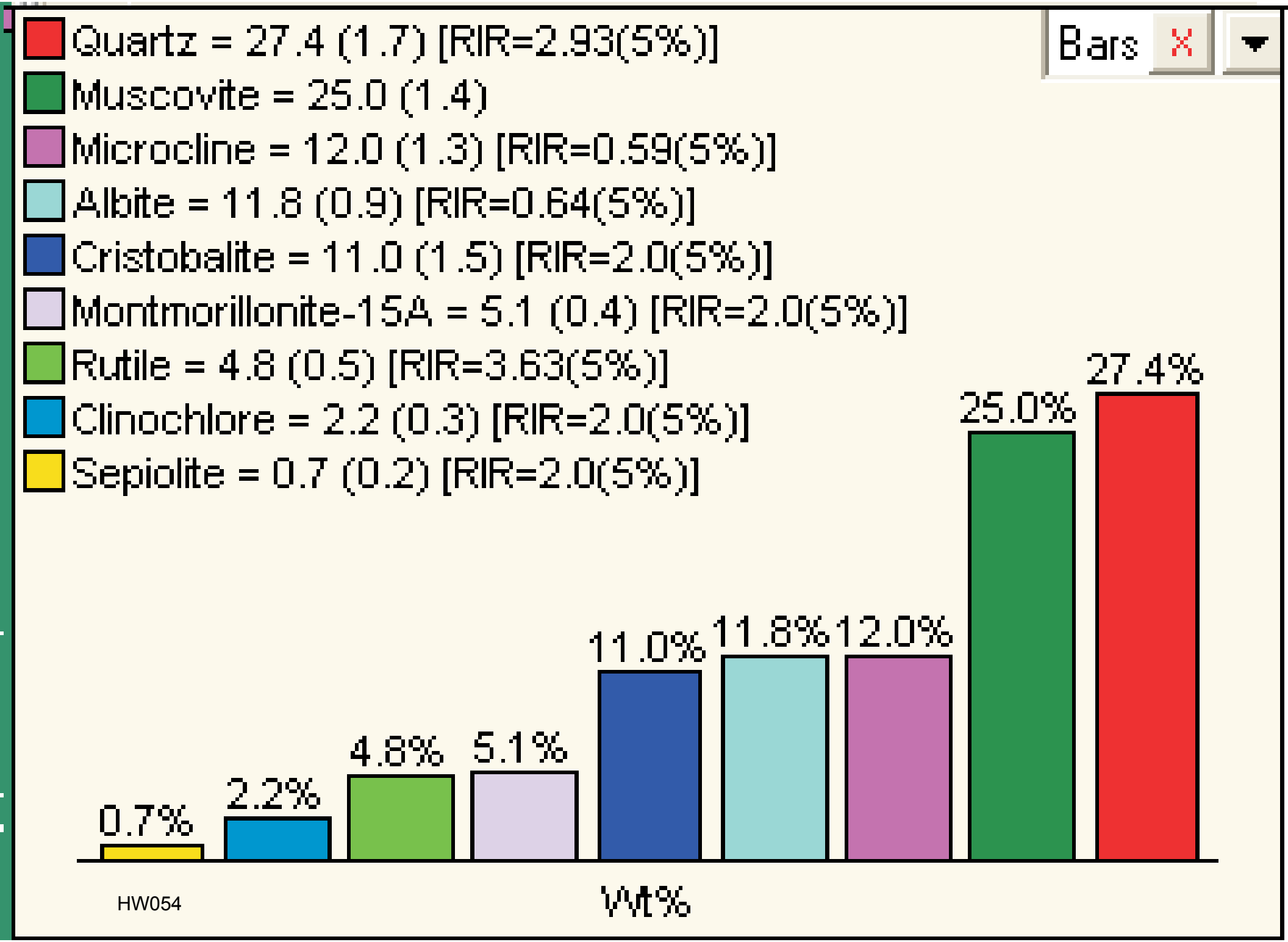
HW052


Muscovite = 30.4 (1.6)
Cristobalite = 24.2 (2.1) [RIR=2.0(5%)]
Quartz = 23.5 (1.5) [RIR=2.93(5%)]
Albite = 7.1 (0.7) [RIR=0.64(5%)]
Rutile = 6.2 (0.6) [RIR=3.63(5%)]
Montmorillonite-15A = 3.9 (0.4) [RIR=2.0(5%)]
Clinochlore = 2.6 (0.4) [RIR=2.0(5%)]
Microcline = 2.1 (0.7) [RIR=0.59(5%)]
Bars
2.1%
2.6%
3.9%
6.2%
7.1%
23.5%
24.2%
30.4%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Rutile - TiO2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

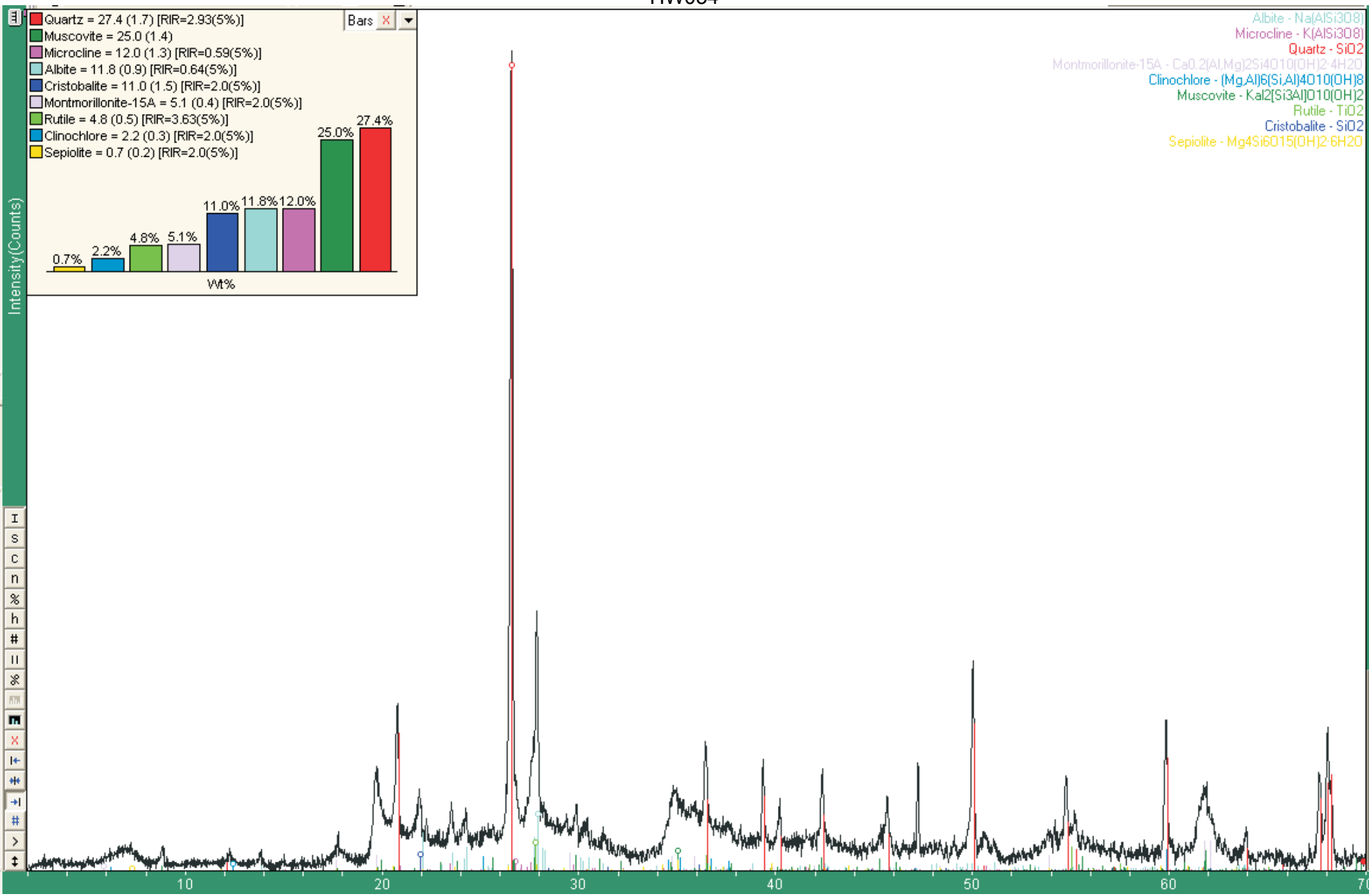

Quartz = 28.3 (2.0) [RIR=3.41(5%)]
Albite = 15.6 (1.5) [RIR=0.64(5%)]
Rutile = 15.5 (1.6) [RIR=3.63(5%)]
Tridymite = 9.5 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 8.6 (0.9) [RIR=2.0(5%)]
Clinochlore = 7.7 (1.8) [RIR=2.0(5%)]
Cristobalite = 7.6 (1.3) [RIR=2.0(5%)]
Illite = 4.4 (0.8) [RIR=2.0(5%)]
Microcline = 2.8 (0.8) [RIR=2.0(5%)]
Bars
2.8%
4.4%
7.6%
7.7%
8.6%
9.5%
15.5%
15.6%
28.3%
HW053
Wt%

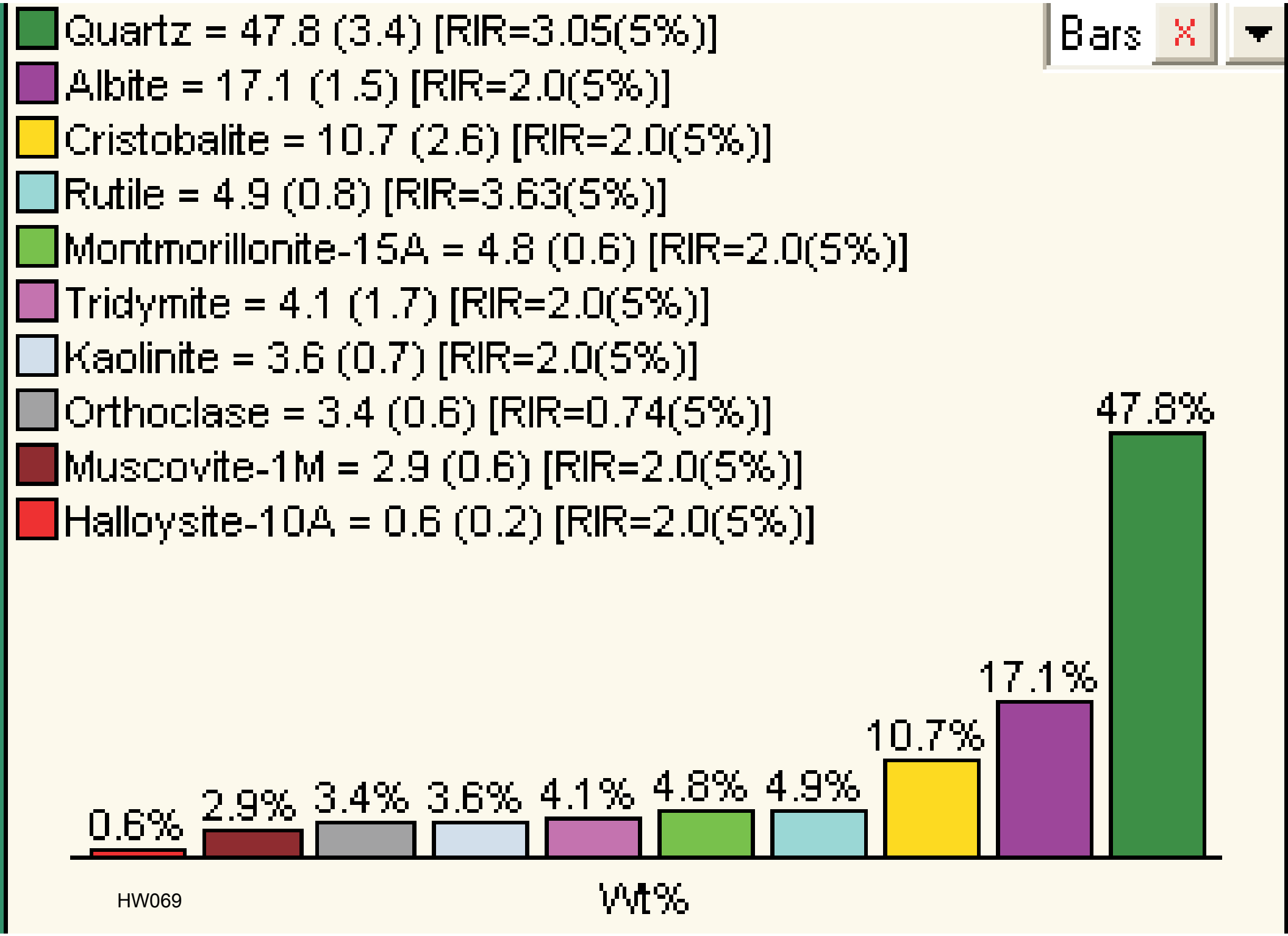
HW053


Quartz = 28.3 (2.0) [RIR=3.41(5%)]
Albite = 15.6 (1.5) [RIR=0.64(5%)]
Rutile = 15.5 (1.6) [RIR=3.63(5%)]
Tridymite = 9.5 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 8.6 (0.9) [RIR=2.0(5%)]
Clinochlore = 7.7 (1.8) [RIR=2.0(5%)]
Cristobalite = 7.6 (1.3) [RIR=2.0(5%)]
Illite = 4.4 (0.8) [RIR=2.0(5%)]
Microcline = 2.8 (0.8) [RIR=2.0(5%)]
Bars
2.8%
4.4%
7.6%
7.7%
8.6%
9.5%
15.5%
15.6%
28.3%
Wt%
Intensity(Counts)
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
10
20
30
40
50
60

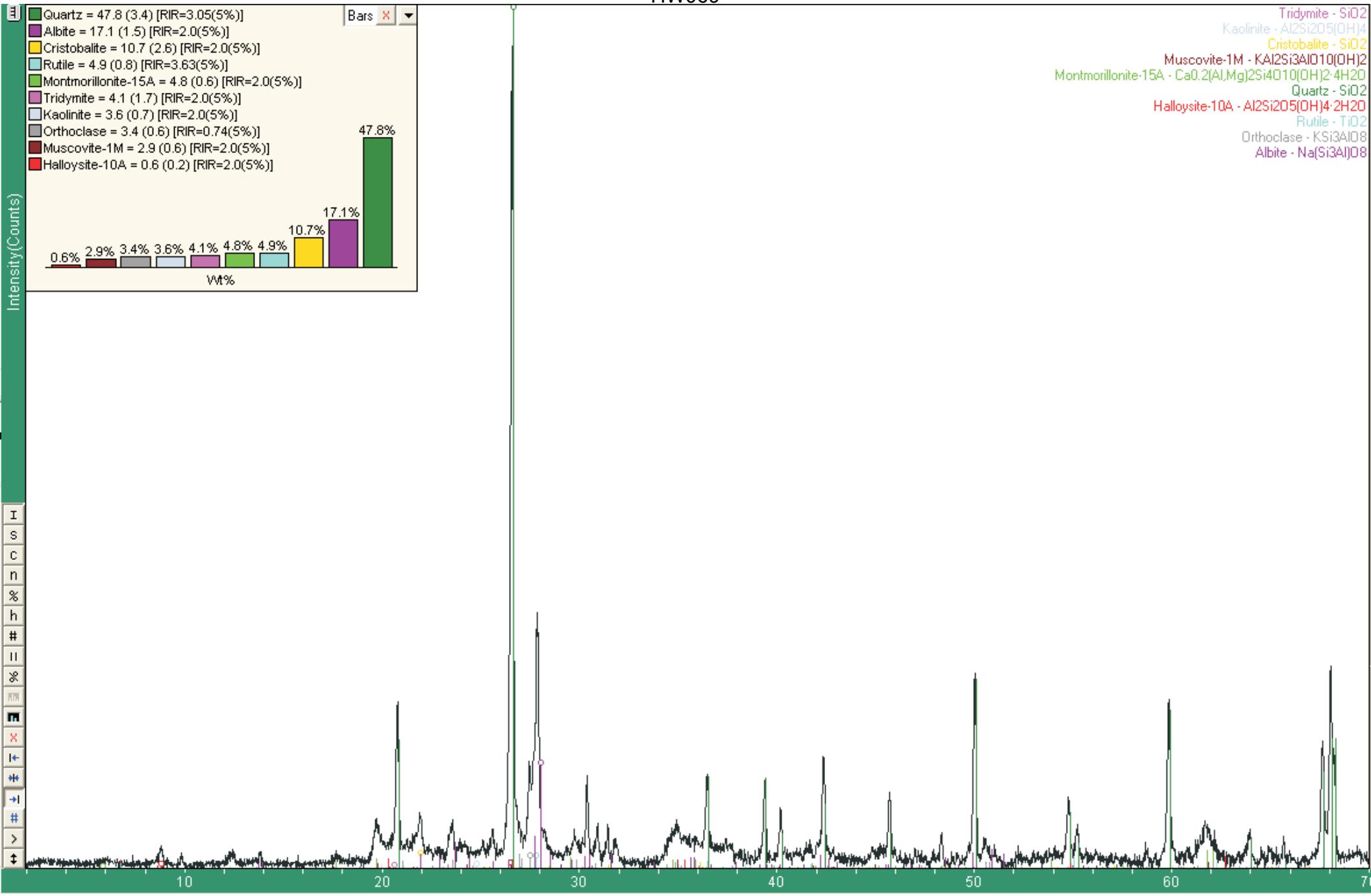

Quartz = 27.4 (1.7) [RIR=2.93(5%)]
Muscovite = 25.0 (1.4)
Microcline = 12.0 (1.3) [RIR=0.59(5%)]
Albite = 11.8 (0.9) [RIR=0.64(5%)]
Cristobalite = 11.0 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 5.1 (0.4) [RIR=2.0(5%)]
Rutile = 4.8 (0.5) [RIR=3.63(5%)]
Clinochlore = 2.2 (0.3) [RIR=2.0(5%)]
Sepiolite = 0.7 (0.2) [RIR=2.0(5%)]
Bars
0.7%
2.2%
4.8%
5.1%
11.0%
11.8%
12.0%
25.0%
27.4%
HW054
Wt%

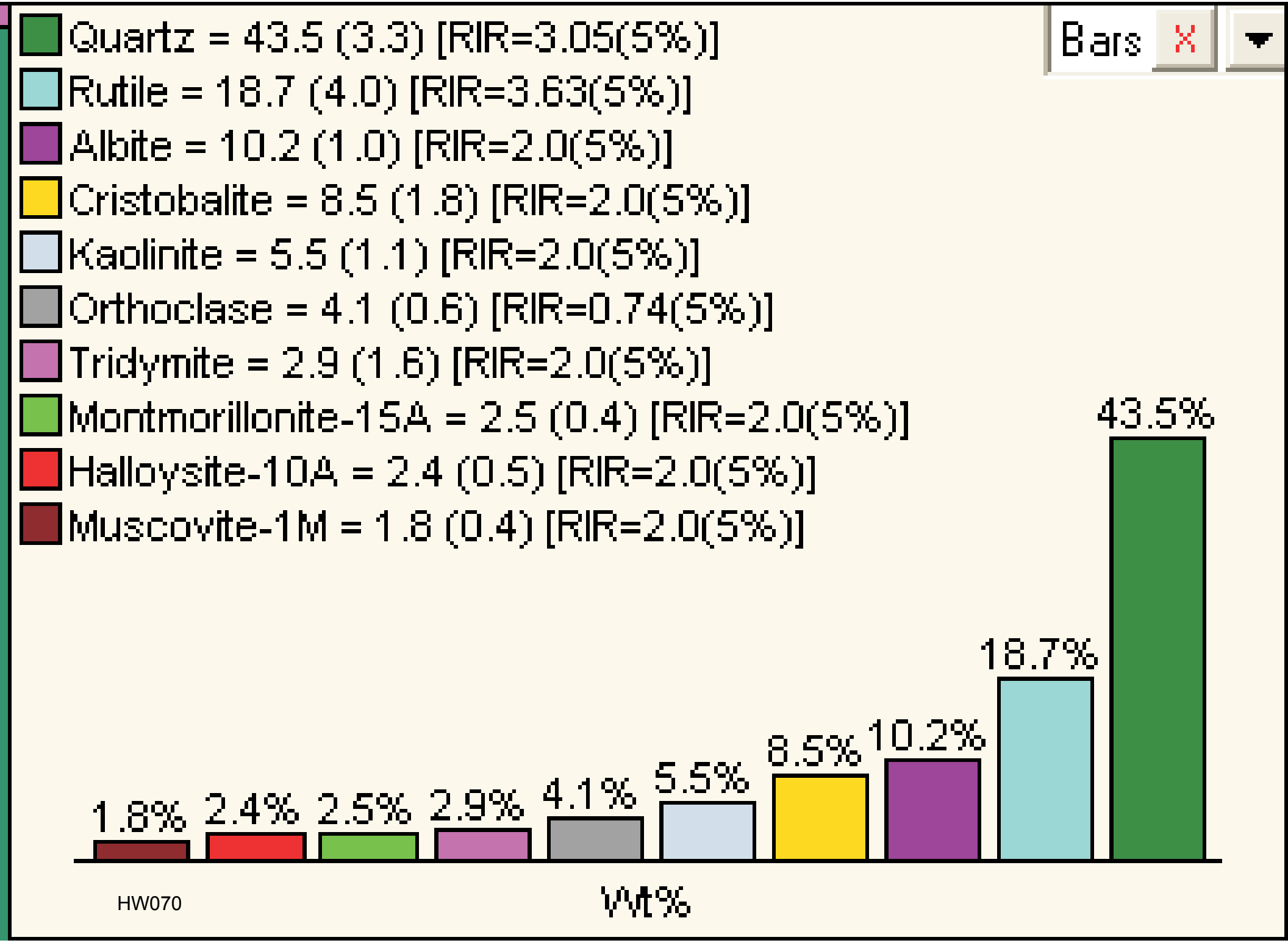
HW054


Quartz = 27.4 (1.7) [RIR=2.93(5%)]
Muscovite = 25.0 (1.4)
Microcline = 12.0 (1.3) [RIR=0.59(5%)]
Albite = 11.8 (0.9) [RIR=0.64(5%)]
Cristobalite = 11.0 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 5.1 (0.4) [RIR=2.0(5%)]
Rutile = 4.8 (0.5) [RIR=3.63(5%)]
Clinochlore = 2.2 (0.3) [RIR=2.0(5%)]
Sepiolite = 0.7 (0.2) [RIR=2.0(5%)]
Bars
0.7%
2.2%
4.8%
5.1%
11.0%
11.8%
12.0%
25.0%
27.4%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Rutile - TiO2
Cristobalite - SiO2
Sepiolite - Mg4Si6O15(OH)2·6H2O
Intensity(Counts)
10
20
30
40
50
60
70

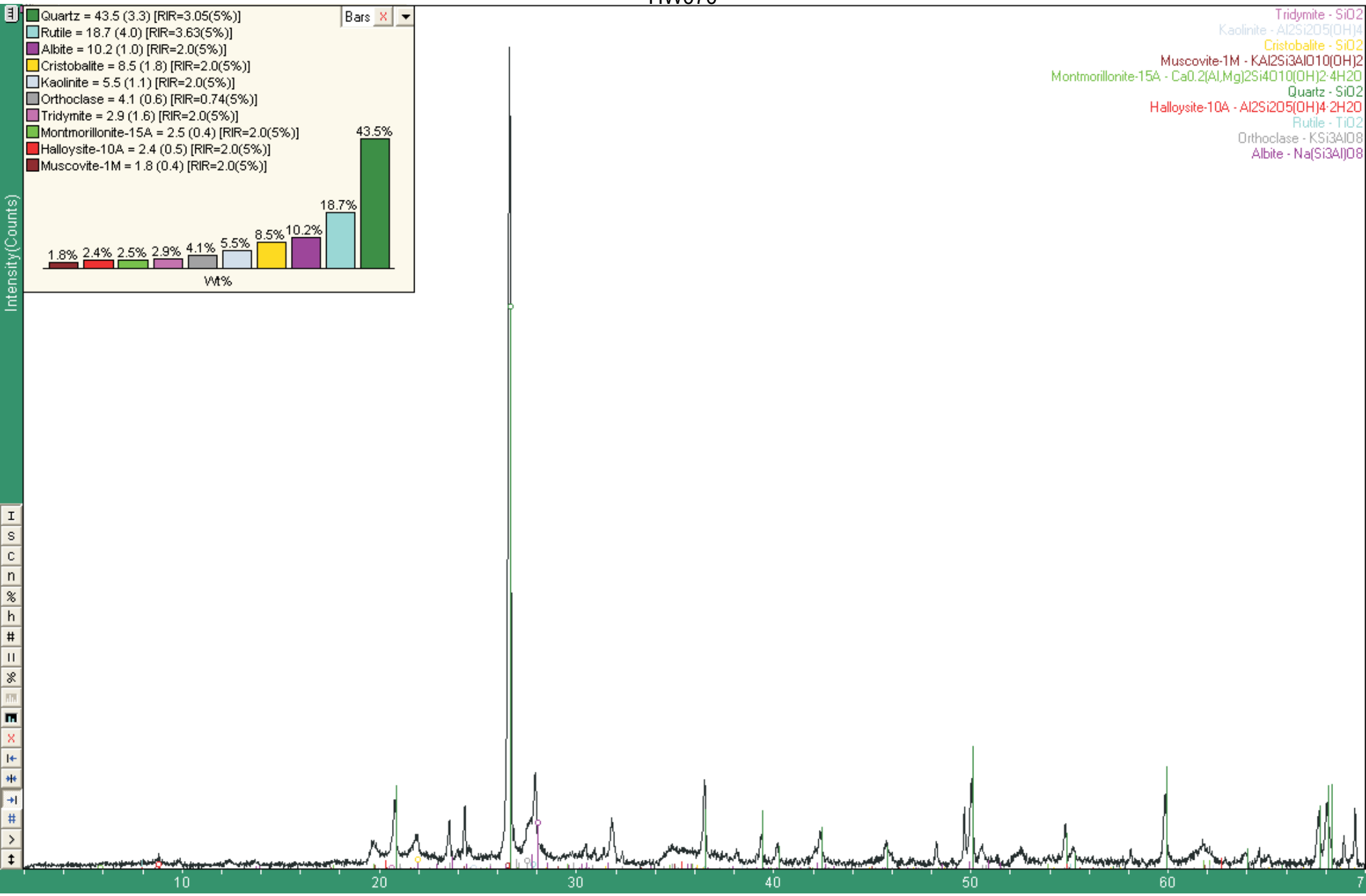

Quartz = 47.8 (3.4) [RIR=3.05(5%)]
Albite = 17.1 (1.5) [RIR=2.0(5%)]
Cristobalite = 10.7 (2.6) [RIR=2.0(5%)]
Rutile = 4.9 (0.8) [RIR=3.63(5%)]
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Tridymite = 4.1 (1.7) [RIR=2.0(5%)]
Kaolinite = 3.6 (0.7) [RIR=2.0(5%)]
Orthoclase = 3.4 (0.6) [RIR=0.74(5%)]
Muscovite-1M = 2.9 (0.6) [RIR=2.0(5%)]
Halloysite-10A = 0.6 (0.2) [RIR=2.0(5%)]
Bars
0.6%
2.9%
3.4%
3.6%
4.1%
4.8%
4.9%
10.7%
17.1%
47.8%
HW069
Wt%

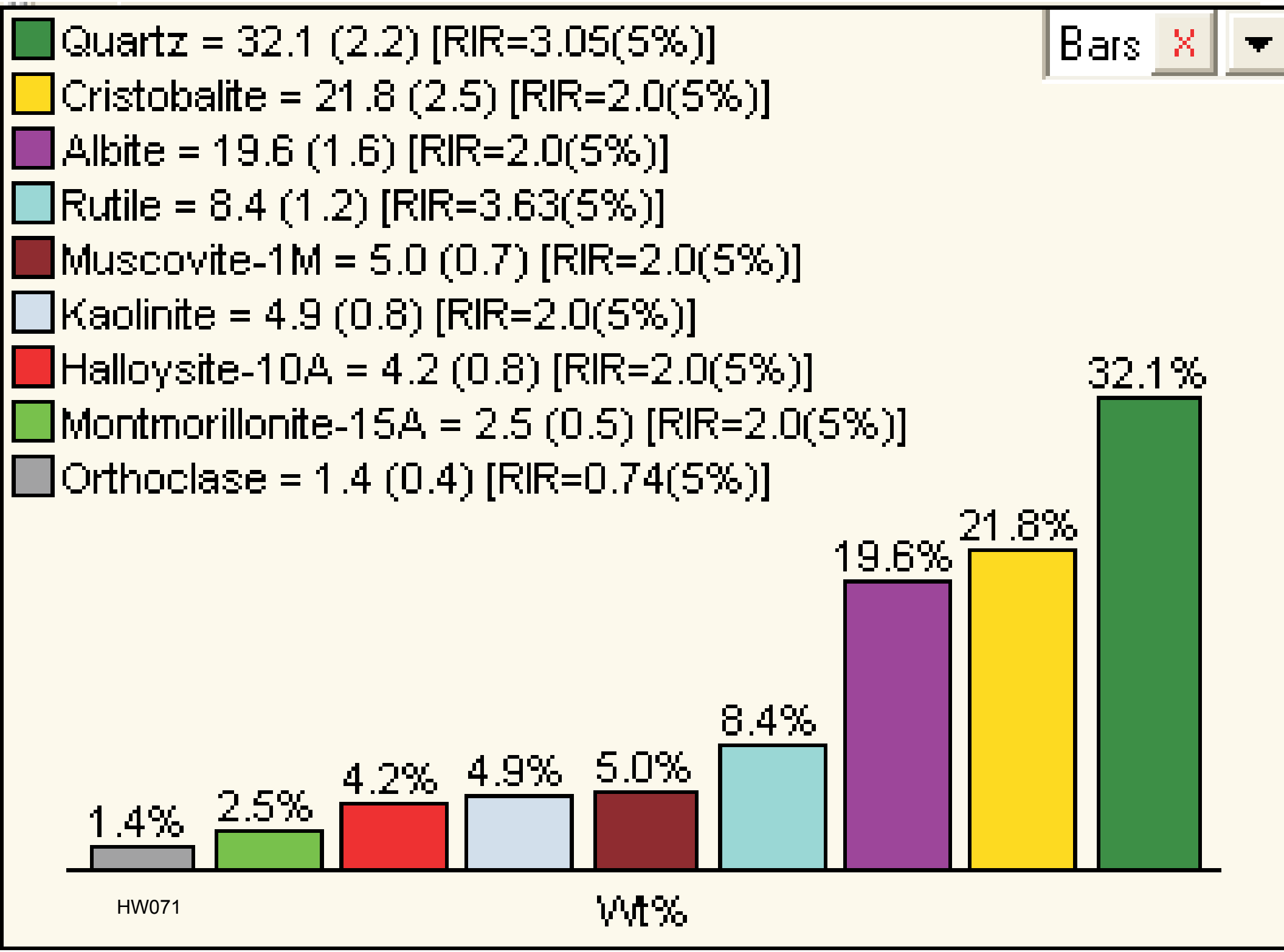
HW069


Quartz = 47.8 (3.4) [RIR=3.05(5%)]
Albite = 17.1 (1.5) [RIR=2.0(5%)]
Cristobalite = 10.7 (2.6) [RIR=2.0(5%)]
Rutile = 4.9 (0.8) [RIR=3.63(5%)]
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Tridymite = 4.1 (1.7) [RIR=2.0(5%)]
Kaolinite = 3.6 (0.7) [RIR=2.0(5%)]
Orthoclase = 3.4 (0.6) [RIR=0.74(5%)]
Muscovite-1M = 2.9 (0.6) [RIR=2.0(5%)]
Halloysite-10A = 0.6 (0.2) [RIR=2.0(5%)]
Bars
0.6%
2.9%
3.4%
3.6%
4.1%
4.8%
4.9%
10.7%
17.1%
47.8%
Wt%
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Orthoclase - KSi3AlO8
Albite - Na(Si3Al)O8
Intensity(Counts)
10
20
30
40
50
60

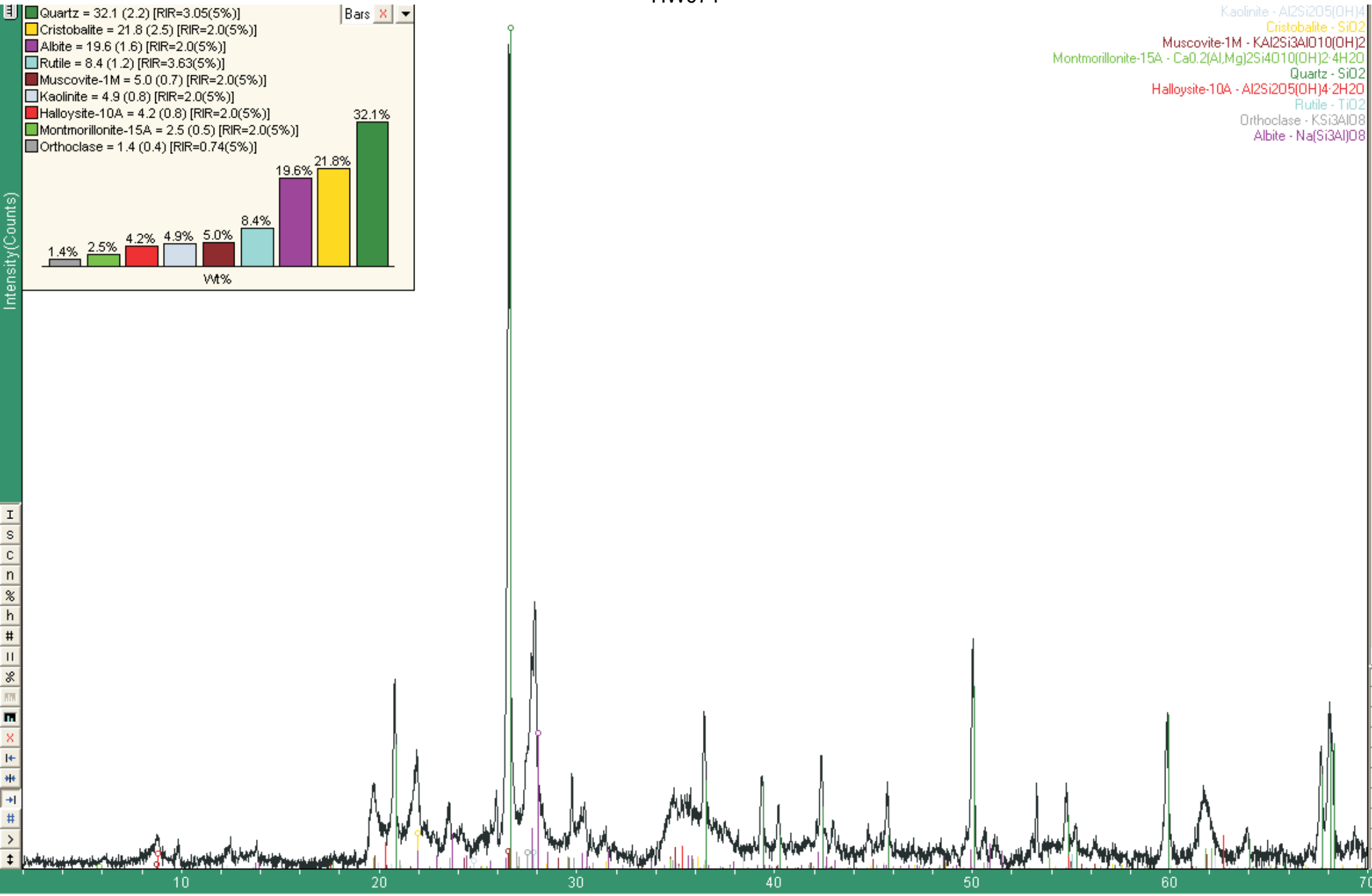

Quartz = 43.5 (3.3) [RIR=3.05(5%)]
Rutile = 18.7 (4.0) [RIR=3.63(5%)]
Albite = 10.2 (1.0) [RIR=2.0(5%)]
Cristobalite = 8.5 (1.8) [RIR=2.0(5%)]
Kaolinite = 5.5 (1.1) [RIR=2.0(5%)]
Orthoclase = 4.1 (0.6) [RIR=0.74(5%)]
Tridymite = 2.9 (1.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.5 (0.4) [RIR=2.0(5%)]
Halloysite-10A = 2.4 (0.5) [RIR=2.0(5%)]
Muscovite-1M = 1.8 (0.4) [RIR=2.0(5%)]
Bars
X
1.8%
2.4%
2.5%
2.9%
4.1%
5.5%
8.5%
10.2%
18.7%
43.5%
HW070
Wt%

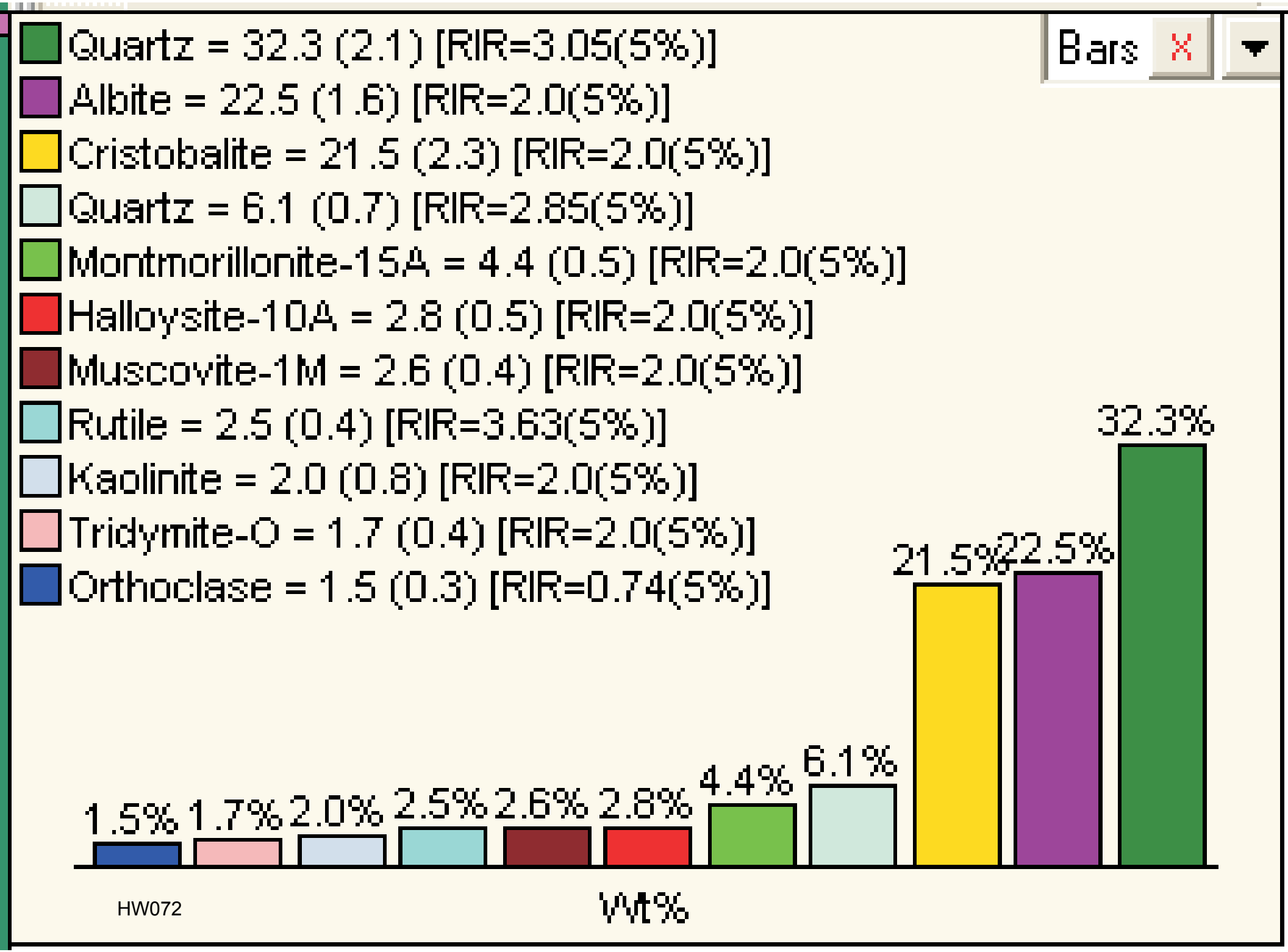
HW070


Quartz = 43.5 (3.3) [RIR=3.05(5%)]
Rutile = 18.7 (4.0) [RIR=3.63(5%)]
Albite = 10.2 (1.0) [RIR=2.0(5%)]
Cristobalite = 8.5 (1.8) [RIR=2.0(5%)]
Kaolinite = 5.5 (1.1) [RIR=2.0(5%)]
Orthoclase = 4.1 (0.6) [RIR=0.74(5%)]
Tridymite = 2.9 (1.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.5 (0.4) [RIR=2.0(5%)]
Halloysite-10A = 2.4 (0.5) [RIR=2.0(5%)]
Muscovite-1M = 1.8 (0.4) [RIR=2.0(5%)]
Bars
1.8% 2.4% 2.5% 2.9% 4.1% 5.5% 8.5% 10.2% 18.7% 43.5%
Wt%
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Orthoclase - KSi3AlO8
Albite - Na(Si3Al)O8
Intensity(Counts)
10
20
30
40
50
60

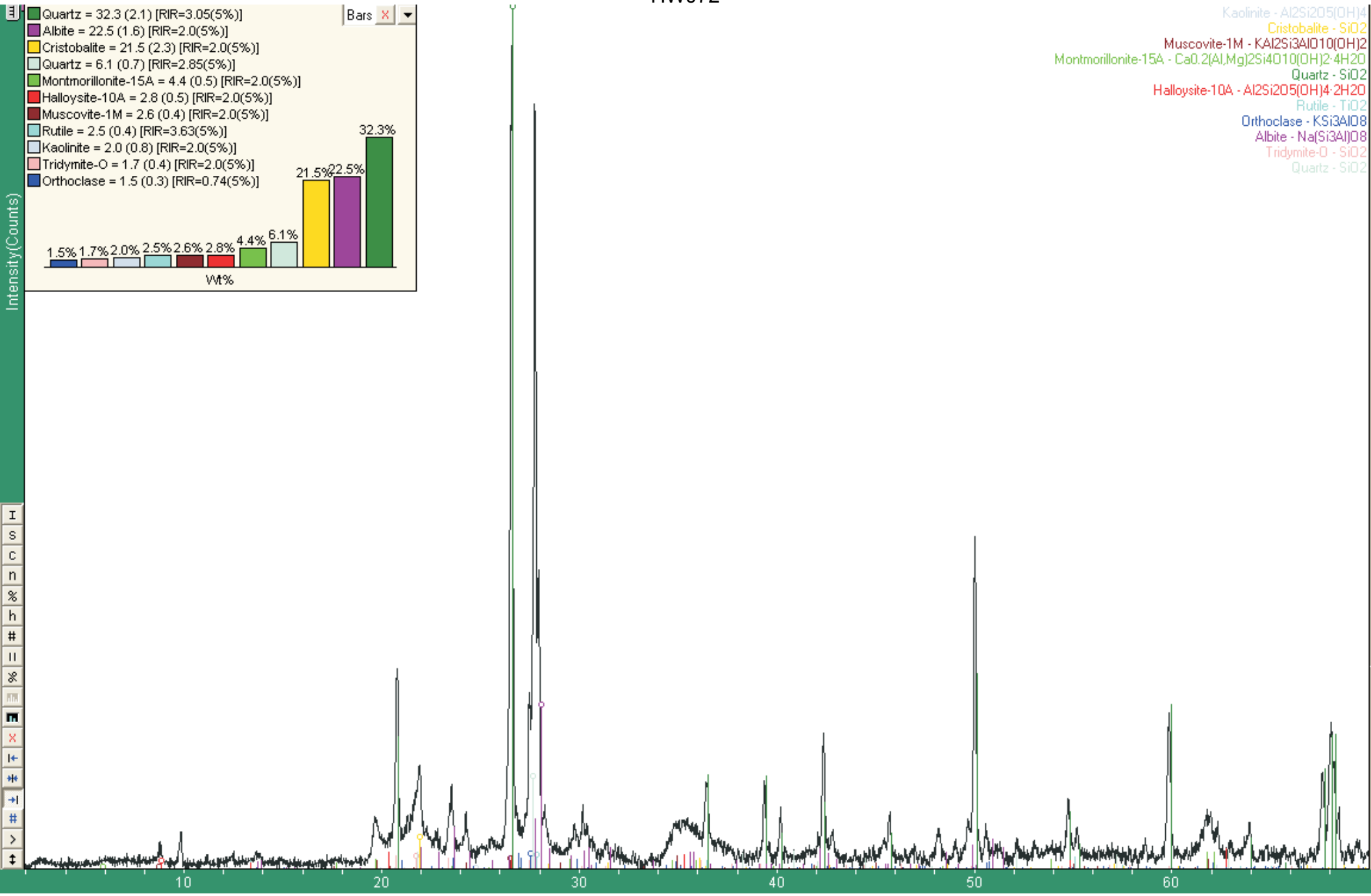

Quartz = 32.1 (2.2) [RIR=3.05(5%)]
Cristobalite = 21.8 (2.5) [RIR=2.0(5%)]
Albite = 19.6 (1.6) [RIR=2.0(5%)]
Rutile = 8.4 (1.2) [RIR=3.63(5%)]
Muscovite-1M = 5.0 (0.7) [RIR=2.0(5%)]
Kaolinite = 4.9 (0.8) [RIR=2.0(5%)]
Halloysite-10A = 4.2 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 2.5 (0.5) [RIR=2.0(5%)]
Orthoclase = 1.4 (0.4) [RIR=0.74(5%)]
Bars
1.4%
2.5%
4.2%
4.9%
5.0%
8.4%
19.6%
21.8%
32.1%
HW071
Wt%

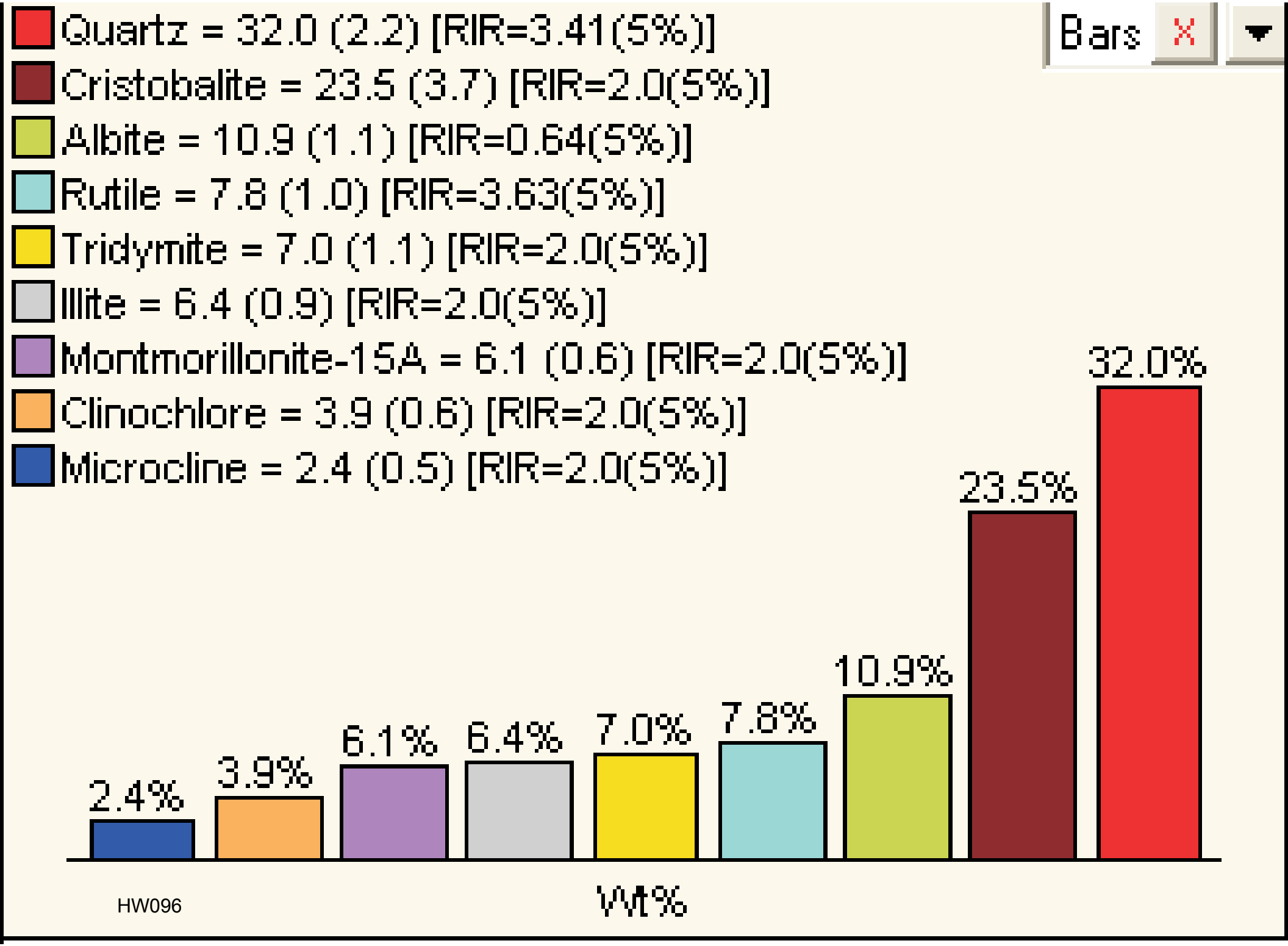
HW071


Quartz = 32.1 (2.2) [RIR=3.05(5%)]
Cristobalite = 21.8 (2.5) [RIR=2.0(5%)]
Albite = 19.6 (1.6) [RIR=2.0(5%)]
Rutile = 8.4 (1.2) [RIR=3.63(5%)]
Muscovite-1M = 5.0 (0.7) [RIR=2.0(5%)]
Kaolinite = 4.9 (0.8) [RIR=2.0(5%)]
Halloysite-10A = 4.2 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 2.5 (0.5) [RIR=2.0(5%)]
Orthoclase = 1.4 (0.4) [RIR=0.74(5%)]
Bars
1.4%
2.5%
4.2%
4.9%
5.0%
8.4%
19.6%
21.8%
32.1%
Wt%
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Orthoclase - KSi3AlO8
Albite - Na(Si3Al)O8
Intensity(Counts)
10
20
30
40
50
60
70

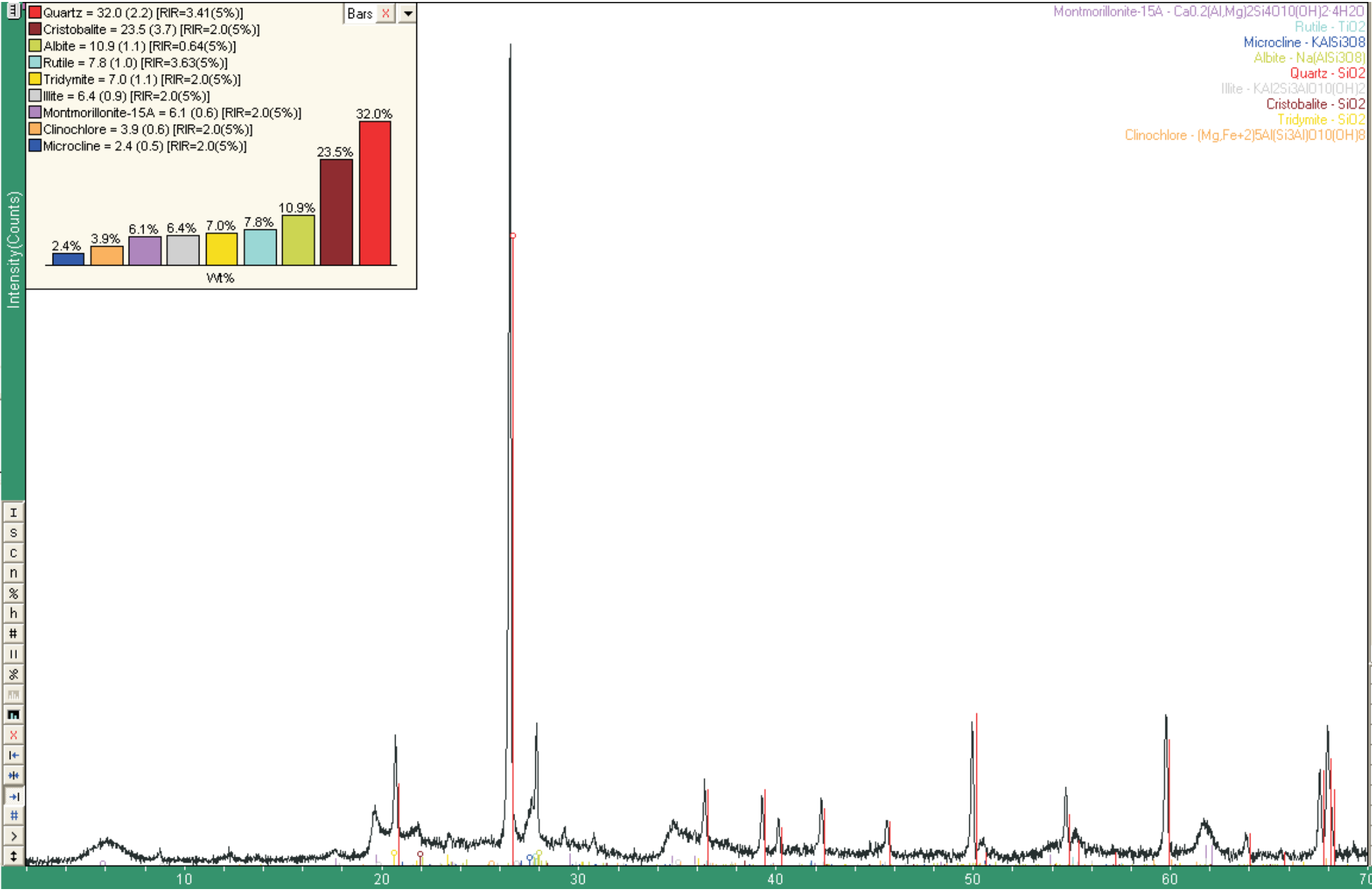

Quartz = 32.3 (2.1) [RIR=3.05(5%)]
Albite = 22.5 (1.6) [RIR=2.0(5%)]
Cristobalite = 21.5 (2.3) [RIR=2.0(5%)]
Quartz = 6.1 (0.7) [RIR=2.85(5%)]
Montmorillonite-15A = 4.4 (0.5) [RIR=2.0(5%)]
Halloysite-10A = 2.8 (0.5) [RIR=2.0(5%)]
Muscovite-1M = 2.6 (0.4) [RIR=2.0(5%)]
Rutile = 2.5 (0.4) [RIR=3.63(5%)]
Kaolinite = 2.0 (0.8) [RIR=2.0(5%)]
Tridymite-O = 1.7 (0.4) [RIR=2.0(5%)]
Orthoclase = 1.5 (0.3) [RIR=0.74(5%)]
Bars
1.5%
1.7%
2.0%
2.5%
2.6%
2.8%
4.4%
6.1%
21.5%
22.5%
32.3%
HW072
Wt%

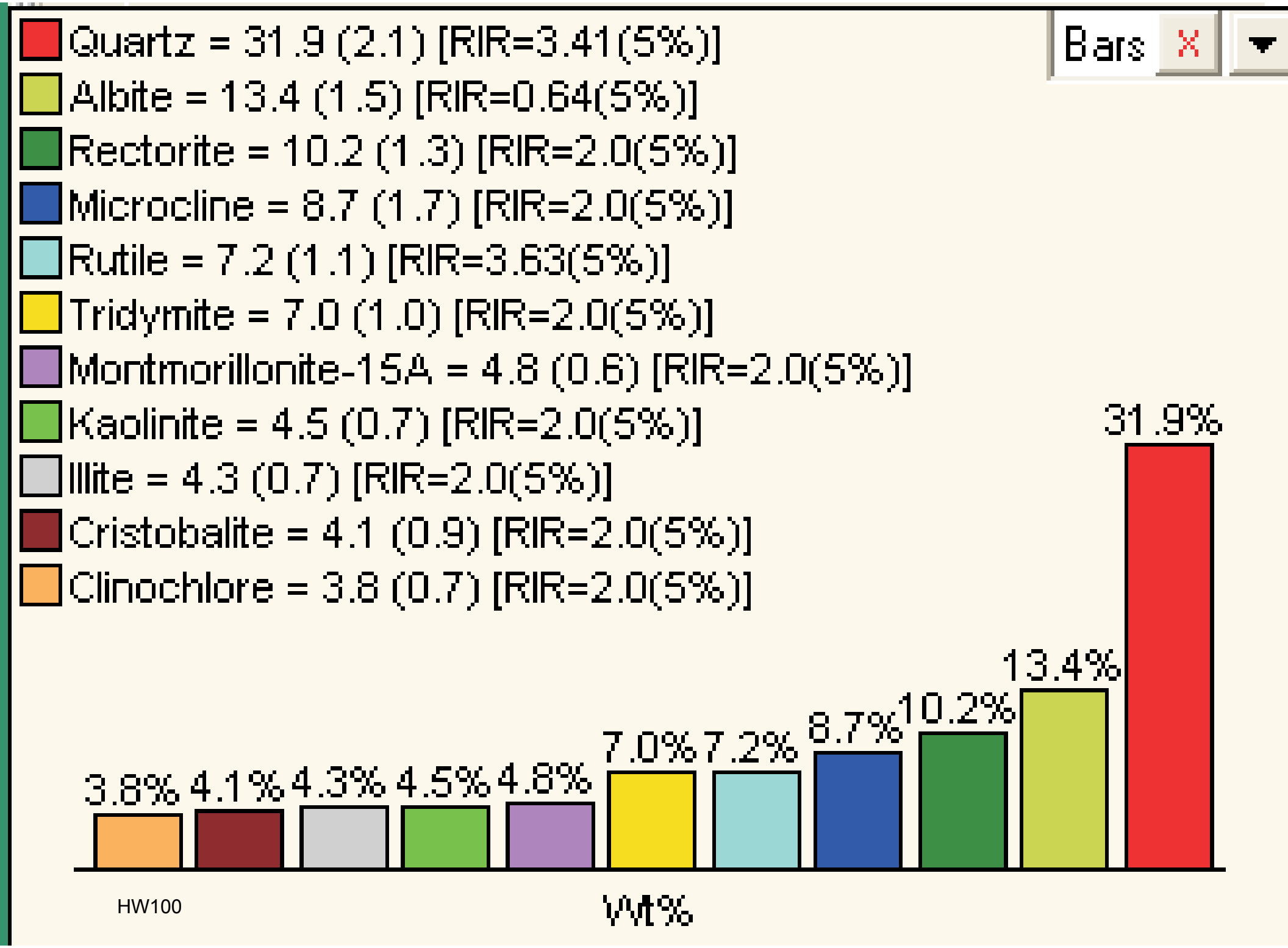
HW072


Quartz = 32.3 (2.1) [RIR=3.05(5%)]
Albite = 22.5 (1.6) [RIR=2.0(5%)]
Cristobalite = 21.5 (2.3) [RIR=2.0(5%)]
Quartz = 6.1 (0.7) [RIR=2.85(5%)]
Montmorillonite-15A = 4.4 (0.5) [RIR=2.0(5%)]
Halloysite-10A = 2.8 (0.5) [RIR=2.0(5%)]
Muscovite-1M = 2.6 (0.4) [RIR=2.0(5%)]
Rutile = 2.5 (0.4) [RIR=3.63(5%)]
Kaolinite = 2.0 (0.8) [RIR=2.0(5%)]
Tridymite-O = 1.7 (0.4) [RIR=2.0(5%)]
Orthoclase = 1.5 (0.3) [RIR=0.74(5%)]
Bars
1.5% 1.7% 2.0% 2.5% 2.6% 2.8% 4.4% 6.1% 21.5% 22.5% 32.3%
Wt%
Intensity(Counts)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Orthoclase - KSi3AlO8
Albite - Na(Si3Al)O8
Tridymite-O - SiO2
Quartz - SiO2
10
20
30
40
50
60

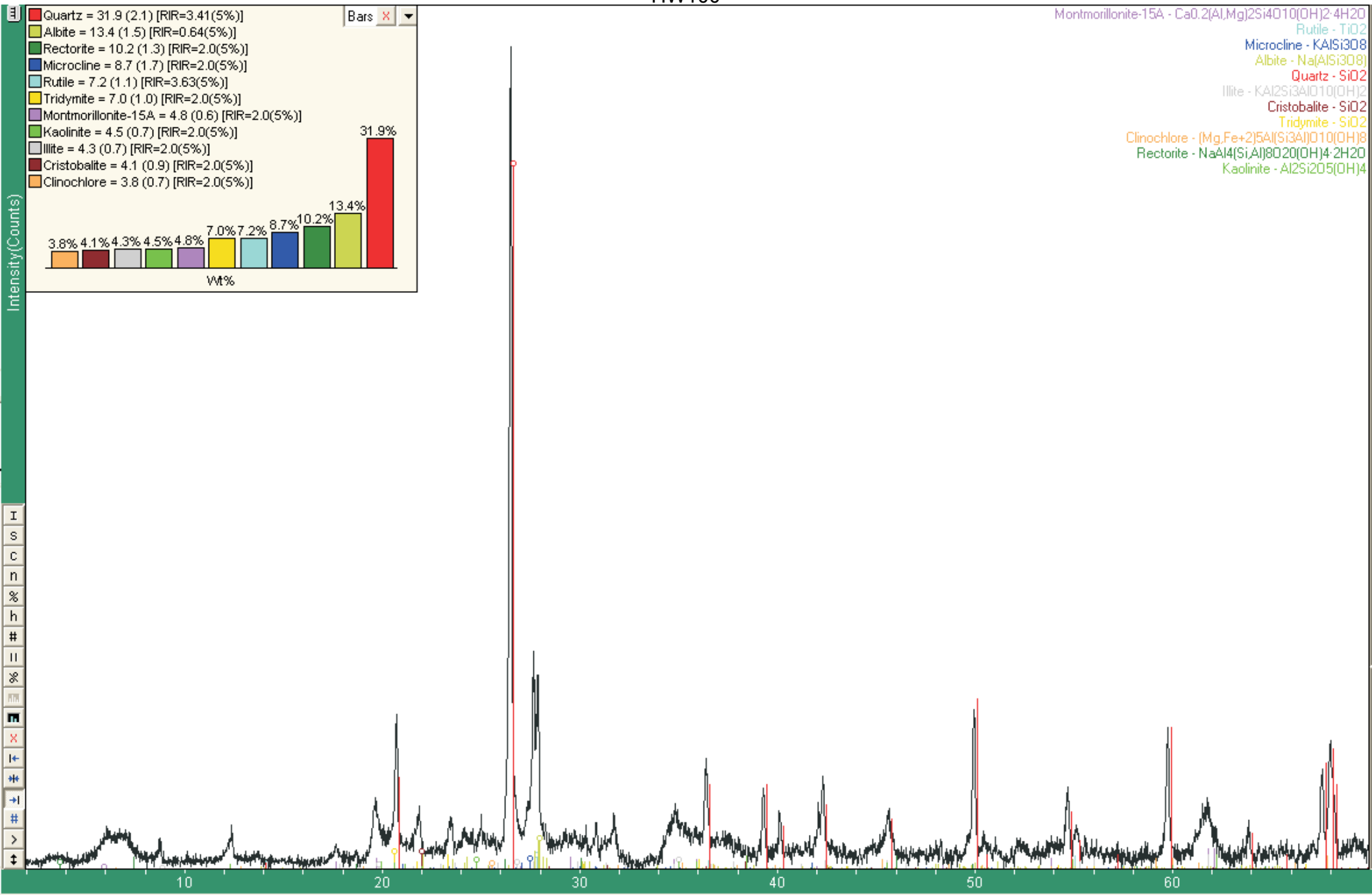

Quartz = 32.0 (2.2) [RIR=3.41(5%)]
Cristobalite = 23.5 (3.7) [RIR=2.0(5%)]
Albite = 10.9 (1.1) [RIR=0.64(5%)]
Rutile = 7.8 (1.0) [RIR=3.63(5%)]
Tridymite = 7.0 (1.1) [RIR=2.0(5%)]
Illite = 6.4 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 6.1 (0.6) [RIR=2.0(5%)]
Clinochlore = 3.9 (0.6) [RIR=2.0(5%)]
Microcline = 2.4 (0.5) [RIR=2.0(5%)]
Bars
2.4%
3.9%
6.1%
6.4%
7.0%
7.8%
10.9%
23.5%
32.0%
HW096
Wt%

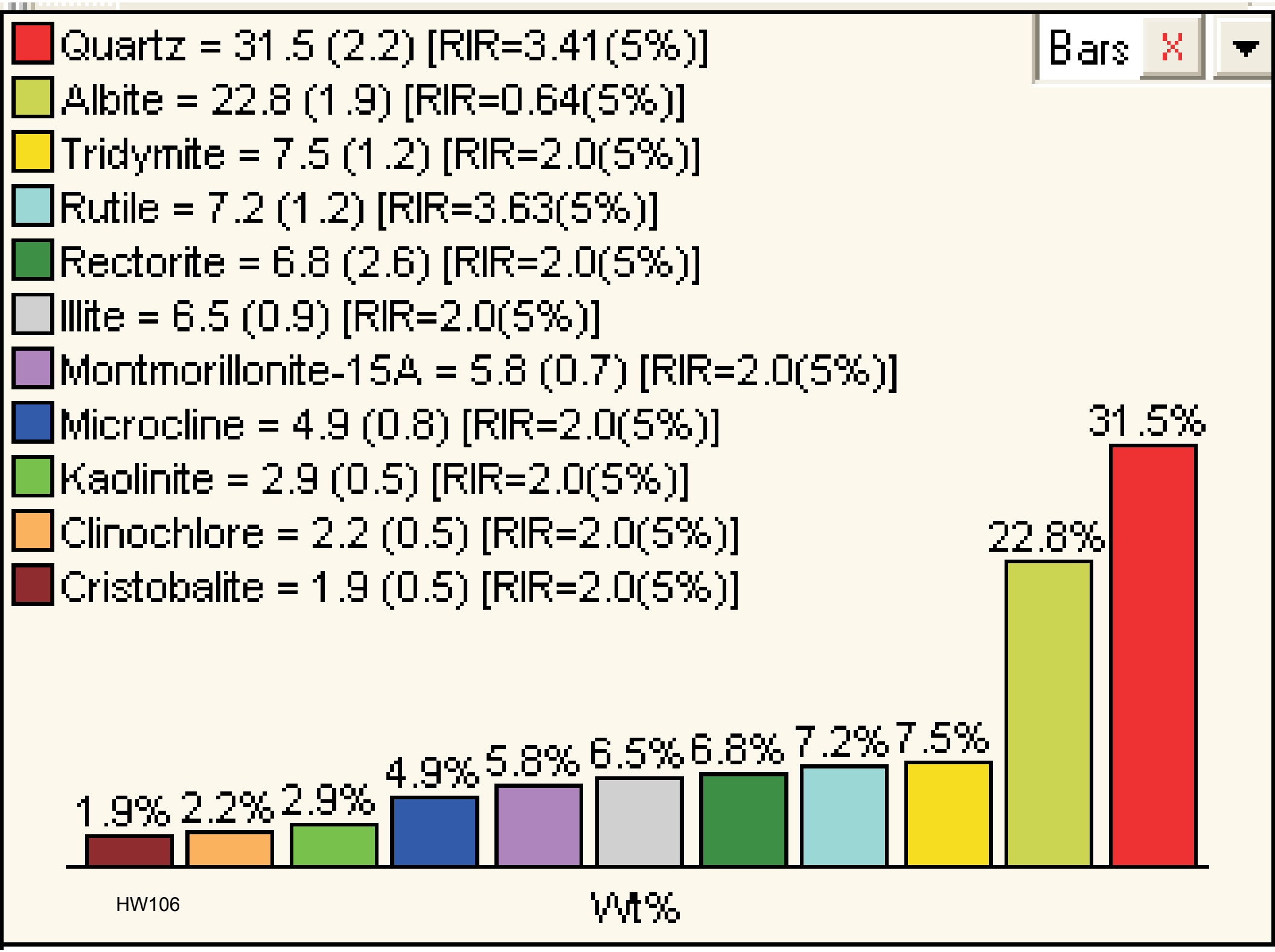
HW096


Quartz = 32.0 (2.2) [RIR=3.41(5%)]
Cristobalite = 23.5 (3.7) [RIR=2.0(5%)]
Albite = 10.9 (1.1) [RIR=0.64(5%)]
Rutile = 7.8 (1.0) [RIR=3.63(5%)]
Tridymite = 7.0 (1.1) [RIR=2.0(5%)]
Illite = 6.4 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 6.1 (0.6) [RIR=2.0(5%)]
Clinochlore = 3.9 (0.6) [RIR=2.0(5%)]
Microcline = 2.4 (0.5) [RIR=2.0(5%)]
Bars
2.4%
3.9%
6.1%
6.4%
7.0%
7.8%
10.9%
23.5%
32.0%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70

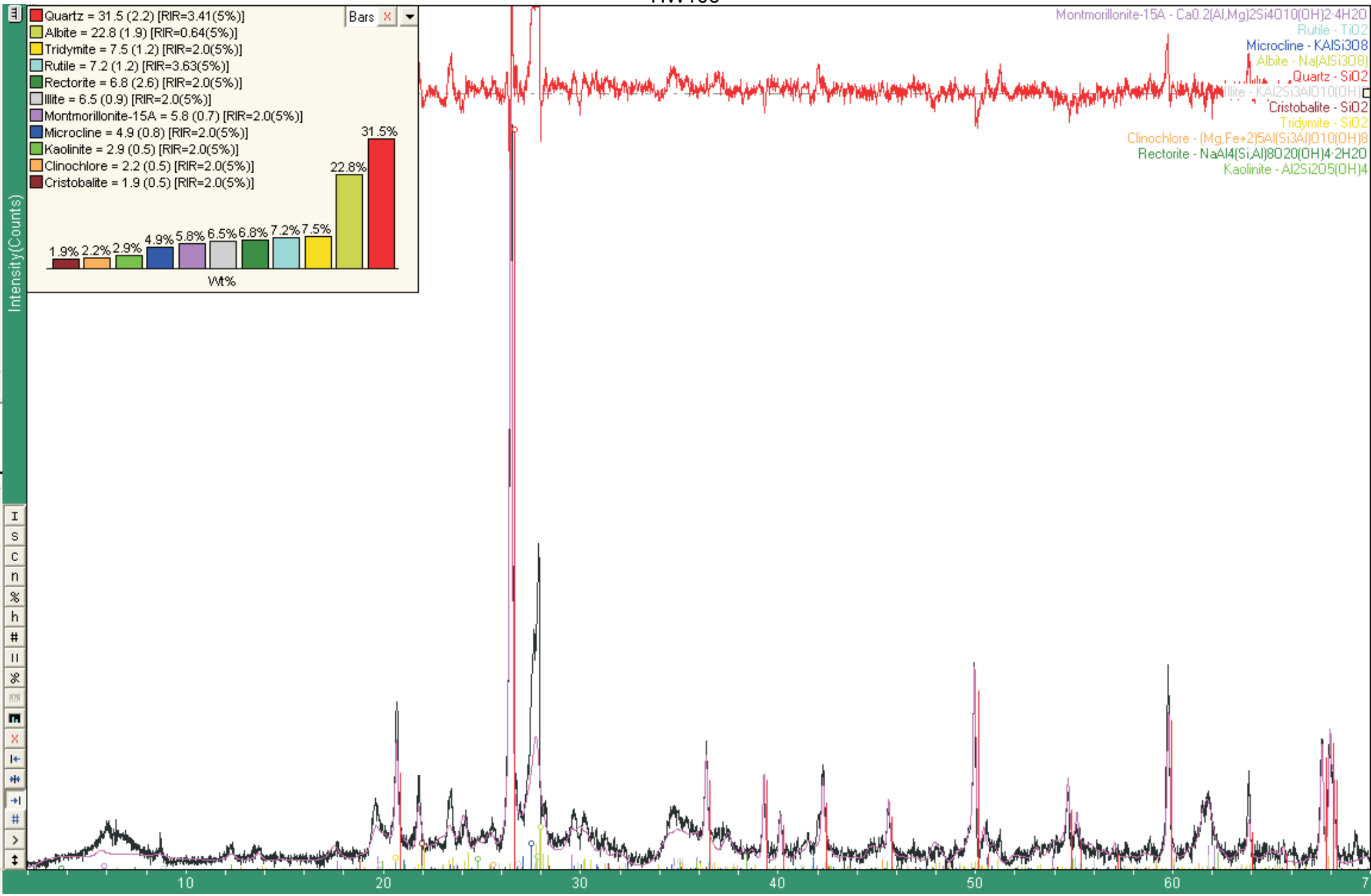

Quartz = 31.9 (2.1) [RIR=3.41(5%)]
Albite = 13.4 (1.5) [RIR=0.64(5%)]
Rectorite = 10.2 (1.3) [RIR=2.0(5%)]
Microcline = 8.7 (1.7) [RIR=2.0(5%)]
Rutile = 7.2 (1.1) [RIR=3.63(5%)]
Tridymite = 7.0 (1.0) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Kaolinite = 4.5 (0.7) [RIR=2.0(5%)]
Illite = 4.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 4.1 (0.9) [RIR=2.0(5%)]
Clinochlore = 3.8 (0.7) [RIR=2.0(5%)]
Bars
3.8%
4.1%
4.3%
4.5%
4.8%
7.0%
7.2%
8.7%
10.2%
13.4%
31.9%
HW100
Wt%

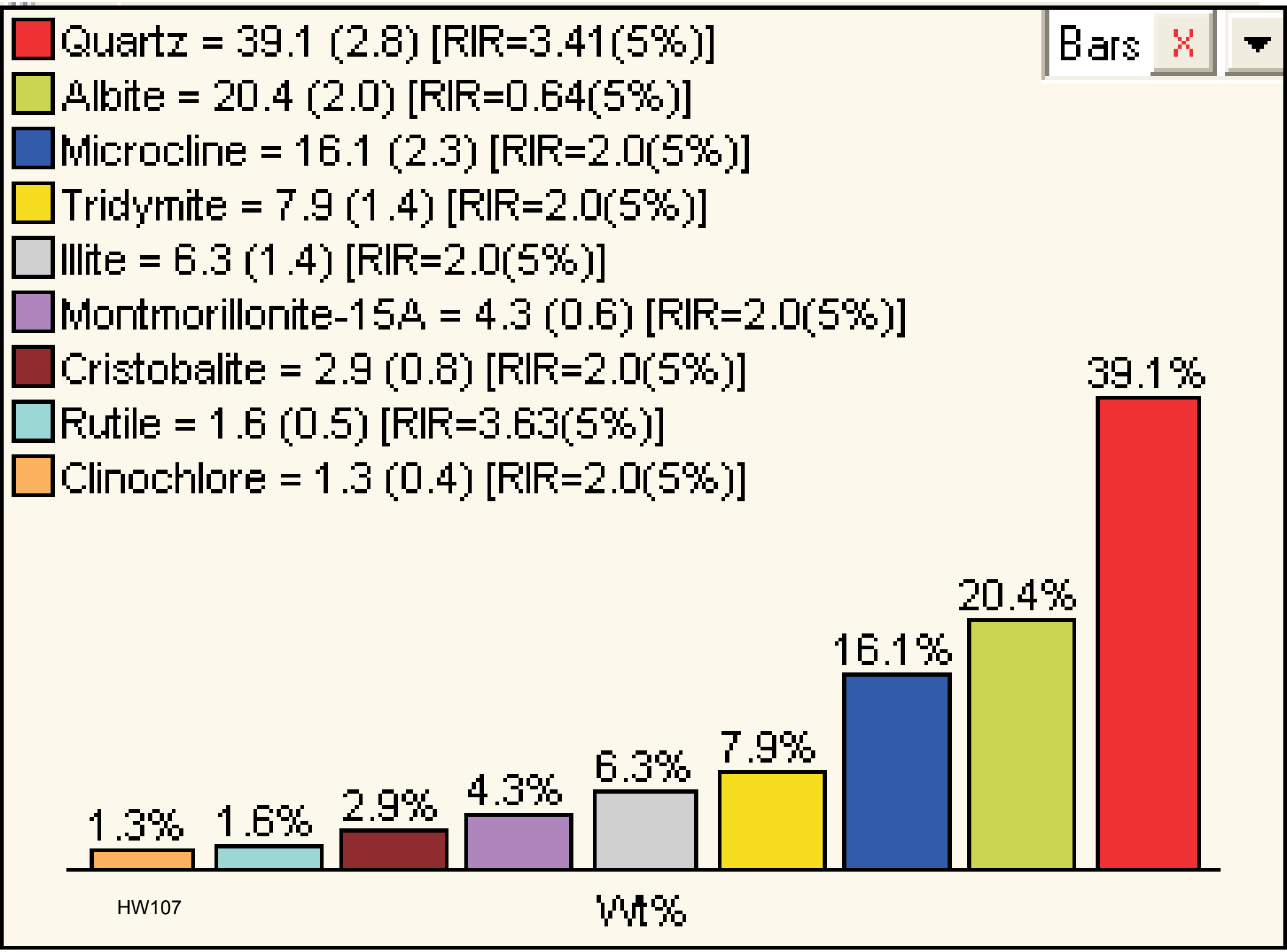
HW100


Quartz = 31.9 (2.1) [RIR=3.41(5%)]
Albite = 13.4 (1.5) [RIR=0.64(5%)]
Rectorite = 10.2 (1.3) [RIR=2.0(5%)]
Microcline = 8.7 (1.7) [RIR=2.0(5%)]
Rutile = 7.2 (1.1) [RIR=3.63(5%)]
Tridymite = 7.0 (1.0) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Kaolinite = 4.5 (0.7) [RIR=2.0(5%)]
Illite = 4.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 4.1 (0.9) [RIR=2.0(5%)]
Clinochlore = 3.8 (0.7) [RIR=2.0(5%)]
Bars
3.8% 4.1% 4.3% 4.5% 4.8% 7.0% 7.2% 8.7% 10.2% 13.4% 31.9%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

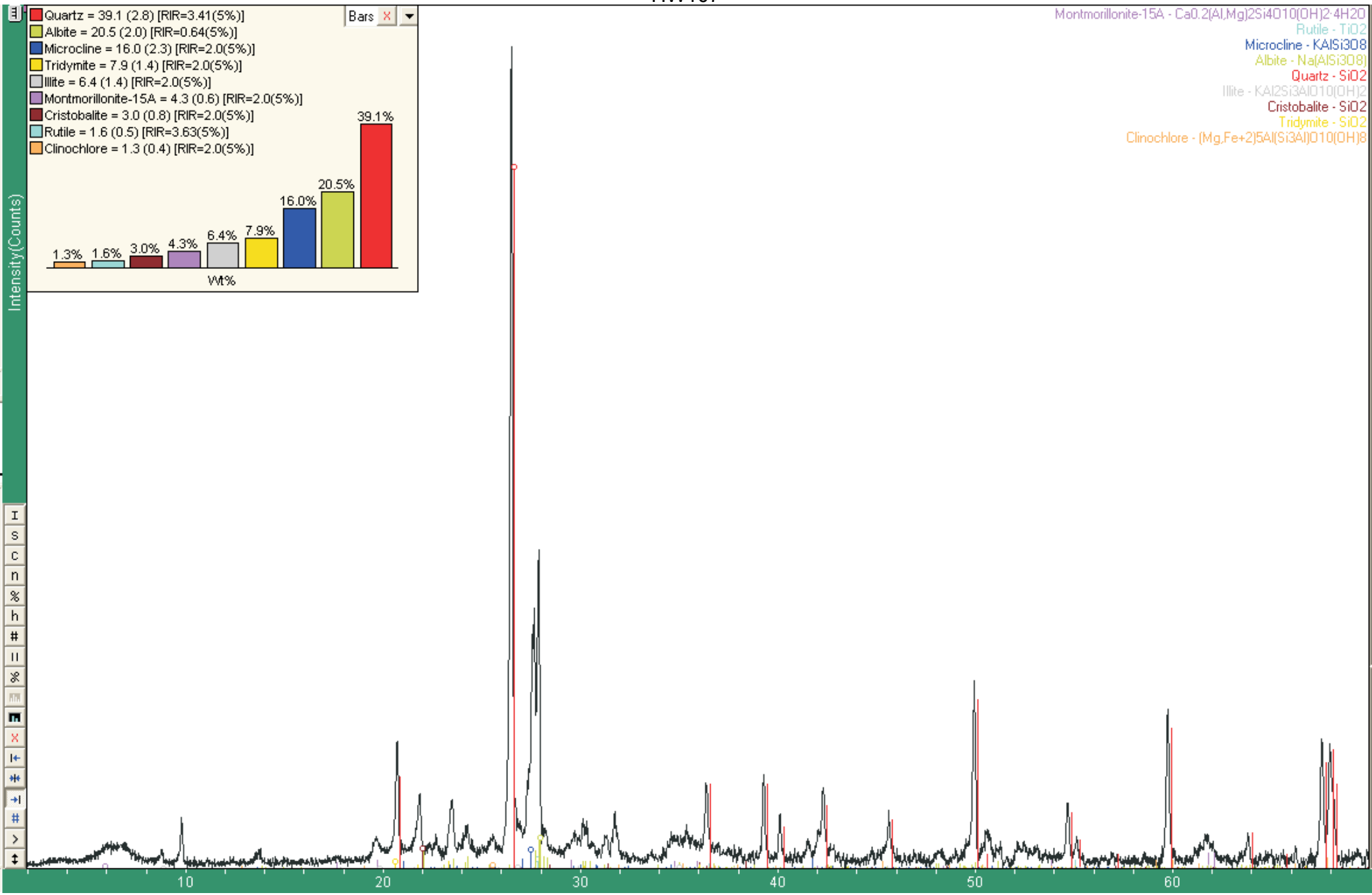

Quartz = 31.5 (2.2) [RIR=3.41(5%)]
Albite = 22.8 (1.9) [RIR=0.64(5%)]
Tridymite = 7.5 (1.2) [RIR=2.0(5%)]
Rutile = 7.2 (1.2) [RIR=3.63(5%)]
Rectorite = 6.8 (2.6) [RIR=2.0(5%)]
Illite = 6.5 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.8 (0.7) [RIR=2.0(5%)]
Microcline = 4.9 (0.8) [RIR=2.0(5%)]
Kaolinite = 2.9 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.2 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.9 (0.5) [RIR=2.0(5%)]
Bars
X
1.9%
2.2%
2.9%
4.9%
5.8%
6.5%
6.8%
7.2%
7.5%
22.8%
31.5%
HW106
Wt%

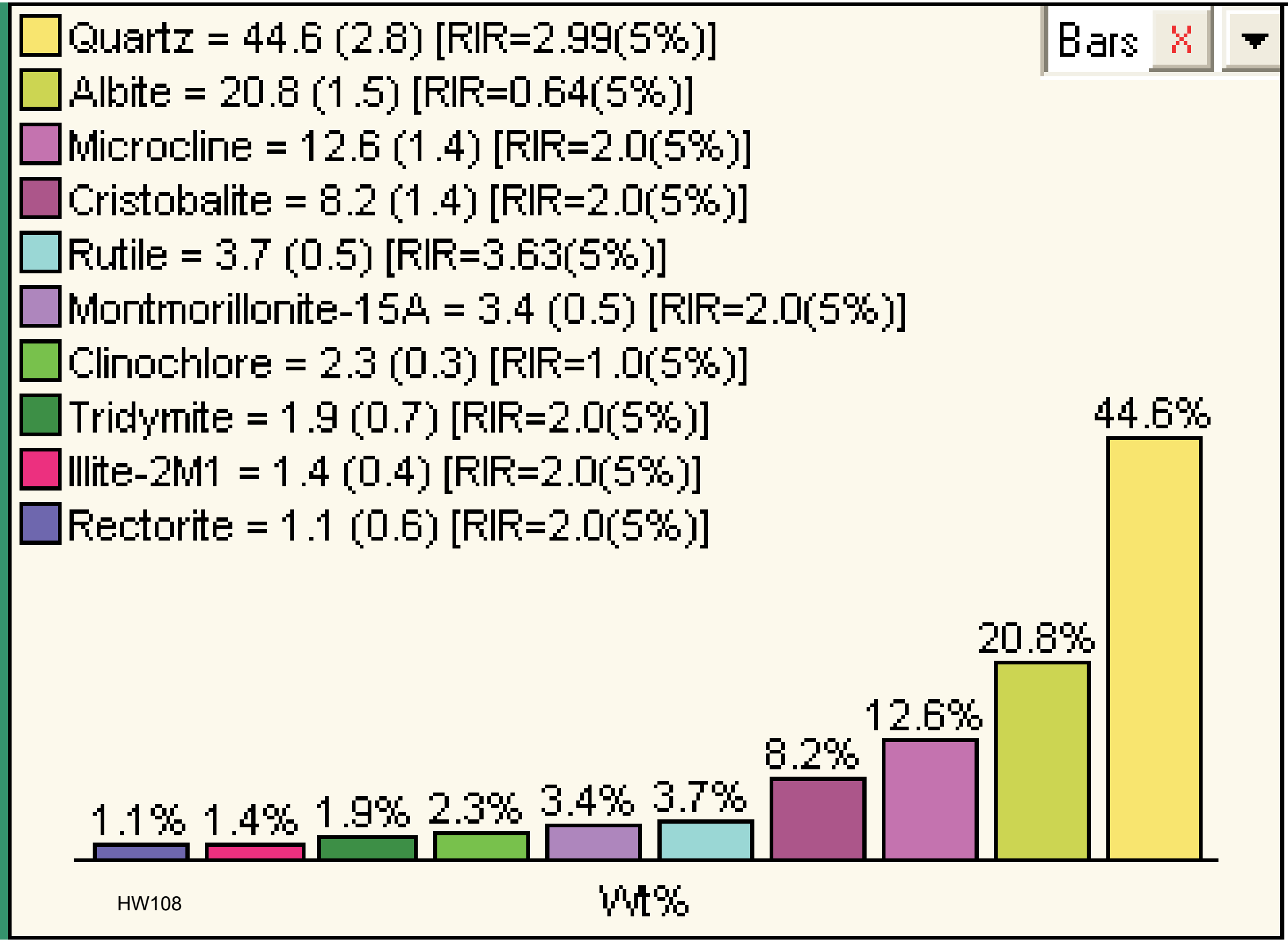
HW106


Quartz = 31.5 (2.2) [RIR=3.41(5%)]
Albite = 22.8 (1.9) [RIR=0.64(5%)]
Tridymite = 7.5 (1.2) [RIR=2.0(5%)]
Rutile = 7.2 (1.2) [RIR=3.63(5%)]
Rectorite = 6.8 (2.6) [RIR=2.0(5%)]
Illite = 6.5 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.8 (0.7) [RIR=2.0(5%)]
Microcline = 4.9 (0.8) [RIR=2.0(5%)]
Kaolinite = 2.9 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.2 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.9 (0.5) [RIR=2.0(5%)]
Bars
1.9% 2.2% 2.9% 4.9% 5.8% 6.5% 6.8% 7.2% 7.5% 22.8% 31.5%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

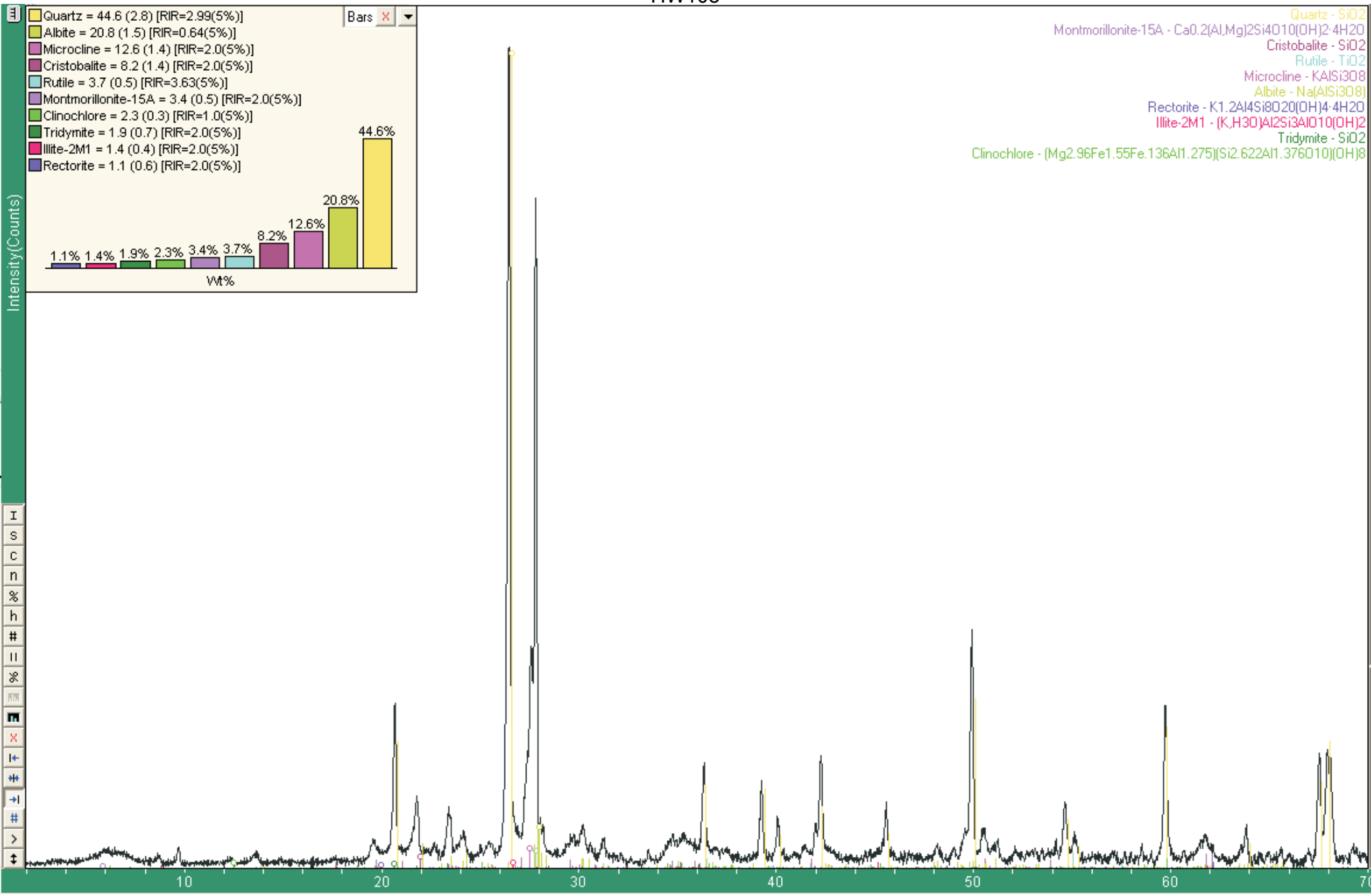

Quartz = 39.1 (2.8) [RIR=3.41(5%)]
Albite = 20.4 (2.0) [RIR=0.64(5%)]
Microcline = 16.1 (2.3) [RIR=2.0(5%)]
Tridymite = 7.9 (1.4) [RIR=2.0(5%)]
Illite = 6.3 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 4.3 (0.6) [RIR=2.0(5%)]
Cristobalite = 2.9 (0.8) [RIR=2.0(5%)]
Rutile = 1.6 (0.5) [RIR=3.63(5%)]
Clinochlore = 1.3 (0.4) [RIR=2.0(5%)]
Bars
1.3%
1.6%
2.9%
4.3%
6.3%
7.9%
16.1%
20.4%
39.1%
HW107
Wt%

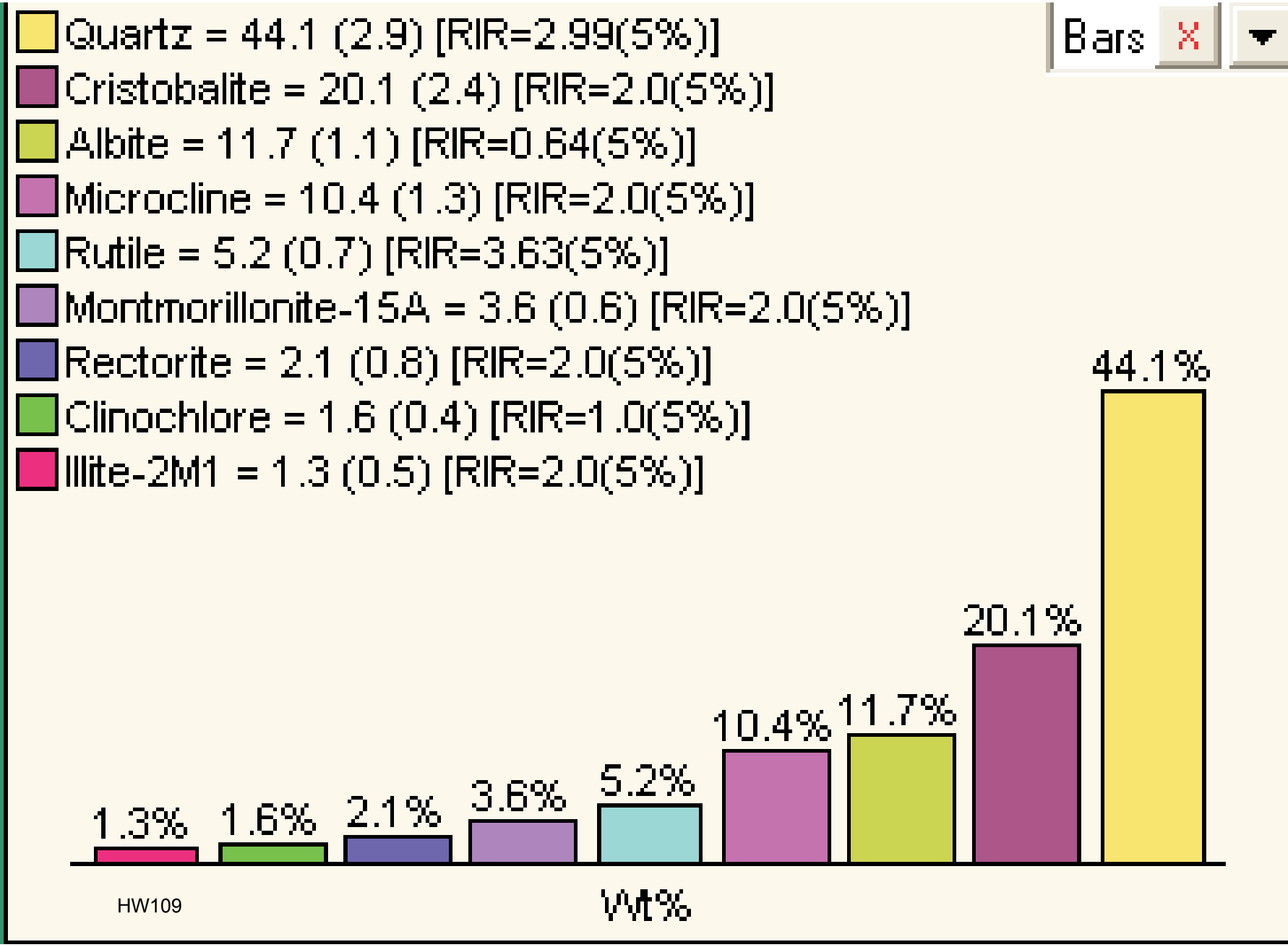
HW107


Quartz = 39.1 (2.8) [RIR=3.41(5%)]
Albite = 20.5 (2.0) [RIR=0.64(5%)]
Microcline = 16.0 (2.3) [RIR=2.0(5%)]
Tridymite = 7.9 (1.4) [RIR=2.0(5%)]
Illite = 6.4 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 4.3 (0.6) [RIR=2.0(5%)]
Cristobalite = 3.0 (0.8) [RIR=2.0(5%)]
Rutile = 1.6 (0.5) [RIR=3.63(5%)]
Clinochlore = 1.3 (0.4) [RIR=2.0(5%)]
Bars
1.3%
1.6%
3.0%
4.3%
6.4%
7.9%
16.0%
20.5%
39.1%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60

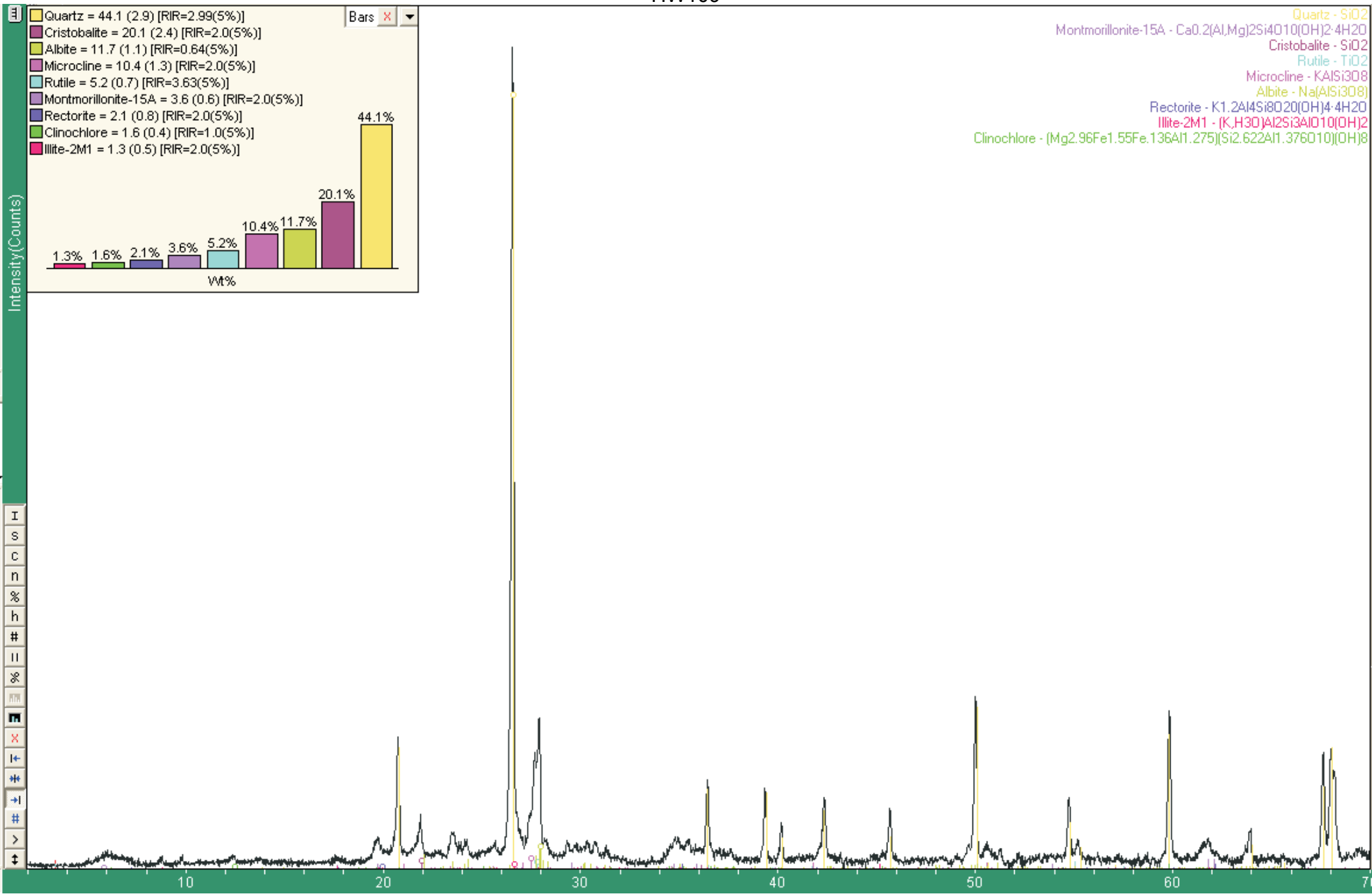

Quartz = 44.6 (2.8) [RIR=2.99(5%)]
Albite = 20.8 (1.5) [RIR=0.64(5%)]
Microcline = 12.6 (1.4) [RIR=2.0(5%)]
Cristobalite = 8.2 (1.4) [RIR=2.0(5%)]
Rutile = 3.7 (0.5) [RIR=3.63(5%)]
Montmorillonite-15A = 3.4 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.3 (0.3) [RIR=1.0(5%)]
Tridymite = 1.9 (0.7) [RIR=2.0(5%)]
Illite-2M1 = 1.4 (0.4) [RIR=2.0(5%)]
Rectorite = 1.1 (0.6) [RIR=2.0(5%)]
Bars
1.1%
1.4%
1.9%
2.3%
3.4%
3.7%
8.2%
12.6%
20.8%
44.6%
HW108
Wt%

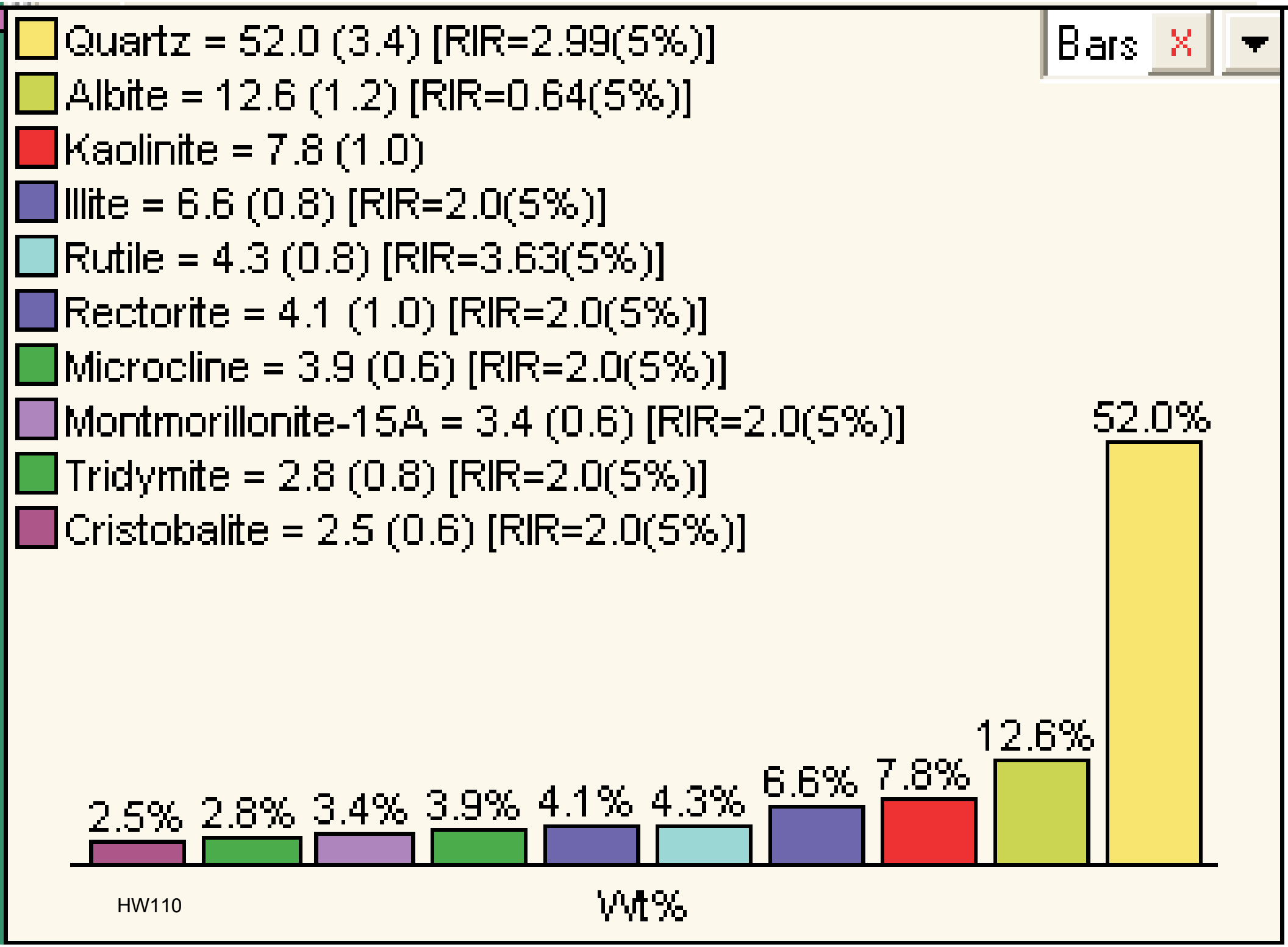
HW108


Quartz = 44.6 (2.8) [RIR=2.99(5%)]
Albite = 20.8 (1.5) [RIR=0.64(5%)]
Microcline = 12.6 (1.4) [RIR=2.0(5%)]
Cristobalite = 8.2 (1.4) [RIR=2.0(5%)]
Rutile = 3.7 (0.5) [RIR=3.63(5%)]
Montmorillonite-15A = 3.4 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.3 (0.3) [RIR=1.0(5%)]
Tridymite = 1.9 (0.7) [RIR=2.0(5%)]
Illite-2M1 = 1.4 (0.4) [RIR=2.0(5%)]
Rectorite = 1.1 (0.6) [RIR=2.0(5%)]
Bars
1.1% 1.4% 1.9% 2.3% 3.4% 3.7% 8.2% 12.6% 20.8% 44.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Rectorite - K1.2Al4Si8O20(OH)4·4H2O
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Tridymite - SiO2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Intensity(Counts)
10
20
30
40
50
60
70

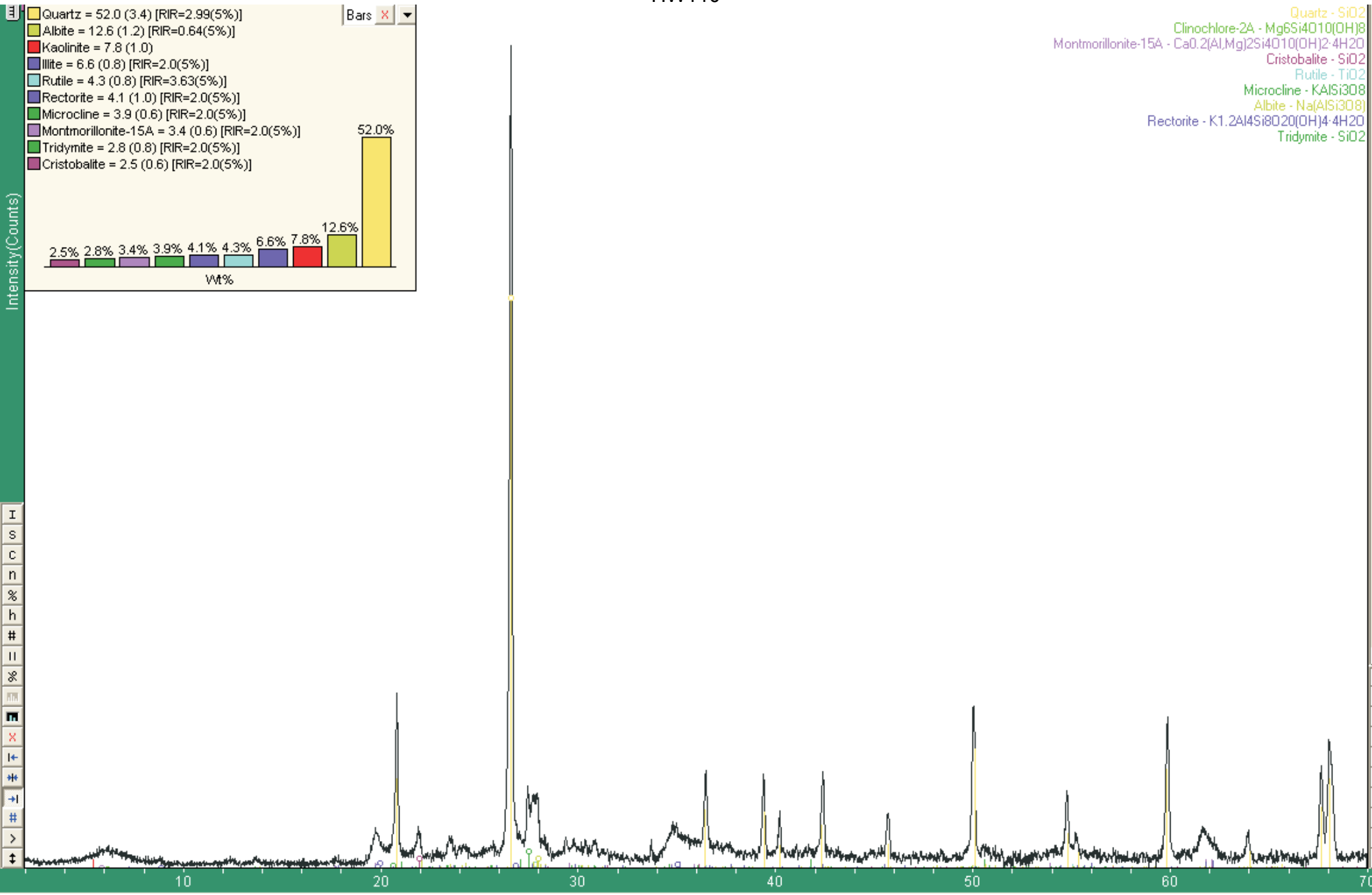

Quartz = 44.1 (2.9) [RIR=2.99(5%)]
Cristobalite = 20.1 (2.4) [RIR=2.0(5%)]
Albite = 11.7 (1.1) [RIR=0.64(5%)]
Microcline = 10.4 (1.3) [RIR=2.0(5%)]
Rutile = 5.2 (0.7) [RIR=3.63(5%)]
Montmorillonite-15A = 3.6 (0.6) [RIR=2.0(5%)]
Rectorite = 2.1 (0.8) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.4) [RIR=1.0(5%)]
Illite-2M1 = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
1.6%
2.1%
3.6%
5.2%
10.4%
11.7%
20.1%
44.1%
HW109
Wt%

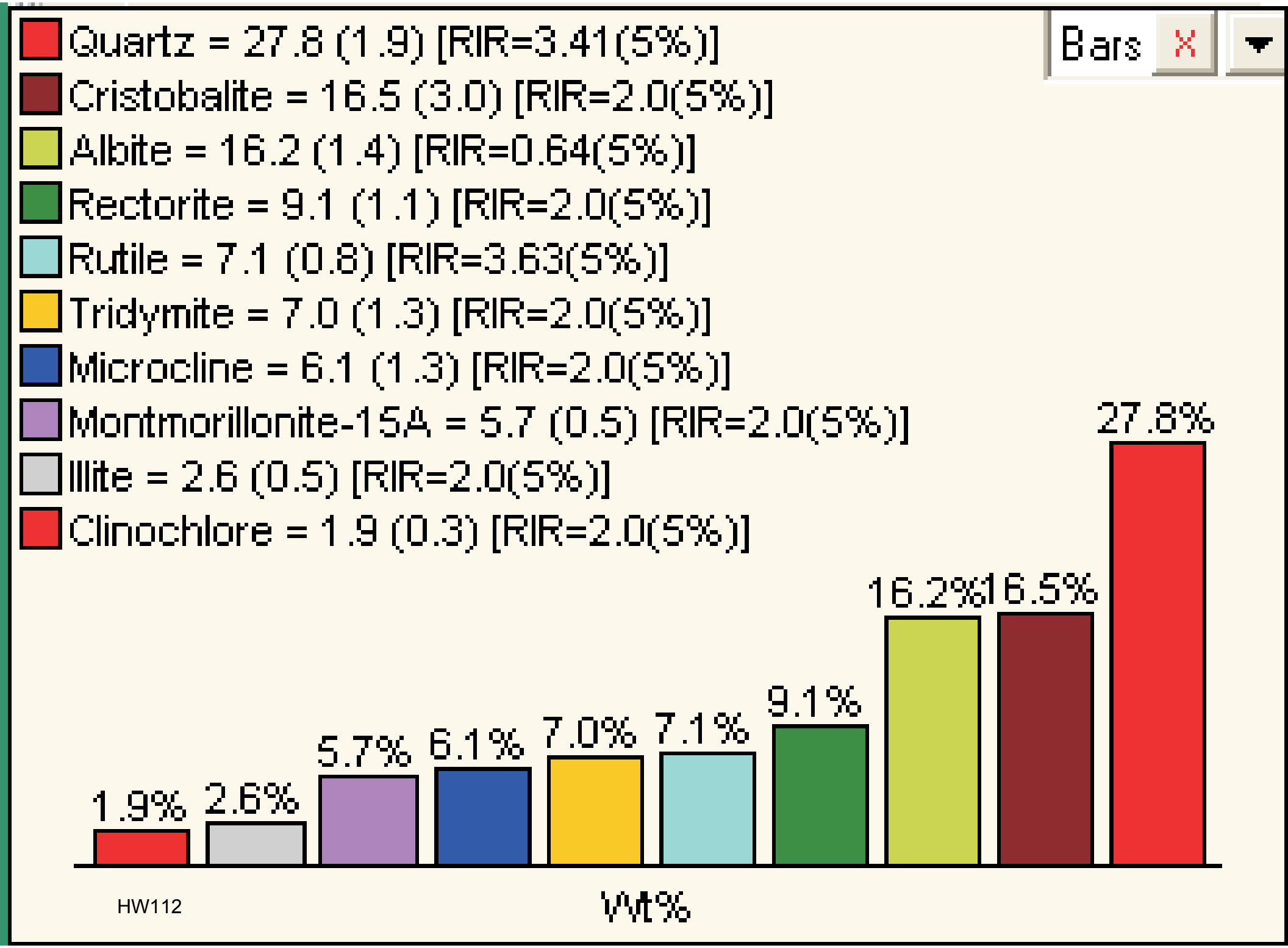
HW109


Quartz = 44.1 (2.9) [RIR=2.99(5%)]
Cristobalite = 20.1 (2.4) [RIR=2.0(5%)]
Albite = 11.7 (1.1) [RIR=0.64(5%)]
Microcline = 10.4 (1.3) [RIR=2.0(5%)]
Rutile = 5.2 (0.7) [RIR=3.63(5%)]
Montmorillonite-15A = 3.6 (0.6) [RIR=2.0(5%)]
Rectorite = 2.1 (0.8) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.4) [RIR=1.0(5%)]
Illite-2M1 = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
1.6%
2.1%
3.6%
5.2%
10.4%
11.7%
20.1%
44.1%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Rectorite - K1.2Al4Si8O20(OH)4·4H2O
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Intensity(Counts)
10
20
30
40
50
60

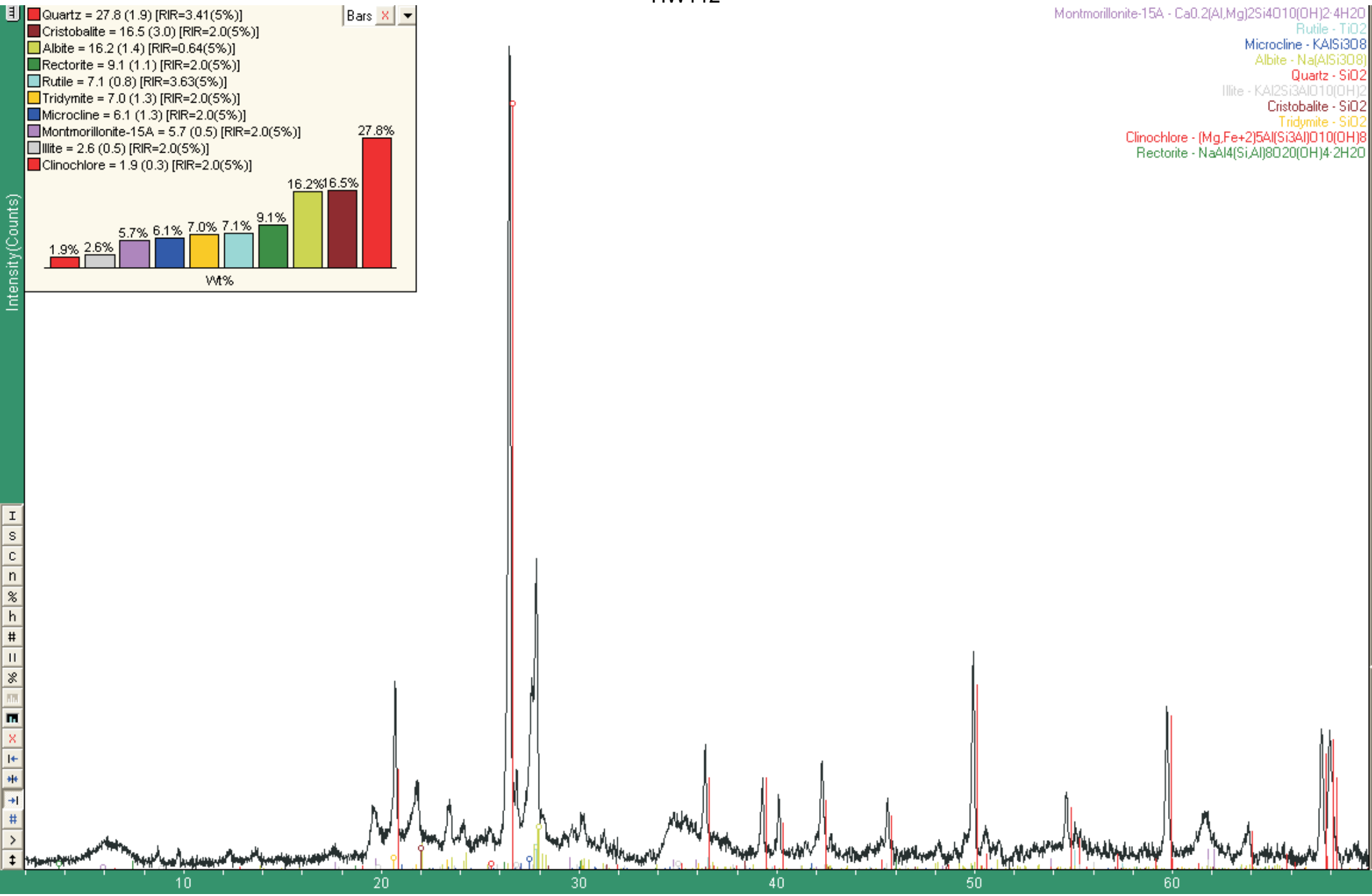

Quartz = 52.0 (3.4) [RIR=2.99(5%)]
Albite = 12.6 (1.2) [RIR=0.64(5%)]
Kaolinite = 7.8 (1.0)
Illite = 6.6 (0.8) [RIR=2.0(5%)]
Rutile = 4.3 (0.8) [RIR=3.63(5%)]
Rectorite = 4.1 (1.0) [RIR=2.0(5%)]
Microcline = 3.9 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 3.4 (0.6) [RIR=2.0(5%)]
Tridymite = 2.8 (0.8) [RIR=2.0(5%)]
Cristobalite = 2.5 (0.6) [RIR=2.0(5%)]
Bars
2.5%
2.8%
3.4%
3.9%
4.1%
4.3%
6.6%
7.8%
12.6%
52.0%
HW110
Wt%

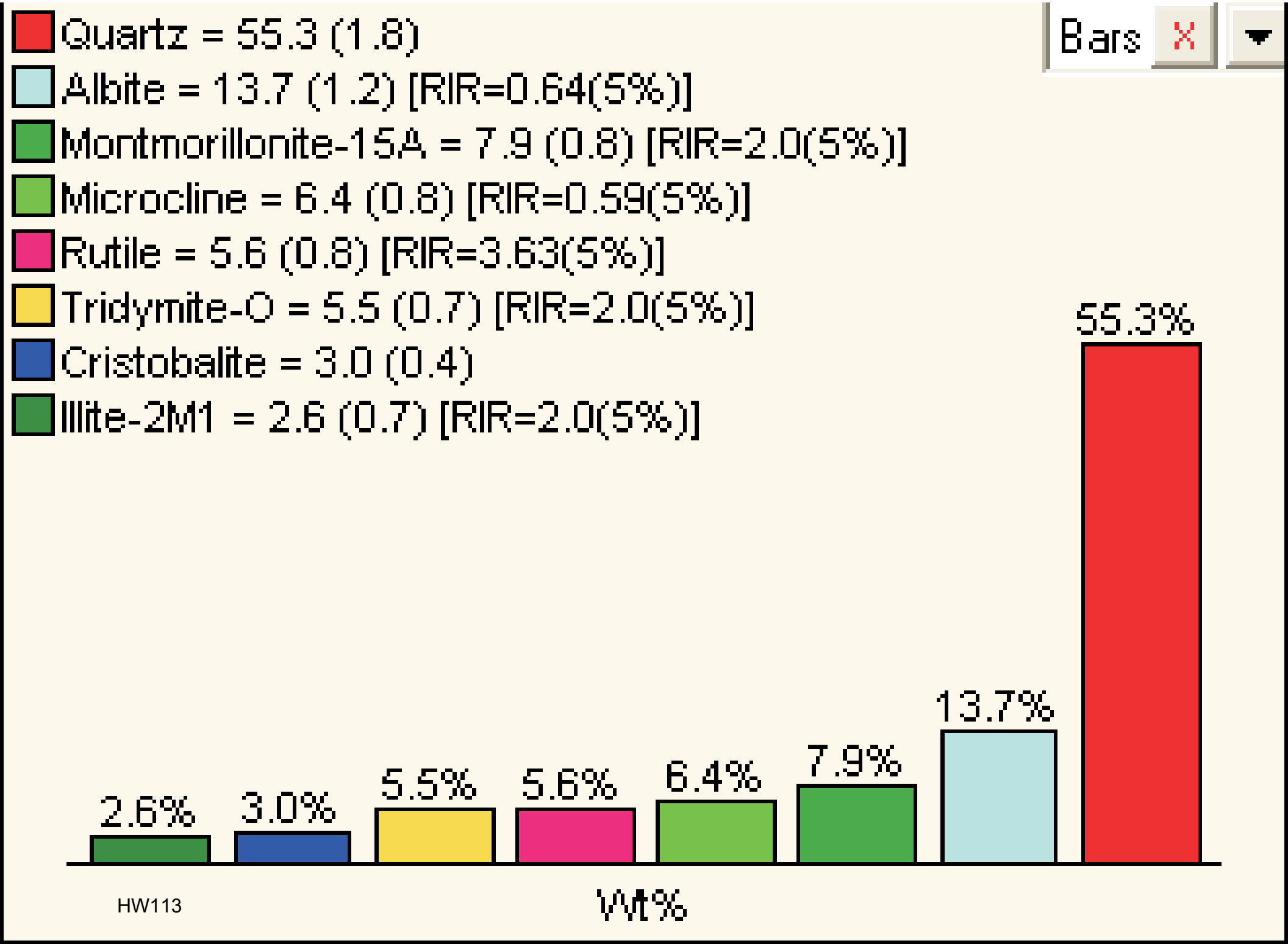
HW110


Quartz = 52.0 (3.4) [RIR=2.99(5%)]
Albite = 12.6 (1.2) [RIR=0.64(5%)]
Kaolinite = 7.8 (1.0)
Illite = 6.6 (0.8) [RIR=2.0(5%)]
Rutile = 4.3 (0.8) [RIR=3.63(5%)]
Rectorite = 4.1 (1.0) [RIR=2.0(5%)]
Microcline = 3.9 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 3.4 (0.6) [RIR=2.0(5%)]
Tridymite = 2.8 (0.8) [RIR=2.0(5%)]
Cristobalite = 2.5 (0.6) [RIR=2.0(5%)]
Bars
2.5% 2.8% 3.4% 3.9% 4.1% 4.3% 6.6% 7.8% 12.6% 52.0%
Wt%
Quartz - SiO2
Clinochlore-2A - Mg6Si4O10(OH)8
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Rectorite - K1.2Al4Si8O20(OH)4·4H2O
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

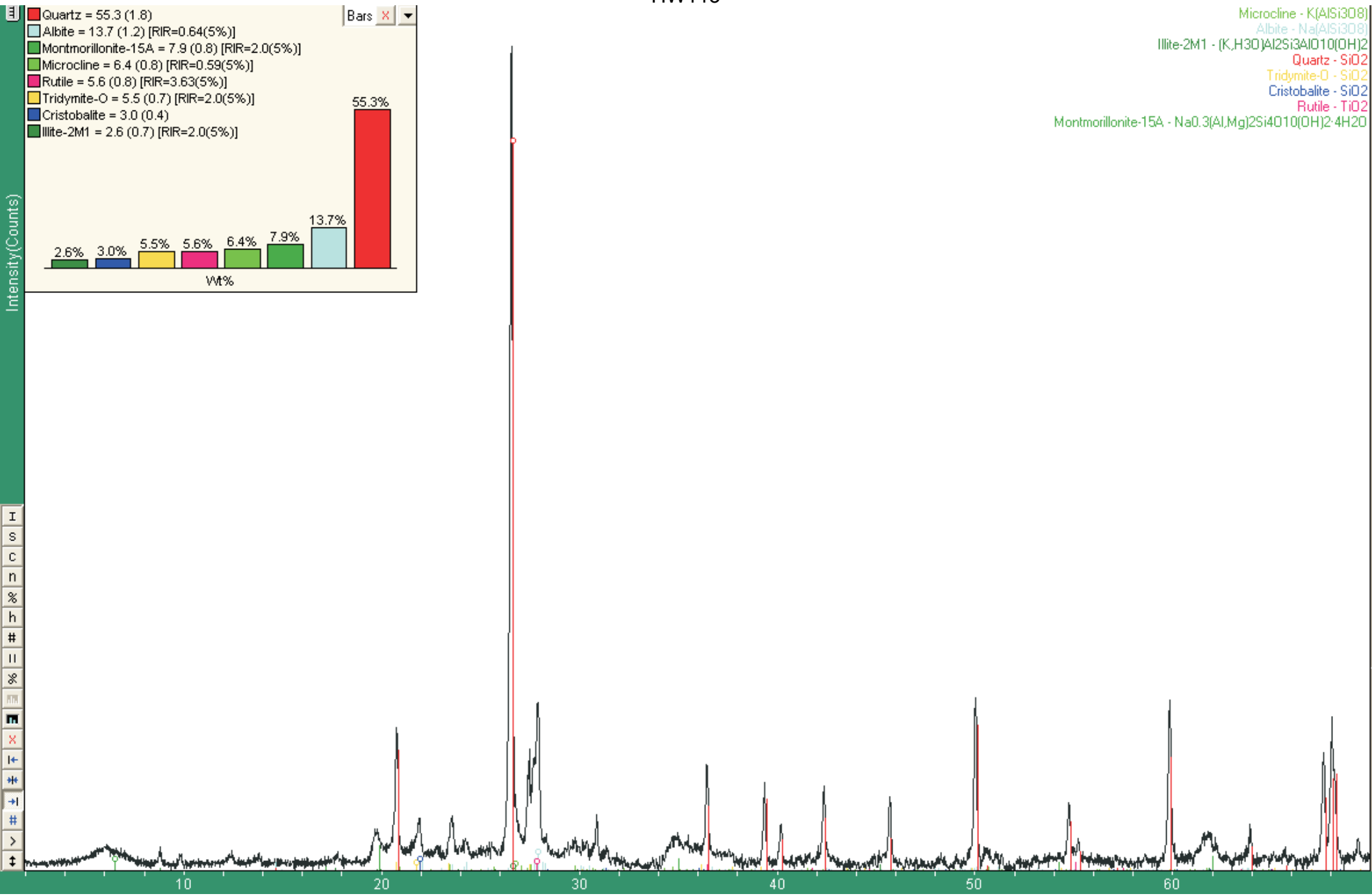

Quartz = 27.8 (1.9) [RIR=3.41(5%)]
Cristobalite = 16.5 (3.0) [RIR=2.0(5%)]
Albite = 16.2 (1.4) [RIR=0.64(5%)]
Rectorite = 9.1 (1.1) [RIR=2.0(5%)]
Rutile = 7.1 (0.8) [RIR=3.63(5%)]
Tridymite = 7.0 (1.3) [RIR=2.0(5%)]
Microcline = 6.1 (1.3) [RIR=2.0(5%)]
Montmorillonite-15A = 5.7 (0.5) [RIR=2.0(5%)]
Illite = 2.6 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.9 (0.3) [RIR=2.0(5%)]
Bars
1.9%
2.6%
5.7%
6.1%
7.0%
7.1%
9.1%
16.2%
16.5%
27.8%
HW112
Wt%

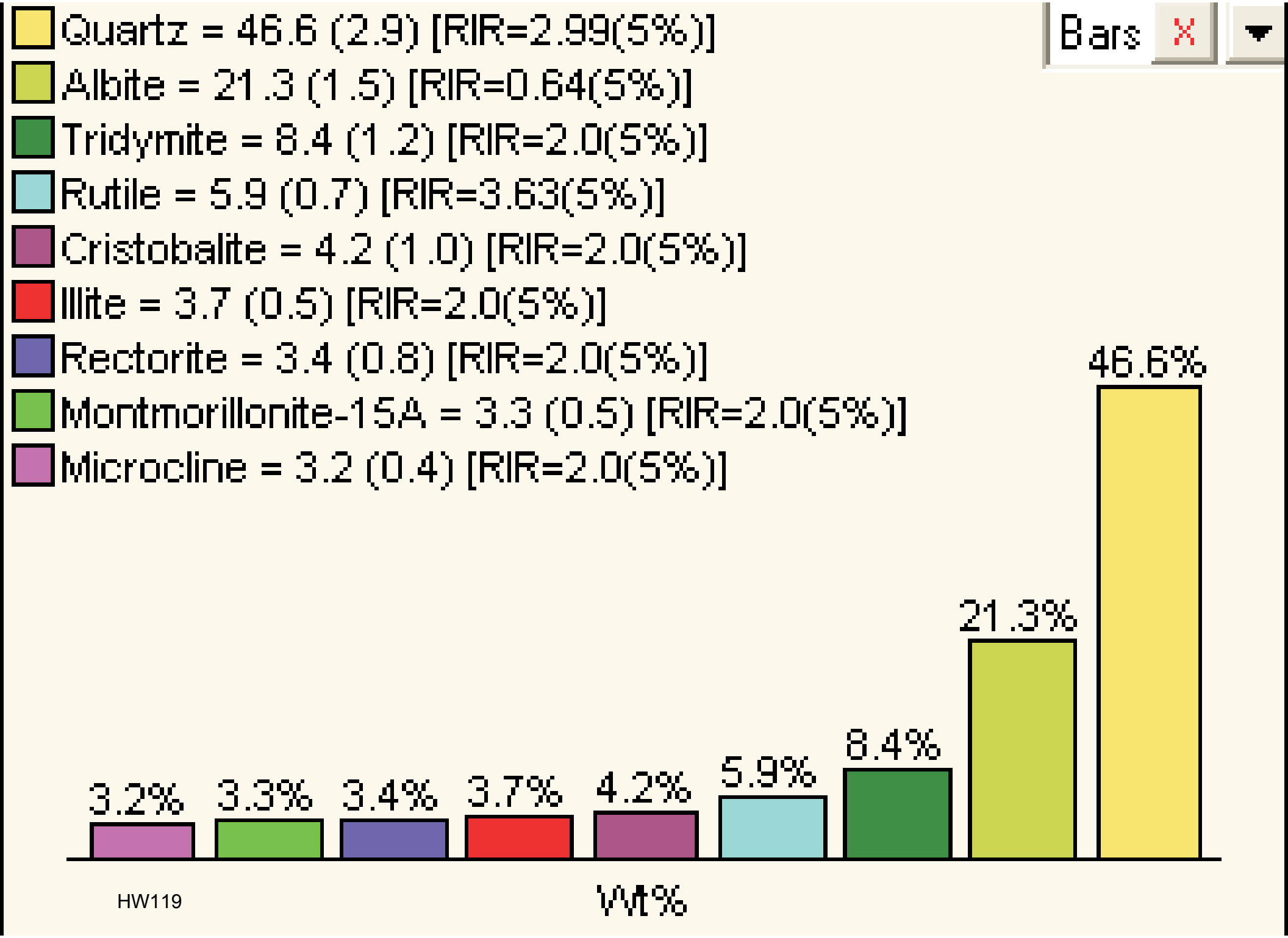
HW112


Quartz = 27.8 (1.9) [RIR=3.41(5%)]
Cristobalite = 16.5 (3.0) [RIR=2.0(5%)]
Albite = 16.2 (1.4) [RIR=0.64(5%)]
Rectorite = 9.1 (1.1) [RIR=2.0(5%)]
Rutile = 7.1 (0.8) [RIR=3.63(5%)]
Tridymite = 7.0 (1.3) [RIR=2.0(5%)]
Microcline = 6.1 (1.3) [RIR=2.0(5%)]
Montmorillonite-15A = 5.7 (0.5) [RIR=2.0(5%)]
Illite = 2.6 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.9 (0.3) [RIR=2.0(5%)]
Bars
1.9% 2.6% 5.7% 6.1% 7.0% 7.1% 9.1% 16.2% 16.5% 27.8%
Wt%
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60

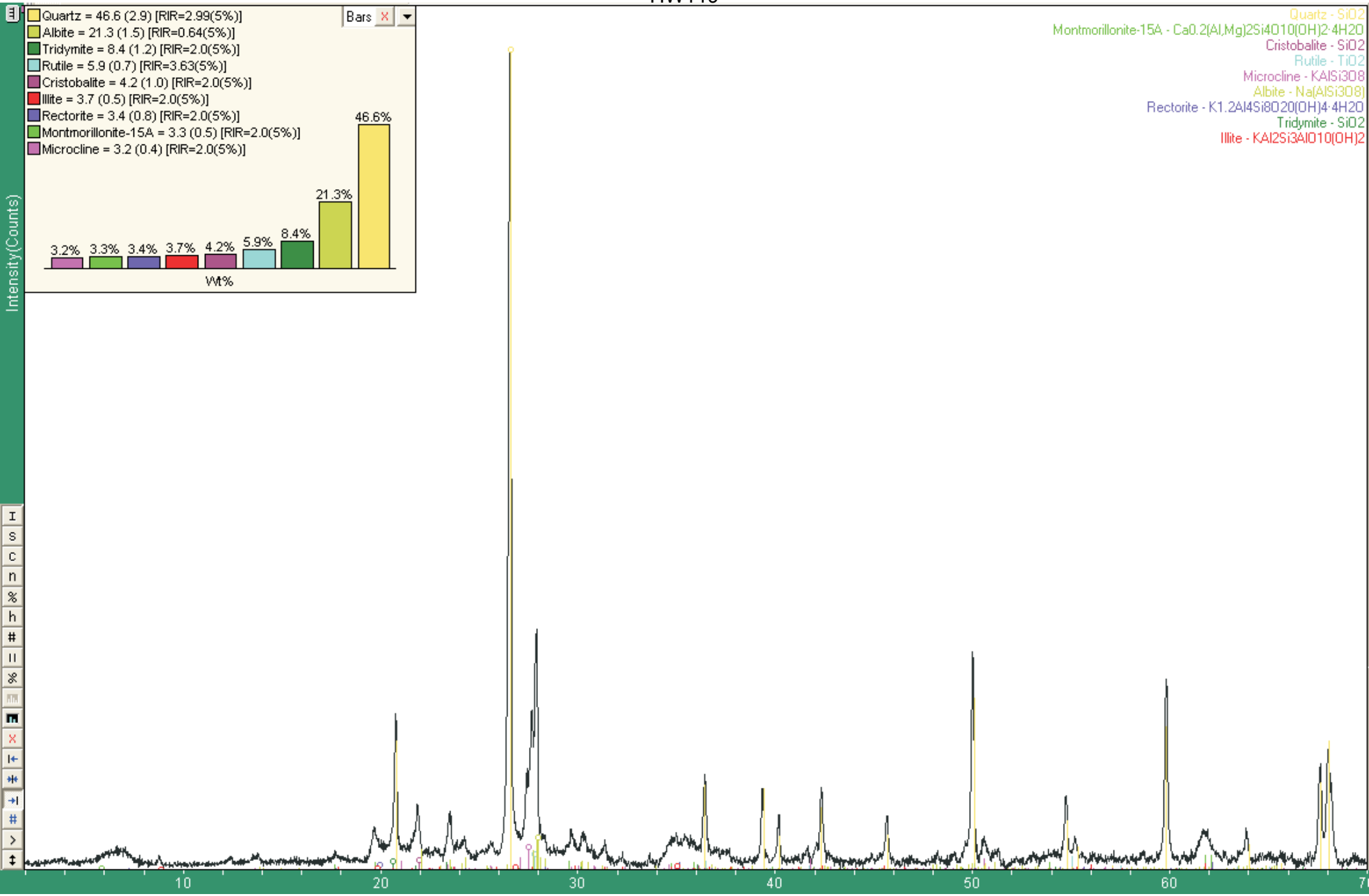

Quartz = 55.3 (1.8)
Albite = 13.7 (1.2) [RIR=0.64(5%)]
Montmorillonite-15A = 7.9 (0.8) [RIR=2.0(5%)]
Microcline = 6.4 (0.8) [RIR=0.59(5%)]
Rutile = 5.6 (0.8) [RIR=3.63(5%)]
Tridymite-O = 5.5 (0.7) [RIR=2.0(5%)]
Cristobalite = 3.0 (0.4)
Illite-2M1 = 2.6 (0.7) [RIR=2.0(5%)]
Bars
2.6%
3.0%
5.5%
5.6%
6.4%
7.9%
13.7%
55.3%
HW113
Wt%

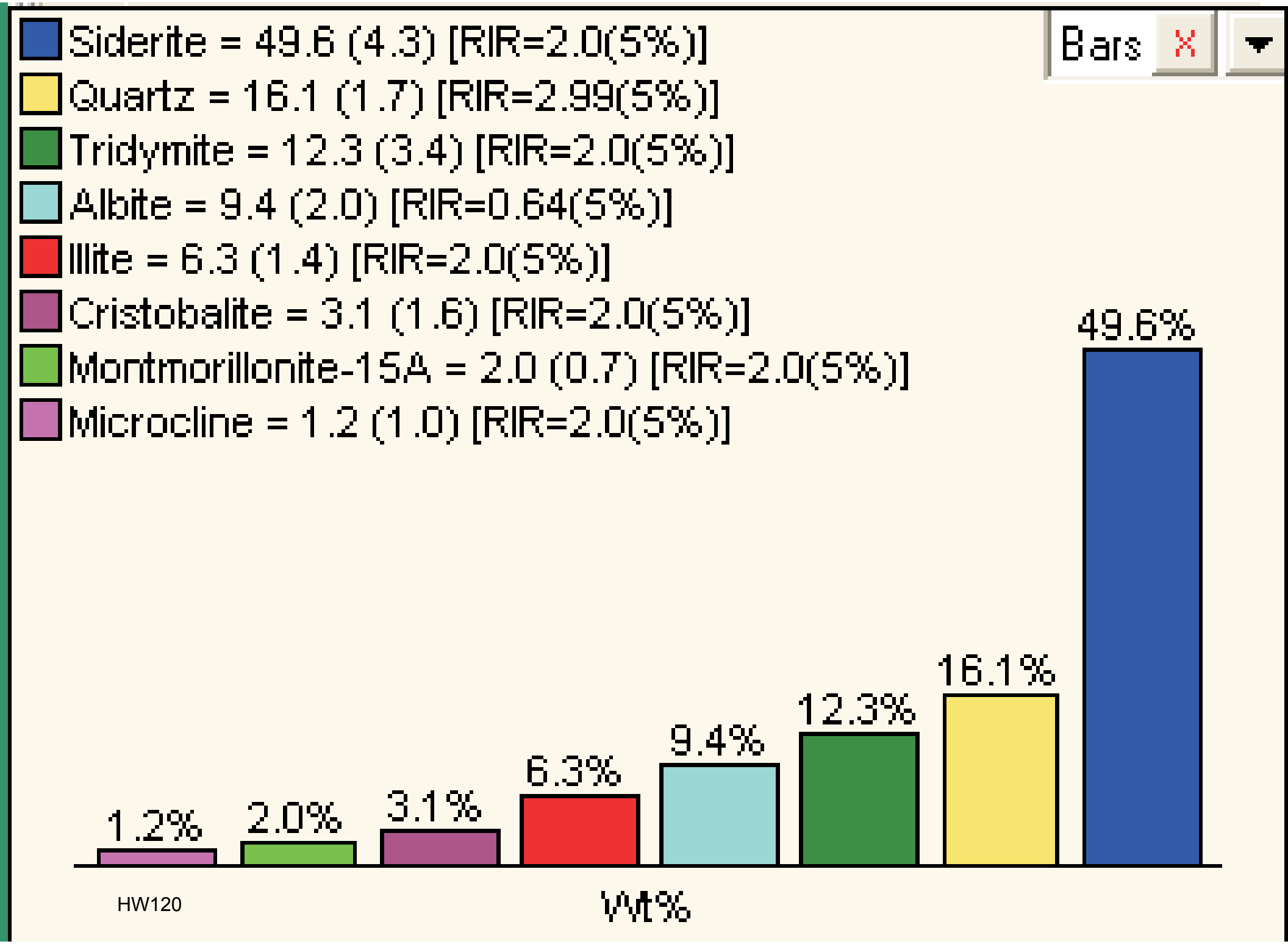
HW113


Quartz = 55.3 (1.8)
Albite = 13.7 (1.2) [RIR=0.64(5%)]
Montmorillonite-15A = 7.9 (0.8) [RIR=2.0(5%)]
Microcline = 6.4 (0.8) [RIR=0.59(5%)]
Rutile = 5.6 (0.8) [RIR=3.63(5%)]
Tridymite-O = 5.5 (0.7) [RIR=2.0(5%)]
Cristobalite = 3.0 (0.4)
Illite-2M1 = 2.6 (0.7) [RIR=2.0(5%)]
Bars
2.6%
3.0%
5.5%
5.6%
6.4%
7.9%
13.7%
55.3%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Rutile - TiO2
Montmorillonite-15A - Na0.3(Al,Mg)2Si4O10(OH)2·4H2O
Intensity(Counts)
10
20
30
40
50
60

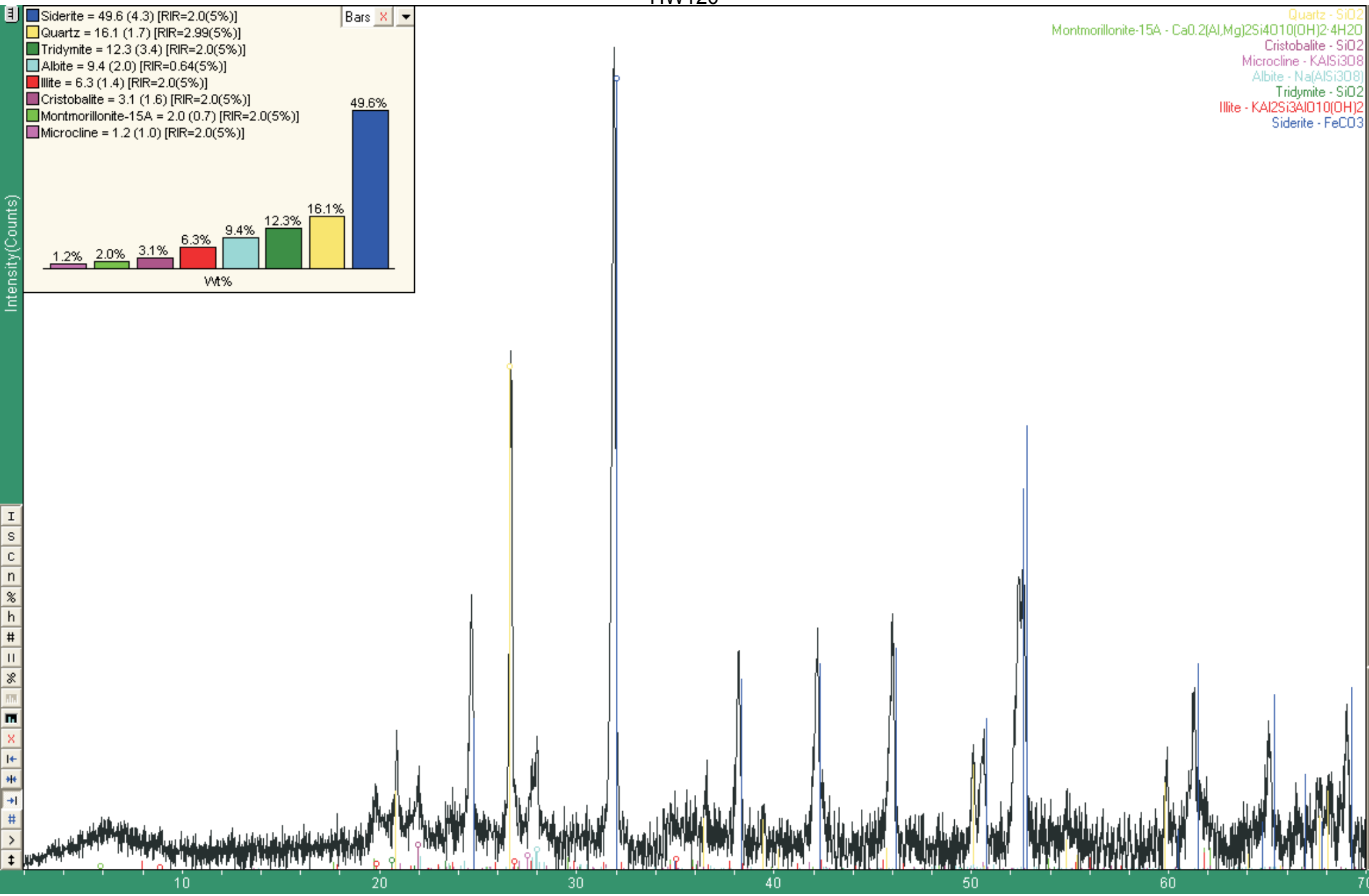

Quartz = 46.6 (2.9) [RIR=2.99(5%)]
Albite = 21.3 (1.5) [RIR=0.64(5%)]
Tridymite = 8.4 (1.2) [RIR=2.0(5%)]
Rutile = 5.9 (0.7) [RIR=3.63(5%)]
Cristobalite = 4.2 (1.0) [RIR=2.0(5%)]
Illite = 3.7 (0.5) [RIR=2.0(5%)]
Rectorite = 3.4 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.3 (0.5) [RIR=2.0(5%)]
Microcline = 3.2 (0.4) [RIR=2.0(5%)]
Bars
3.2%
3.3%
3.4%
3.7%
4.2%
5.9%
8.4%
21.3%
46.6%
HW119
Wt%

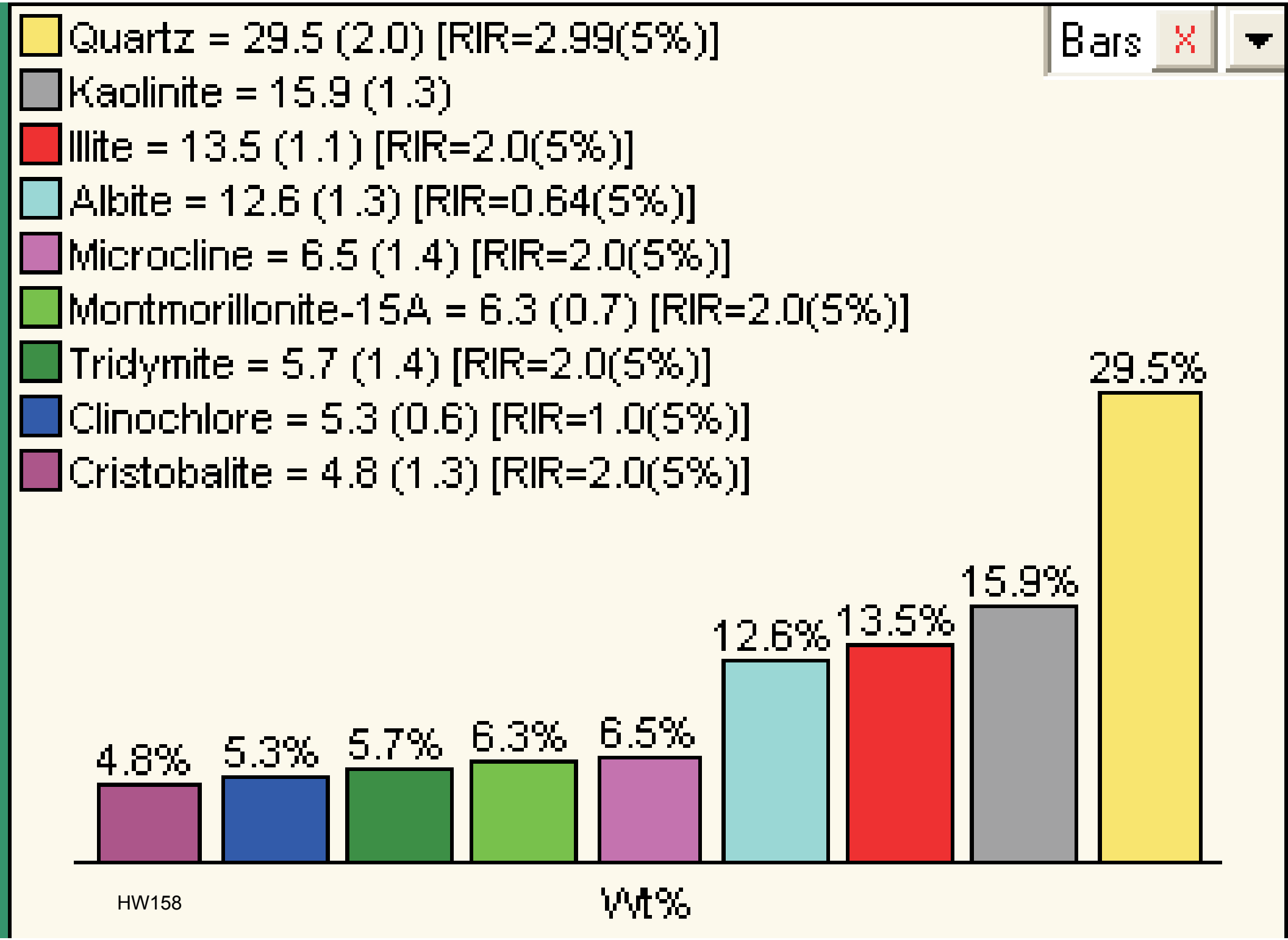
HW119


Quartz = 46.6 (2.9) [RIR=2.99(5%)]
Albite = 21.3 (1.5) [RIR=0.64(5%)]
Tridymite = 8.4 (1.2) [RIR=2.0(5%)]
Rutile = 5.9 (0.7) [RIR=3.63(5%)]
Cristobalite = 4.2 (1.0) [RIR=2.0(5%)]
Illite = 3.7 (0.5) [RIR=2.0(5%)]
Rectorite = 3.4 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.3 (0.5) [RIR=2.0(5%)]
Microcline = 3.2 (0.4) [RIR=2.0(5%)]
Bars
3.2% 3.3% 3.4% 3.7% 4.2% 5.9% 8.4% 21.3% 46.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Rutile - TiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Rectorite - K1.2Al4Si8O20(OH)4·4H2O
Tridymite - SiO2
Illite - KAl2Si3AlO10(OH)2
Intensity(Counts)
10
20
30
40
50
60

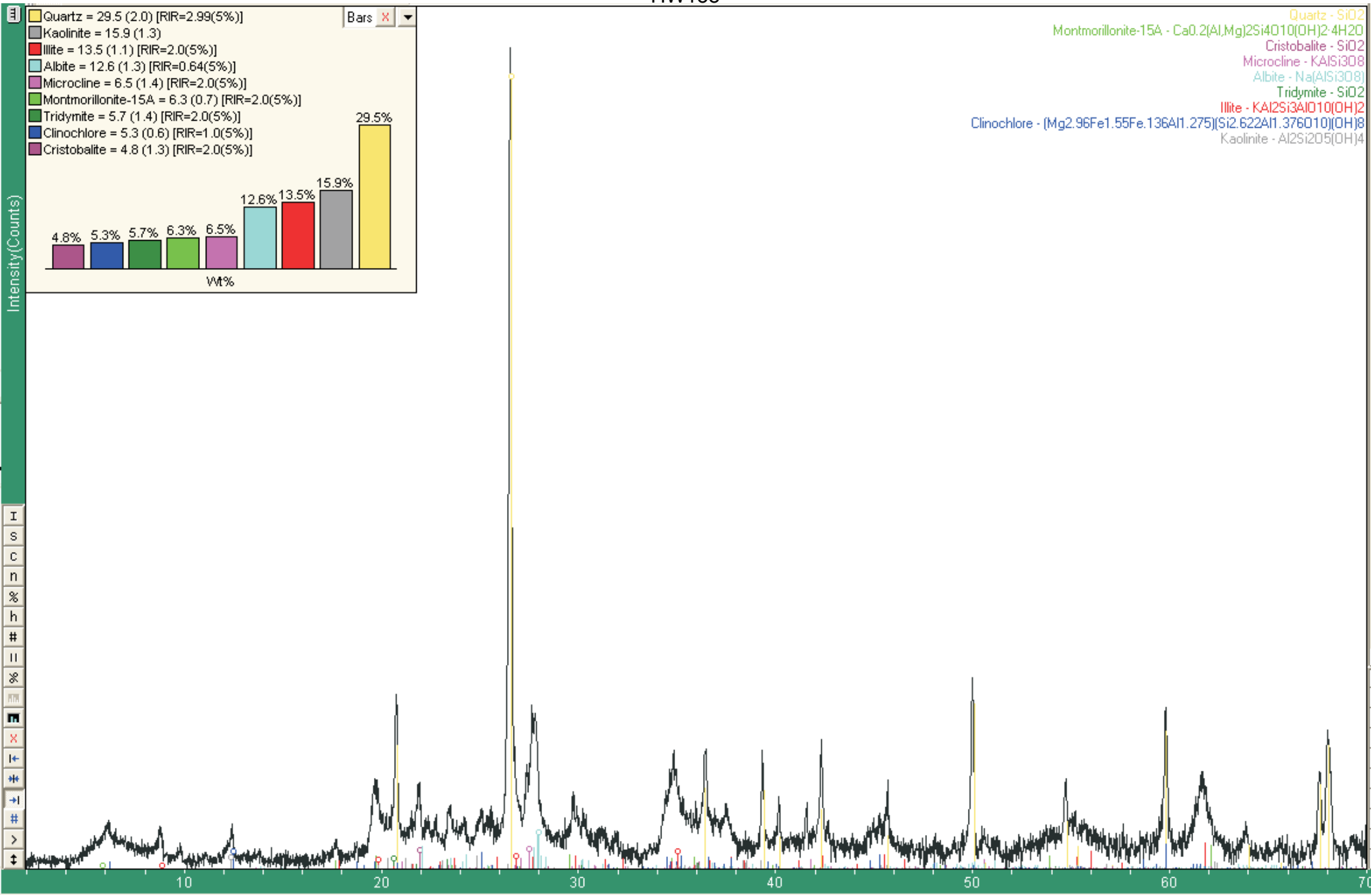

Siderite = 49.6 (4.3) [RIR=2.0(5%)]
Quartz = 16.1 (1.7) [RIR=2.99(5%)]
Tridymite = 12.3 (3.4) [RIR=2.0(5%)]
Albite = 9.4 (2.0) [RIR=0.64(5%)]
Illite = 6.3 (1.4) [RIR=2.0(5%)]
Cristobalite = 3.1 (1.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.0 (0.7) [RIR=2.0(5%)]
Microcline = 1.2 (1.0) [RIR=2.0(5%)]
Bars
1.2%
2.0%
3.1%
6.3%
9.4%
12.3%
16.1%
49.6%
HW120
Wt%

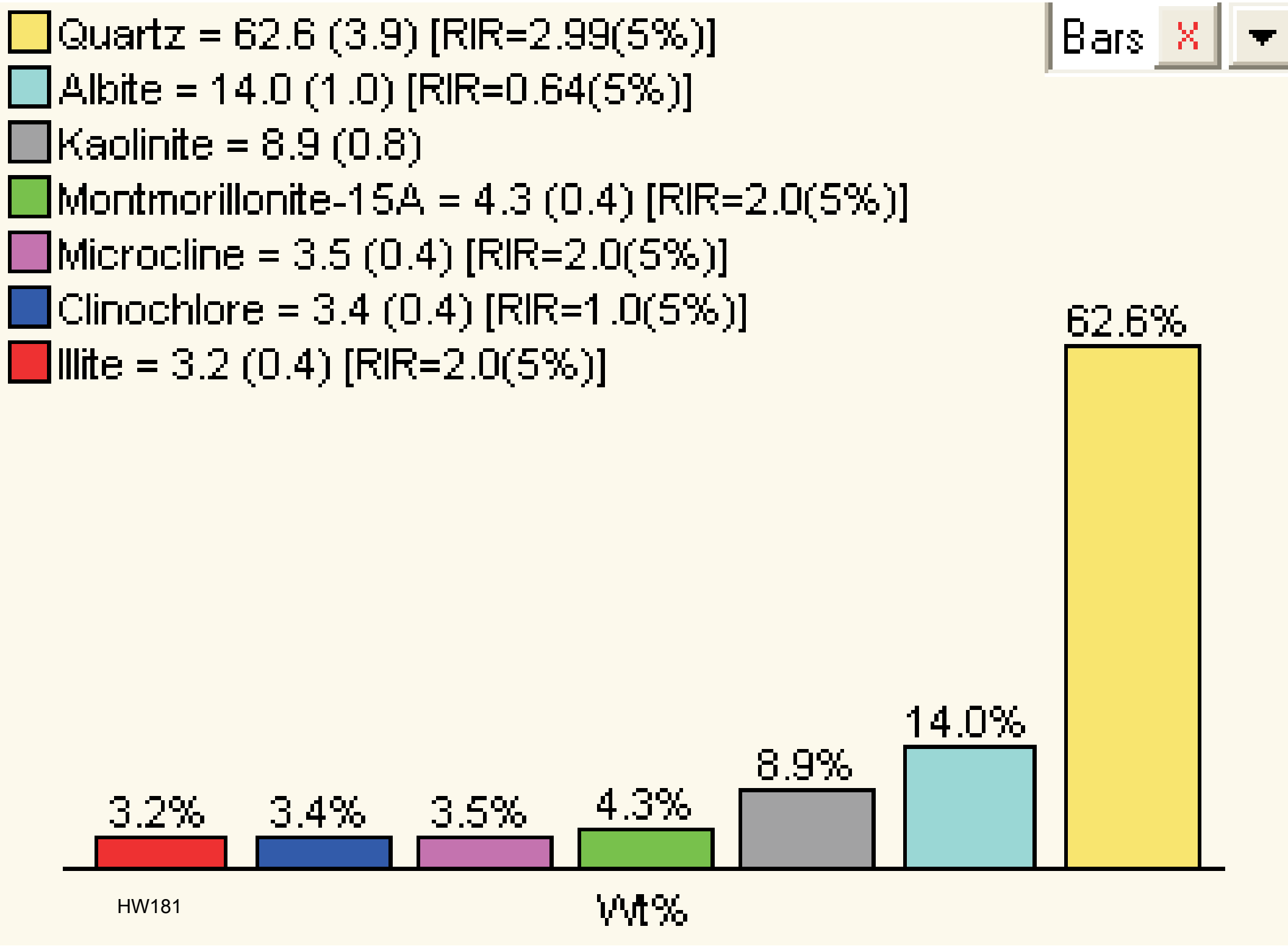
HW120


Siderite = 49.6 (4.3) [RIR=2.0(5%)]
Quartz = 16.1 (1.7) [RIR=2.99(5%)]
Tridymite = 12.3 (3.4) [RIR=2.0(5%)]
Albite = 9.4 (2.0) [RIR=0.64(5%)]
Illite = 6.3 (1.4) [RIR=2.0(5%)]
Cristobalite = 3.1 (1.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.0 (0.7) [RIR=2.0(5%)]
Microcline = 1.2 (1.0) [RIR=2.0(5%)]
Bars
1.2%
2.0%
3.1%
6.3%
9.4%
12.3%
16.1%
49.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Tridymite - SiO2
Illite - KAl2Si3AlO10(OH)2
Siderite - FeCO3
Intensity(Counts)
10
20
30
40
50
60
70

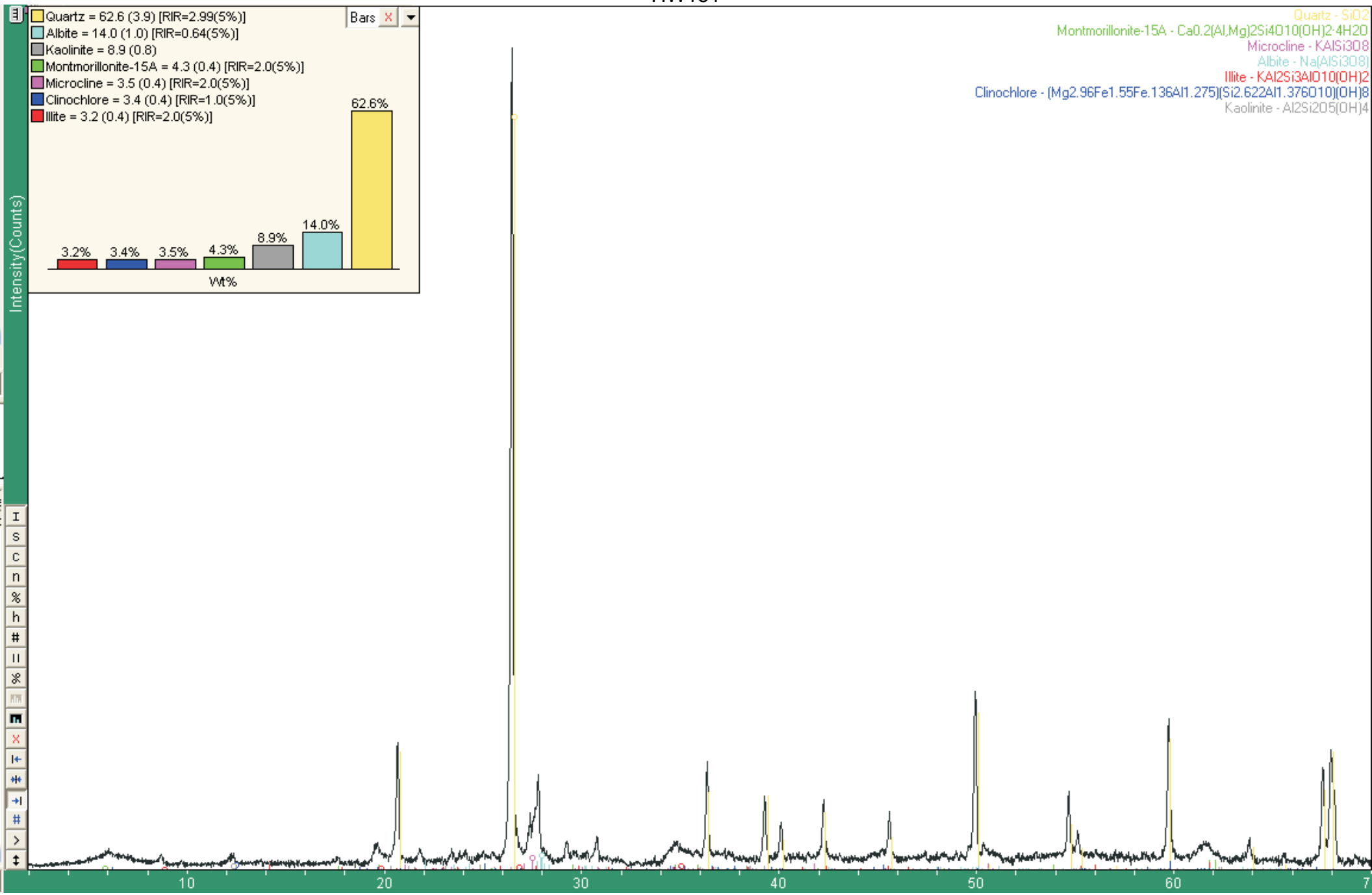

Quartz = 29.5 (2.0) [RIR=2.99(5%)]
Kaolinite = 15.9 (1.3)
Illite = 13.5 (1.1) [RIR=2.0(5%)]
Albite = 12.6 (1.3) [RIR=0.64(5%)]
Microcline = 6.5 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 6.3 (0.7) [RIR=2.0(5%)]
Tridymite = 5.7 (1.4) [RIR=2.0(5%)]
Clinochlore = 5.3 (0.6) [RIR=1.0(5%)]
Cristobalite = 4.8 (1.3) [RIR=2.0(5%)]
Bars
4.8%
5.3%
5.7%
6.3%
6.5%
12.6%
13.5%
15.9%
29.5%
HW158
Wt%

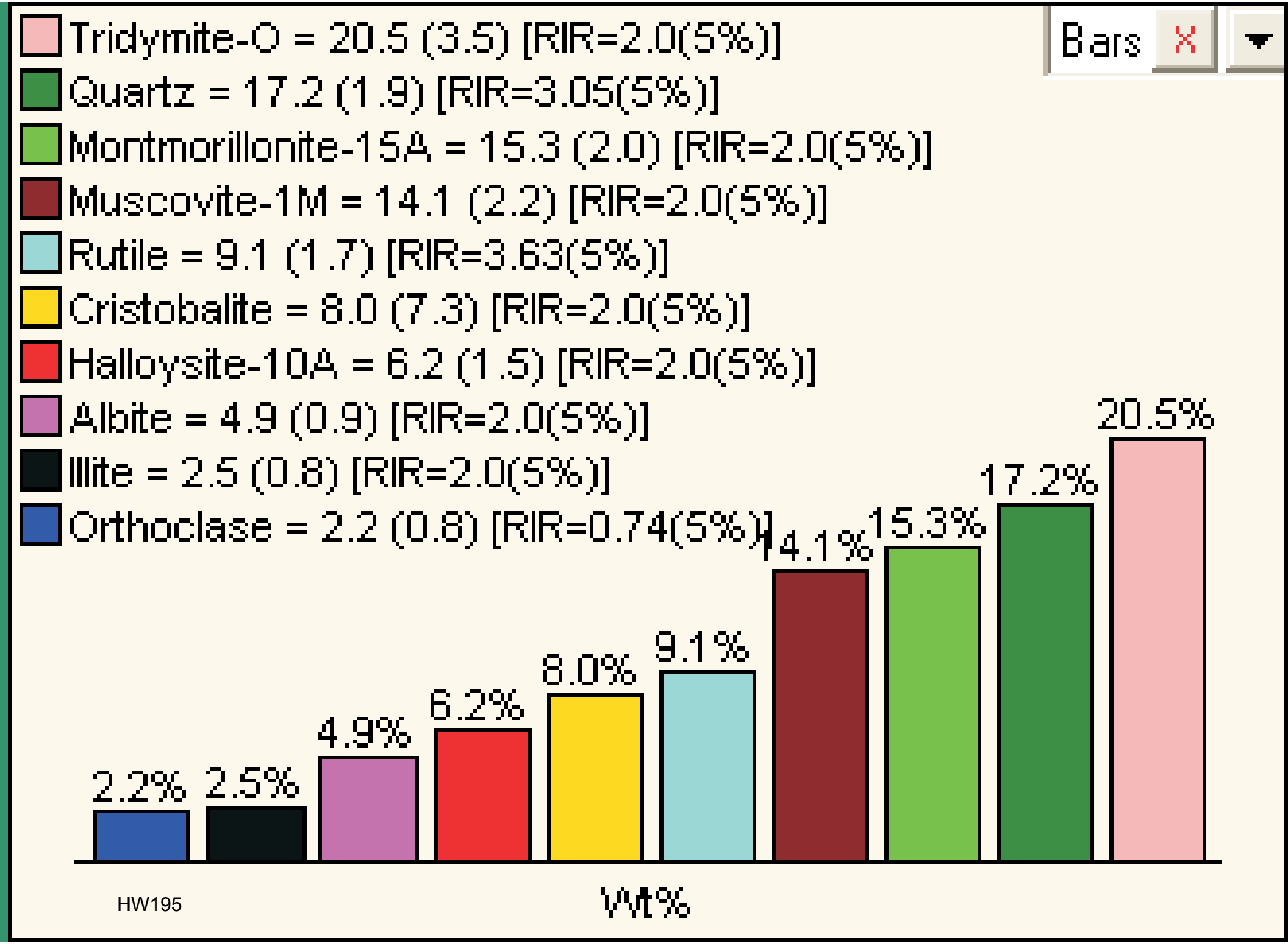
HW158


Quartz = 29.5 (2.0) [RIR=2.99(5%)]
Kaolinite = 15.9 (1.3)
Illite = 13.5 (1.1) [RIR=2.0(5%)]
Albite = 12.6 (1.3) [RIR=0.64(5%)]
Microcline = 6.5 (1.4) [RIR=2.0(5%)]
Montmorillonite-15A = 6.3 (0.7) [RIR=2.0(5%)]
Tridymite = 5.7 (1.4) [RIR=2.0(5%)]
Clinochlore = 5.3 (0.6) [RIR=1.0(5%)]
Cristobalite = 4.8 (1.3) [RIR=2.0(5%)]
Bars
4.8%
5.3%
5.7%
6.3%
6.5%
12.6%
13.5%
15.9%
29.5%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Cristobalite - SiO2
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Tridymite - SiO2
Illite - KAl2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70

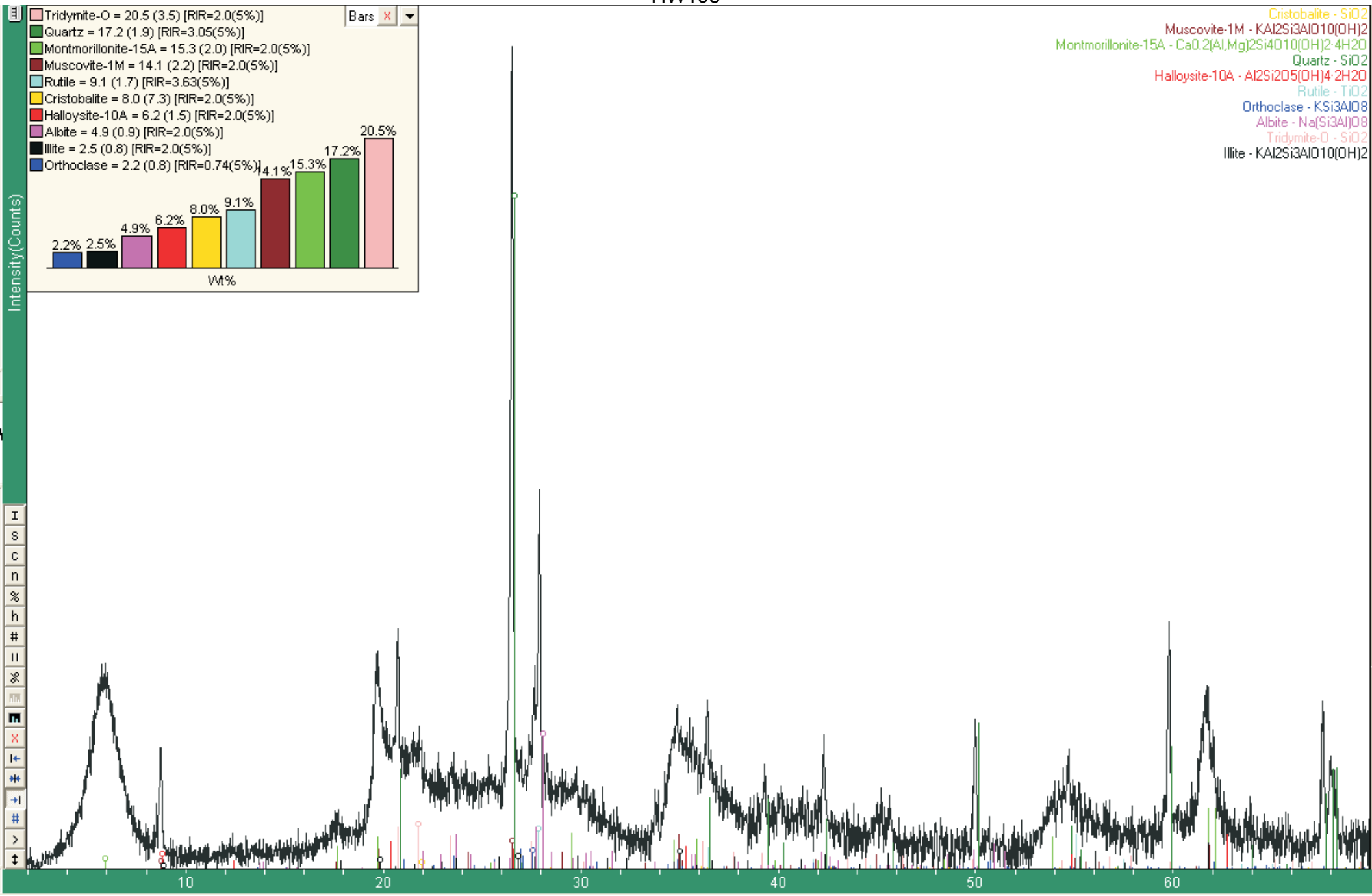

Quartz = 62.6 (3.9) [RIR=2.99(5%)]
Albite = 14.0 (1.0) [RIR=0.64(5%)]
Kaolinite = 8.9 (0.8)
Montmorillonite-15A = 4.3 (0.4) [RIR=2.0(5%)]
Microcline = 3.5 (0.4) [RIR=2.0(5%)]
Clinochlore = 3.4 (0.4) [RIR=1.0(5%)]
Illite = 3.2 (0.4) [RIR=2.0(5%)]
Bars
3.2%
3.4%
3.5%
4.3%
8.9%
14.0%
62.6%
HW181
Wt%

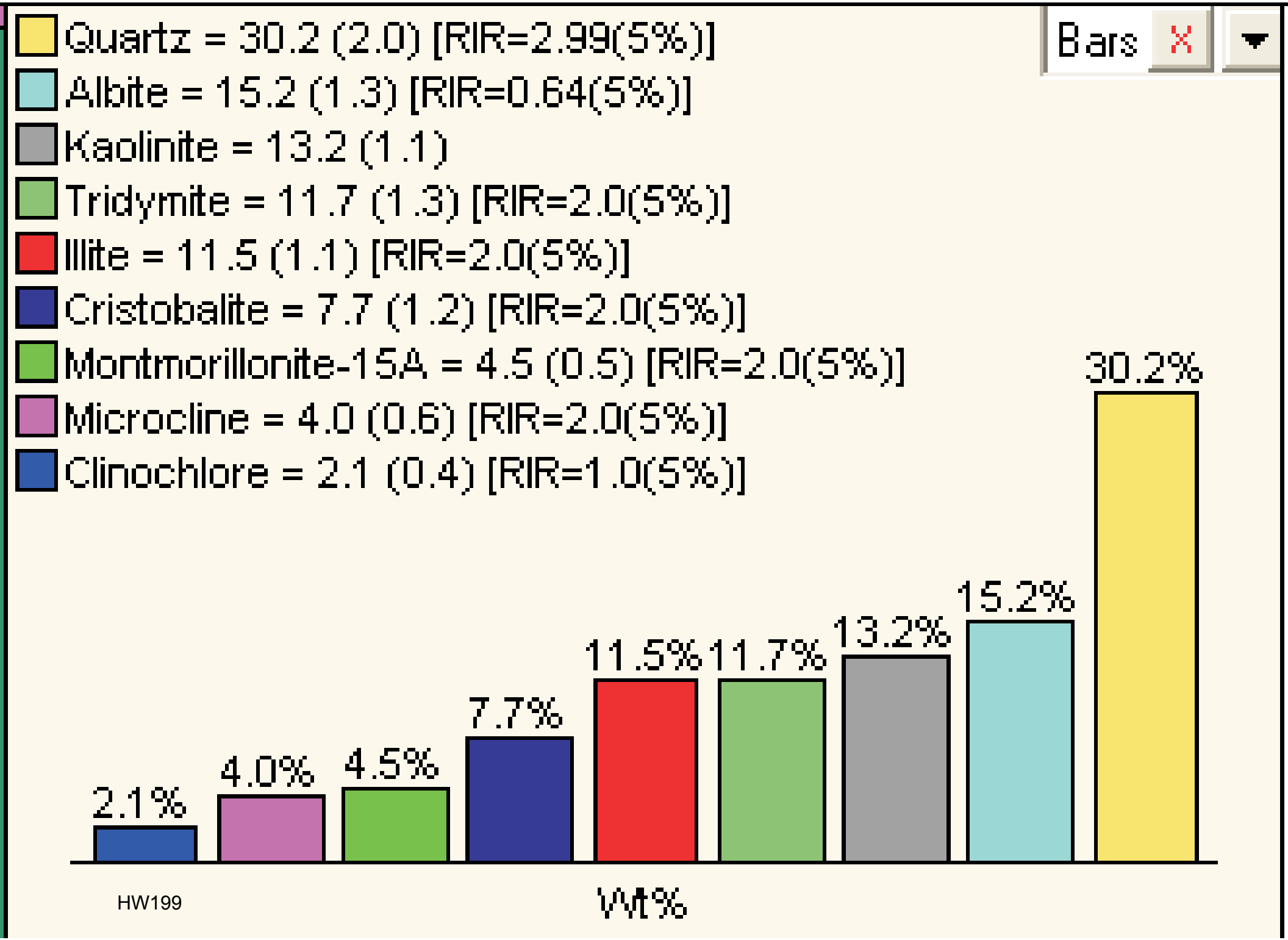
HW181


Quartz = 62.6 (3.9) [RIR=2.99(5%)]
Albite = 14.0 (1.0) [RIR=0.64(5%)]
Kaolinite = 8.9 (0.8)
Montmorillonite-15A = 4.3 (0.4) [RIR=2.0(5%)]
Microcline = 3.5 (0.4) [RIR=2.0(5%)]
Clinochlore = 3.4 (0.4) [RIR=1.0(5%)]
Illite = 3.2 (0.4) [RIR=2.0(5%)]
Bars
3.2%
3.4%
3.5%
4.3%
8.9%
14.0%
62.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

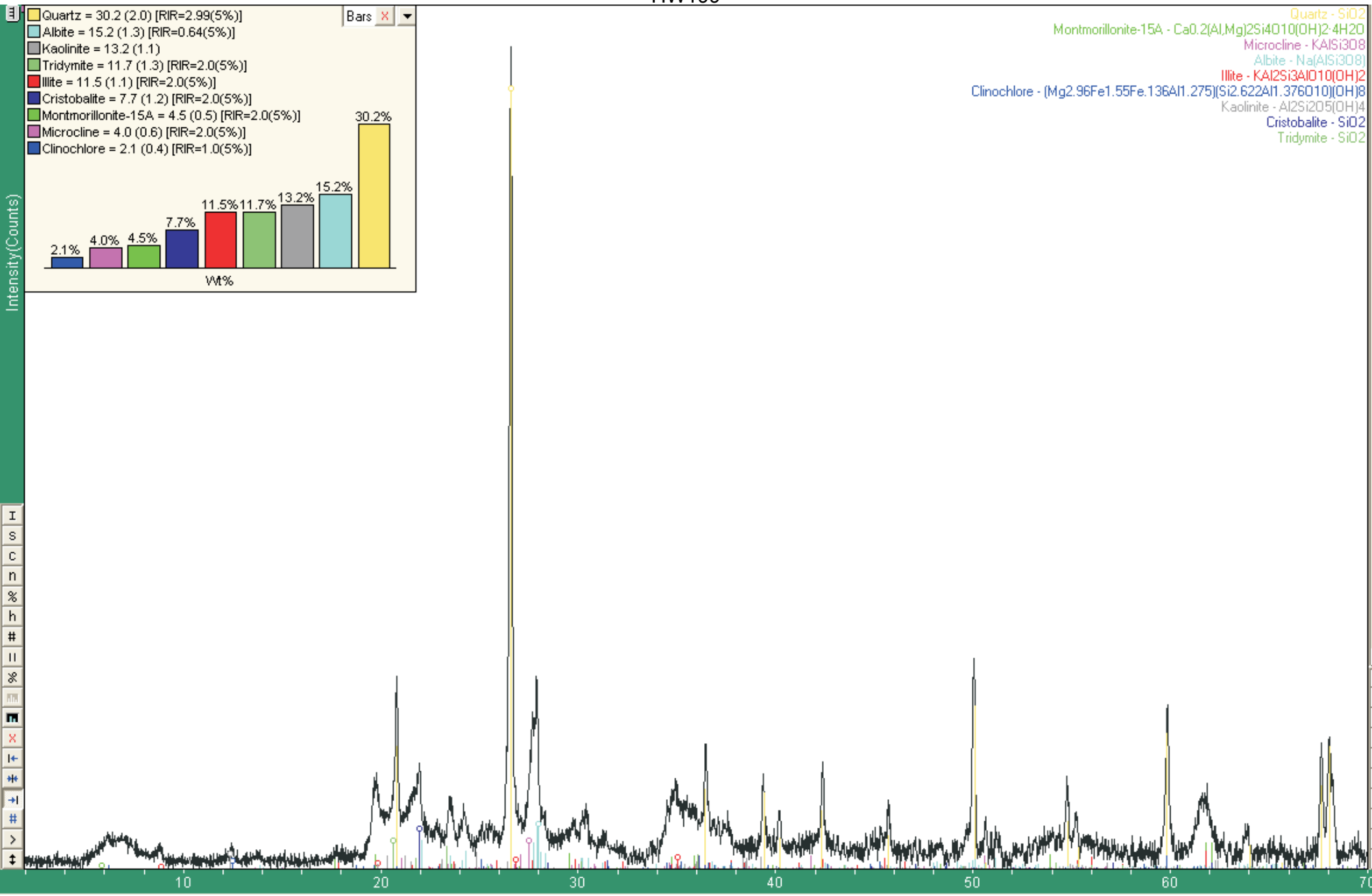

Tridymite-O = 20.5 (3.5) [RIR=2.0(5%)]
Quartz = 17.2 (1.9) [RIR=3.05(5%)]
Montmorillonite-15A = 15.3 (2.0) [RIR=2.0(5%)]
Muscovite-1M = 14.1 (2.2) [RIR=2.0(5%)]
Rutile = 9.1 (1.7) [RIR=3.63(5%)]
Cristobalite = 8.0 (7.3) [RIR=2.0(5%)]
Halloysite-10A = 6.2 (1.5) [RIR=2.0(5%)]
Albite = 4.9 (0.9) [RIR=2.0(5%)]
Illite = 2.5 (0.8) [RIR=2.0(5%)]
Orthoclase = 2.2 (0.8) [RIR=0.74(5%)]
Bars
2.2%
2.5%
4.9%
6.2%
8.0%
9.1%
14.1%
15.3%
17.2%
20.5%
HW195
Wt%

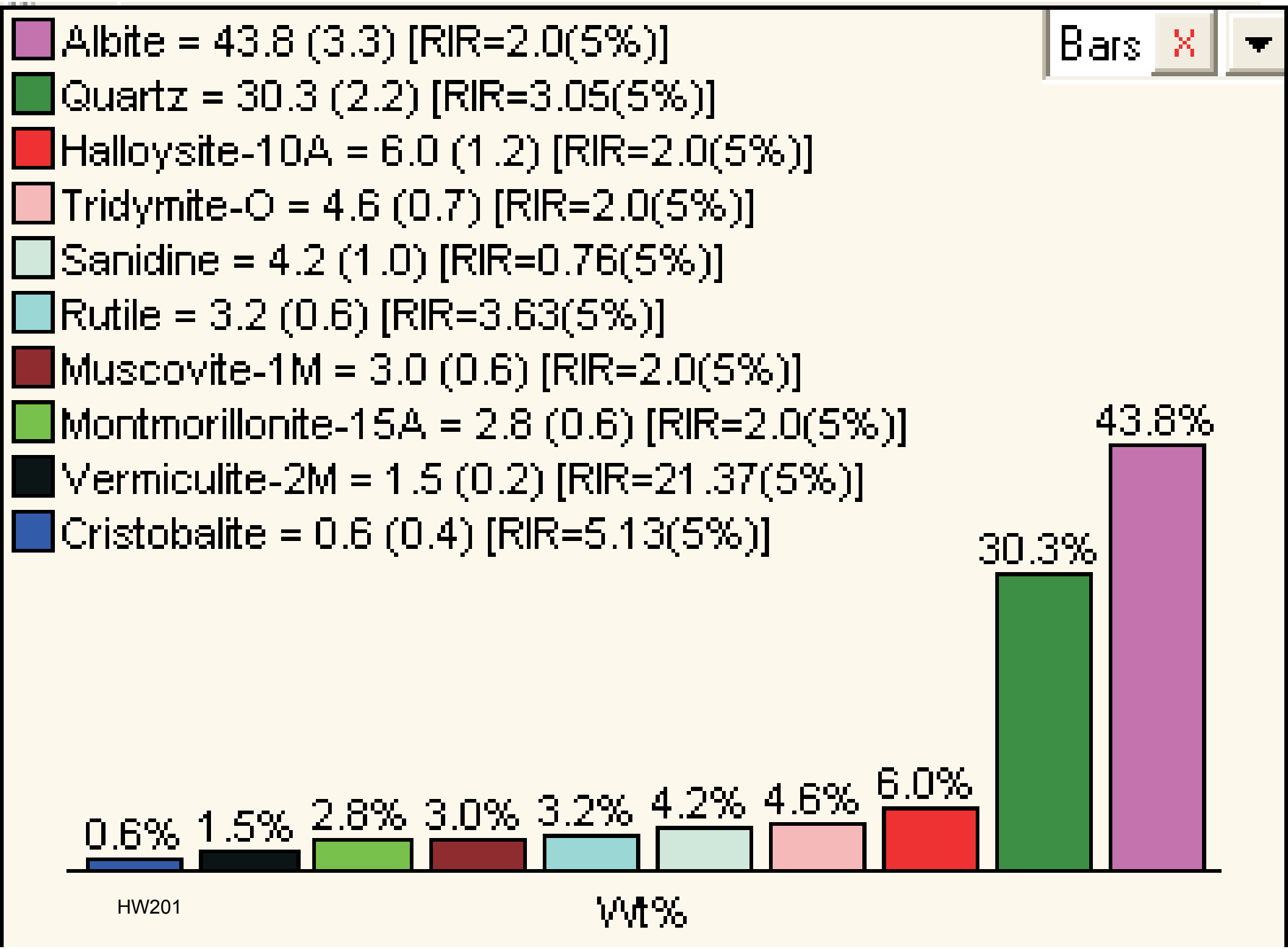
HW195


Tridymite-O = 20.5 (3.5) [RIR=2.0(5%)]
Quartz = 17.2 (1.9) [RIR=3.05(5%)]
Montmorillonite-15A = 15.3 (2.0) [RIR=2.0(5%)]
Muscovite-1M = 14.1 (2.2) [RIR=2.0(5%)]
Rutile = 9.1 (1.7) [RIR=3.63(5%)]
Cristobalite = 8.0 (7.3) [RIR=2.0(5%)]
Halloysite-10A = 6.2 (1.5) [RIR=2.0(5%)]
Albite = 4.9 (0.9) [RIR=2.0(5%)]
Illite = 2.5 (0.8) [RIR=2.0(5%)]
Orthoclase = 2.2 (0.8) [RIR=0.74(5%)]
Bars
2.2%
2.5%
4.9%
6.2%
8.0%
9.1%
14.1%
15.3%
17.2%
20.5%
Wt%
Intensity(Counts)
Cristobalite - SiO2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Orthoclase - KSi3AlO8
Albite - Na(Si3Al)O8
Tridymite-O - SiO2
Illite - KAl2Si3AlO10(OH)2
10
20
30
40
50
60

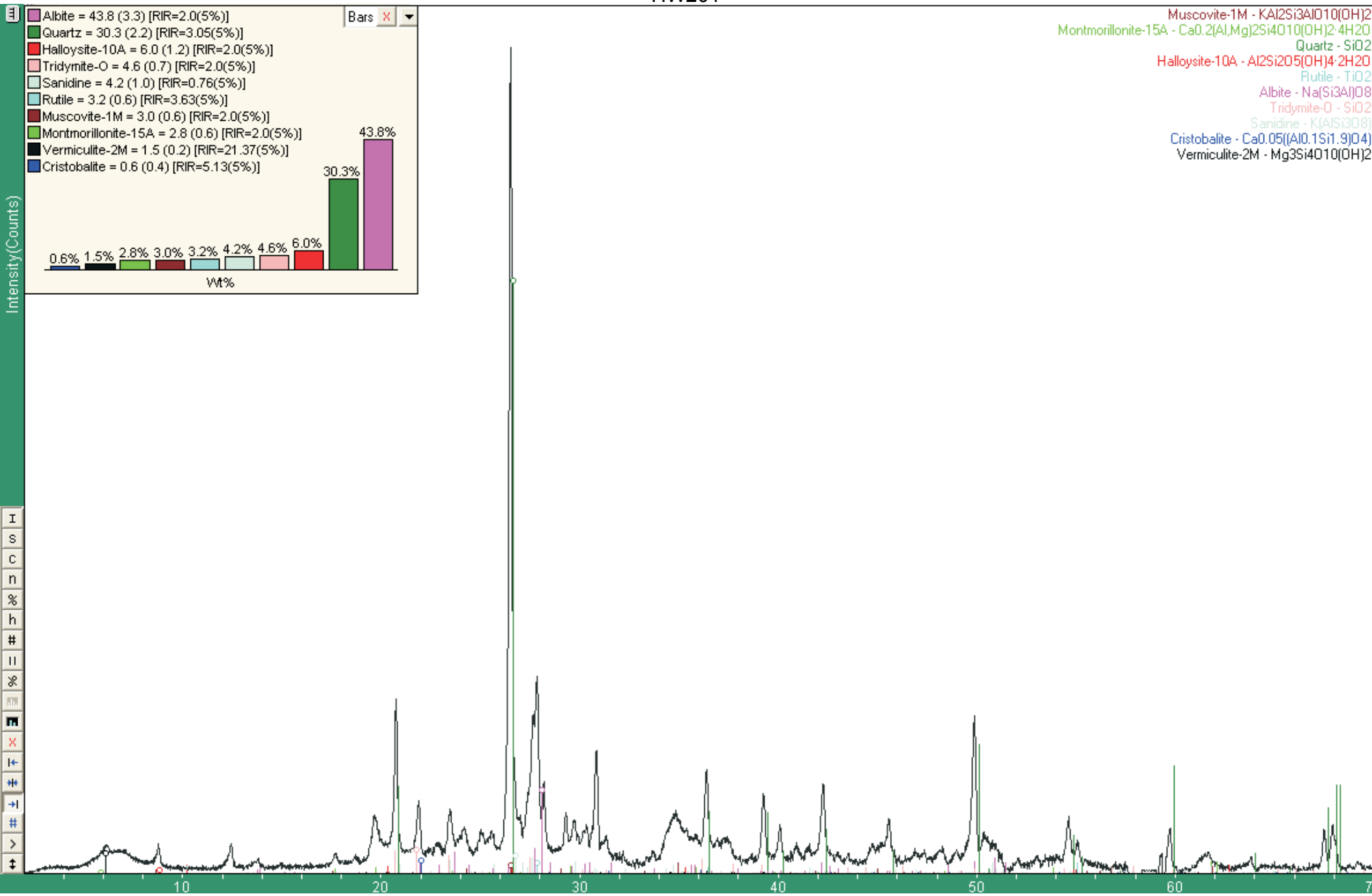

Quartz = 30.2 (2.0) [RIR=2.99(5%)]
Albite = 15.2 (1.3) [RIR=0.64(5%)]
Kaolinite = 13.2 (1.1)
Tridymite = 11.7 (1.3) [RIR=2.0(5%)]
Illite = 11.5 (1.1) [RIR=2.0(5%)]
Cristobalite = 7.7 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 4.5 (0.5) [RIR=2.0(5%)]
Microcline = 4.0 (0.6) [RIR=2.0(5%)]
Clinochlore = 2.1 (0.4) [RIR=1.0(5%)]
Bars
2.1%
4.0%
4.5%
7.7%
11.5%
11.7%
13.2%
15.2%
30.2%
HW199
Wt%

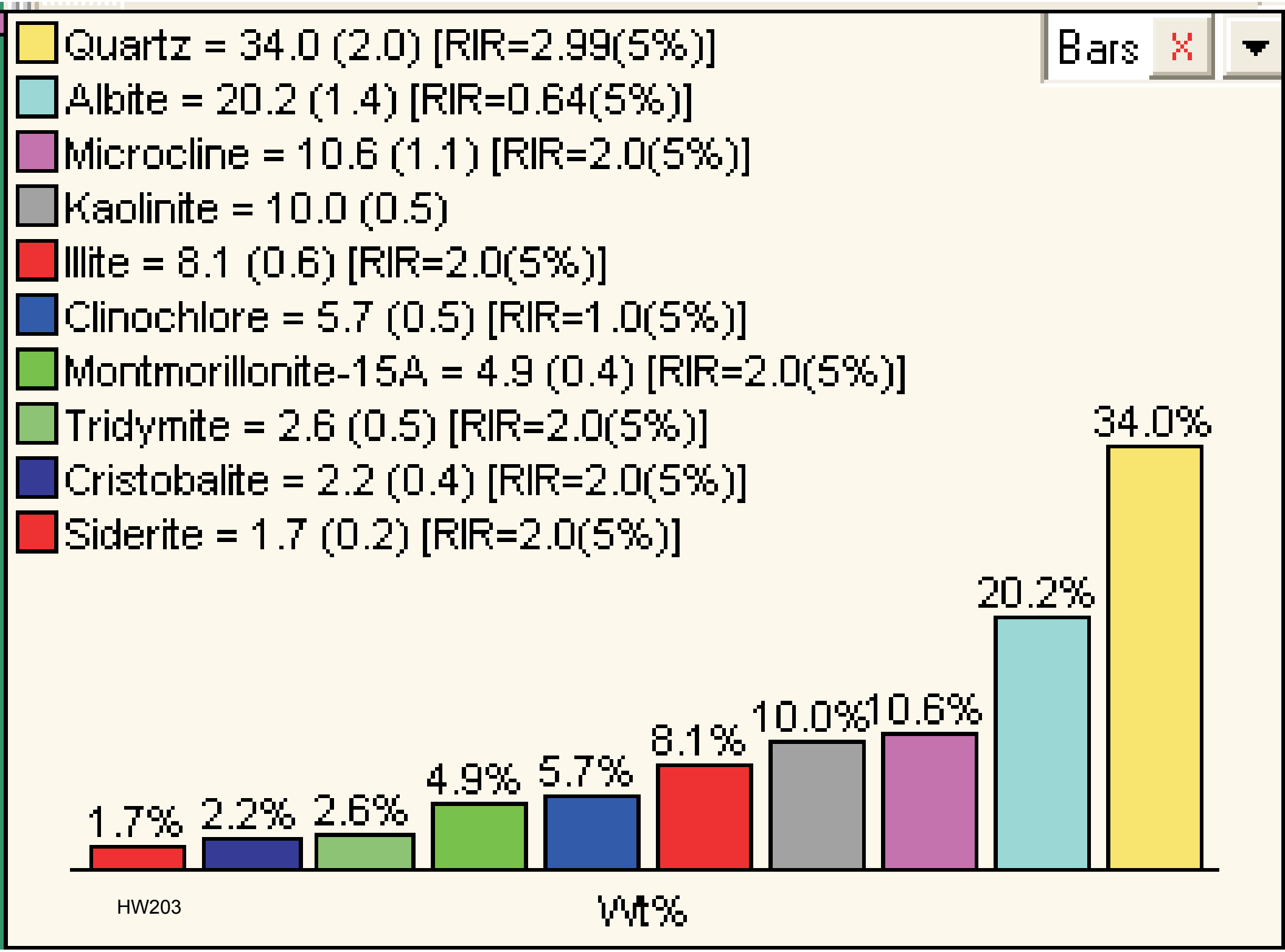
HW199


Quartz = 30.2 (2.0) [RIR=2.99(5%)]
Albite = 15.2 (1.3) [RIR=0.64(5%)]
Kaolinite = 13.2 (1.1)
Tridymite = 11.7 (1.3) [RIR=2.0(5%)]
Illite = 11.5 (1.1) [RIR=2.0(5%)]
Cristobalite = 7.7 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 4.5 (0.5) [RIR=2.0(5%)]
Microcline = 4.0 (0.6) [RIR=2.0(5%)]
Clinochlore = 2.1 (0.4) [RIR=1.0(5%)]
Bars
2.1%
4.0%
4.5%
7.7%
11.5%
11.7%
13.2%
15.2%
30.2%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

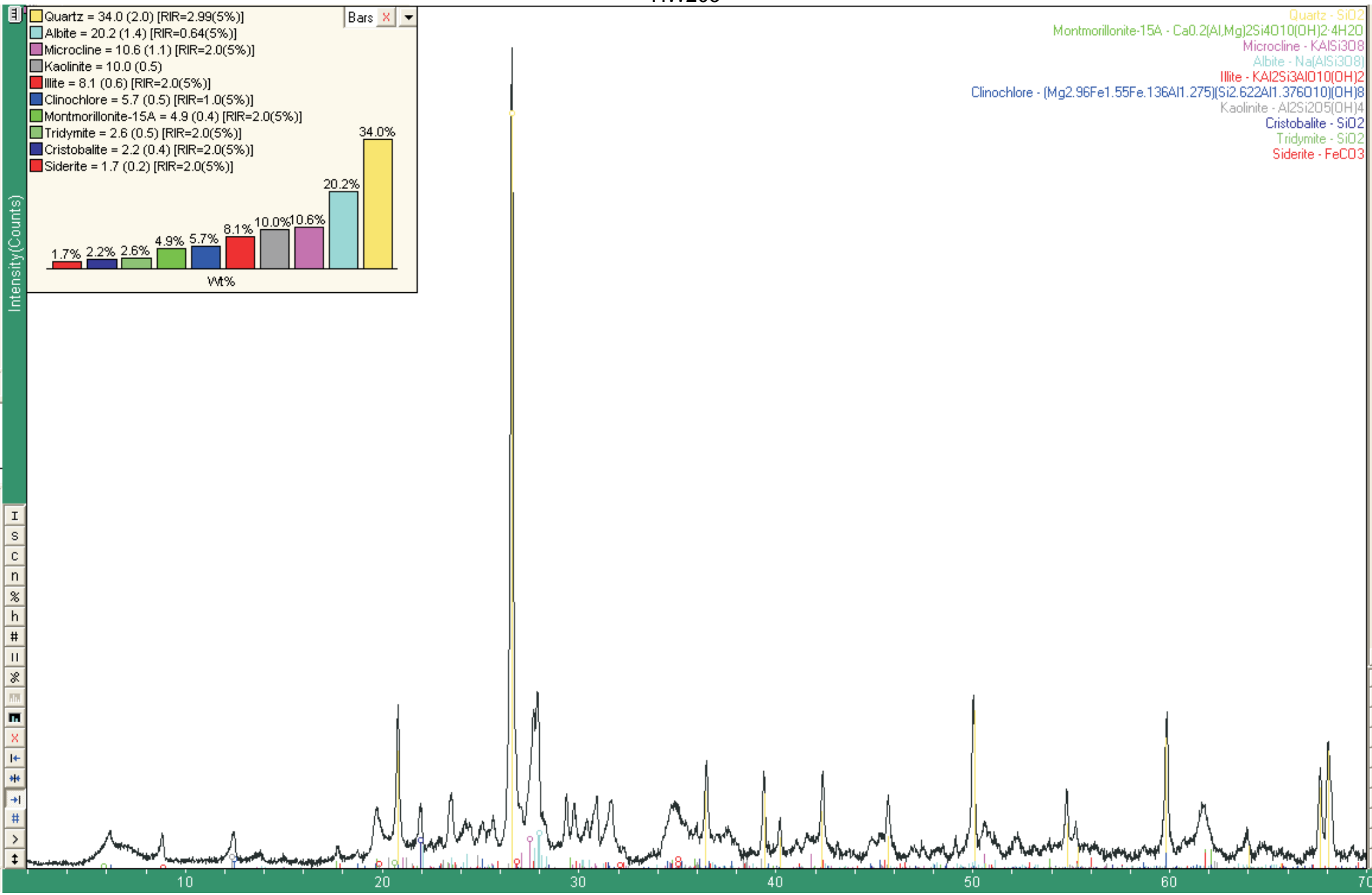

Albite = 43.8 (3.3) [RIR=2.0(5%)]
Quartz = 30.3 (2.2) [RIR=3.05(5%)]
Halloysite-10A = 6.0 (1.2) [RIR=2.0(5%)]
Tridymite-O = 4.6 (0.7) [RIR=2.0(5%)]
Sanidine = 4.2 (1.0) [RIR=0.76(5%)]
Rutile = 3.2 (0.6) [RIR=3.63(5%)]
Muscovite-1M = 3.0 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.8 (0.6) [RIR=2.0(5%)]
Vermiculite-2M = 1.5 (0.2) [RIR=21.37(5%)]
Cristobalite = 0.6 (0.4) [RIR=5.13(5%)]
Bars
0.6%
1.5%
2.8%
3.0%
3.2%
4.2%
4.6%
6.0%
30.3%
43.8%
HW201
Wt%

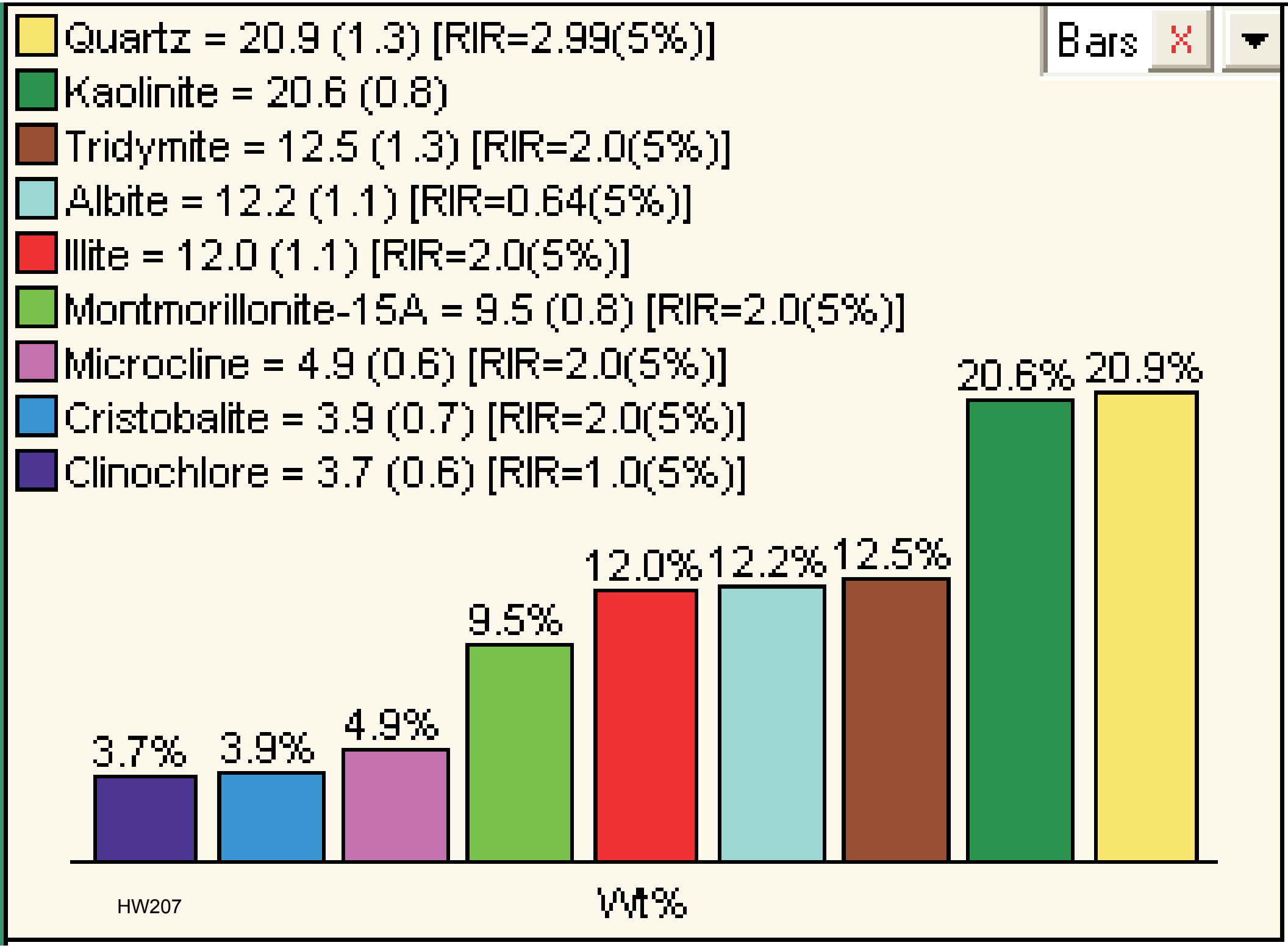
HW201


Albite = 43.8 (3.3) [RIR=2.0(5%)]
Quartz = 30.3 (2.2) [RIR=3.05(5%)]
Halloysite-10A = 6.0 (1.2) [RIR=2.0(5%)]
Tridymite-O = 4.6 (0.7) [RIR=2.0(5%)]
Sanidine = 4.2 (1.0) [RIR=0.76(5%)]
Rutile = 3.2 (0.6) [RIR=3.63(5%)]
Muscovite-1M = 3.0 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 2.8 (0.6) [RIR=2.0(5%)]
Vermiculite-2M = 1.5 (0.2) [RIR=21.37(5%)]
Cristobalite = 0.6 (0.4) [RIR=5.13(5%)]
Bars
0.6% 1.5% 2.8% 3.0% 3.2% 4.2% 4.6% 6.0% 30.3% 43.8%
Wt%
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Albite - Na(Si3Al)O8
Tridymite-O - SiO2
Sanidine - K(AlSi3O8)
Cristobalite - Ca0.05((Al0.1Si1.9)O4)
Vermiculite-2M - Mg3Si4O10(OH)2
Intensity(Counts)
10
20
30
40
50
60

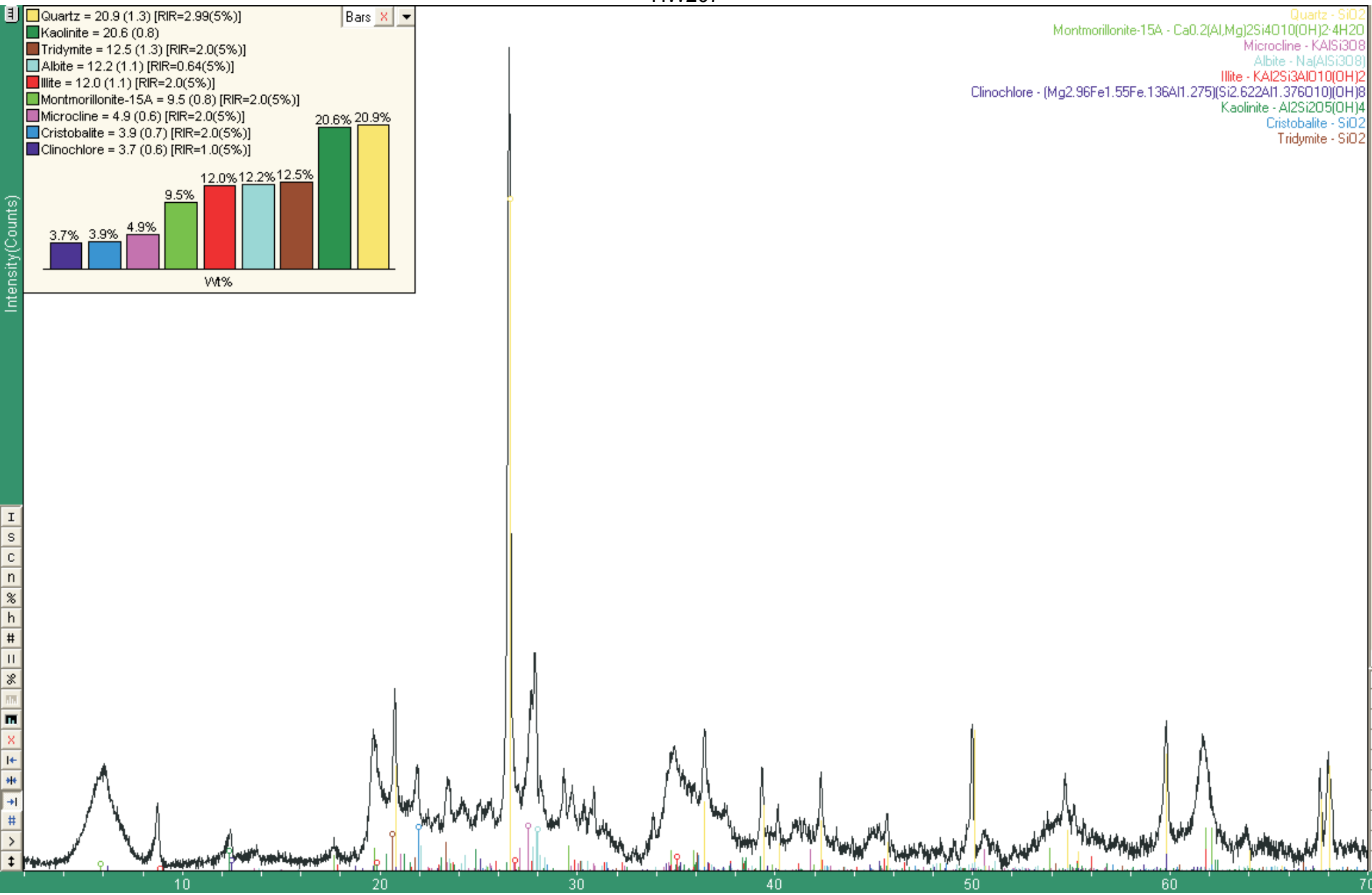

Quartz = 34.0 (2.0) [RIR=2.99(5%)]
Albite = 20.2 (1.4) [RIR=0.64(5%)]
Microcline = 10.6 (1.1) [RIR=2.0(5%)]
Kaolinite = 10.0 (0.5)
Illite = 8.1 (0.6) [RIR=2.0(5%)]
Clinochlore = 5.7 (0.5) [RIR=1.0(5%)]
Montmorillonite-15A = 4.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.6 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.2 (0.4) [RIR=2.0(5%)]
Siderite = 1.7 (0.2) [RIR=2.0(5%)]
Bars
1.7%
2.2%
2.6%
4.9%
5.7%
8.1%
10.0%
10.6%
20.2%
34.0%
HW203
Wt%

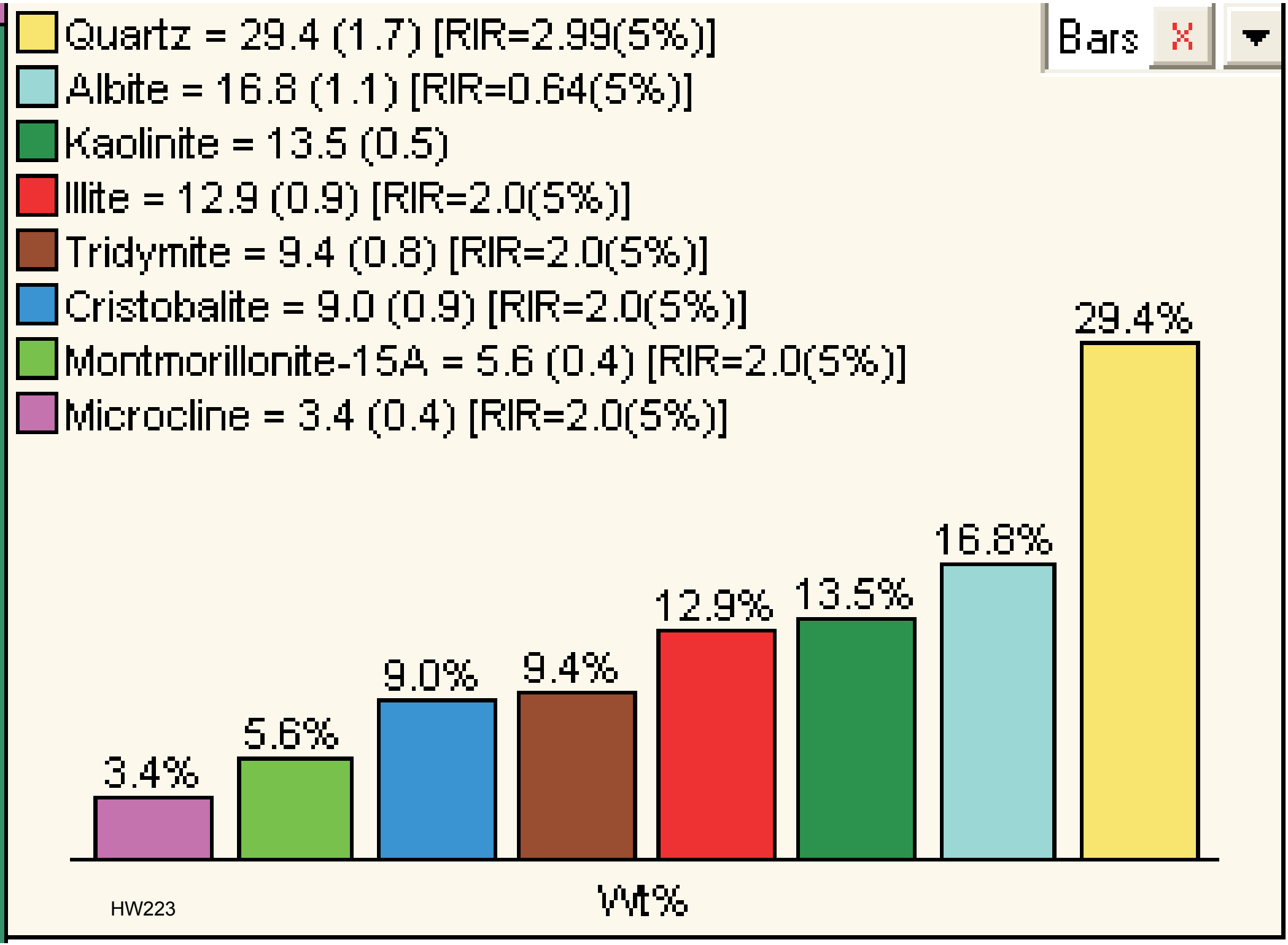
HW203


Quartz = 34.0 (2.0) [RIR=2.99(5%)]
Albite = 20.2 (1.4) [RIR=0.64(5%)]
Microcline = 10.6 (1.1) [RIR=2.0(5%)]
Kaolinite = 10.0 (0.5)
Illite = 8.1 (0.6) [RIR=2.0(5%)]
Clinochlore = 5.7 (0.5) [RIR=1.0(5%)]
Montmorillonite-15A = 4.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.6 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.2 (0.4) [RIR=2.0(5%)]
Siderite = 1.7 (0.2) [RIR=2.0(5%)]
Bars
1.7% 2.2% 2.6% 4.9% 5.7% 8.1% 10.0% 10.6% 20.2% 34.0%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Siderite - FeCO3
Intensity(Counts)
10
20
30
40
50
60
70

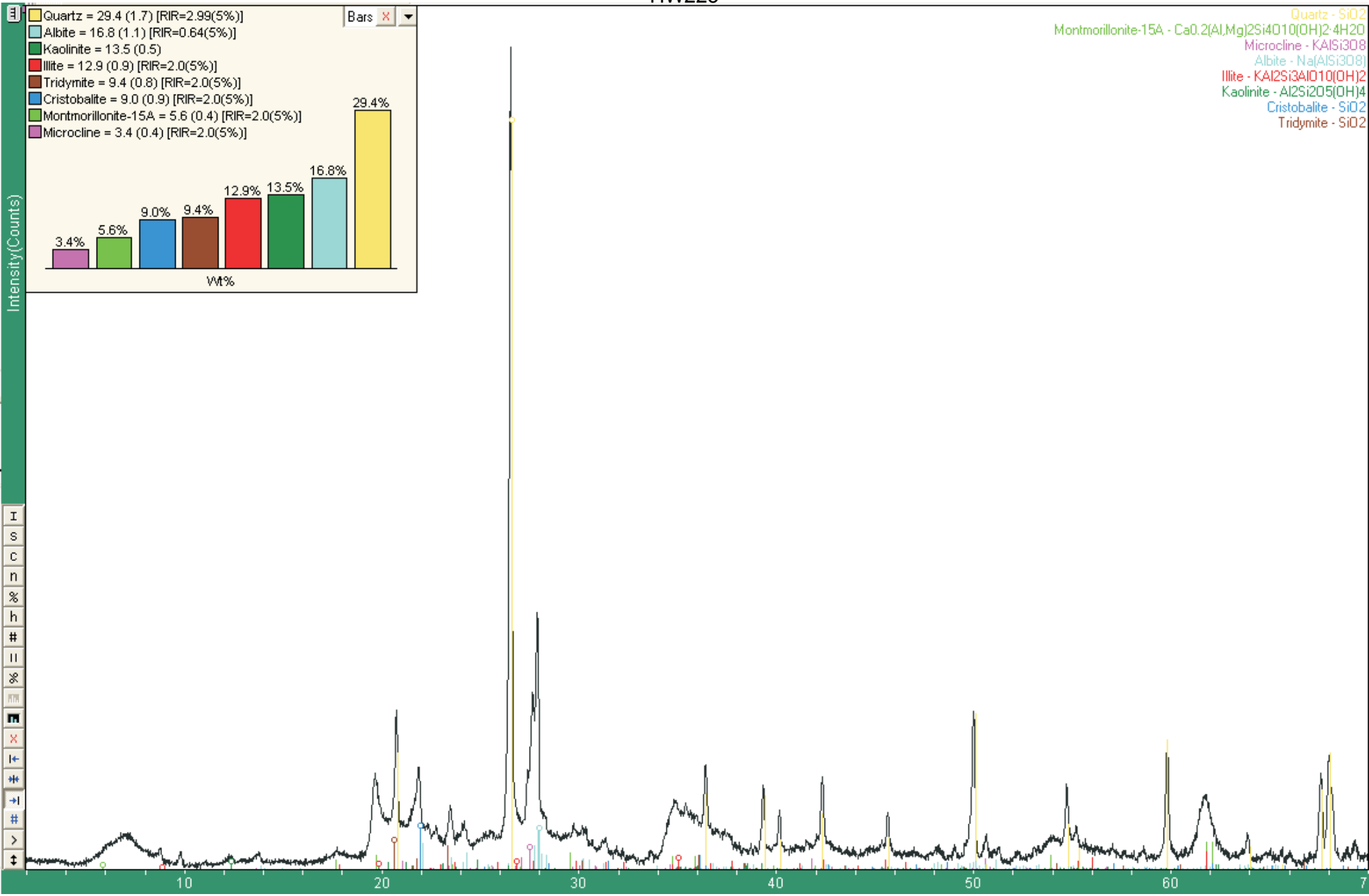

Quartz = 20.9 (1.3) [RIR=2.99(5%)]
Kaolinite = 20.6 (0.8)
Tridymite = 12.5 (1.3) [RIR=2.0(5%)]
Albite = 12.2 (1.1) [RIR=0.64(5%)]
Illite = 12.0 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 9.5 (0.8) [RIR=2.0(5%)]
Microcline = 4.9 (0.6) [RIR=2.0(5%)]
Cristobalite = 3.9 (0.7) [RIR=2.0(5%)]
Clinochlore = 3.7 (0.6) [RIR=1.0(5%)]
Bars
3.7%
3.9%
4.9%
9.5%
12.0%
12.2%
12.5%
20.6%
20.9%
HW207
Wt%

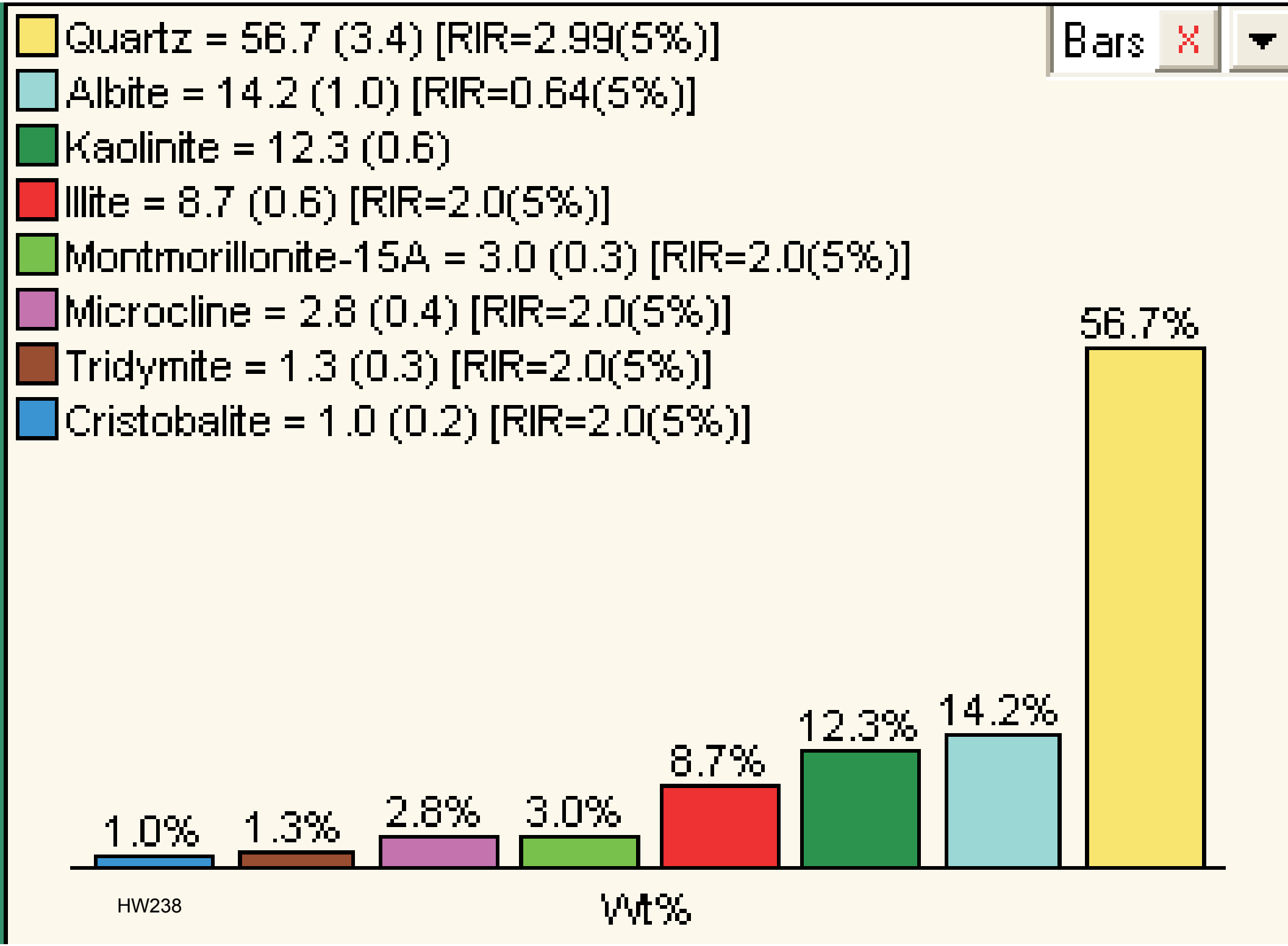
HW207


Quartz = 20.9 (1.3) [RIR=2.99(5%)]
Kaolinite = 20.6 (0.8)
Tridymite = 12.5 (1.3) [RIR=2.0(5%)]
Albite = 12.2 (1.1) [RIR=0.64(5%)]
Illite = 12.0 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 9.5 (0.8) [RIR=2.0(5%)]
Microcline = 4.9 (0.6) [RIR=2.0(5%)]
Cristobalite = 3.9 (0.7) [RIR=2.0(5%)]
Clinochlore = 3.7 (0.6) [RIR=1.0(5%)]
Bars
3.7%
3.9%
4.9%
9.5%
12.0%
12.2%
12.5%
20.6%
20.9%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

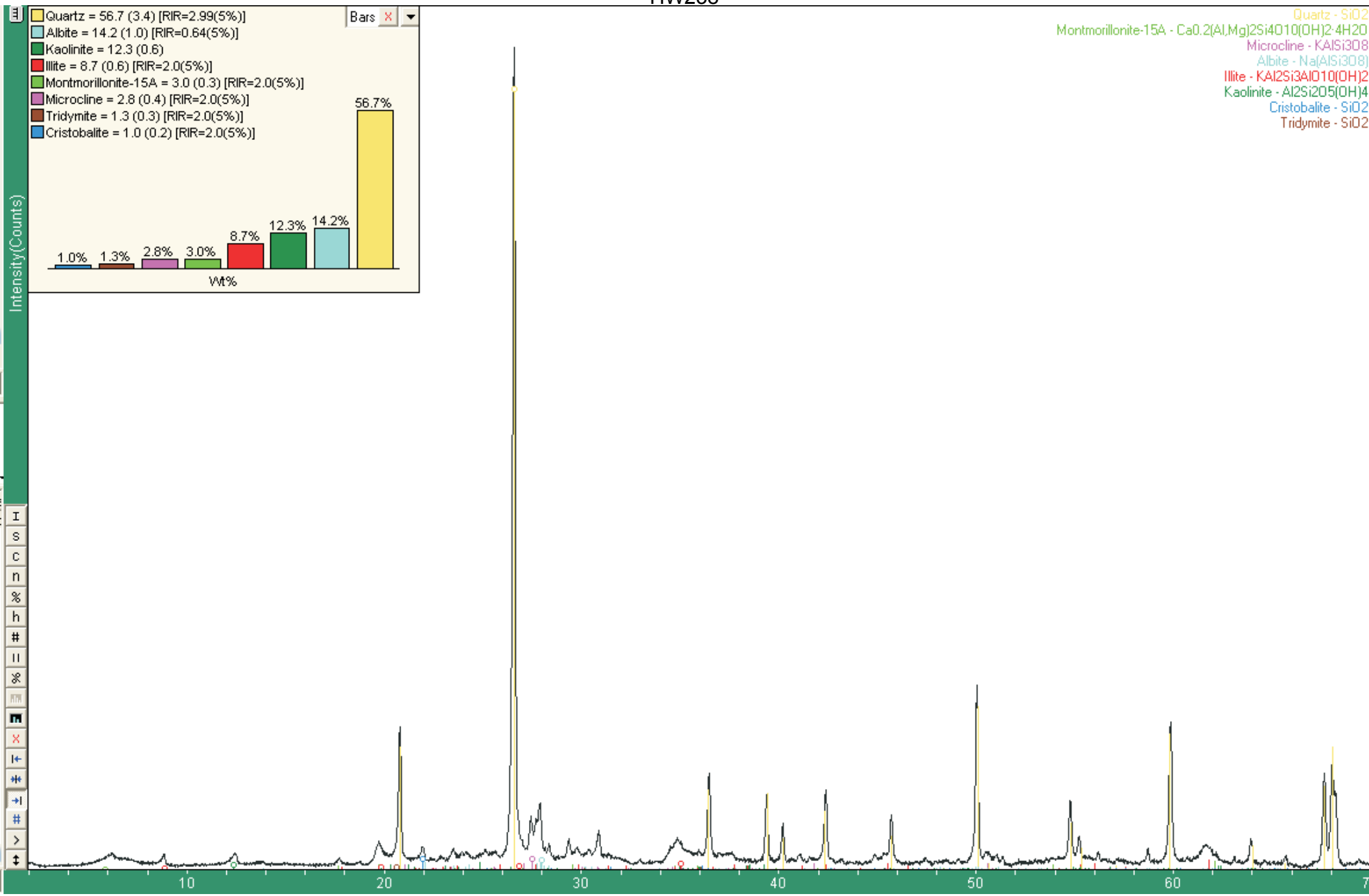

Quartz = 29.4 (1.7) [RIR=2.99(5%)]
Albite = 16.8 (1.1) [RIR=0.64(5%)]
Kaolinite = 13.5 (0.5)
Illite = 12.9 (0.9) [RIR=2.0(5%)]
Tridymite = 9.4 (0.8) [RIR=2.0(5%)]
Cristobalite = 9.0 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.6 (0.4) [RIR=2.0(5%)]
Microcline = 3.4 (0.4) [RIR=2.0(5%)]
Bars
3.4%
5.6%
9.0%
9.4%
12.9%
13.5%
16.8%
29.4%
Wt%
HW223

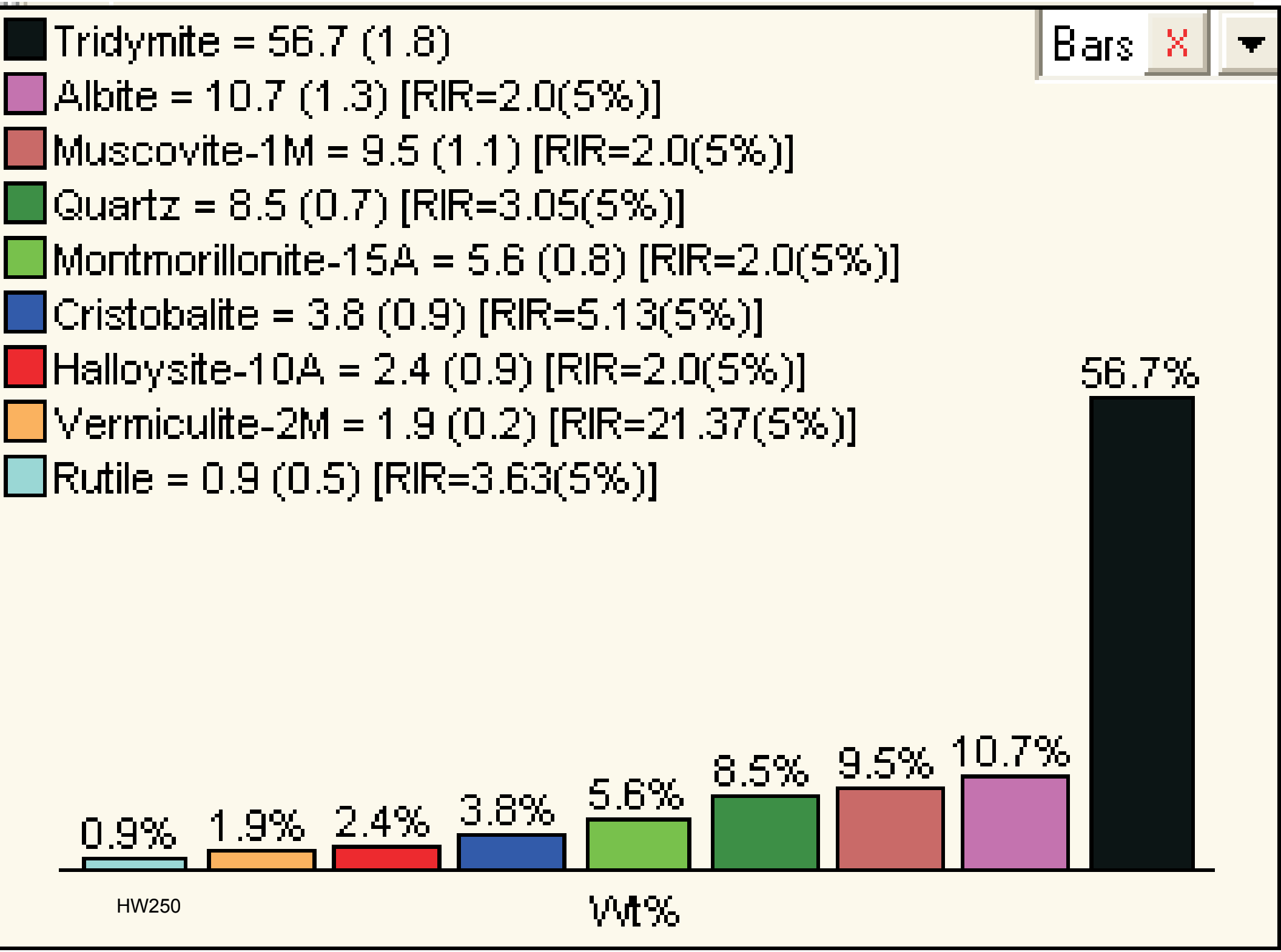
HW223


Quartz = 29.4 (1.7) [RIR=2.99(5%)]
Albite = 16.8 (1.1) [RIR=0.64(5%)]
Kaolinite = 13.5 (0.5)
Illite = 12.9 (0.9) [RIR=2.0(5%)]
Tridymite = 9.4 (0.8) [RIR=2.0(5%)]
Cristobalite = 9.0 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.6 (0.4) [RIR=2.0(5%)]
Microcline = 3.4 (0.4) [RIR=2.0(5%)]
Bars
3.4%
5.6%
9.0%
9.4%
12.9%
13.5%
16.8%
29.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

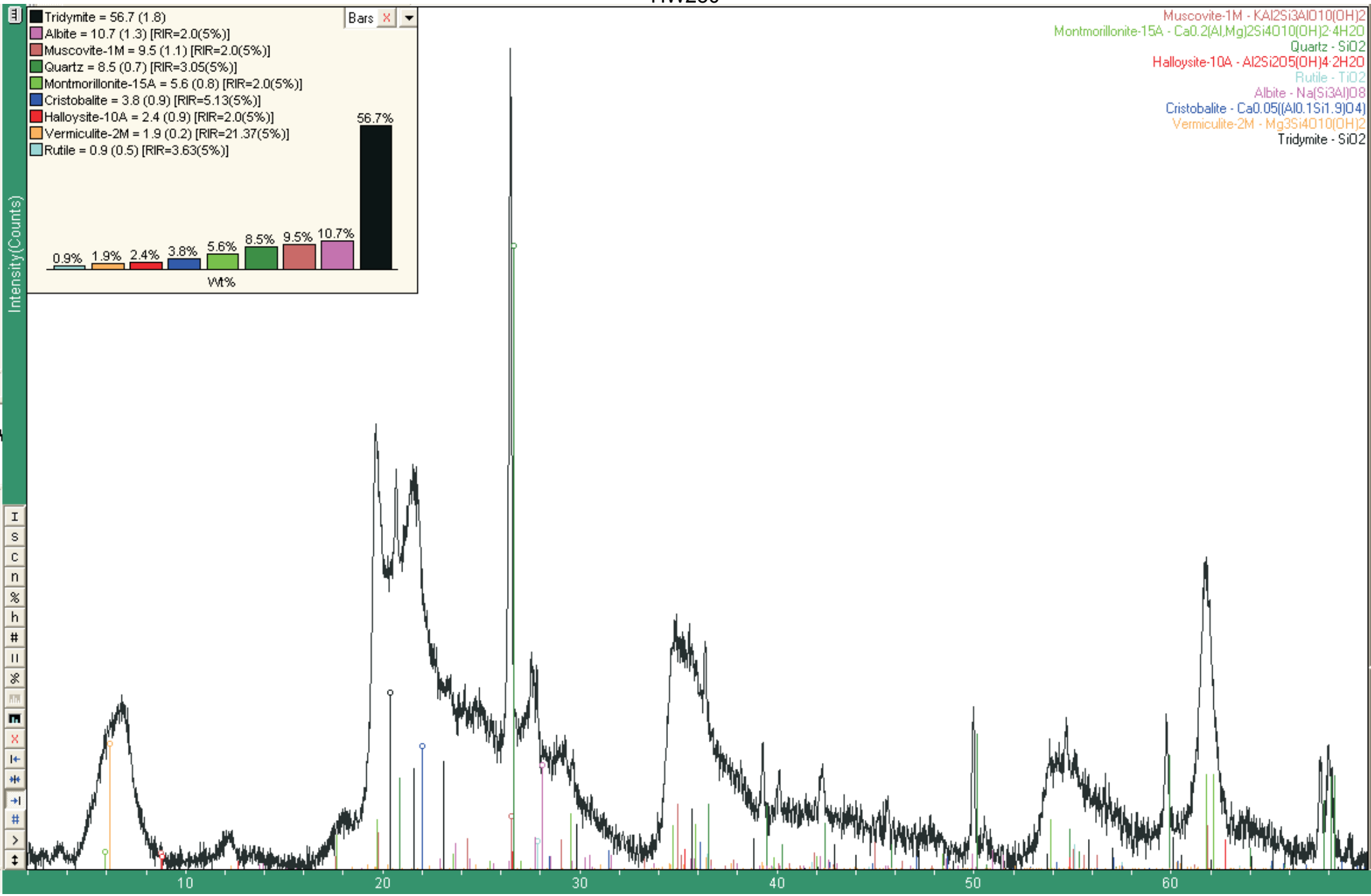

Quartz = 56.7 (3.4) [RIR=2.99(5%)]
Albite = 14.2 (1.0) [RIR=0.64(5%)]
Kaolinite = 12.3 (0.6)
Illite = 8.7 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 3.0 (0.3) [RIR=2.0(5%)]
Microcline = 2.8 (0.4) [RIR=2.0(5%)]
Tridymite = 1.3 (0.3) [RIR=2.0(5%)]
Cristobalite = 1.0 (0.2) [RIR=2.0(5%)]
Bars
1.0%
1.3%
2.8%
3.0%
8.7%
12.3%
14.2%
56.7%
HW238
Wt%

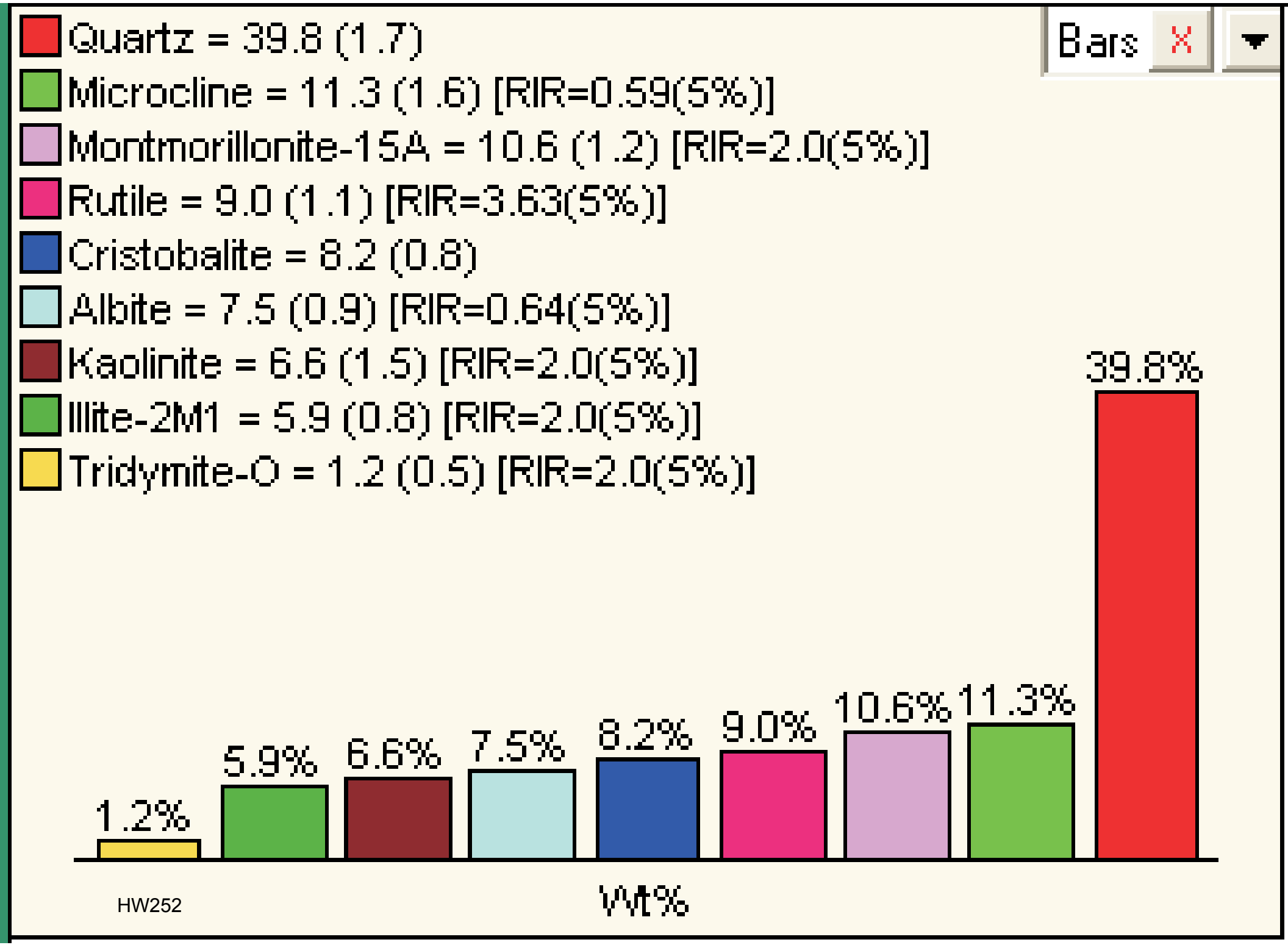
HW238


Quartz = 56.7 (3.4) [RIR=2.99(5%)]
Albite = 14.2 (1.0) [RIR=0.64(5%)]
Kaolinite = 12.3 (0.6)
Illite = 8.7 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 3.0 (0.3) [RIR=2.0(5%)]
Microcline = 2.8 (0.4) [RIR=2.0(5%)]
Tridymite = 1.3 (0.3) [RIR=2.0(5%)]
Cristobalite = 1.0 (0.2) [RIR=2.0(5%)]
Bars
1.0%
1.3%
2.8%
3.0%
8.7%
12.3%
14.2%
56.7%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

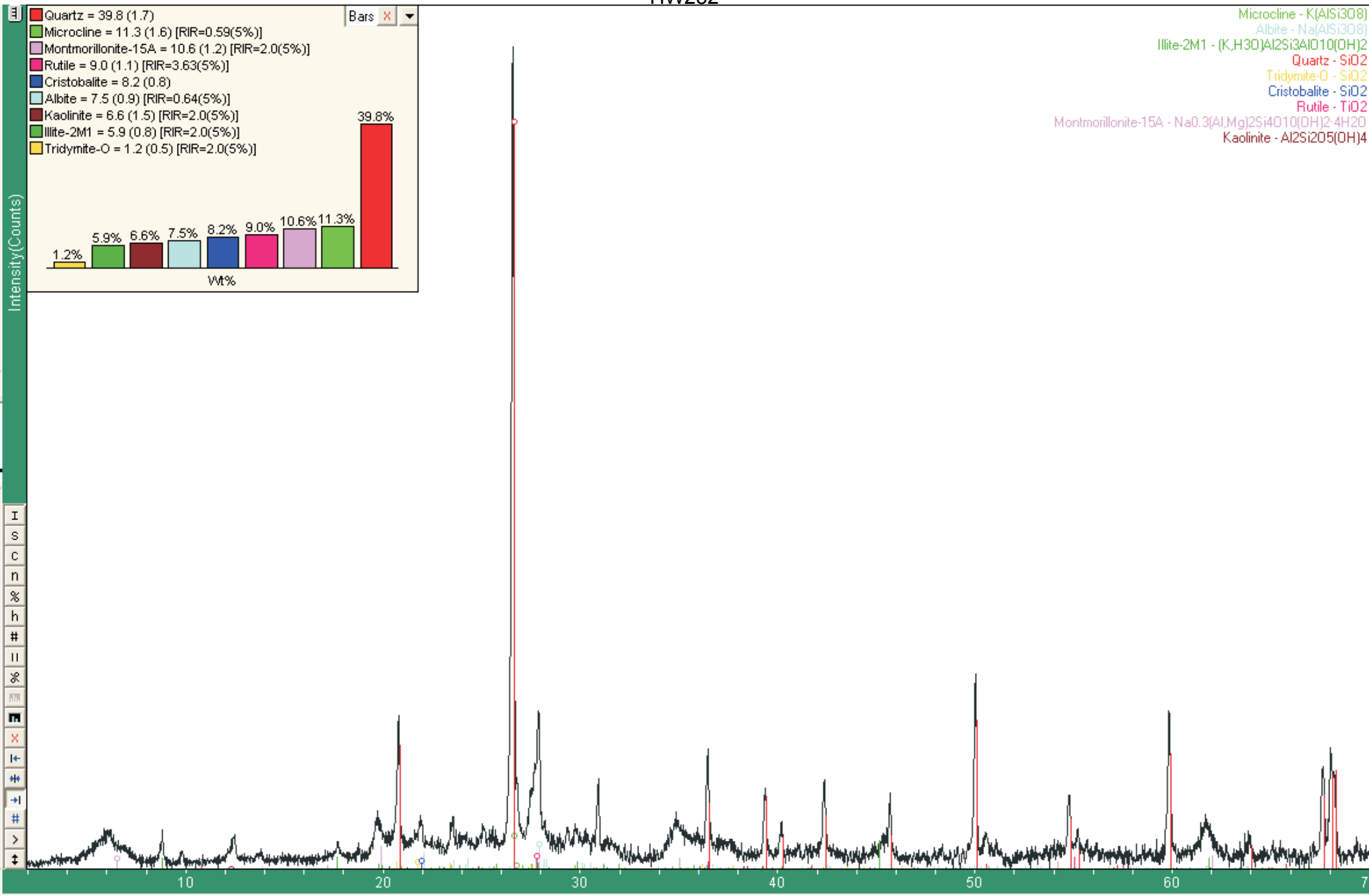

Tridymite = 56.7 (1.8)
Albite = 10.7 (1.3) [RIR=2.0(5%)]
Muscovite-1M = 9.5 (1.1) [RIR=2.0(5%)]
Quartz = 8.5 (0.7) [RIR=3.05(5%)]
Montmorillonite-15A = 5.6 (0.8) [RIR=2.0(5%)]
Cristobalite = 3.8 (0.9) [RIR=5.13(5%)]
Halloysite-10A = 2.4 (0.9) [RIR=2.0(5%)]
Vermiculite-2M = 1.9 (0.2) [RIR=21.37(5%)]
Rutile = 0.9 (0.5) [RIR=3.63(5%)]
Bars
0.9%
1.9%
2.4%
3.8%
5.6%
8.5%
9.5%
10.7%
56.7%
HW250
Wt%

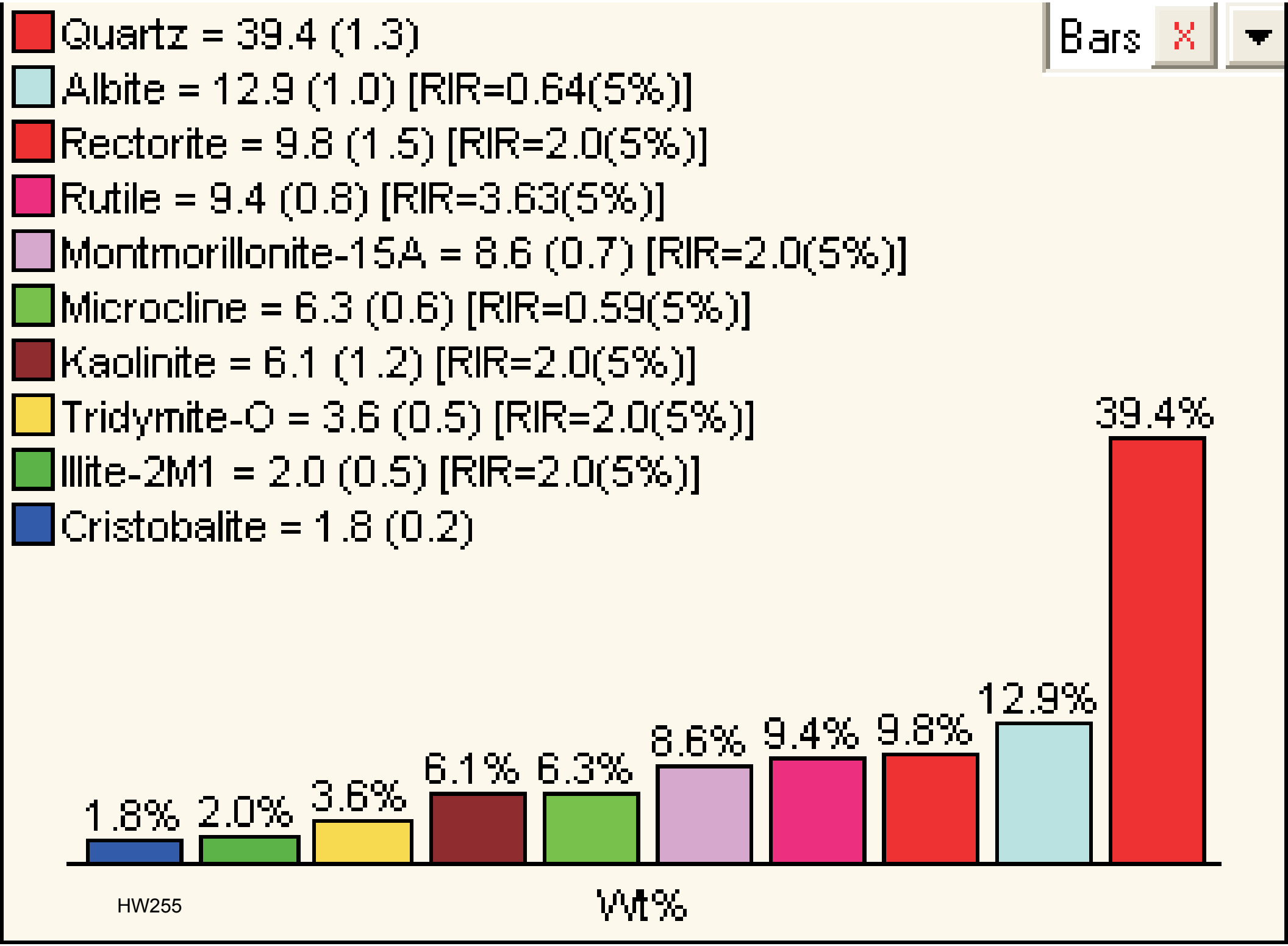
HW250


Tridymite = 56.7 (1.8)
Albite = 10.7 (1.3) [RIR=2.0(5%)]
Muscovite-1M = 9.5 (1.1) [RIR=2.0(5%)]
Quartz = 8.5 (0.7) [RIR=3.05(5%)]
Montmorillonite-15A = 5.6 (0.8) [RIR=2.0(5%)]
Cristobalite = 3.8 (0.9) [RIR=5.13(5%)]
Halloysite-10A = 2.4 (0.9) [RIR=2.0(5%)]
Vermiculite-2M = 1.9 (0.2) [RIR=21.37(5%)]
Rutile = 0.9 (0.5) [RIR=3.63(5%)]
Bars
0.9%
1.9%
2.4%
3.8%
5.6%
8.5%
9.5%
10.7%
56.7%
Wt%
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
Halloysite-10A - Al2Si2O5(OH)4·2H2O
Rutile - TiO2
Albite - Na(Si3Al)O8
Cristobalite - Ca0.05((Al0.1Si1.9)O4)
Vermiculite-2M - Mg3Si4O10(OH)2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

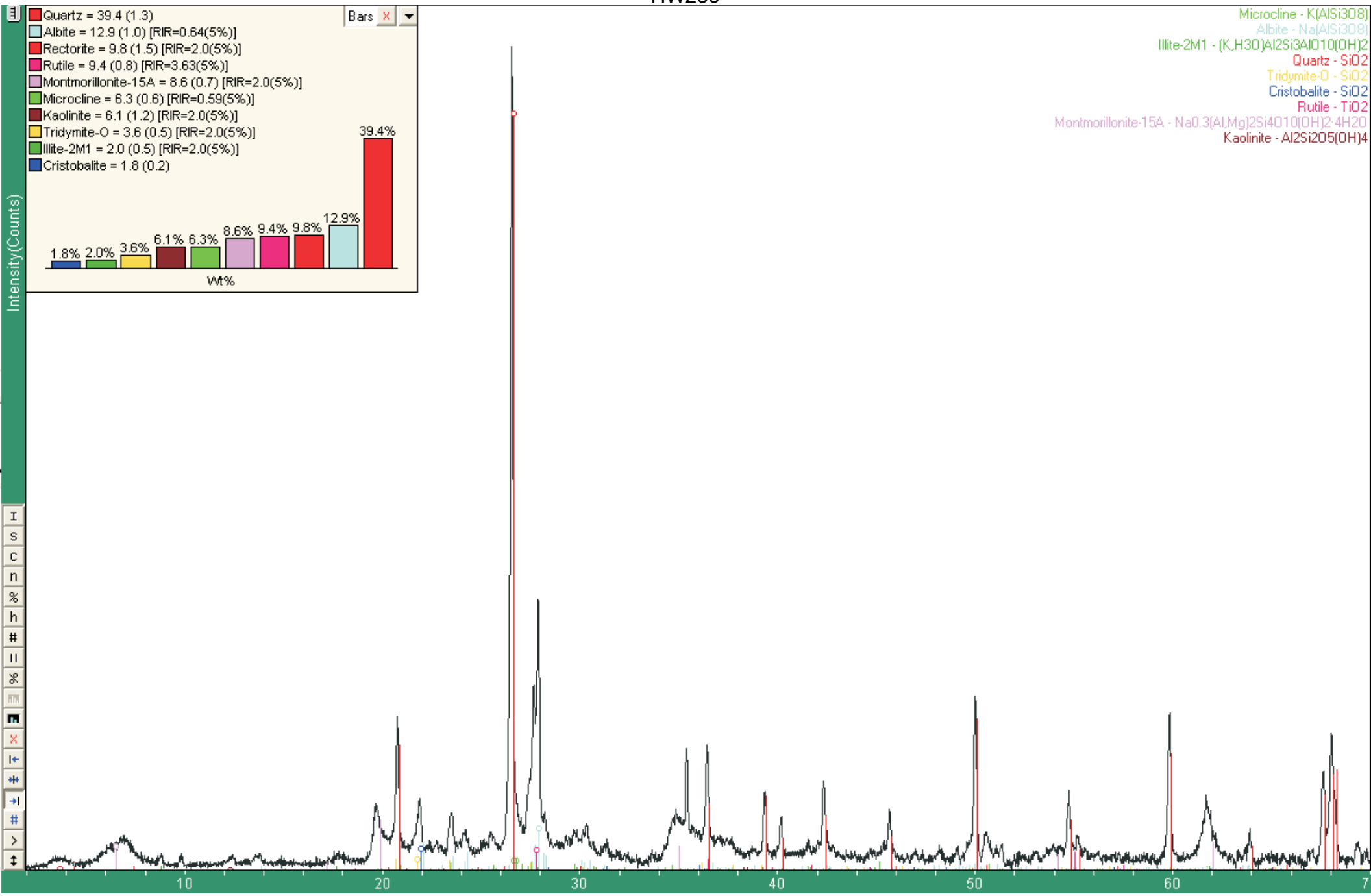

Quartz = 39.8 (1.7)
Microcline = 11.3 (1.6) [RIR=0.59(5%)]
Montmorillonite-15A = 10.6 (1.2) [RIR=2.0(5%)]
Rutile = 9.0 (1.1) [RIR=3.63(5%)]
Cristobalite = 8.2 (0.8)
Albite = 7.5 (0.9) [RIR=0.64(5%)]
Kaolinite = 6.6 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 5.9 (0.8) [RIR=2.0(5%)]
Tridymite-O = 1.2 (0.5) [RIR=2.0(5%)]
Bars
1.2%
5.9%
6.6%
7.5%
8.2%
9.0%
10.6%
11.3%
39.8%
HW252
Wt%

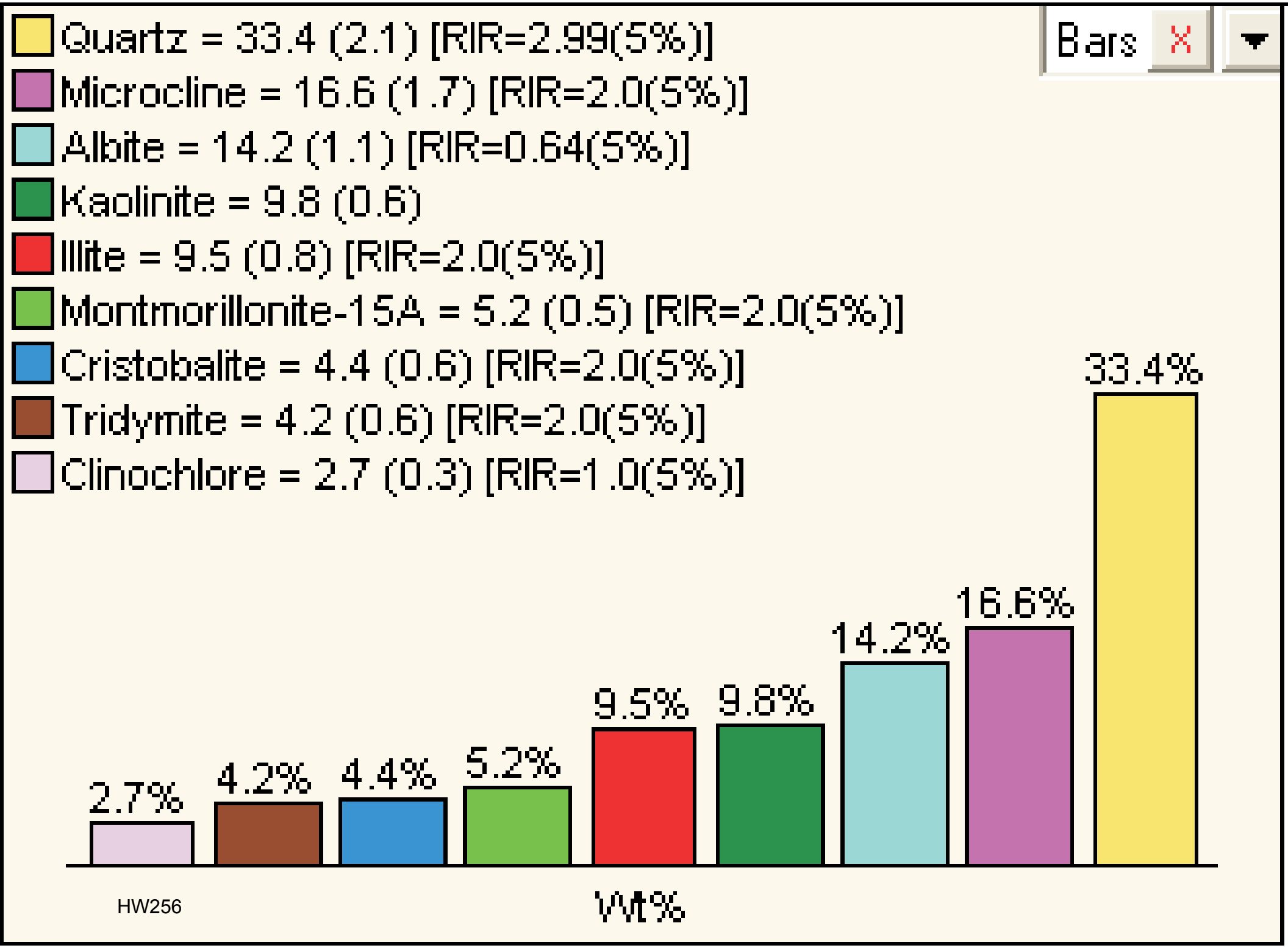
HW252


Quartz = 39.8 (1.7)
Microcline = 11.3 (1.6) [RIR=0.59(5%)]
Montmorillonite-15A = 10.6 (1.2) [RIR=2.0(5%)]
Rutile = 9.0 (1.1) [RIR=3.63(5%)]
Cristobalite = 8.2 (0.8)
Albite = 7.5 (0.9) [RIR=0.64(5%)]
Kaolinite = 6.6 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 5.9 (0.8) [RIR=2.0(5%)]
Tridymite-O = 1.2 (0.5) [RIR=2.0(5%)]
Bars
1.2%
5.9%
6.6%
7.5%
8.2%
9.0%
10.6%
11.3%
39.8%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Rutile - TiO2
Montmorillonite-15A - Na0.3(Al,Mg)2Si4O10(OH)2·4H2O
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

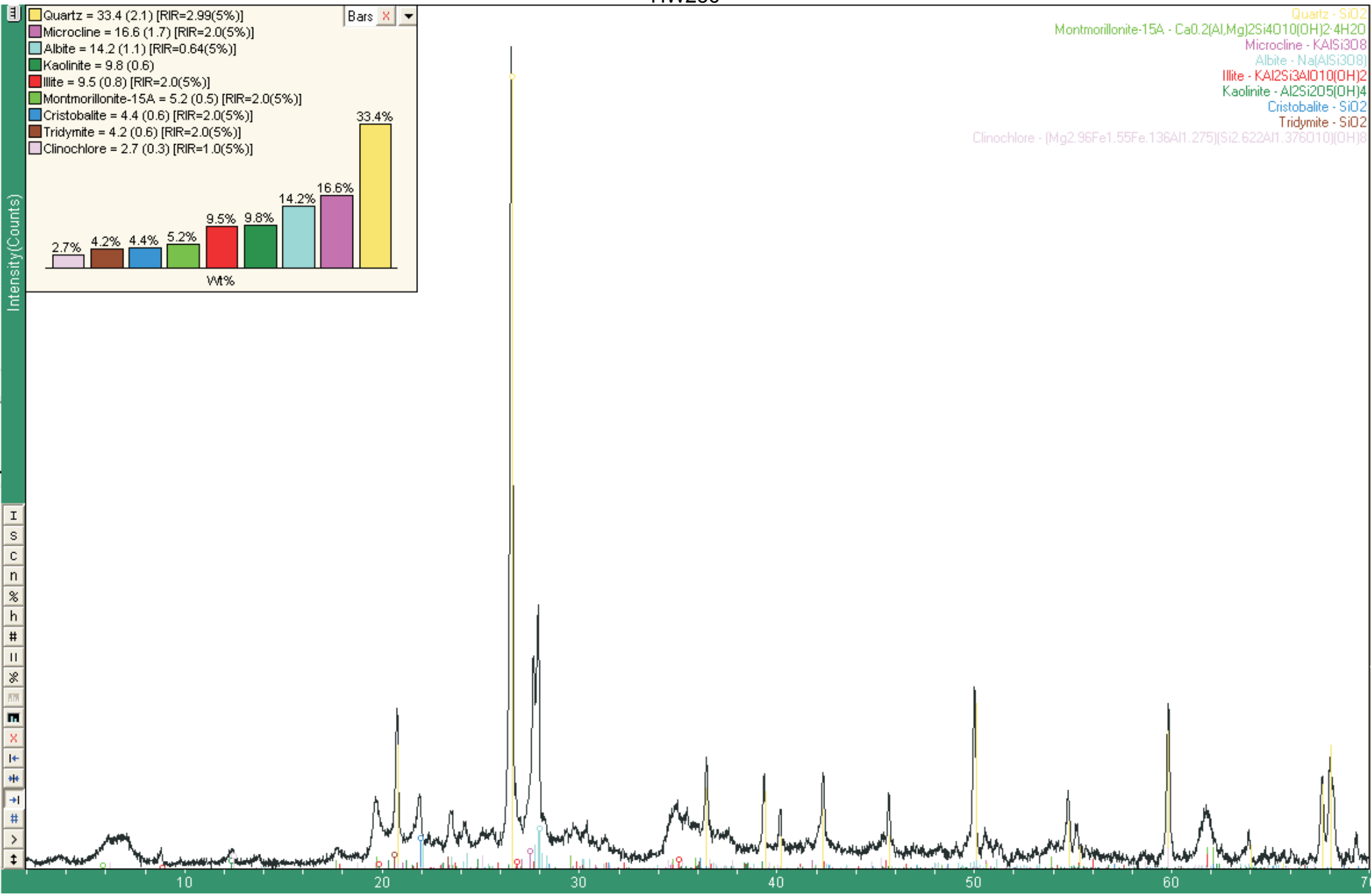

Quartz = 39.4 (1.3)
Albite = 12.9 (1.0) [RIR=0.64(5%)]
Rectorite = 9.8 (1.5) [RIR=2.0(5%)]
Rutile = 9.4 (0.8) [RIR=3.63(5%)]
Montmorillonite-15A = 8.6 (0.7) [RIR=2.0(5%)]
Microcline = 6.3 (0.6) [RIR=0.59(5%)]
Kaolinite = 6.1 (1.2) [RIR=2.0(5%)]
Tridymite-O = 3.6 (0.5) [RIR=2.0(5%)]
Illite-2M1 = 2.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.2)
Bars
1.8%
2.0%
3.6%
6.1%
6.3%
8.6%
9.4%
9.8%
12.9%
39.4%
HW255
Wt%

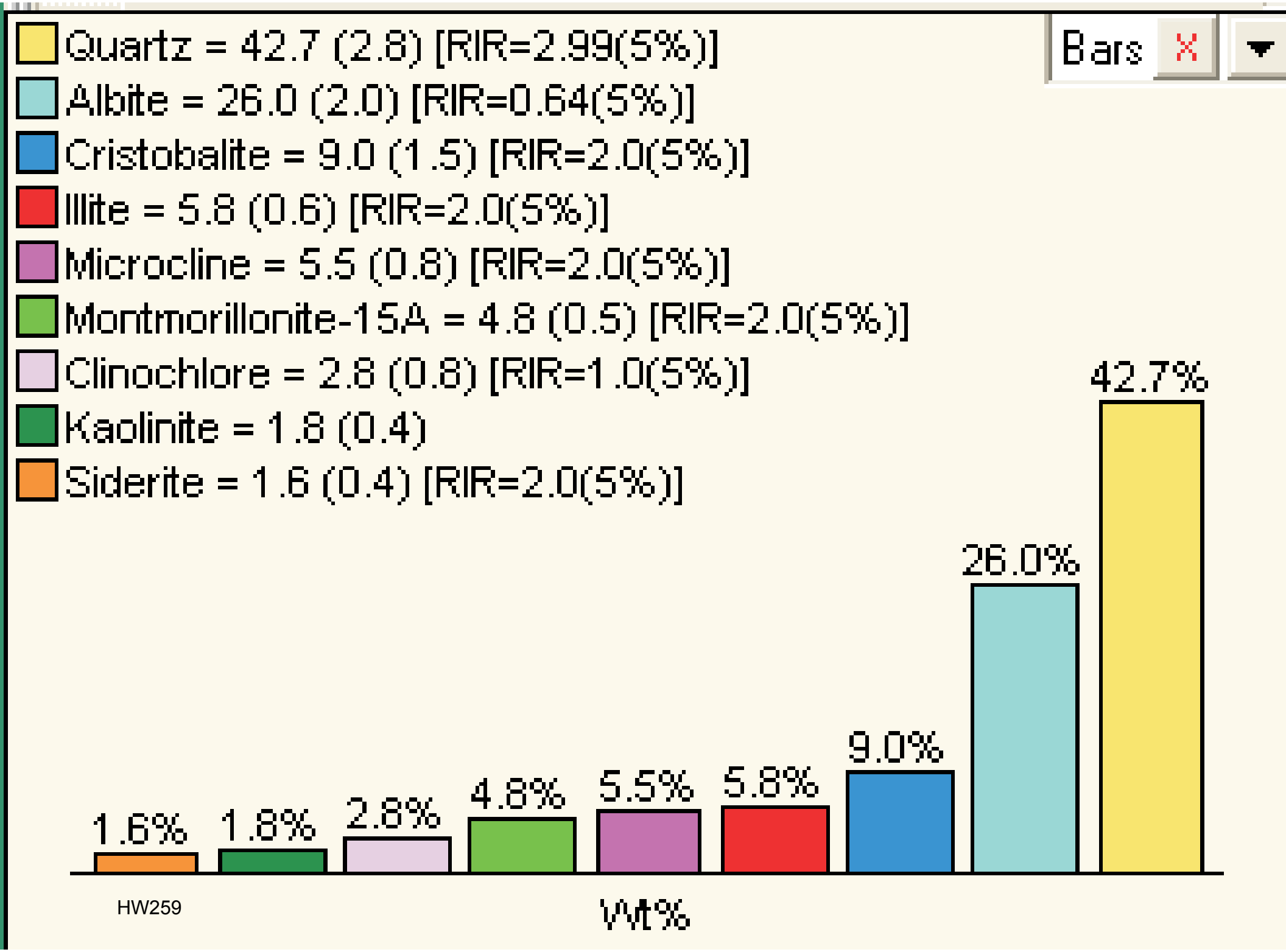
HW255


Quartz = 39.4 (1.3)
Albite = 12.9 (1.0) [RIR=0.64(5%)]
Rectorite = 9.8 (1.5) [RIR=2.0(5%)]
Rutile = 9.4 (0.8) [RIR=3.63(5%)]
Montmorillonite-15A = 8.6 (0.7) [RIR=2.0(5%)]
Microcline = 6.3 (0.6) [RIR=0.59(5%)]
Kaolinite = 6.1 (1.2) [RIR=2.0(5%)]
Tridymite-O = 3.6 (0.5) [RIR=2.0(5%)]
Illite-2M1 = 2.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 1.8 (0.2)
Bars
1.8% 2.0% 3.6% 6.1% 6.3% 8.6% 9.4% 9.8% 12.9% 39.4%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Rutile - TiO2
Montmorillonite-15A - Na0.3(Al,Mg)2Si4O10(OH)2·4H2O
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

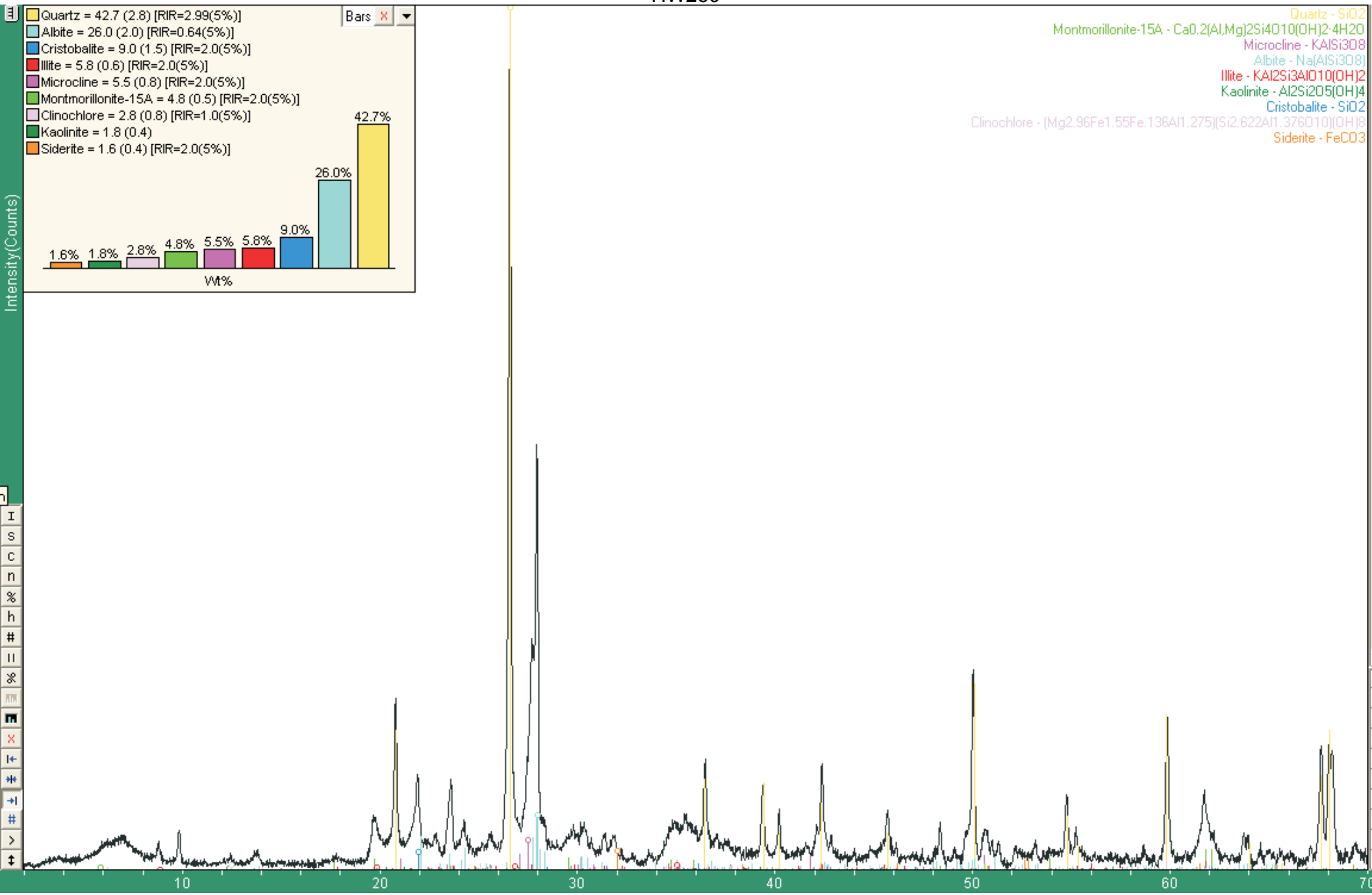

Quartz = 33.4 (2.1) [RIR=2.99(5%)]
Microcline = 16.6 (1.7) [RIR=2.0(5%)]
Albite = 14.2 (1.1) [RIR=0.64(5%)]
Kaolinite = 9.8 (0.6)
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 5.2 (0.5) [RIR=2.0(5%)]
Cristobalite = 4.4 (0.6) [RIR=2.0(5%)]
Tridymite = 4.2 (0.6) [RIR=2.0(5%)]
Clinochlore = 2.7 (0.3) [RIR=1.0(5%)]
Bars
2.7%
4.2%
4.4%
5.2%
9.5%
9.8%
14.2%
16.6%
33.4%
HW256
Wt%

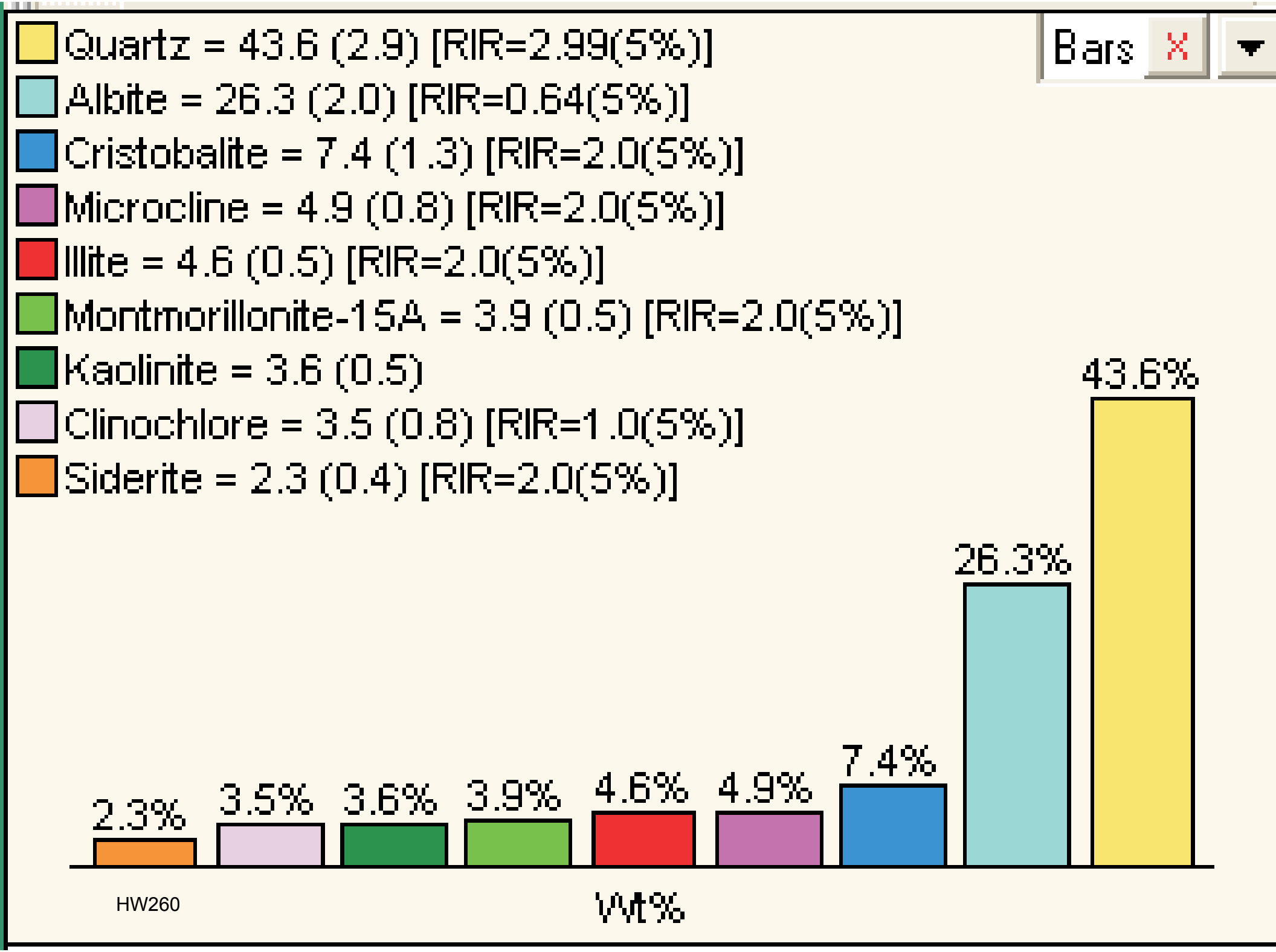
HW256


Quartz = 33.4 (2.1) [RIR=2.99(5%)]
Microcline = 16.6 (1.7) [RIR=2.0(5%)]
Albite = 14.2 (1.1) [RIR=0.64(5%)]
Kaolinite = 9.8 (0.6)
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 5.2 (0.5) [RIR=2.0(5%)]
Cristobalite = 4.4 (0.6) [RIR=2.0(5%)]
Tridymite = 4.2 (0.6) [RIR=2.0(5%)]
Clinochlore = 2.7 (0.3) [RIR=1.0(5%)]
Bars
2.7%
4.2%
4.4%
5.2%
9.5%
9.8%
14.2%
16.6%
33.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Intensity(Counts)
10
20
30
40
50
60

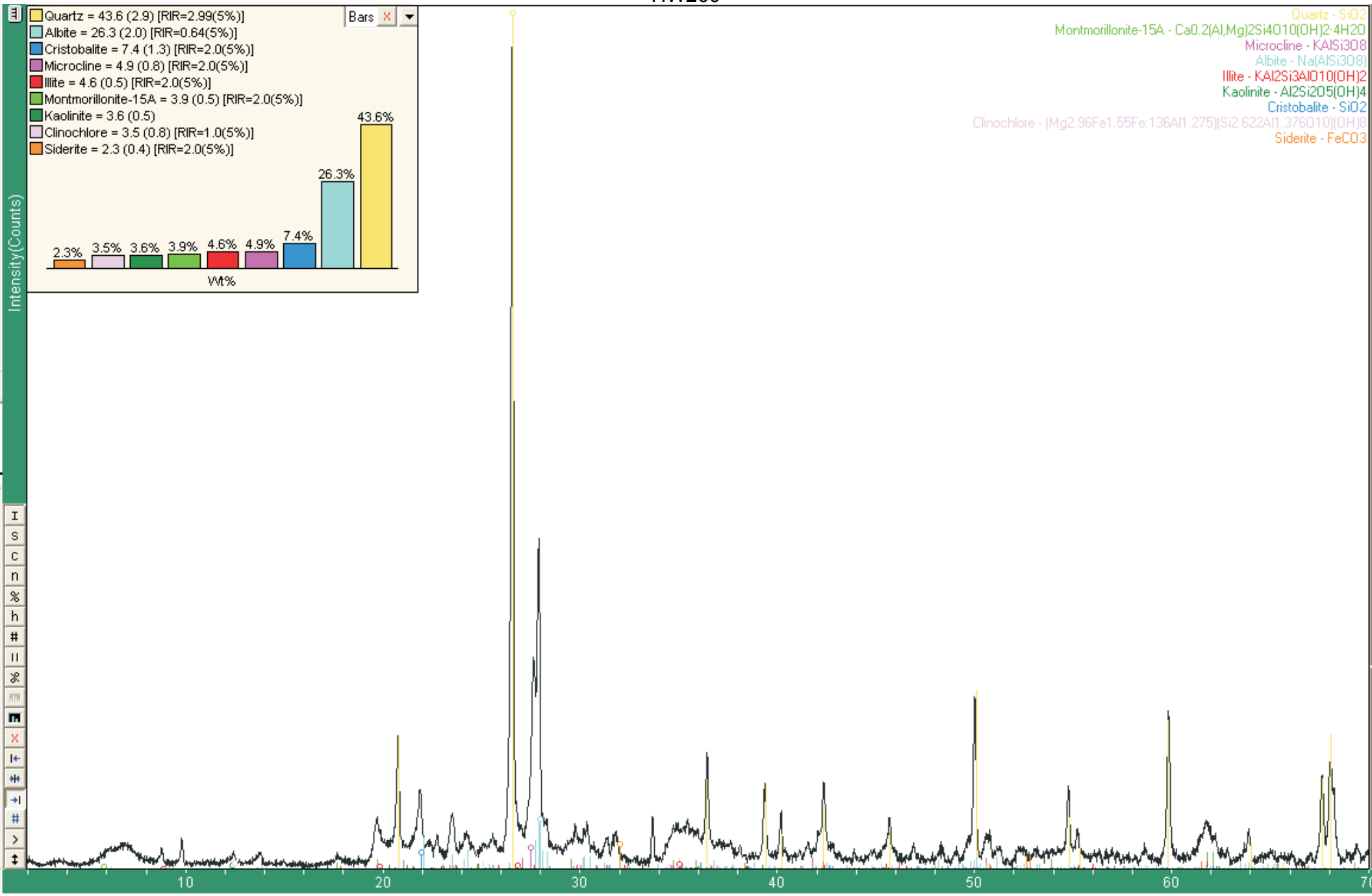

Quartz = 42.7 (2.8) [RIR=2.99(5%)]
Albite = 26.0 (2.0) [RIR=0.64(5%)]
Cristobalite = 9.0 (1.5) [RIR=2.0(5%)]
Illite = 5.8 (0.6) [RIR=2.0(5%)]
Microcline = 5.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.8 (0.8) [RIR=1.0(5%)]
Kaolinite = 1.8 (0.4)
Siderite = 1.6 (0.4) [RIR=2.0(5%)]
Bars
1.6%
1.8%
2.8%
4.8%
5.5%
5.8%
9.0%
26.0%
42.7%
HW259
Wt%

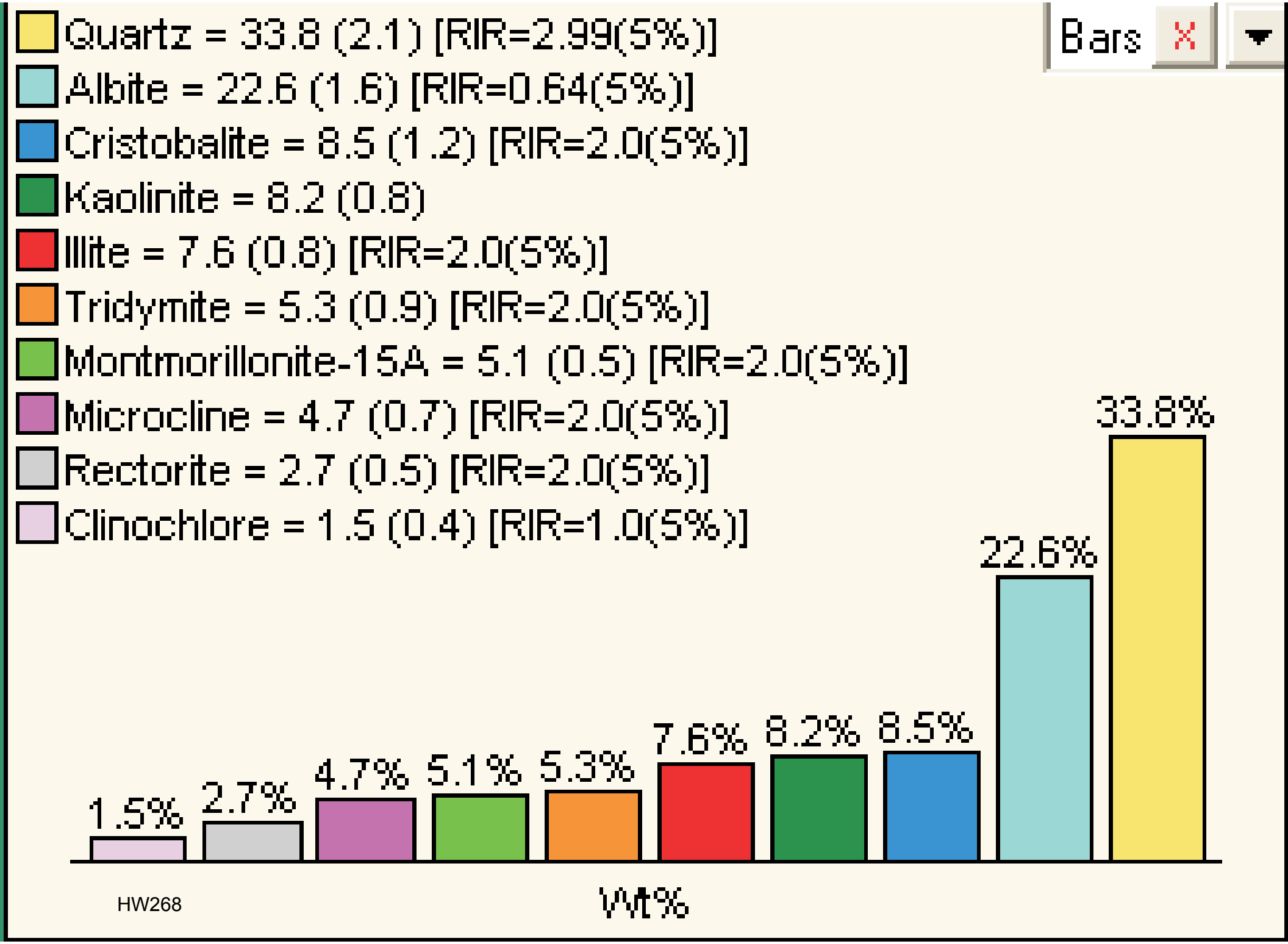
HW259


Quartz = 42.7 (2.8) [RIR=2.99(5%)]
Albite = 26.0 (2.0) [RIR=0.64(5%)]
Cristobalite = 9.0 (1.5) [RIR=2.0(5%)]
Illite = 5.8 (0.6) [RIR=2.0(5%)]
Microcline = 5.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.8 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.8 (0.8) [RIR=1.0(5%)]
Kaolinite = 1.8 (0.4)
Siderite = 1.6 (0.4) [RIR=2.0(5%)]
Bars
1.6%
1.8%
2.8%
4.8%
5.5%
5.8%
9.0%
26.0%
42.7%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Siderite - FeCO3
Intensity(Counts)
10
20
30
40
50
60
70

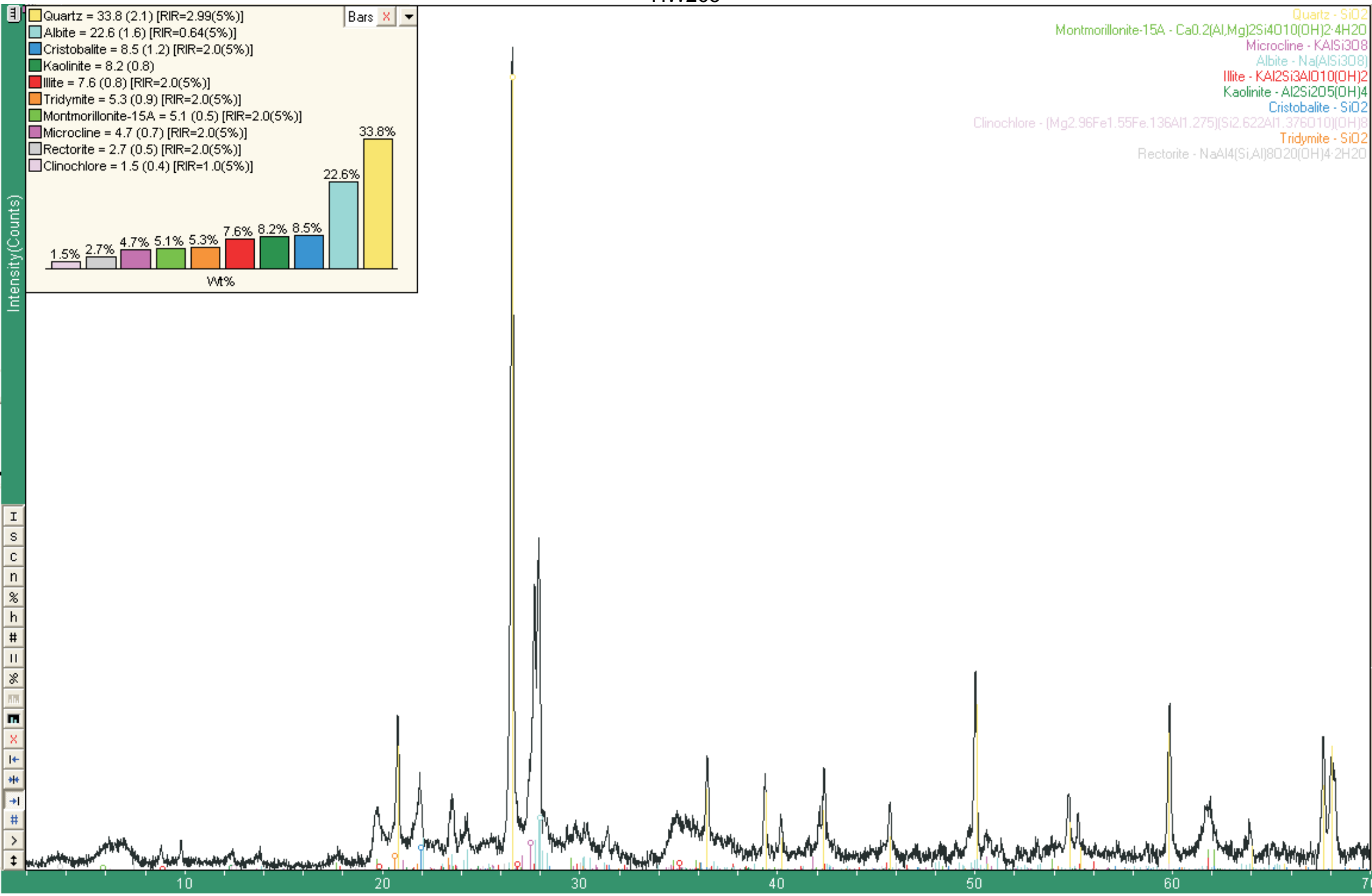

Quartz = 43.6 (2.9) [RIR=2.99(5%)]
Albite = 26.3 (2.0) [RIR=0.64(5%)]
Cristobalite = 7.4 (1.3) [RIR=2.0(5%)]
Microcline = 4.9 (0.8) [RIR=2.0(5%)]
Illite = 4.6 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.9 (0.5) [RIR=2.0(5%)]
Kaolinite = 3.6 (0.5)
Clinochlore = 3.5 (0.8) [RIR=1.0(5%)]
Siderite = 2.3 (0.4) [RIR=2.0(5%)]
Bars
2.3%
3.5%
3.6%
3.9%
4.6%
4.9%
7.4%
26.3%
43.6%
HW260
Wt%

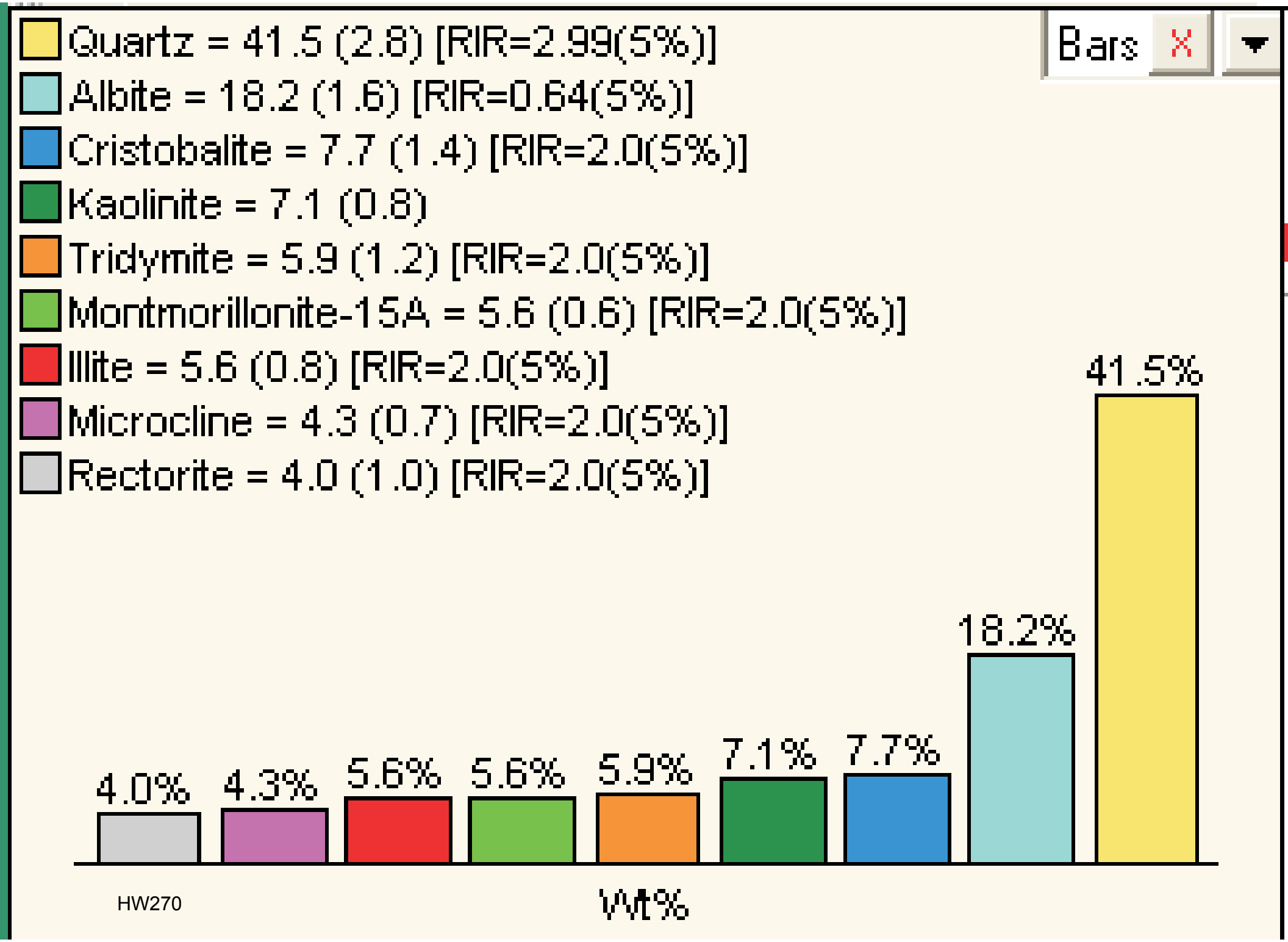
HW260


Quartz = 43.6 (2.9) [RIR=2.99(5%)]
Albite = 26.3 (2.0) [RIR=0.64(5%)]
Cristobalite = 7.4 (1.3) [RIR=2.0(5%)]
Microcline = 4.9 (0.8) [RIR=2.0(5%)]
Illite = 4.6 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.9 (0.5) [RIR=2.0(5%)]
Kaolinite = 3.6 (0.5)
Clinochlore = 3.5 (0.8) [RIR=1.0(5%)]
Siderite = 2.3 (0.4) [RIR=2.0(5%)]
Bars
2.3%
3.5%
3.6%
3.9%
4.6%
4.9%
7.4%
26.3%
43.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Siderite - FeCO3
Intensity(Counts)
10
20
30
40
50
60
70

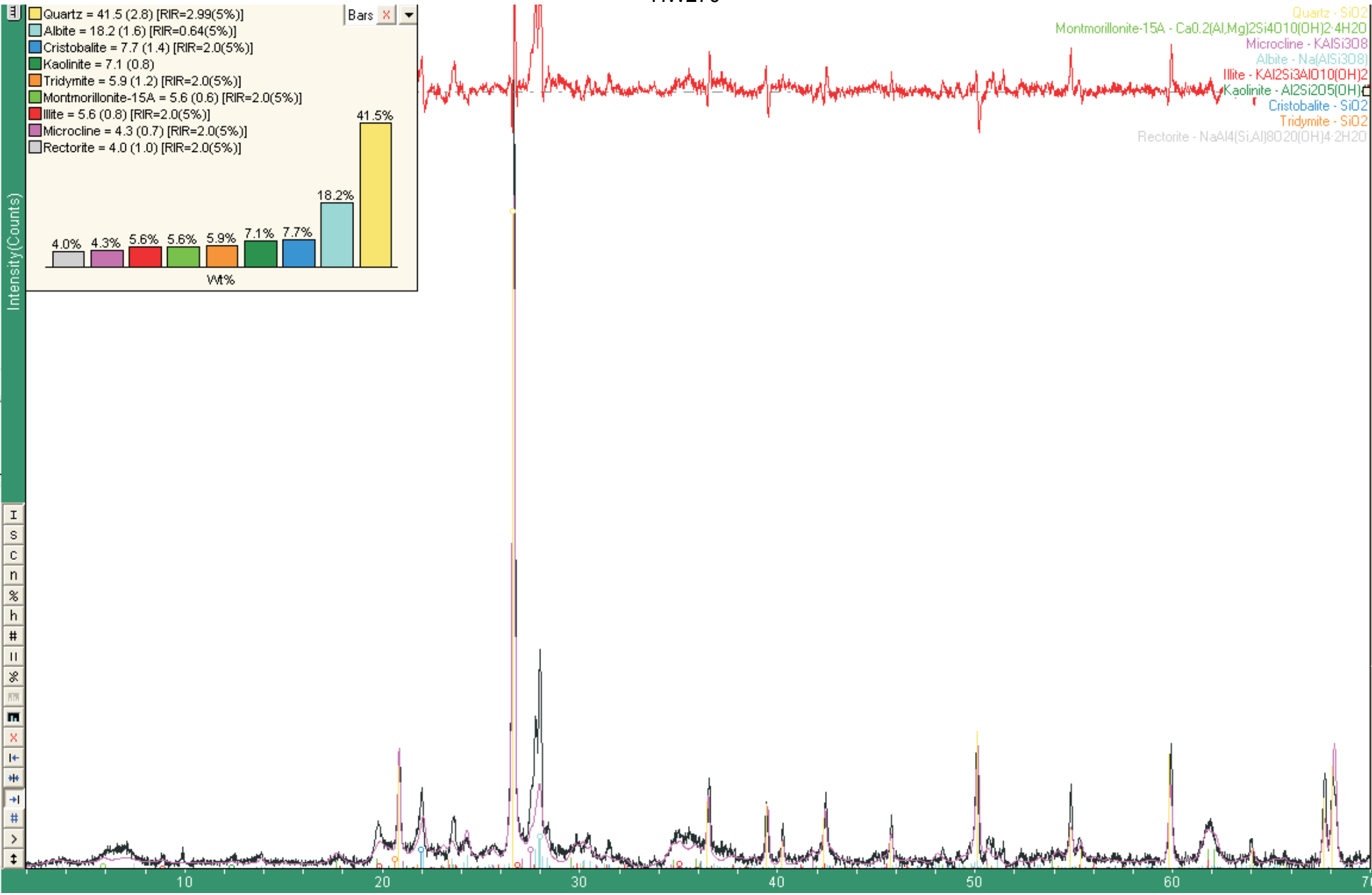

Quartz = 33.8 (2.1) [RIR=2.99(5%)]
Albite = 22.6 (1.6) [RIR=0.64(5%)]
Cristobalite = 8.5 (1.2) [RIR=2.0(5%)]
Kaolinite = 8.2 (0.8)
Illite = 7.6 (0.8) [RIR=2.0(5%)]
Tridymite = 5.3 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.1 (0.5) [RIR=2.0(5%)]
Microcline = 4.7 (0.7) [RIR=2.0(5%)]
Rectorite = 2.7 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.4) [RIR=1.0(5%)]
Bars
1.5%
2.7%
4.7%
5.1%
5.3%
7.6%
8.2%
8.5%
22.6%
33.8%
HW268
Wt%

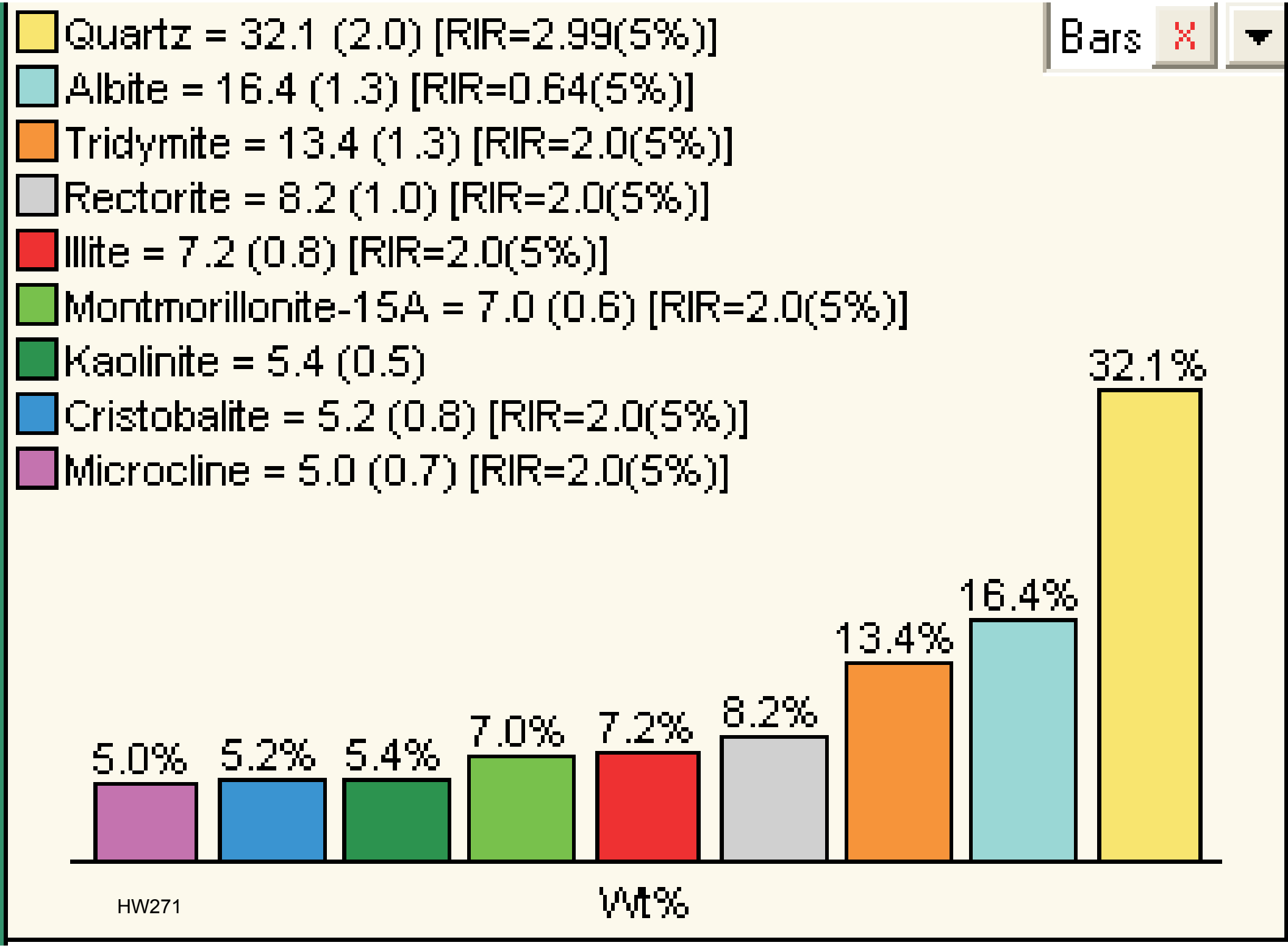
HW268


Quartz = 33.8 (2.1) [RIR=2.99(5%)]
Albite = 22.6 (1.6) [RIR=0.64(5%)]
Cristobalite = 8.5 (1.2) [RIR=2.0(5%)]
Kaolinite = 8.2 (0.8)
Illite = 7.6 (0.8) [RIR=2.0(5%)]
Tridymite = 5.3 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.1 (0.5) [RIR=2.0(5%)]
Microcline = 4.7 (0.7) [RIR=2.0(5%)]
Rectorite = 2.7 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.4) [RIR=1.0(5%)]
Bars
1.5%
2.7%
4.7%
5.1%
5.3%
7.6%
8.2%
8.5%
22.6%
33.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Clinochlore - (Mg2.96Fe1.55Fe.136Al1.275)(Si2.622Al1.376O10)(OH)8
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60

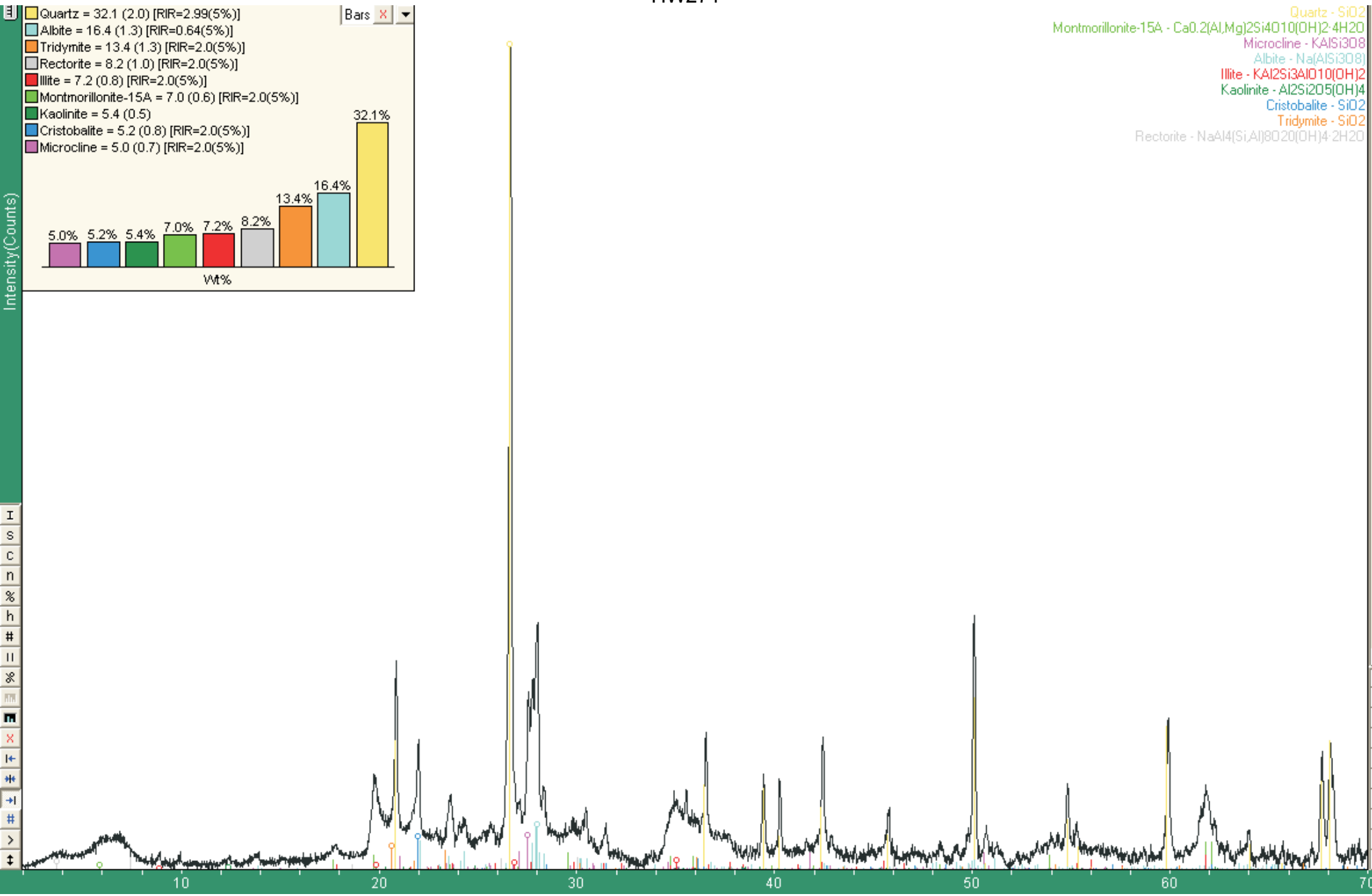

Quartz = 41.5 (2.8) [RIR=2.99(5%)]
Albite = 18.2 (1.6) [RIR=0.64(5%)]
Cristobalite = 7.7 (1.4) [RIR=2.0(5%)]
Kaolinite = 7.1 (0.8)
Tridymite = 5.9 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 5.6 (0.6) [RIR=2.0(5%)]
Illite = 5.6 (0.8) [RIR=2.0(5%)]
Microcline = 4.3 (0.7) [RIR=2.0(5%)]
Rectorite = 4.0 (1.0) [RIR=2.0(5%)]
Bars
4.0%
4.3%
5.6%
5.6%
5.9%
7.1%
7.7%
18.2%
41.5%
HW270
Wt%

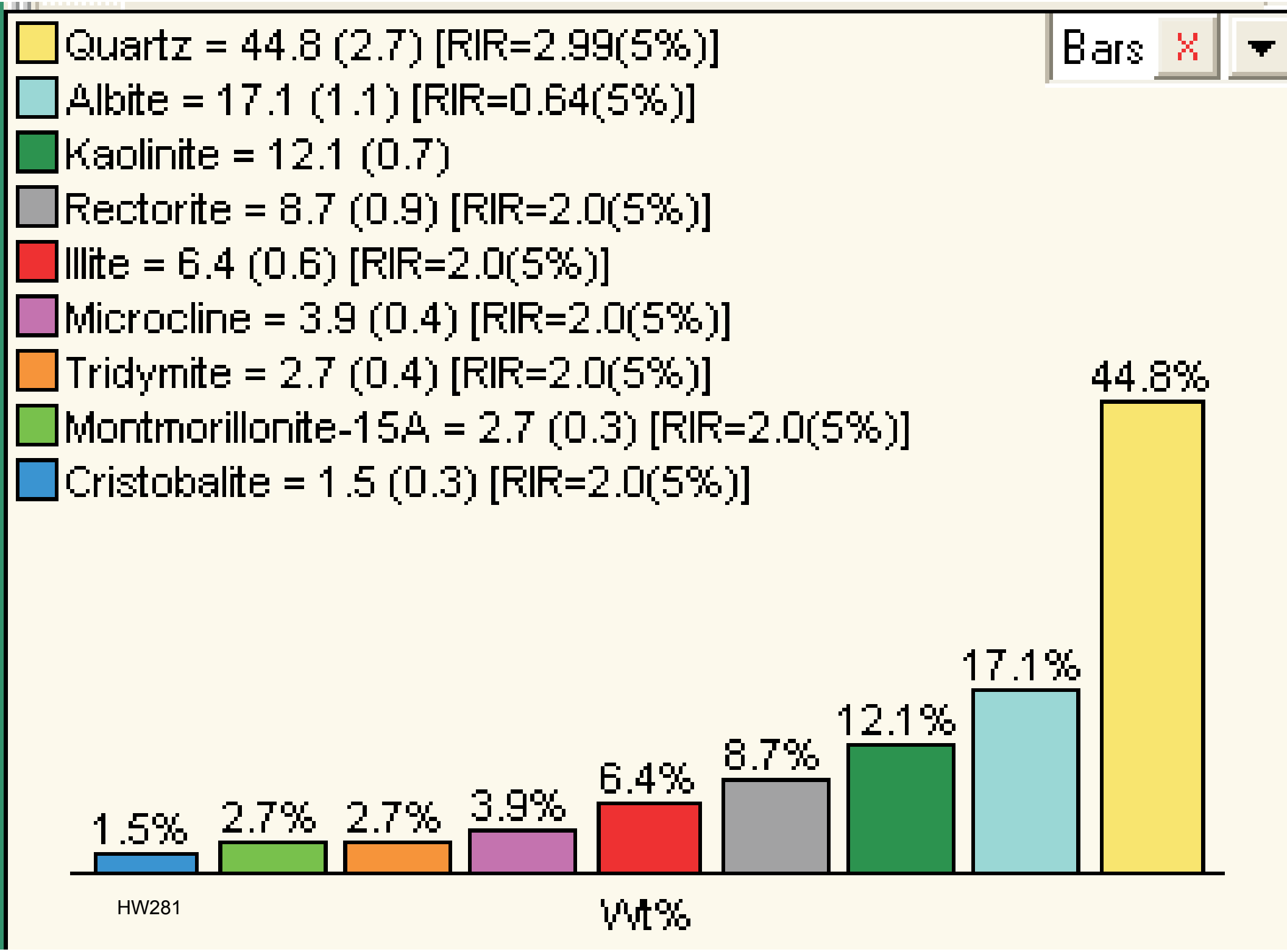
HW270


Quartz = 41.5 (2.8) [RIR=2.99(5%)]
Albite = 18.2 (1.6) [RIR=0.64(5%)]
Cristobalite = 7.7 (1.4) [RIR=2.0(5%)]
Kaolinite = 7.1 (0.8)
Tridymite = 5.9 (1.2) [RIR=2.0(5%)]
Montmorillonite-15A = 5.6 (0.6) [RIR=2.0(5%)]
Illite = 5.6 (0.8) [RIR=2.0(5%)]
Microcline = 4.3 (0.7) [RIR=2.0(5%)]
Rectorite = 4.0 (1.0) [RIR=2.0(5%)]
Bars
4.0% 4.3% 5.6% 5.6% 5.9% 7.1% 7.7% 18.2% 41.5%
Wt%
Intensity(Counts)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
10
20
30
40
50
60

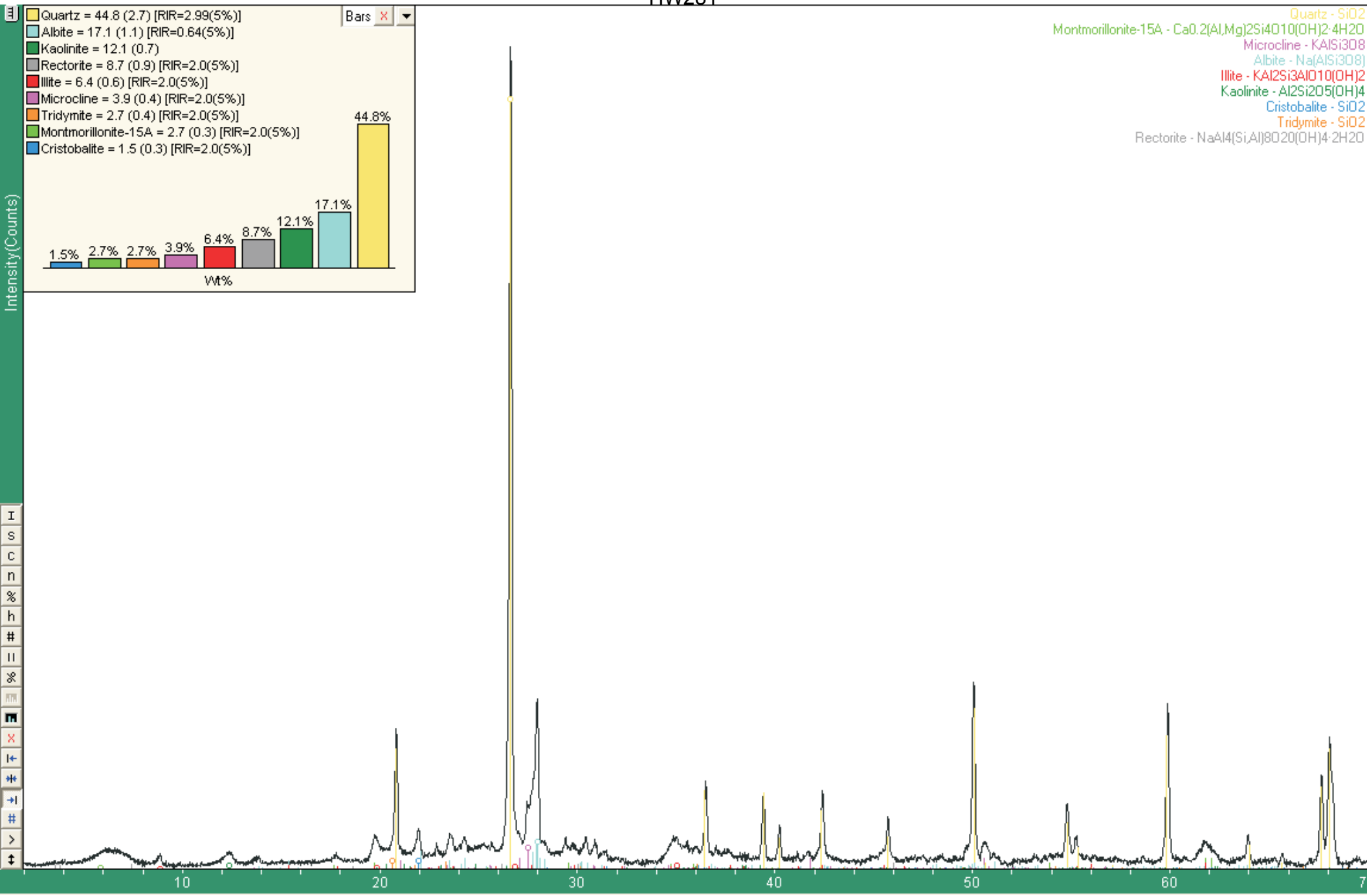

Quartz = 32.1 (2.0) [RIR=2.99(5%)]
Albite = 16.4 (1.3) [RIR=0.64(5%)]
Tridymite = 13.4 (1.3) [RIR=2.0(5%)]
Rectorite = 8.2 (1.0) [RIR=2.0(5%)]
Illite = 7.2 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 7.0 (0.6) [RIR=2.0(5%)]
Kaolinite = 5.4 (0.5)
Cristobalite = 5.2 (0.8) [RIR=2.0(5%)]
Microcline = 5.0 (0.7) [RIR=2.0(5%)]
Bars
5.0%
5.2%
5.4%
7.0%
7.2%
8.2%
13.4%
16.4%
32.1%
HW271
Wt%

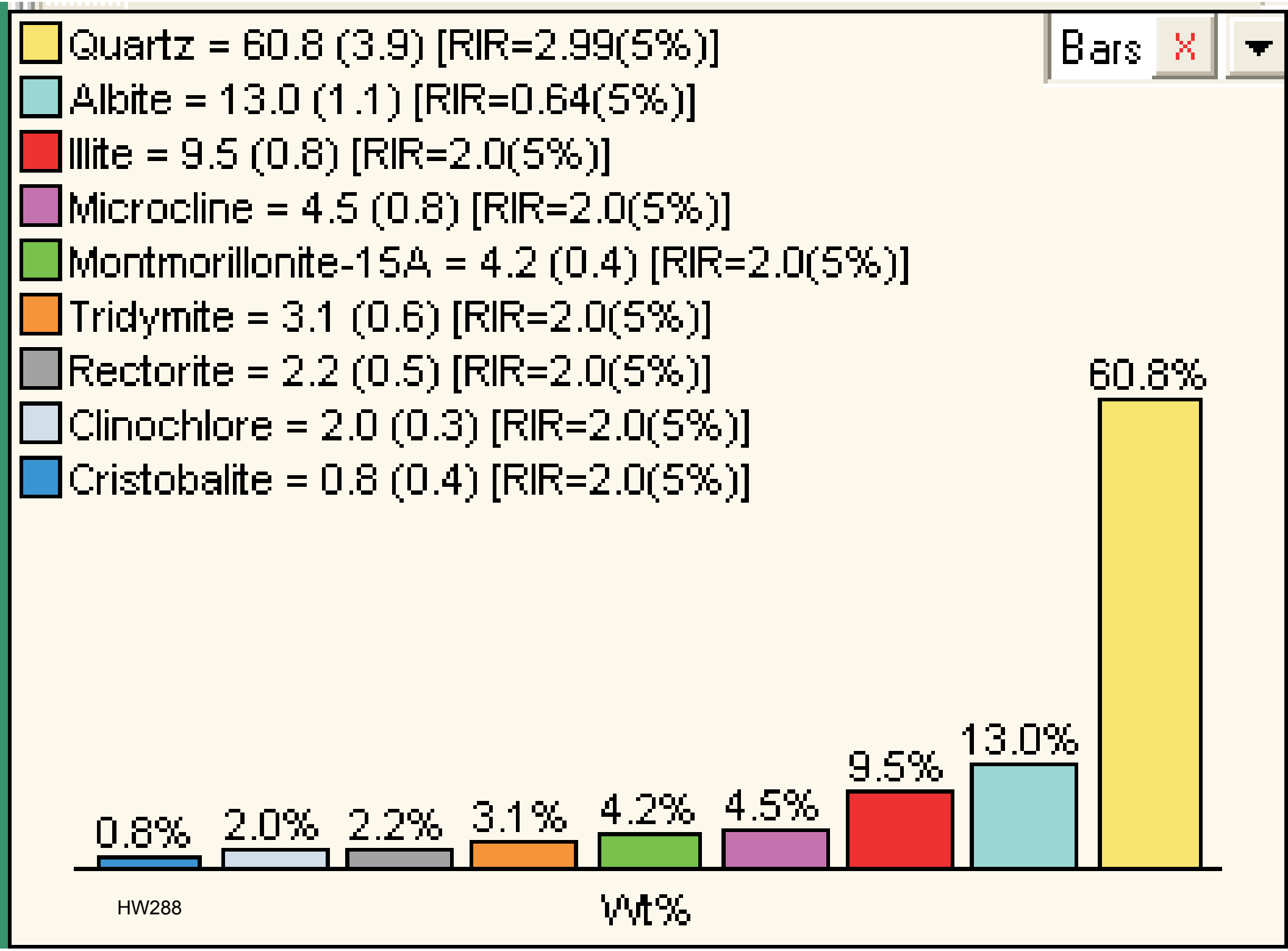
HW271


Quartz = 32.1 (2.0) [RIR=2.99(5%)]
Albite = 16.4 (1.3) [RIR=0.64(5%)]
Tridymite = 13.4 (1.3) [RIR=2.0(5%)]
Rectorite = 8.2 (1.0) [RIR=2.0(5%)]
Illite = 7.2 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 7.0 (0.6) [RIR=2.0(5%)]
Kaolinite = 5.4 (0.5)
Cristobalite = 5.2 (0.8) [RIR=2.0(5%)]
Microcline = 5.0 (0.7) [RIR=2.0(5%)]
Bars
5.0%
5.2%
5.4%
7.0%
7.2%
8.2%
13.4%
16.4%
32.1%
Wt%
Intensity(Counts)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
10
20
30
40
50
60
70

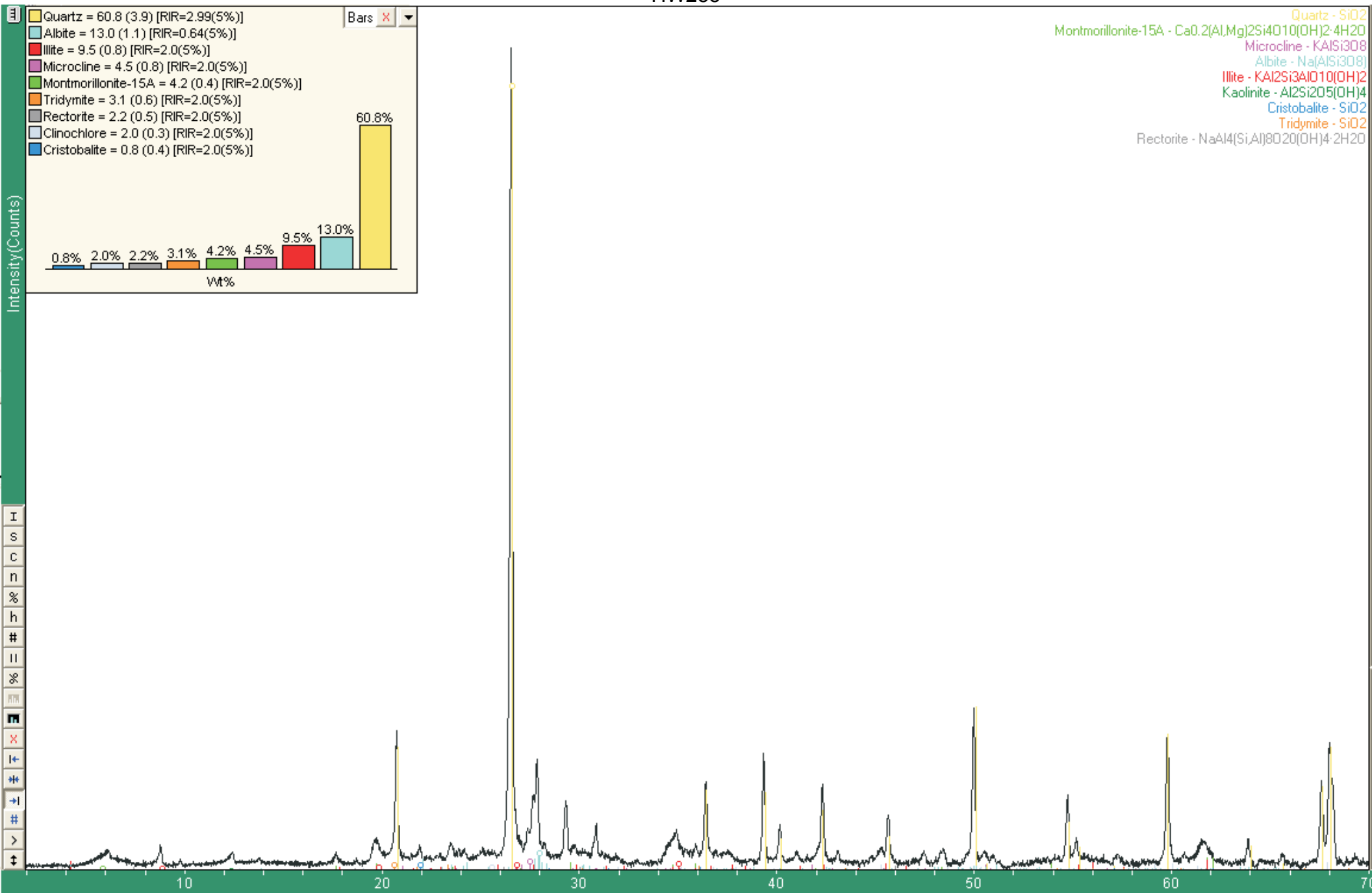

Quartz = 44.8 (2.7) [RIR=2.99(5%)]
Albite = 17.1 (1.1) [RIR=0.64(5%)]
Kaolinite = 12.1 (0.7)
Rectorite = 8.7 (0.9) [RIR=2.0(5%)]
Illite = 6.4 (0.6) [RIR=2.0(5%)]
Microcline = 3.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.7 (0.4) [RIR=2.0(5%)]
Montmorillonite-15A = 2.7 (0.3) [RIR=2.0(5%)]
Cristobalite = 1.5 (0.3) [RIR=2.0(5%)]
Bars
1.5%
2.7%
2.7%
3.9%
6.4%
8.7%
12.1%
17.1%
44.8%
HW281
Wt%

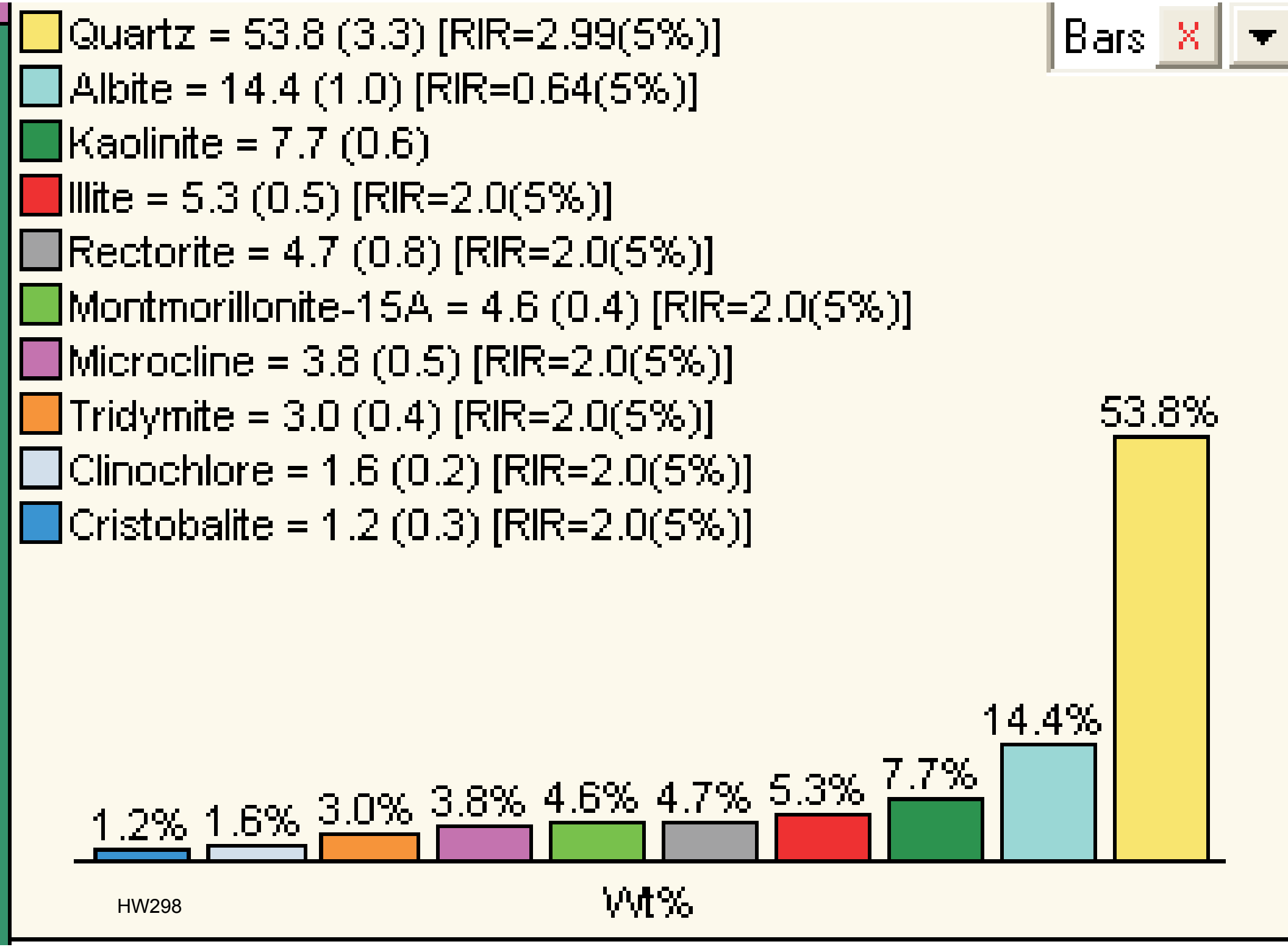
HW281


Quartz = 44.8 (2.7) [RIR=2.99(5%)]
Albite = 17.1 (1.1) [RIR=0.64(5%)]
Kaolinite = 12.1 (0.7)
Rectorite = 8.7 (0.9) [RIR=2.0(5%)]
Illite = 6.4 (0.6) [RIR=2.0(5%)]
Microcline = 3.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.7 (0.4) [RIR=2.0(5%)]
Montmorillonite-15A = 2.7 (0.3) [RIR=2.0(5%)]
Cristobalite = 1.5 (0.3) [RIR=2.0(5%)]
Bars
1.5%
2.7%
2.7%
3.9%
6.4%
8.7%
12.1%
17.1%
44.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60

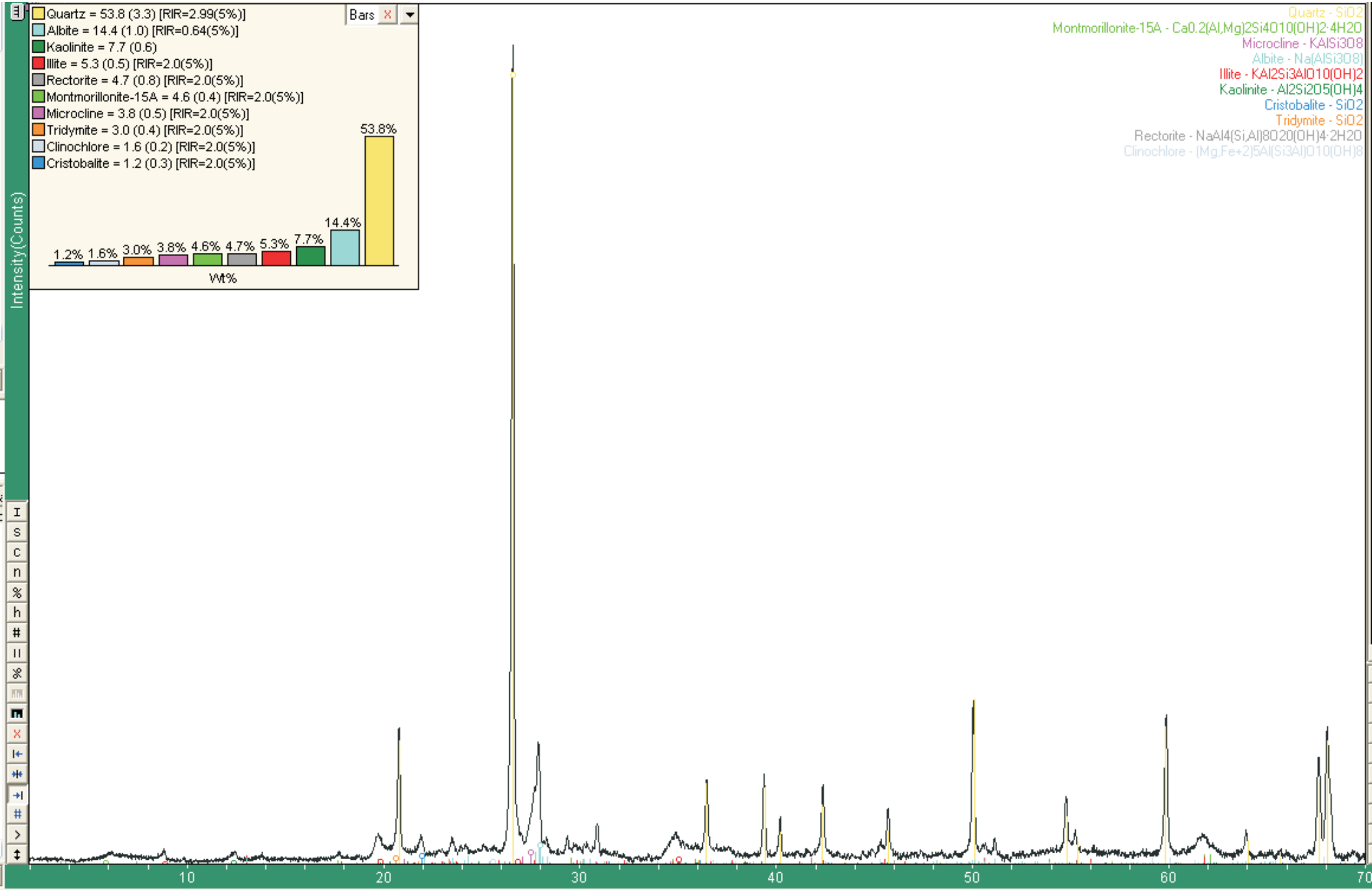

Quartz = 60.8 (3.9) [RIR=2.99(5%)]
Albite = 13.0 (1.1) [RIR=0.64(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Microcline = 4.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.2 (0.4) [RIR=2.0(5%)]
Tridymite = 3.1 (0.6) [RIR=2.0(5%)]
Rectorite = 2.2 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.0 (0.3) [RIR=2.0(5%)]
Cristobalite = 0.8 (0.4) [RIR=2.0(5%)]
Bars
0.8%
2.0%
2.2%
3.1%
4.2%
4.5%
9.5%
13.0%
60.8%
HW288
Wt%

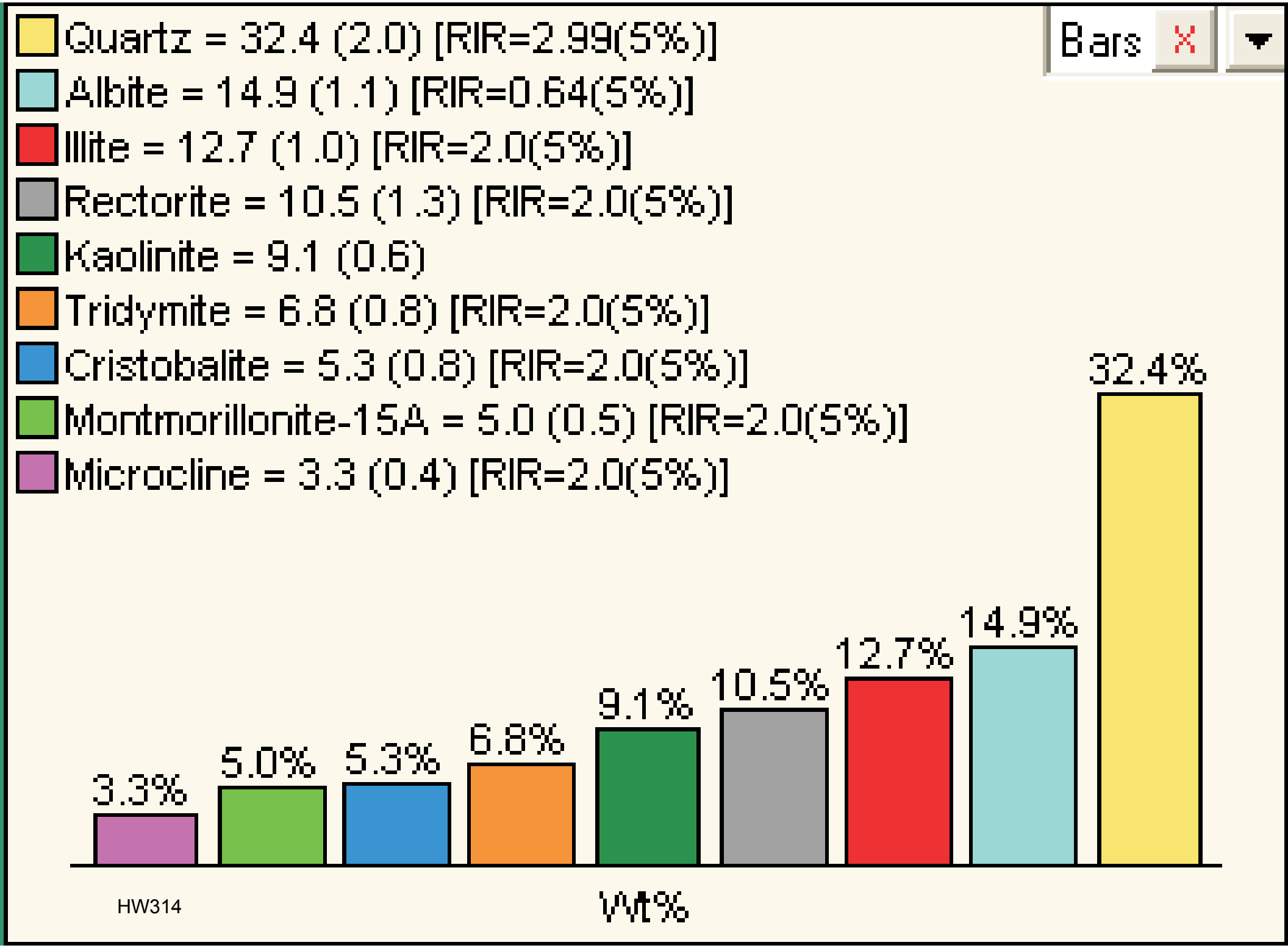
HW288


Quartz = 60.8 (3.9) [RIR=2.99(5%)]
Albite = 13.0 (1.1) [RIR=0.64(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Microcline = 4.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.2 (0.4) [RIR=2.0(5%)]
Tridymite = 3.1 (0.6) [RIR=2.0(5%)]
Rectorite = 2.2 (0.5) [RIR=2.0(5%)]
Clinochlore = 2.0 (0.3) [RIR=2.0(5%)]
Cristobalite = 0.8 (0.4) [RIR=2.0(5%)]
Bars
0.8%
2.0%
2.2%
3.1%
4.2%
4.5%
9.5%
13.0%
60.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60
70

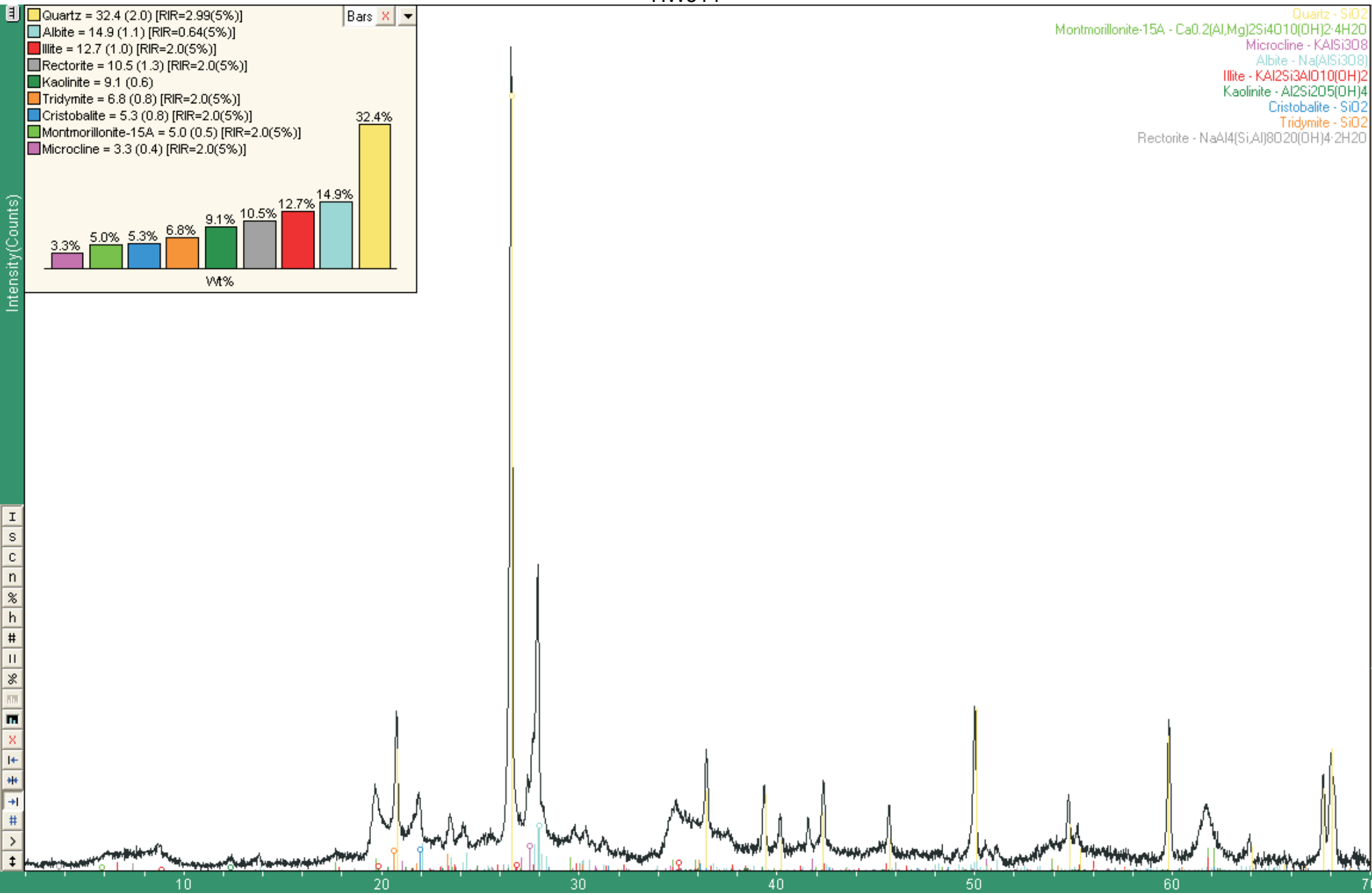

Quartz = 53.8 (3.3) [RIR=2.99(5%)]
Albite = 14.4 (1.0) [RIR=0.64(5%)]
Kaolinite = 7.7 (0.6)
Illite = 5.3 (0.5) [RIR=2.0(5%)]
Rectorite = 4.7 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.6 (0.4) [RIR=2.0(5%)]
Microcline = 3.8 (0.5) [RIR=2.0(5%)]
Tridymite = 3.0 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.2) [RIR=2.0(5%)]
Cristobalite = 1.2 (0.3) [RIR=2.0(5%)]
Bars
1.2%
1.6%
3.0%
3.8%
4.6%
4.7%
5.3%
7.7%
14.4%
53.8%
HW298
Wt%

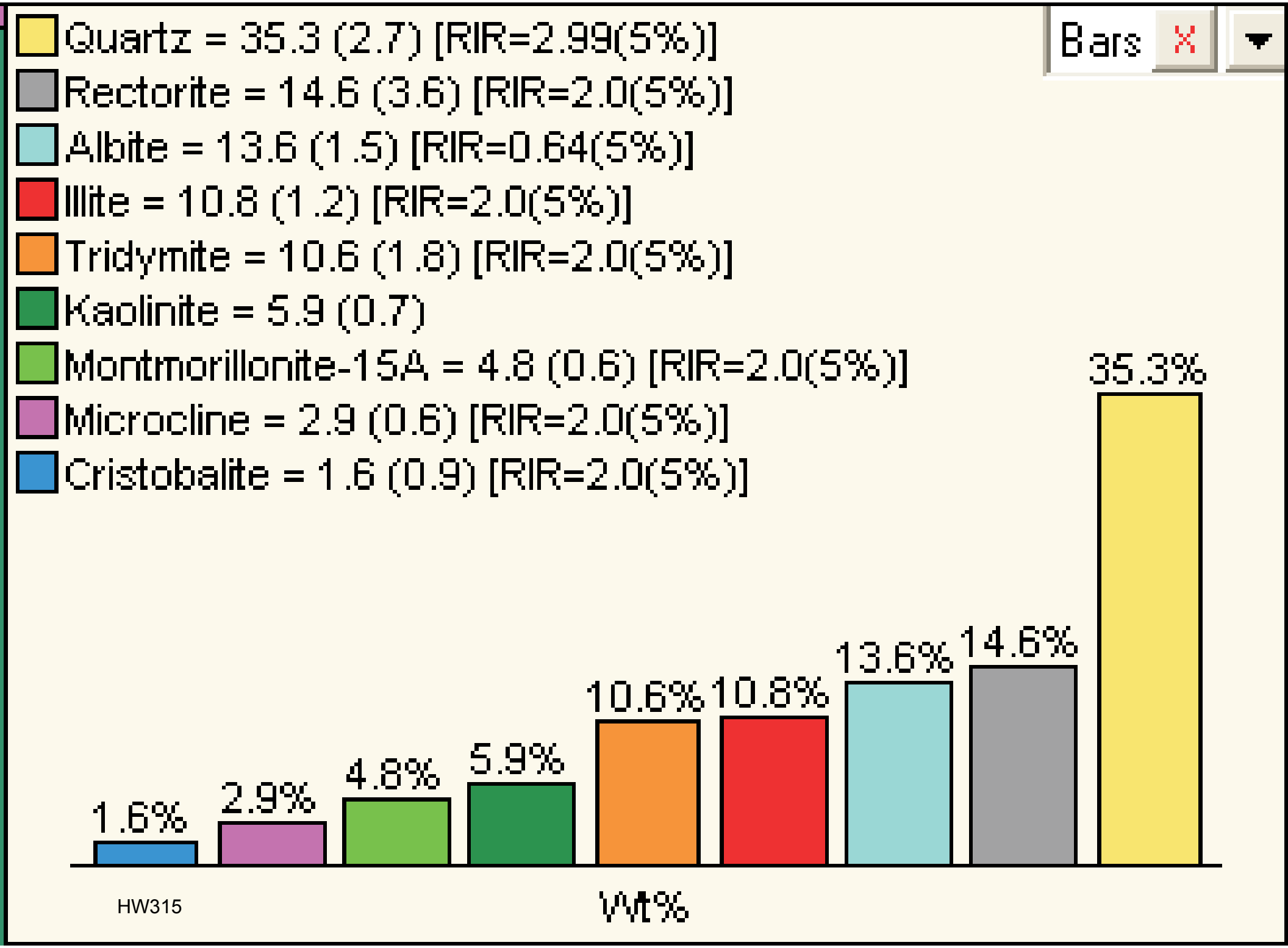
HW298


Quartz = 53.8 (3.3) [RIR=2.99(5%)]
Albite = 14.4 (1.0) [RIR=0.64(5%)]
Kaolinite = 7.7 (0.6)
Illite = 5.3 (0.5) [RIR=2.0(5%)]
Rectorite = 4.7 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 4.6 (0.4) [RIR=2.0(5%)]
Microcline = 3.8 (0.5) [RIR=2.0(5%)]
Tridymite = 3.0 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.2) [RIR=2.0(5%)]
Cristobalite = 1.2 (0.3) [RIR=2.0(5%)]
Bars
1.2% 1.6% 3.0% 3.8% 4.6% 4.7% 5.3% 7.7% 14.4% 53.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70

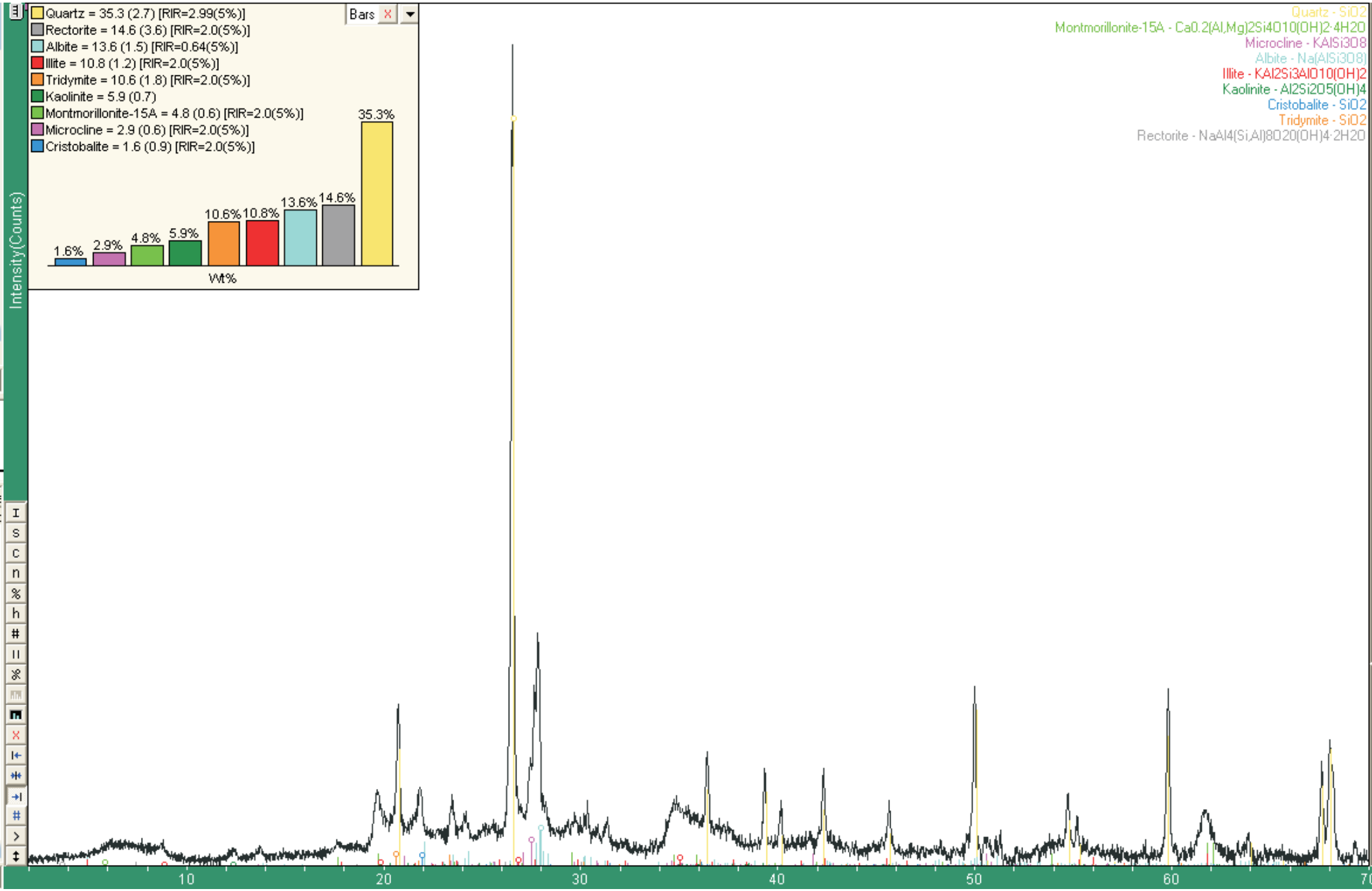

Quartz = 32.4 (2.0) [RIR=2.99(5%)]
Albite = 14.9 (1.1) [RIR=0.64(5%)]
Illite = 12.7 (1.0) [RIR=2.0(5%)]
Rectorite = 10.5 (1.3) [RIR=2.0(5%)]
Kaolinite = 9.1 (0.6)
Tridymite = 6.8 (0.8) [RIR=2.0(5%)]
Cristobalite = 5.3 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 5.0 (0.5) [RIR=2.0(5%)]
Microcline = 3.3 (0.4) [RIR=2.0(5%)]
Bars
3.3%
5.0%
5.3%
6.8%
9.1%
10.5%
12.7%
14.9%
32.4%
HW314
Wt%

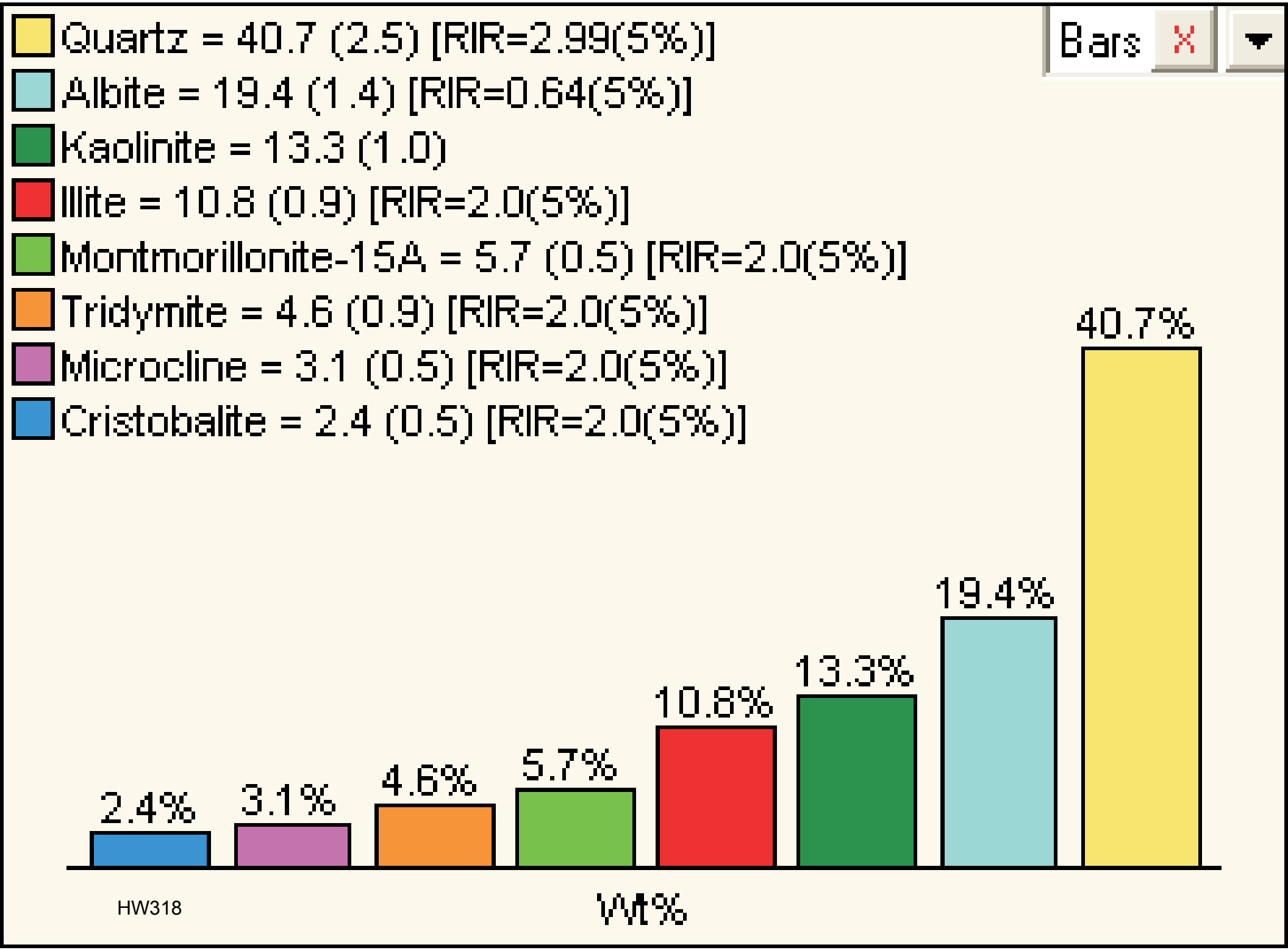
HW314


Quartz = 32.4 (2.0) [RIR=2.99(5%)]
Albite = 14.9 (1.1) [RIR=0.64(5%)]
Illite = 12.7 (1.0) [RIR=2.0(5%)]
Rectorite = 10.5 (1.3) [RIR=2.0(5%)]
Kaolinite = 9.1 (0.6)
Tridymite = 6.8 (0.8) [RIR=2.0(5%)]
Cristobalite = 5.3 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 5.0 (0.5) [RIR=2.0(5%)]
Microcline = 3.3 (0.4) [RIR=2.0(5%)]
Bars
3.3%
5.0%
5.3%
6.8%
9.1%
10.5%
12.7%
14.9%
32.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60

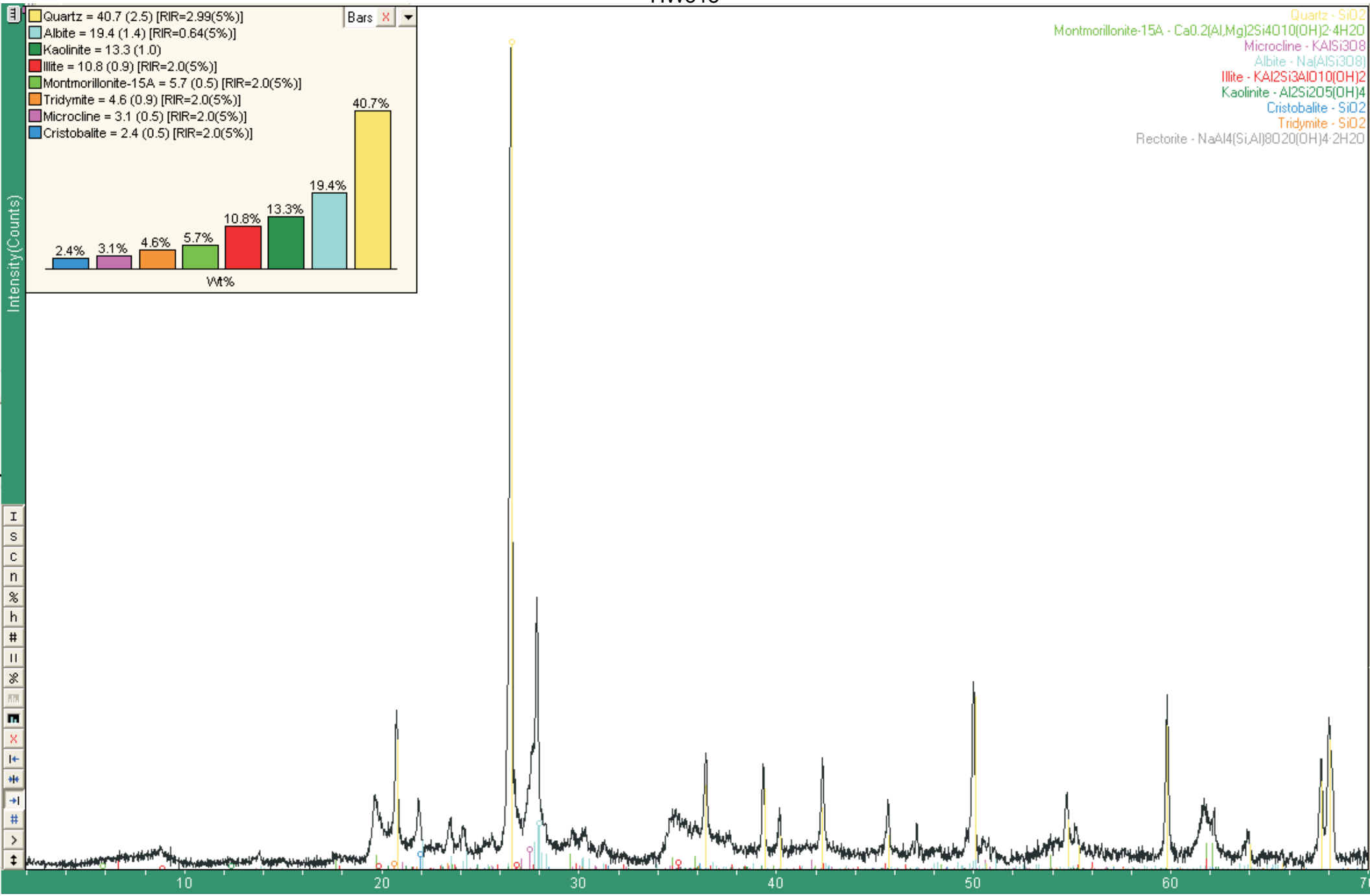

Quartz = 35.3 (2.7) [RIR=2.99(5%)]
Rectorite = 14.6 (3.6) [RIR=2.0(5%)]
Albite = 13.6 (1.5) [RIR=0.64(5%)]
Illite = 10.8 (1.2) [RIR=2.0(5%)]
Tridymite = 10.6 (1.8) [RIR=2.0(5%)]
Kaolinite = 5.9 (0.7)
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Microcline = 2.9 (0.6) [RIR=2.0(5%)]
Cristobalite = 1.6 (0.9) [RIR=2.0(5%)]
Bars
1.6%
2.9%
4.8%
5.9%
10.6%
10.8%
13.6%
14.6%
35.3%
HW315
Wt%

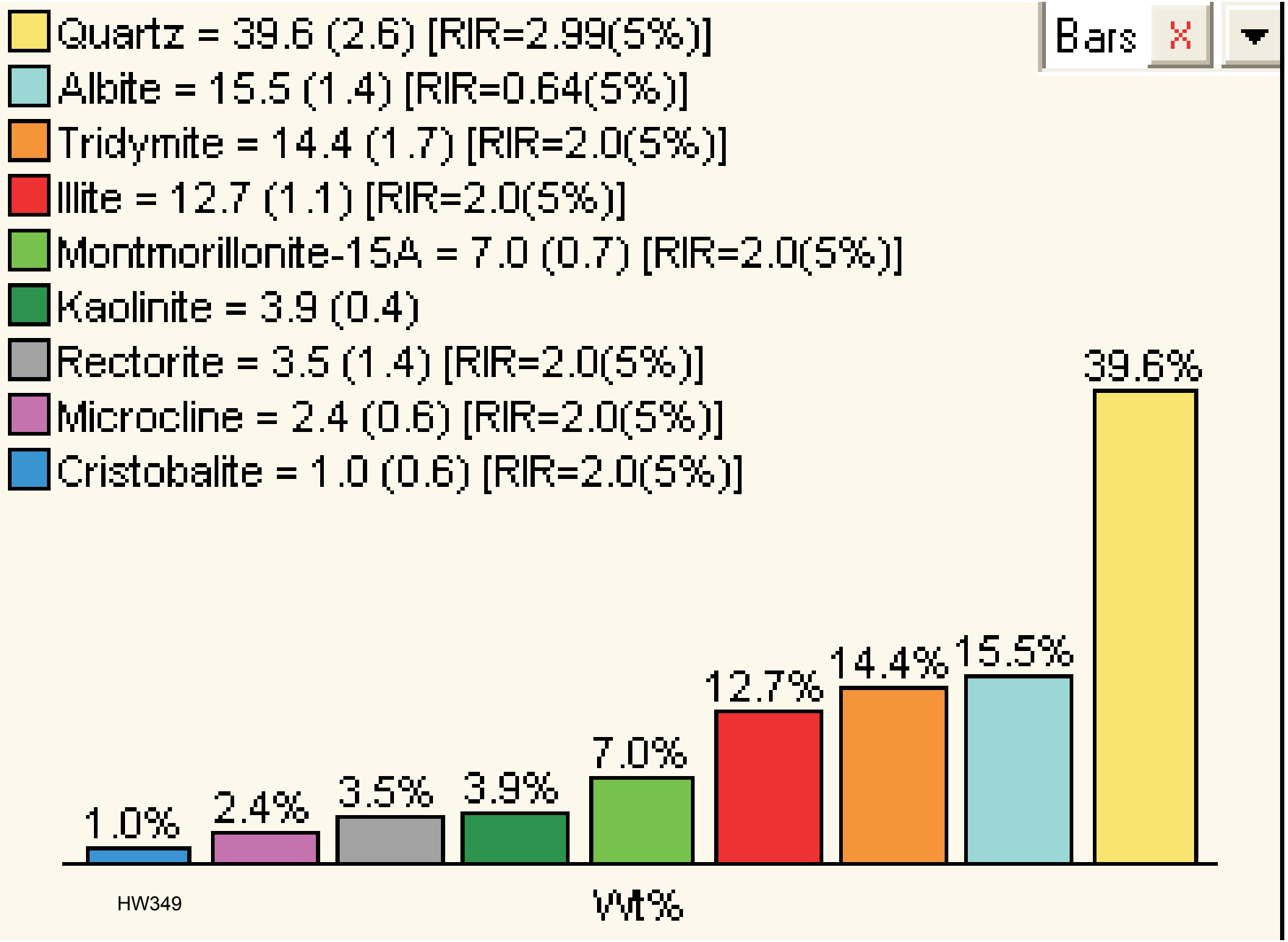
HW315


Quartz = 35.3 (2.7) [RIR=2.99(5%)]
Rectorite = 14.6 (3.6) [RIR=2.0(5%)]
Albite = 13.6 (1.5) [RIR=0.64(5%)]
Illite = 10.8 (1.2) [RIR=2.0(5%)]
Tridymite = 10.6 (1.8) [RIR=2.0(5%)]
Kaolinite = 5.9 (0.7)
Montmorillonite-15A = 4.8 (0.6) [RIR=2.0(5%)]
Microcline = 2.9 (0.6) [RIR=2.0(5%)]
Cristobalite = 1.6 (0.9) [RIR=2.0(5%)]
Bars
1.6%
2.9%
4.8%
5.9%
10.6%
10.8%
13.6%
14.6%
35.3%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60
70

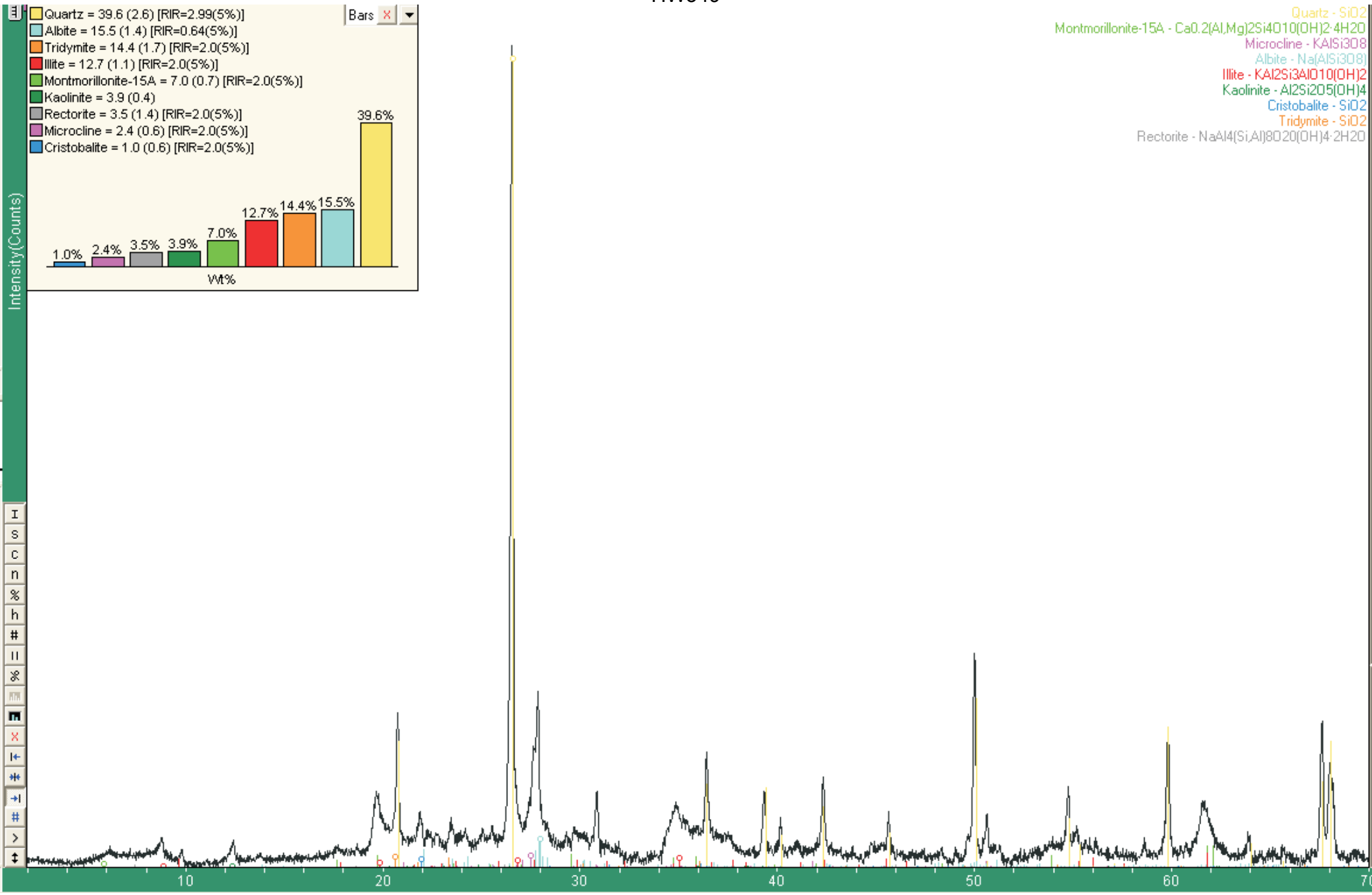

Quartz = 40.7 (2.5) [RIR=2.99(5%)]
Albite = 19.4 (1.4) [RIR=0.64(5%)]
Kaolinite = 13.3 (1.0)
Illite = 10.8 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.7 (0.5) [RIR=2.0(5%)]
Tridymite = 4.6 (0.9) [RIR=2.0(5%)]
Microcline = 3.1 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.4 (0.5) [RIR=2.0(5%)]
Bars
2.4%
3.1%
4.6%
5.7%
10.8%
13.3%
19.4%
40.7%
HW318
Wt%

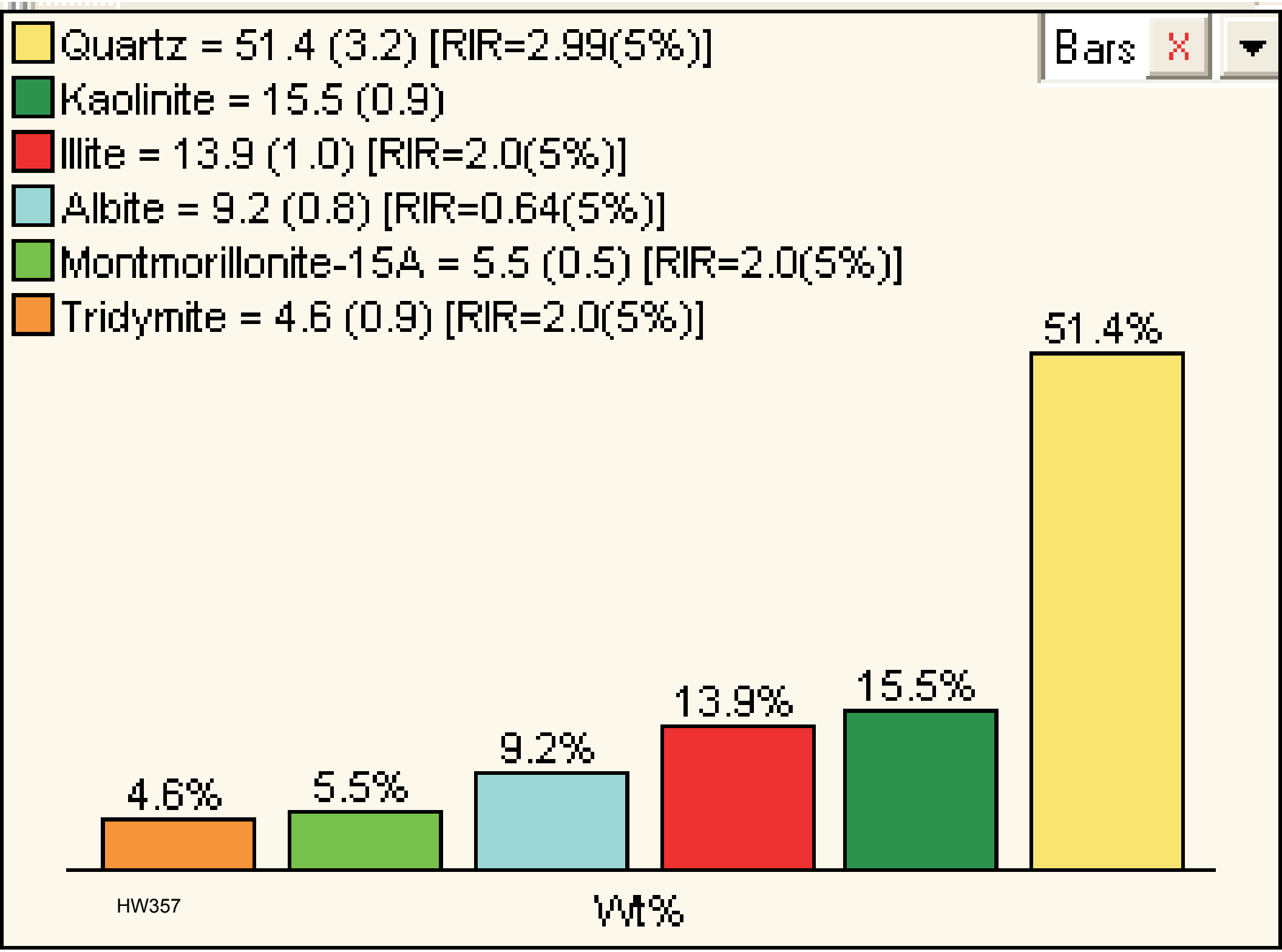
HW318


Quartz = 40.7 (2.5) [RIR=2.99(5%)]
Albite = 19.4 (1.4) [RIR=0.64(5%)]
Kaolinite = 13.3 (1.0)
Illite = 10.8 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 5.7 (0.5) [RIR=2.0(5%)]
Tridymite = 4.6 (0.9) [RIR=2.0(5%)]
Microcline = 3.1 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.4 (0.5) [RIR=2.0(5%)]
Bars
2.4%
3.1%
4.6%
5.7%
10.8%
13.3%
19.4%
40.7%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60

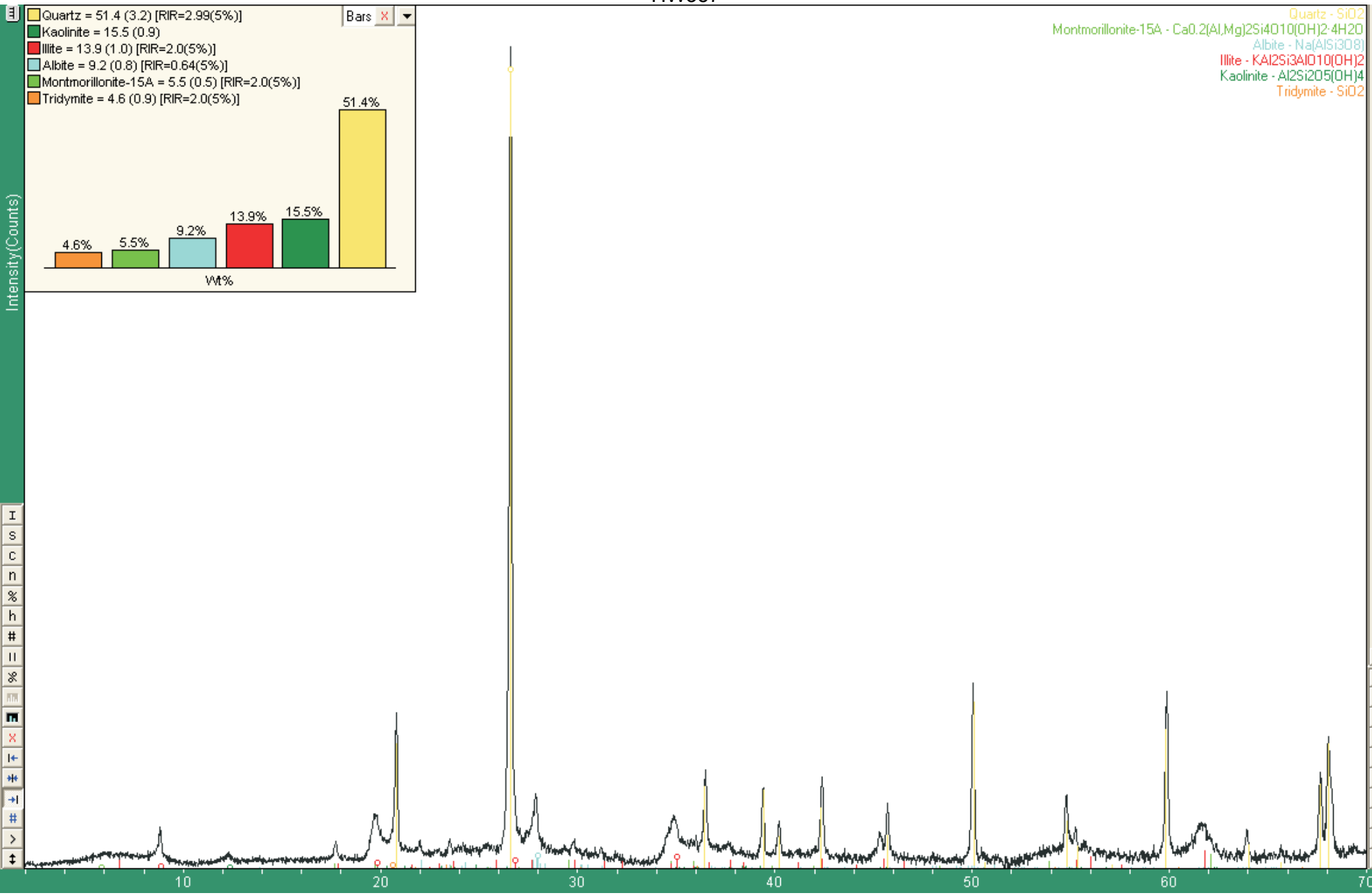

Quartz = 39.6 (2.6) [RIR=2.99(5%)]
Albite = 15.5 (1.4) [RIR=0.64(5%)]
Tridymite = 14.4 (1.7) [RIR=2.0(5%)]
Illite = 12.7 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 7.0 (0.7) [RIR=2.0(5%)]
Kaolinite = 3.9 (0.4)
Rectorite = 3.5 (1.4) [RIR=2.0(5%)]
Microcline = 2.4 (0.6) [RIR=2.0(5%)]
Cristobalite = 1.0 (0.6) [RIR=2.0(5%)]
Bars
1.0%
2.4%
3.5%
3.9%
7.0%
12.7%
14.4%
15.5%
39.6%
HW349
Wt%

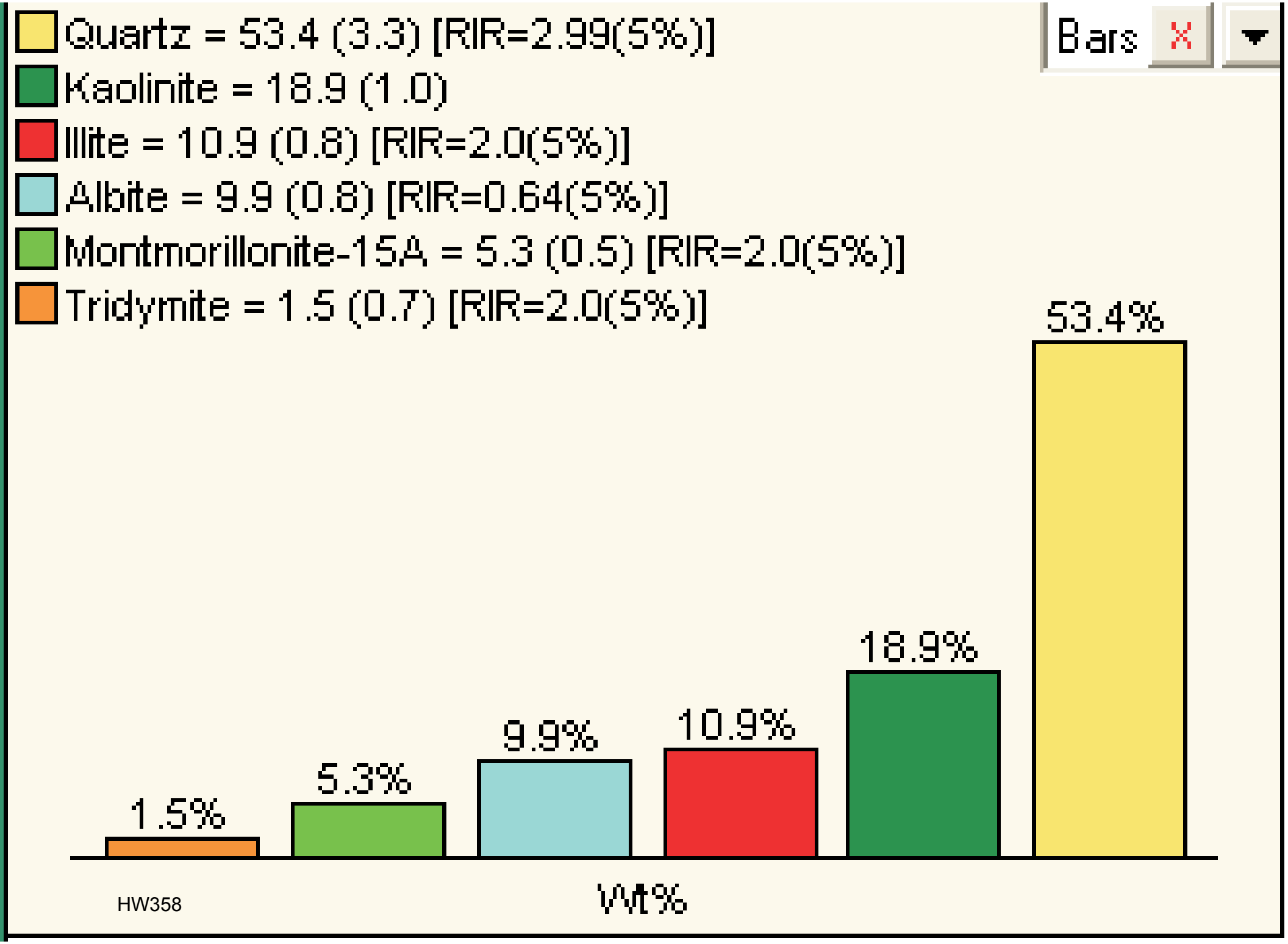
HW349


Quartz = 39.6 (2.6) [RIR=2.99(5%)]
Albite = 15.5 (1.4) [RIR=0.64(5%)]
Tridymite = 14.4 (1.7) [RIR=2.0(5%)]
Illite = 12.7 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 7.0 (0.7) [RIR=2.0(5%)]
Kaolinite = 3.9 (0.4)
Rectorite = 3.5 (1.4) [RIR=2.0(5%)]
Microcline = 2.4 (0.6) [RIR=2.0(5%)]
Cristobalite = 1.0 (0.6) [RIR=2.0(5%)]
Bars
1.0%
2.4%
3.5%
3.9%
7.0%
12.7%
14.4%
15.5%
39.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60
70

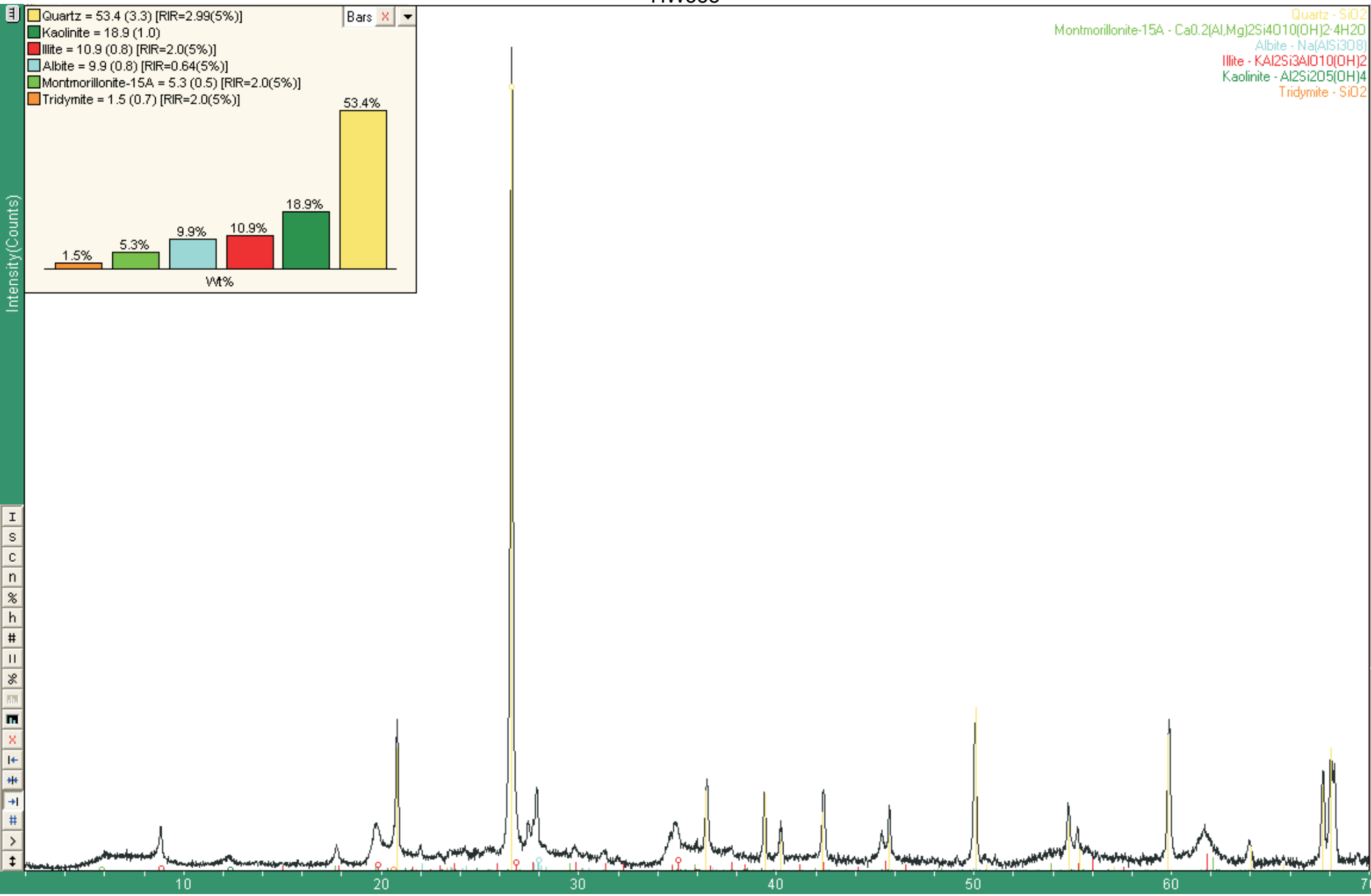

Quartz = 51.4 (3.2) [RIR=2.99(5%)]
Kaolinite = 15.5 (0.9)
Illite = 13.9 (1.0) [RIR=2.0(5%)]
Albite = 9.2 (0.8) [RIR=0.64(5%)]
Montmorillonite-15A = 5.5 (0.5) [RIR=2.0(5%)]
Tridymite = 4.6 (0.9) [RIR=2.0(5%)]
Bars
X
51.4%
15.5%
13.9%
9.2%
5.5%
4.6%
HW357
Wt%

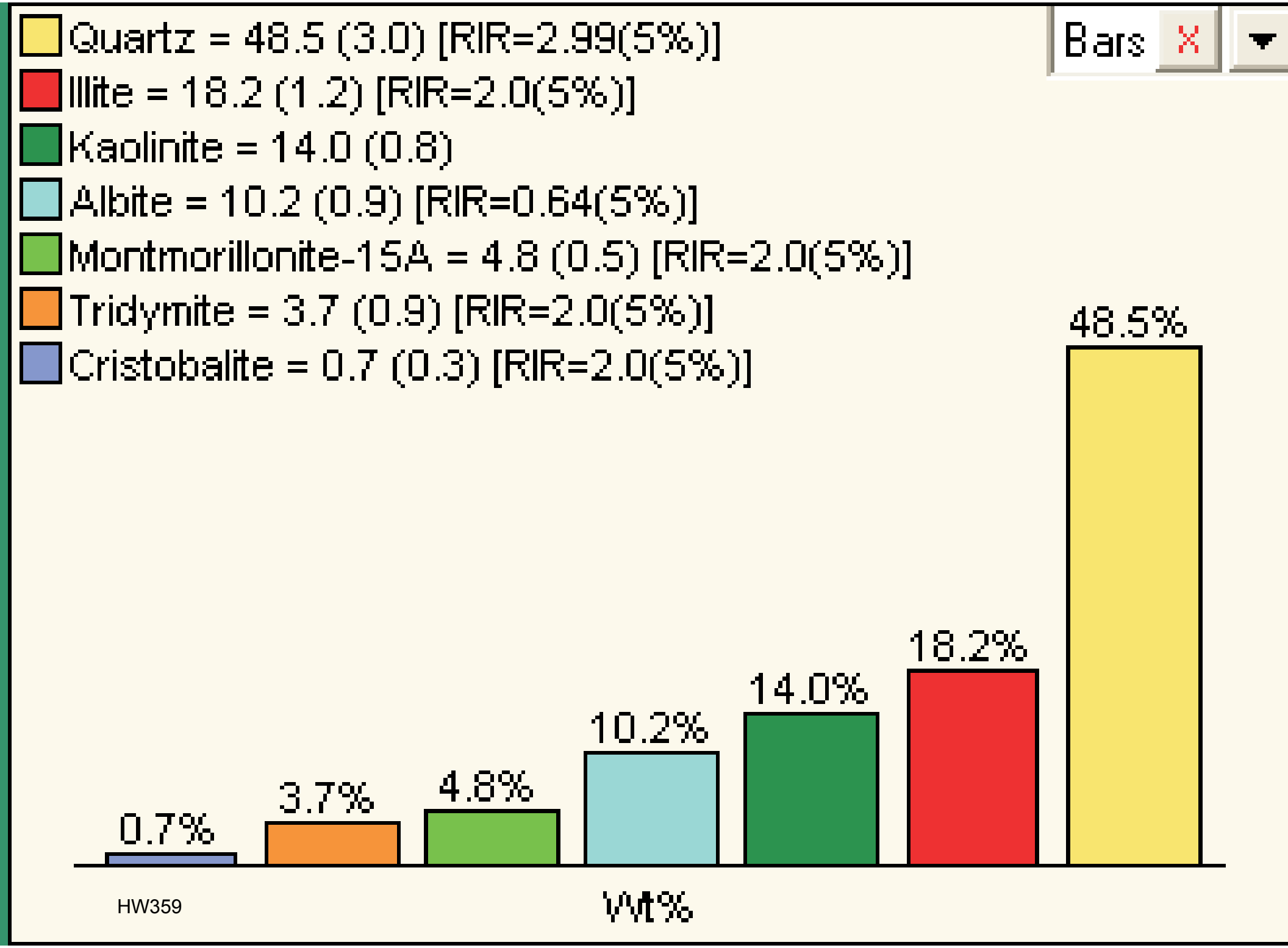
HW357


Quartz = 51.4 (3.2) [RIR=2.99(5%)]
Kaolinite = 15.5 (0.9)
Illite = 13.9 (1.0) [RIR=2.0(5%)]
Albite = 9.2 (0.8) [RIR=0.64(5%)]
Montmorillonite-15A = 5.5 (0.5) [RIR=2.0(5%)]
Tridymite = 4.6 (0.9) [RIR=2.0(5%)]
Bars
4.6%
5.5%
9.2%
13.9%
15.5%
51.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

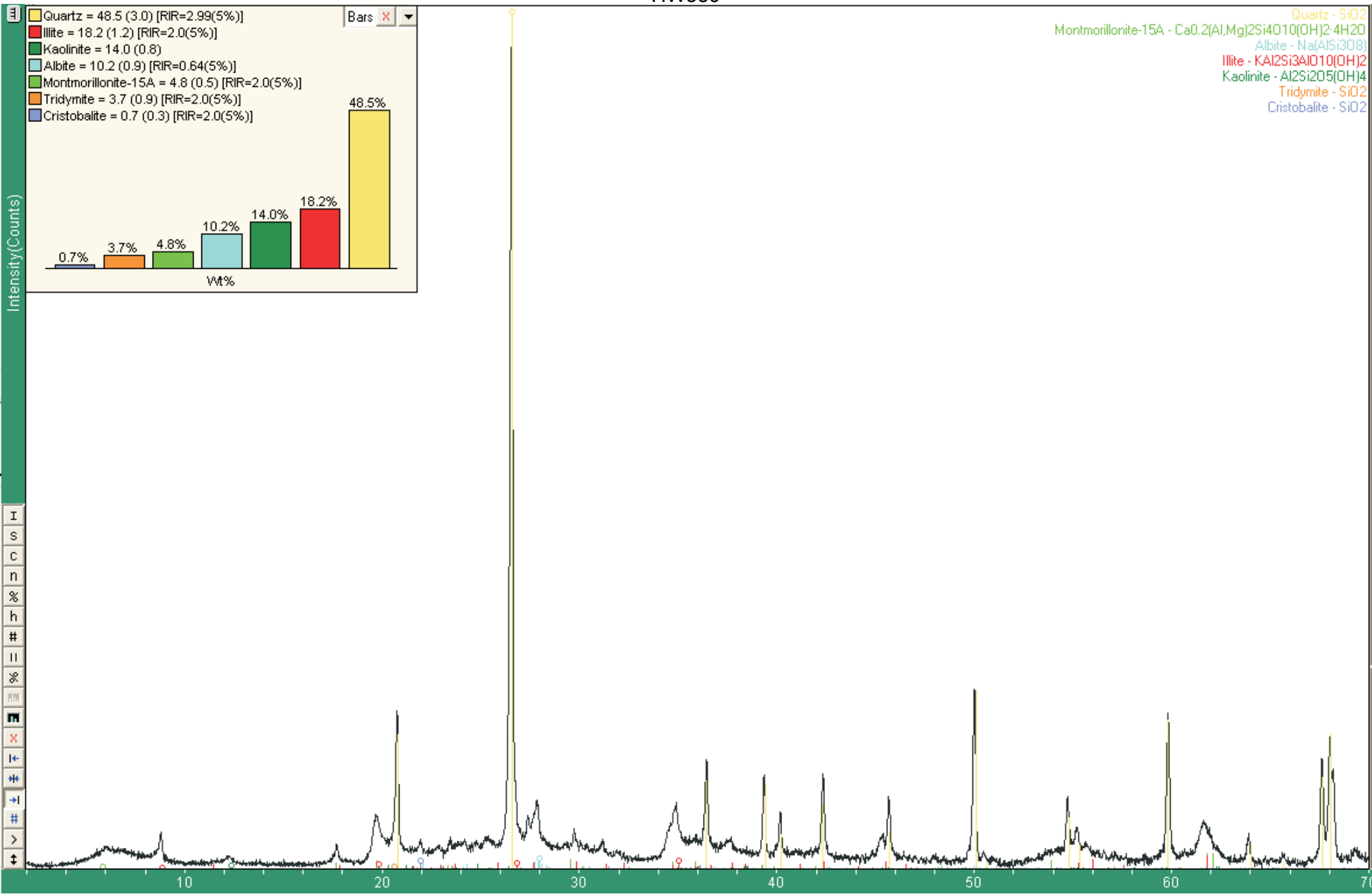

Quartz = 53.4 (3.3) [RIR=2.99(5%)]
Kaolinite = 18.9 (1.0)
Illite = 10.9 (0.8) [RIR=2.0(5%)]
Albite = 9.9 (0.8) [RIR=0.64(5%)]
Montmorillonite-15A = 5.3 (0.5) [RIR=2.0(5%)]
Tridymite = 1.5 (0.7) [RIR=2.0(5%)]
Bars
1.5%
5.3%
9.9%
10.9%
18.9%
53.4%
HW358
Wt%

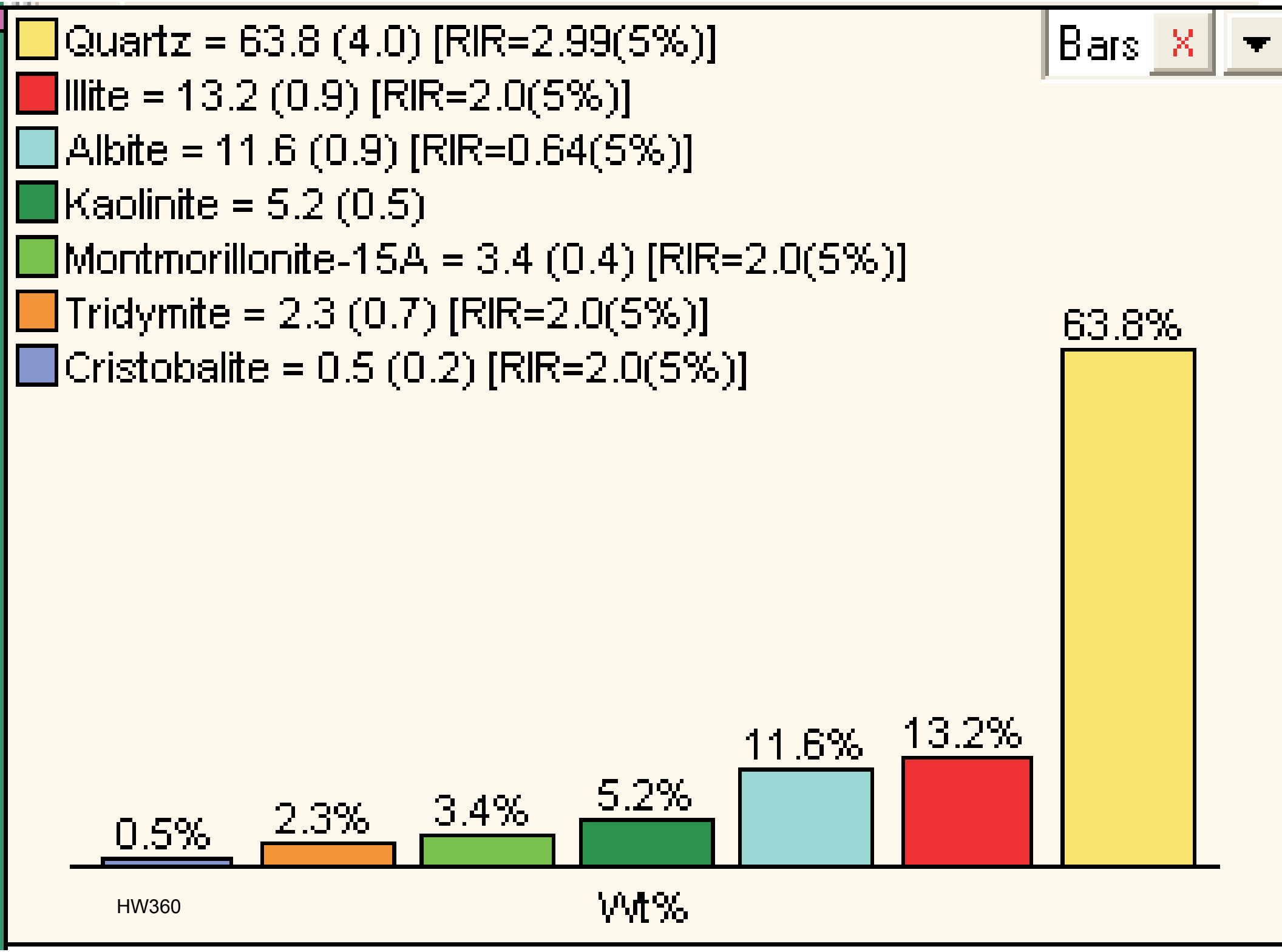
HW358


Quartz = 53.4 (3.3) [RIR=2.99(5%)]
Kaolinite = 18.9 (1.0)
Illite = 10.9 (0.8) [RIR=2.0(5%)]
Albite = 9.9 (0.8) [RIR=0.64(5%)]
Montmorillonite-15A = 5.3 (0.5) [RIR=2.0(5%)]
Tridymite = 1.5 (0.7) [RIR=2.0(5%)]
Bars
1.5%
5.3%
9.9%
10.9%
18.9%
53.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

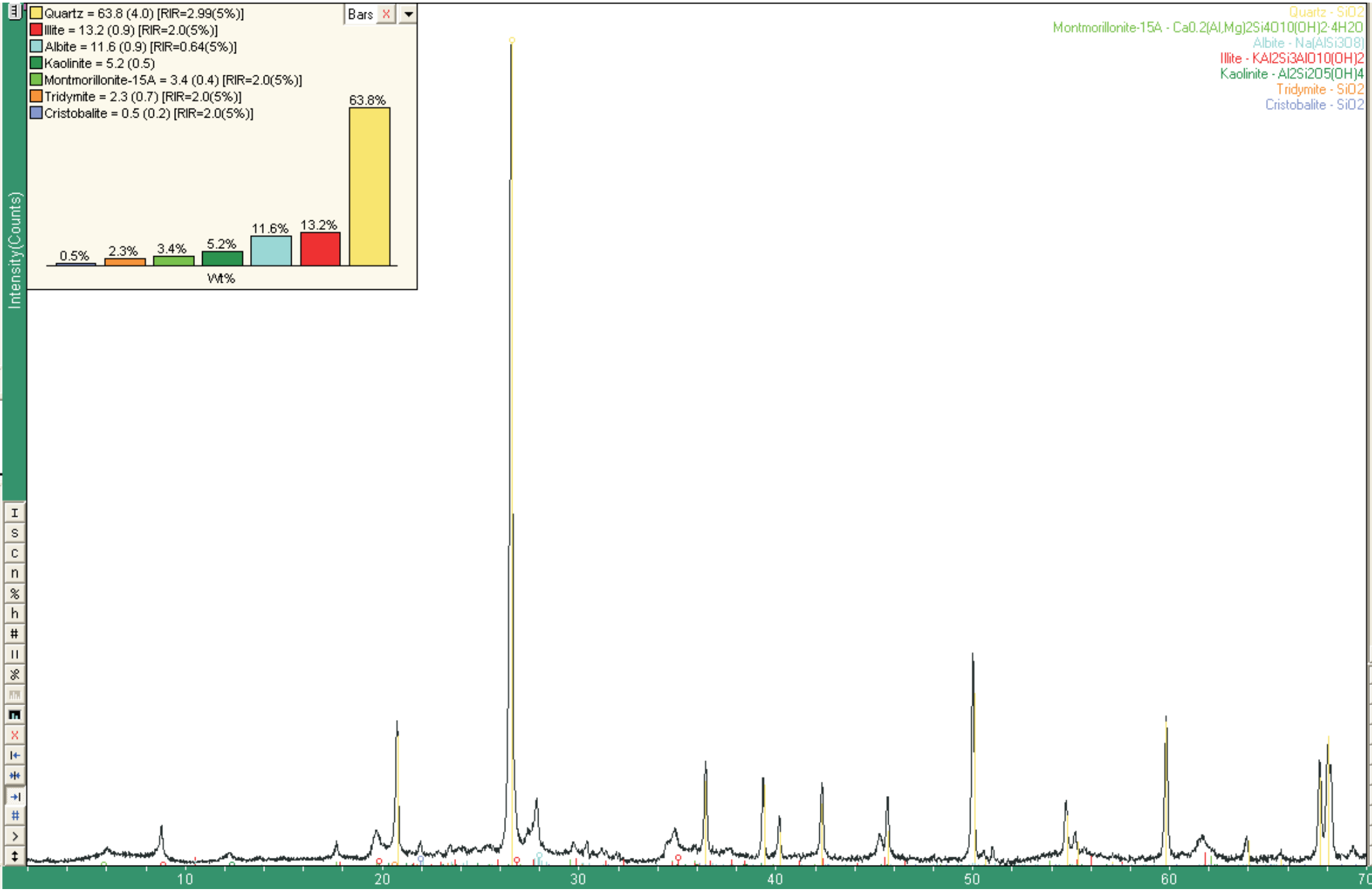

Quartz = 48.5 (3.0) [RIR=2.99(5%)]
Illite = 18.2 (1.2) [RIR=2.0(5%)]
Kaolinite = 14.0 (0.8)
Albite = 10.2 (0.9) [RIR=0.64(5%)]
Montmorillonite-15A = 4.8 (0.5) [RIR=2.0(5%)]
Tridymite = 3.7 (0.9) [RIR=2.0(5%)]
Cristobalite = 0.7 (0.3) [RIR=2.0(5%)]
Bars
0.7%
3.7%
4.8%
10.2%
14.0%
18.2%
48.5%
HW359
Wt%

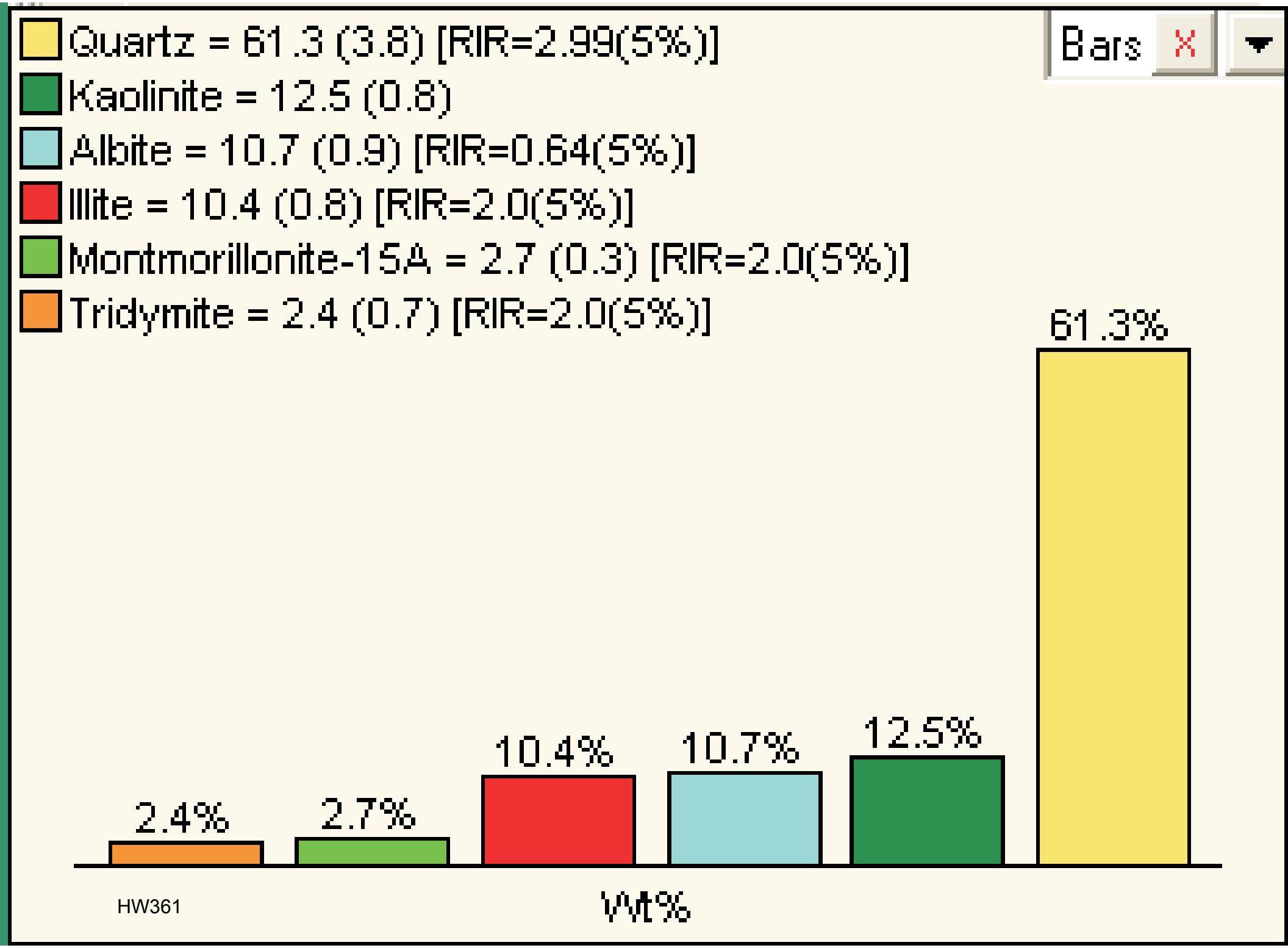
HW359


Quartz = 48.5 (3.0) [RIR=2.99(5%)]
Illite = 18.2 (1.2) [RIR=2.0(5%)]
Kaolinite = 14.0 (0.8)
Albite = 10.2 (0.9) [RIR=0.64(5%)]
Montmorillonite-15A = 4.8 (0.5) [RIR=2.0(5%)]
Tridymite = 3.7 (0.9) [RIR=2.0(5%)]
Cristobalite = 0.7 (0.3) [RIR=2.0(5%)]
Bars
0.7%
3.7%
4.8%
10.2%
14.0%
18.2%
48.5%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Tridymite - SiO2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

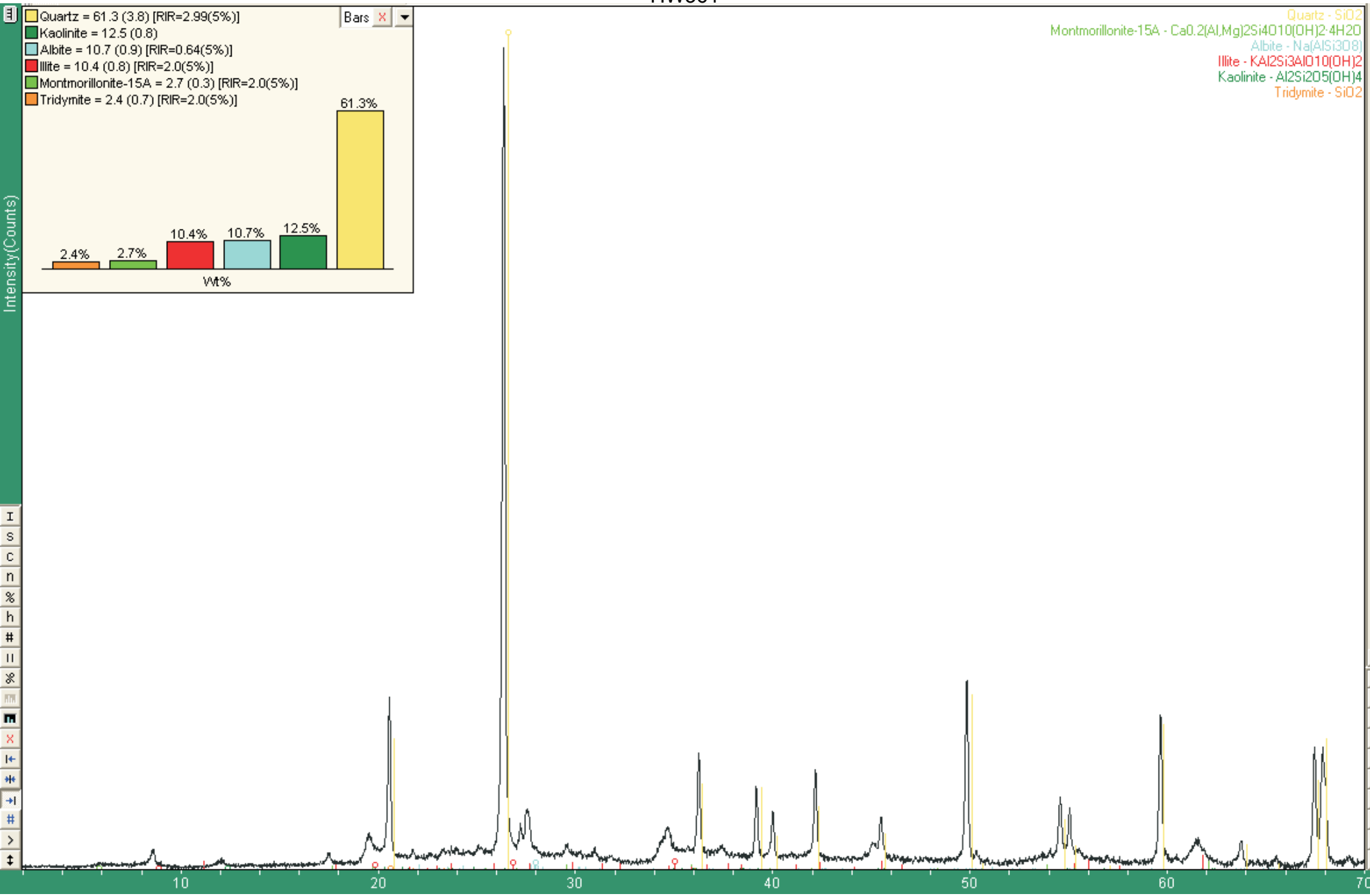

Quartz = 63.8 (4.0) [RIR=2.99(5%)]
Illite = 13.2 (0.9) [RIR=2.0(5%)]
Albite = 11.6 (0.9) [RIR=0.64(5%)]
Kaolinite = 5.2 (0.5)
Montmorillonite-15A = 3.4 (0.4) [RIR=2.0(5%)]
Tridymite = 2.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 0.5 (0.2) [RIR=2.0(5%)]
Bars
0.5%
2.3%
3.4%
5.2%
11.6%
13.2%
63.8%
HW360
Wt%

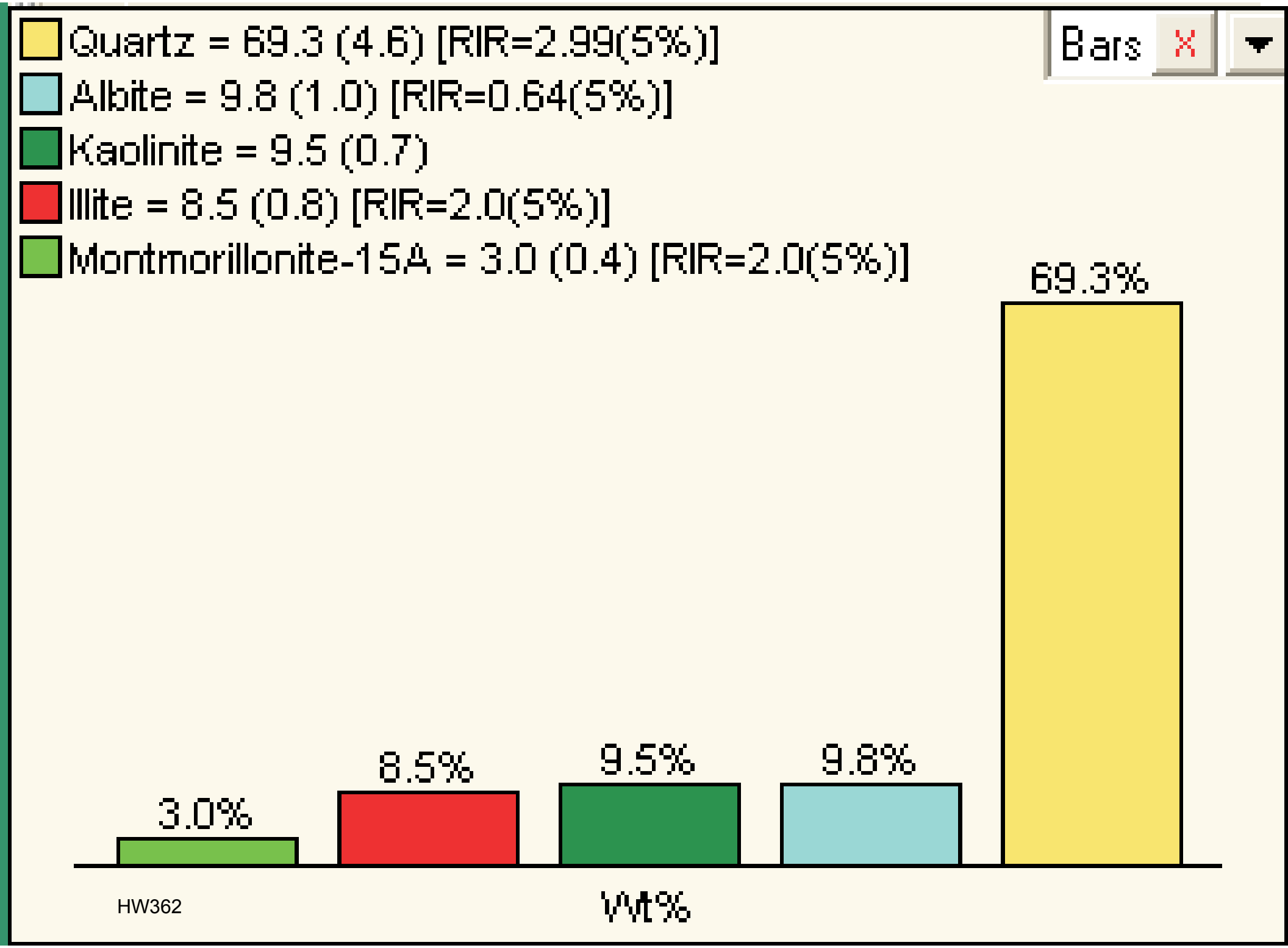
HW360


Quartz = 63.8 (4.0) [RIR=2.99(5%)]
Illite = 13.2 (0.9) [RIR=2.0(5%)]
Albite = 11.6 (0.9) [RIR=0.64(5%)]
Kaolinite = 5.2 (0.5)
Montmorillonite-15A = 3.4 (0.4) [RIR=2.0(5%)]
Tridymite = 2.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 0.5 (0.2) [RIR=2.0(5%)]
Bars
0.5%
2.3%
3.4%
5.2%
11.6%
13.2%
63.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Tridymite - SiO2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

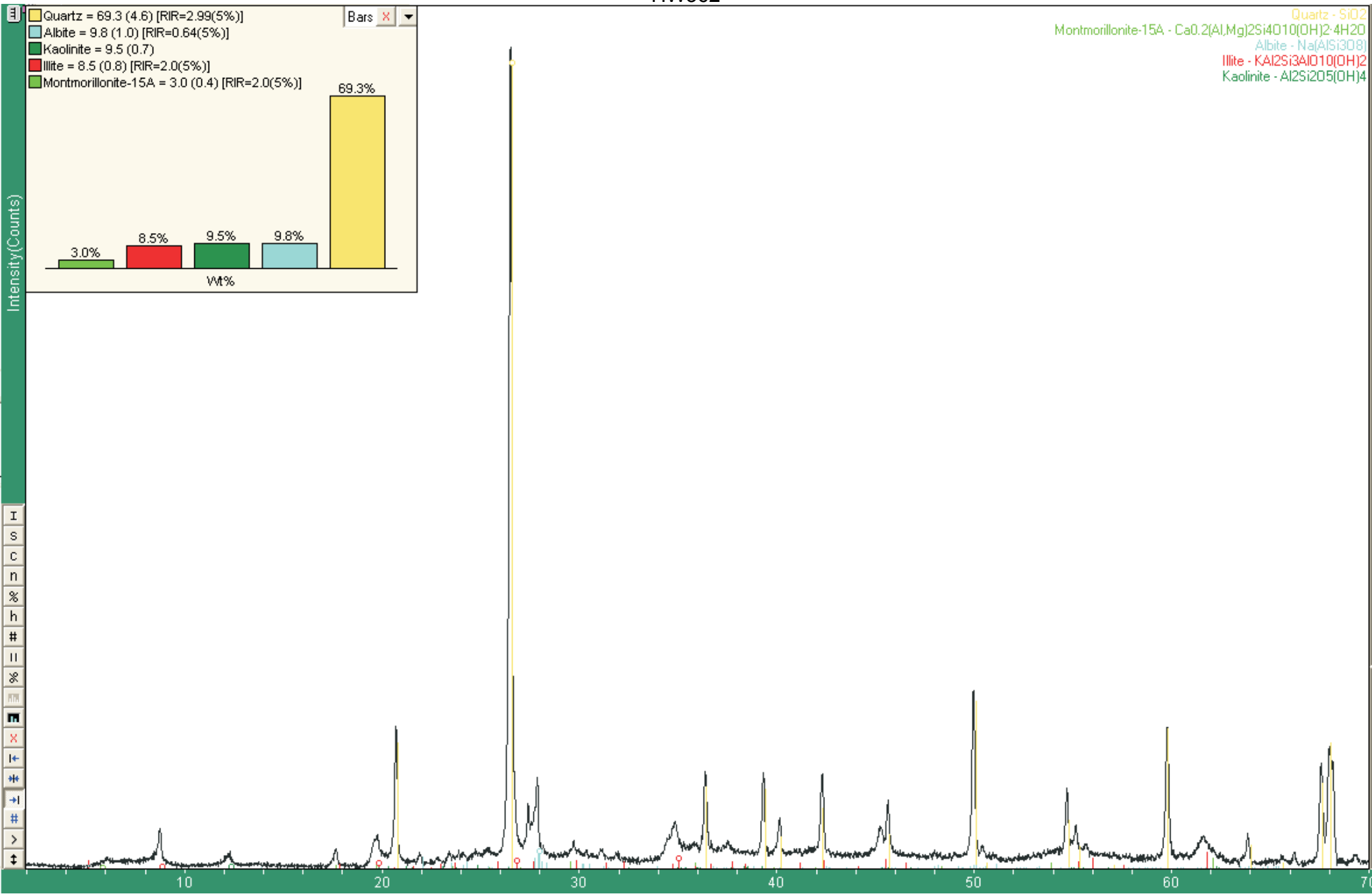

Quartz = 61.3 (3.8) [RIR=2.99(5%)]
Kaolinite = 12.5 (0.8)
Albite = 10.7 (0.9) [RIR=0.64(5%)]
Illite = 10.4 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 2.7 (0.3) [RIR=2.0(5%)]
Tridymite = 2.4 (0.7) [RIR=2.0(5%)]
Bars
2.4%
2.7%
10.4%
10.7%
12.5%
61.3%
HW361
Wt%

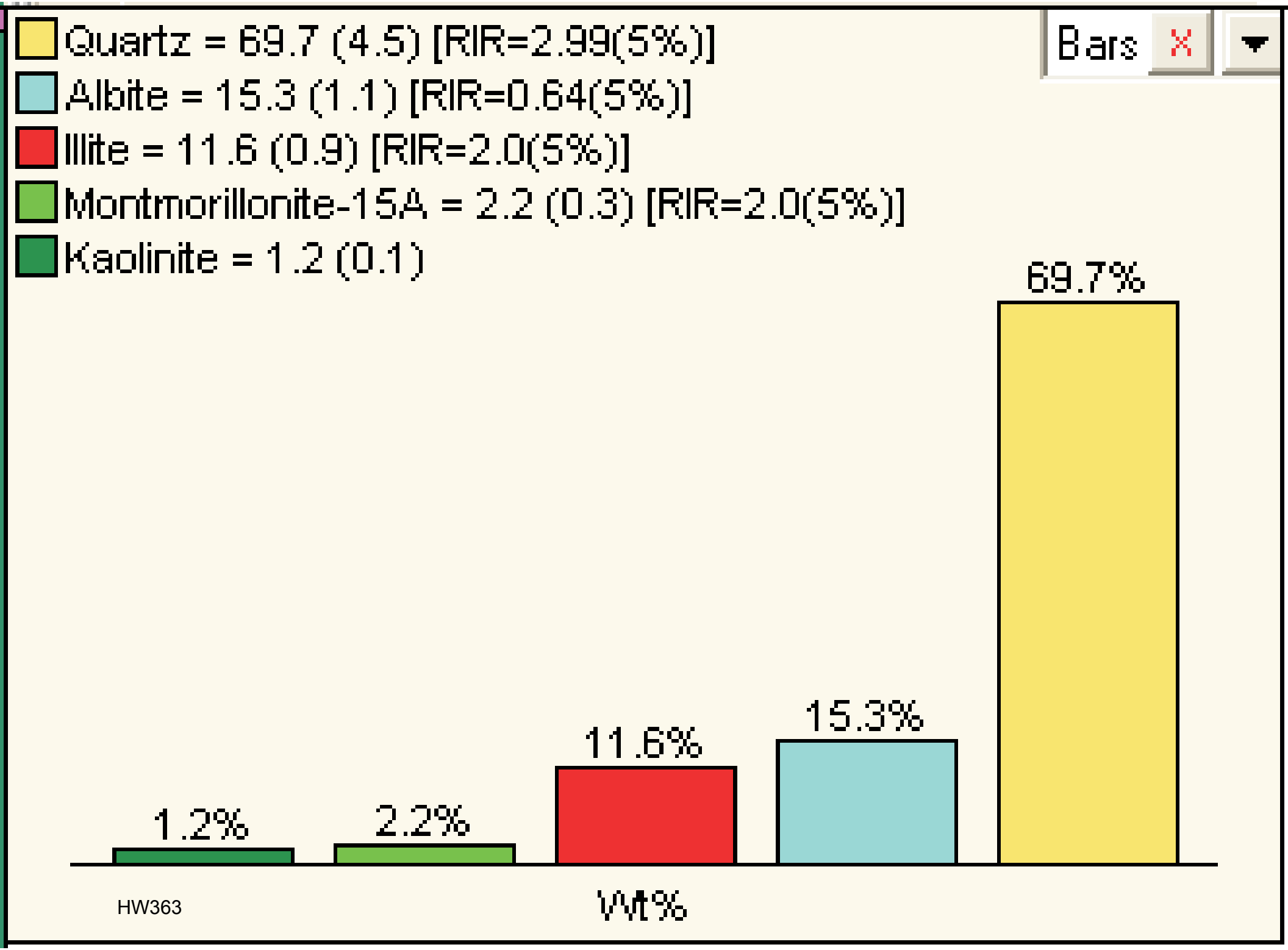
HW361


Quartz = 61.3 (3.8) [RIR=2.99(5%)]
Kaolinite = 12.5 (0.8)
Albite = 10.7 (0.9) [RIR=0.64(5%)]
Illite = 10.4 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 2.7 (0.3) [RIR=2.0(5%)]
Tridymite = 2.4 (0.7) [RIR=2.0(5%)]
Bars
2.4%
2.7%
10.4%
10.7%
12.5%
61.3%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

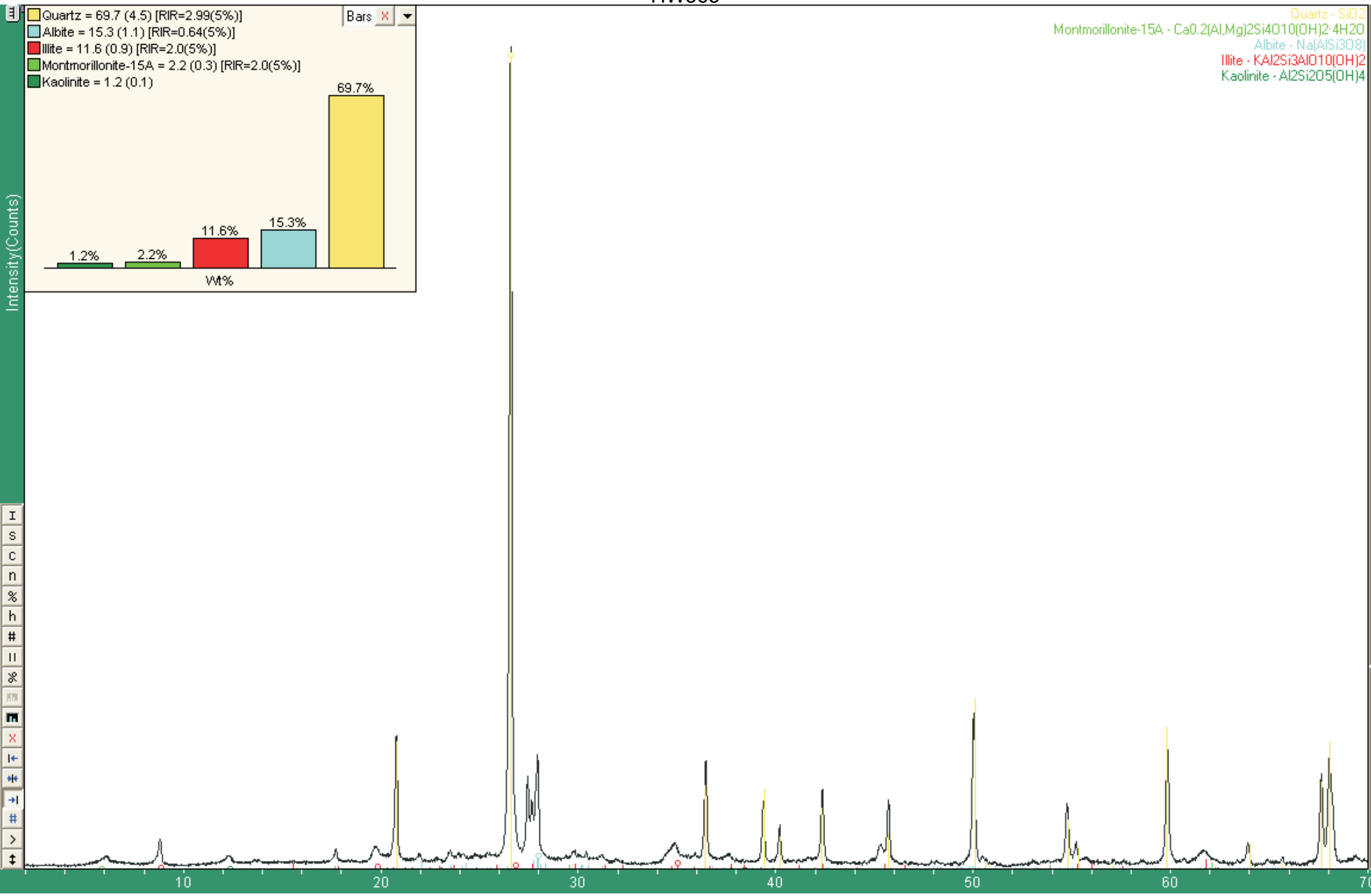

Quartz = 69.3 (4.6) [RIR=2.99(5%)]
Albite = 9.8 (1.0) [RIR=0.64(5%)]
Kaolinite = 9.5 (0.7)
Illite = 8.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.0 (0.4) [RIR=2.0(5%)]
Bars
3.0%
8.5%
9.5%
9.8%
69.3%
HW362
Wt%

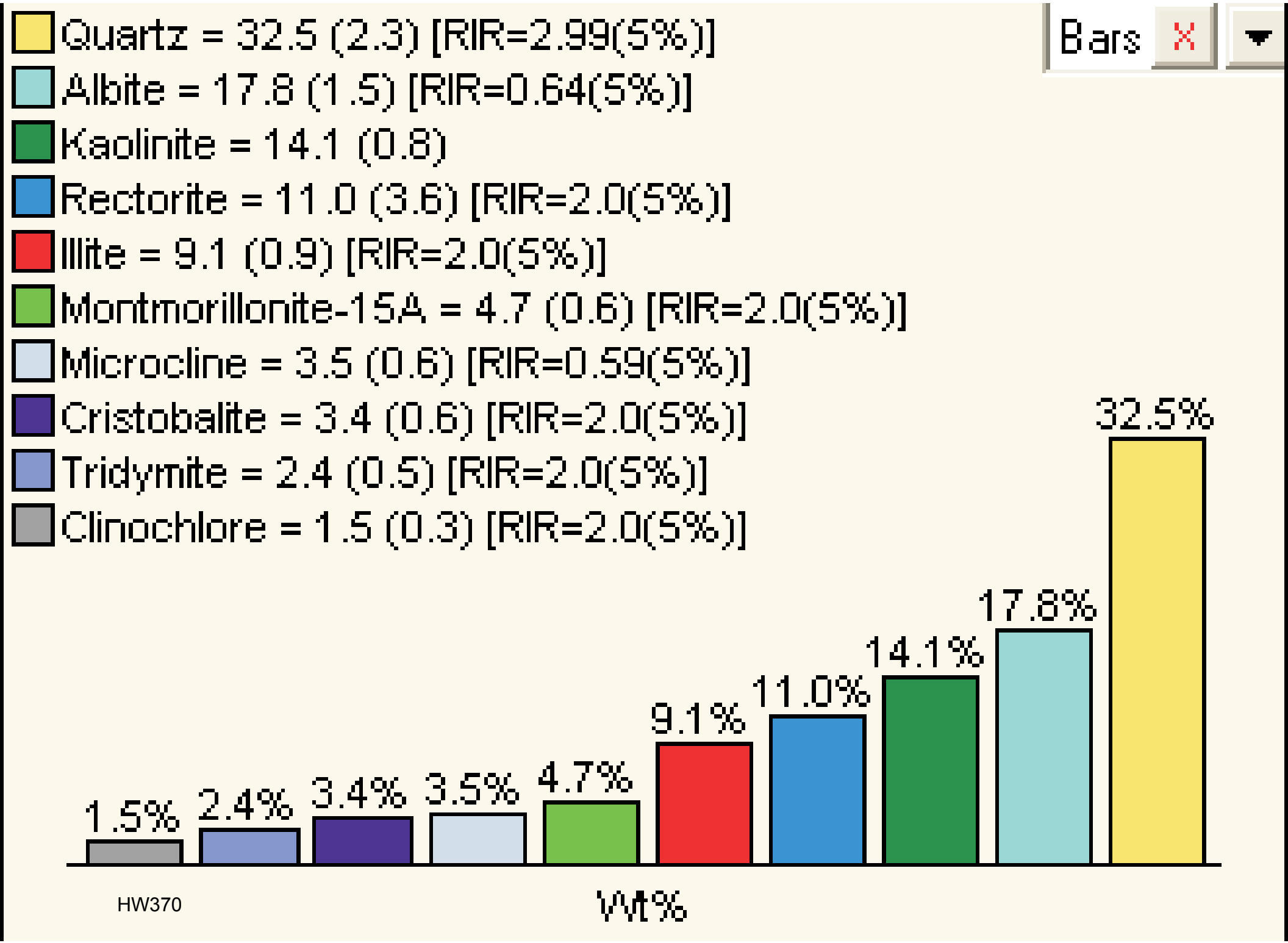
HW362


Quartz = 69.3 (4.6) [RIR=2.99(5%)]
Albite = 9.8 (1.0) [RIR=0.64(5%)]
Kaolinite = 9.5 (0.7)
Illite = 8.5 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.0 (0.4) [RIR=2.0(5%)]
Bars
3.0%
8.5%
9.5%
9.8%
69.3%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70

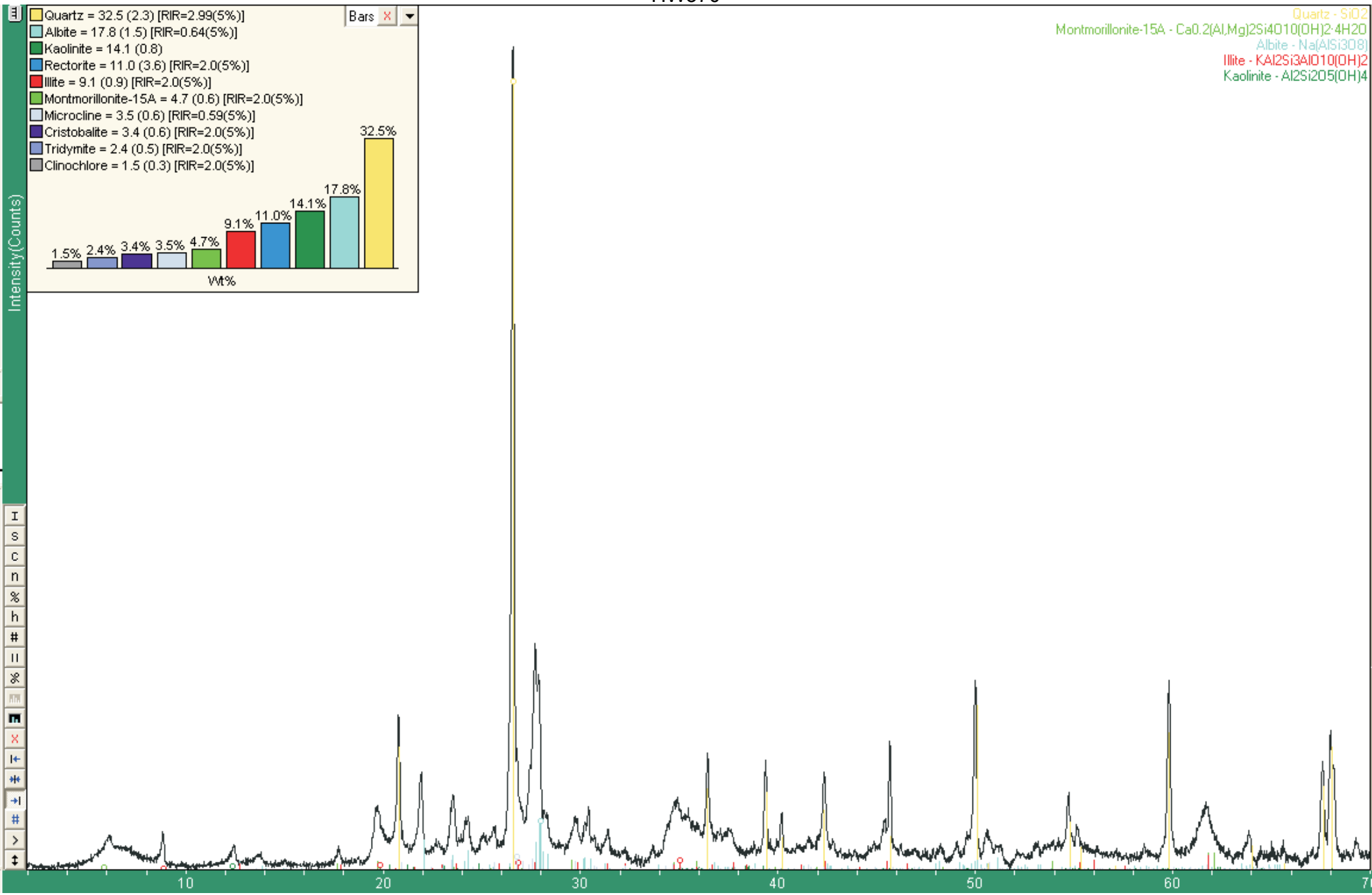

Quartz = 69.7 (4.5) [RIR=2.99(5%)]
Albite = 15.3 (1.1) [RIR=0.64(5%)]
Illite = 11.6 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 2.2 (0.3) [RIR=2.0(5%)]
Kaolinite = 1.2 (0.1)
Bars
69.7%
15.3%
11.6%
2.2%
1.2%
HW363
Wt%

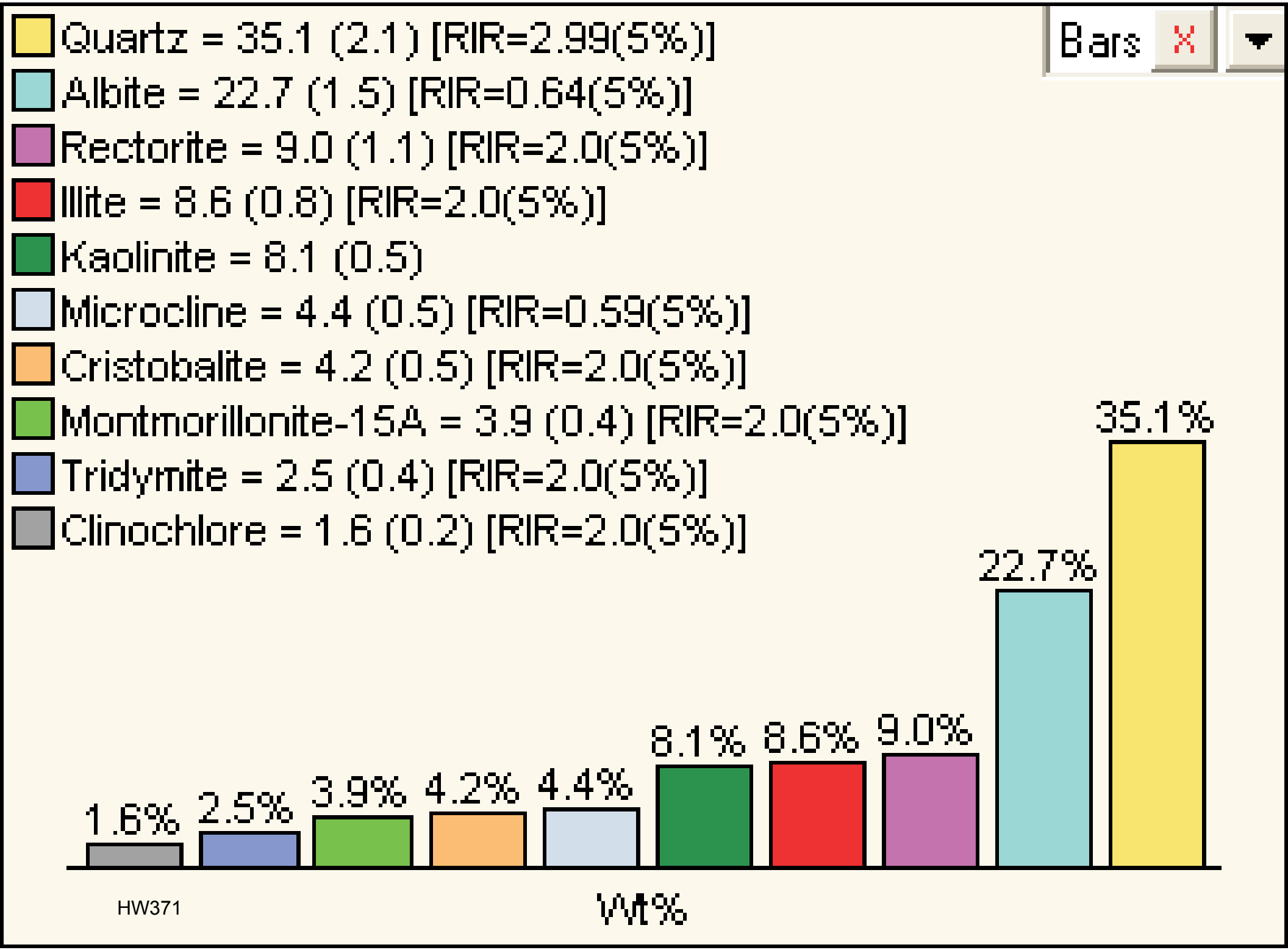
HW363


Quartz = 69.7 (4.5) [RIR=2.99(5%)]
Albite = 15.3 (1.1) [RIR=0.64(5%)]
Illite = 11.6 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 2.2 (0.3) [RIR=2.0(5%)]
Kaolinite = 1.2 (0.1)
Bars
69.7%
15.3%
11.6%
2.2%
1.2%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70

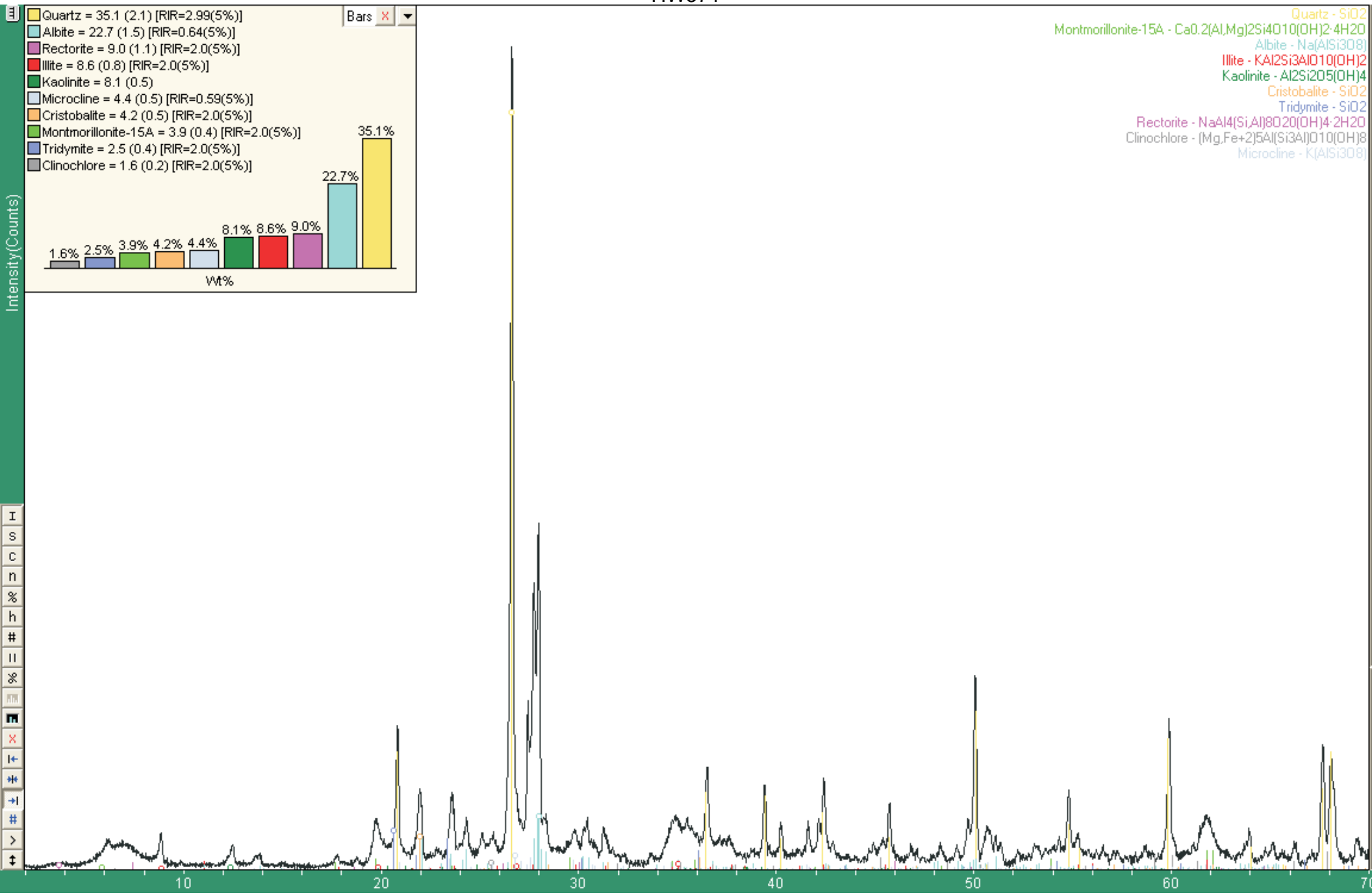

Quartz = 32.5 (2.3) [RIR=2.99(5%)]
Albite = 17.8 (1.5) [RIR=0.64(5%)]
Kaolinite = 14.1 (0.8)
Rectorite = 11.0 (3.6) [RIR=2.0(5%)]
Illite = 9.1 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 4.7 (0.6) [RIR=2.0(5%)]
Microcline = 3.5 (0.6) [RIR=0.59(5%)]
Cristobalite = 3.4 (0.6) [RIR=2.0(5%)]
Tridymite = 2.4 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.3) [RIR=2.0(5%)]
Bars
X
1.5%
2.4%
3.4%
3.5%
4.7%
9.1%
11.0%
14.1%
17.8%
32.5%
HW370
Wt%

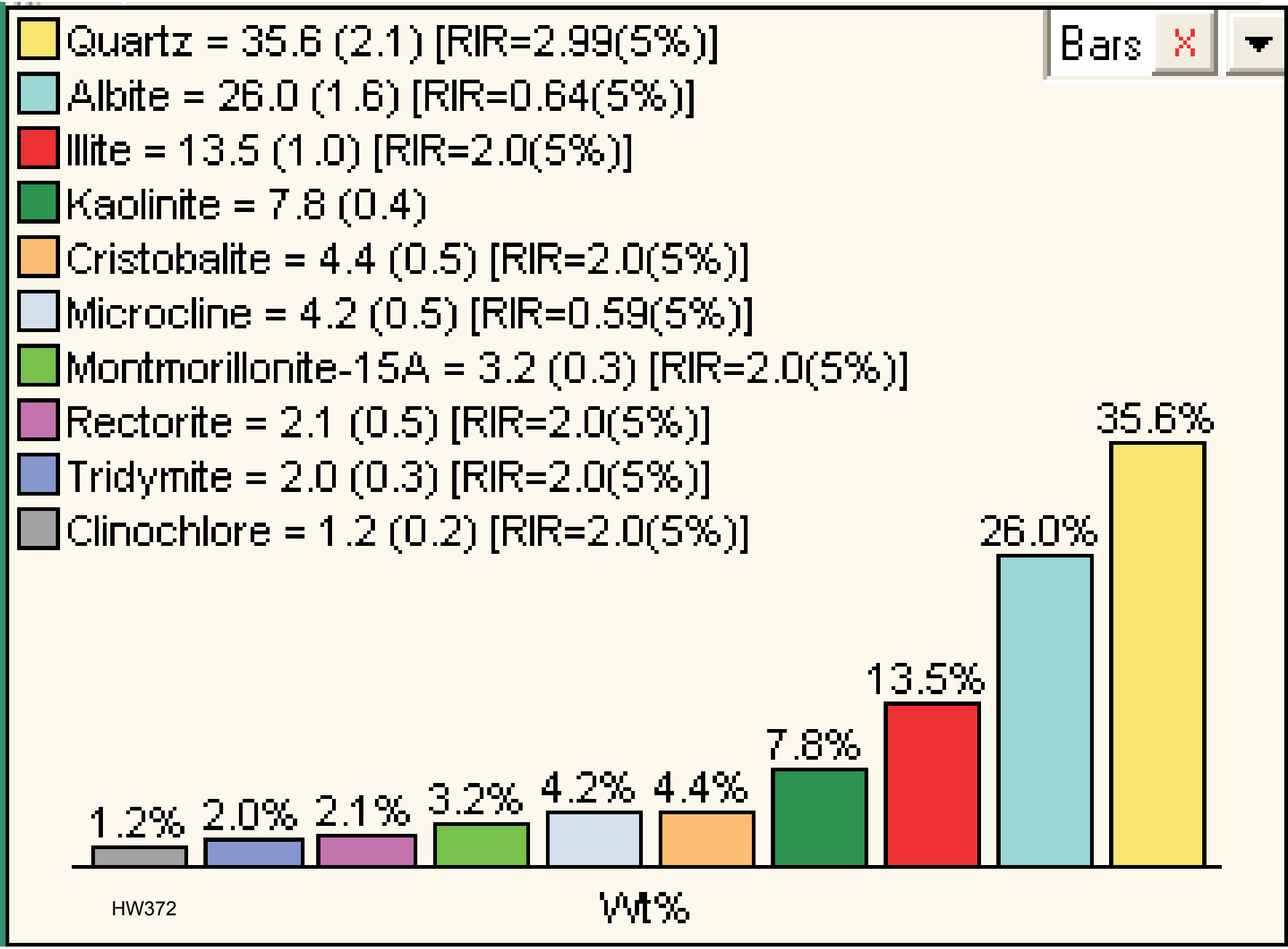
HW370


Quartz = 32.5 (2.3) [RIR=2.99(5%)]
Albite = 17.8 (1.5) [RIR=0.64(5%)]
Kaolinite = 14.1 (0.8)
Rectorite = 11.0 (3.6) [RIR=2.0(5%)]
Illite = 9.1 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 4.7 (0.6) [RIR=2.0(5%)]
Microcline = 3.5 (0.6) [RIR=0.59(5%)]
Cristobalite = 3.4 (0.6) [RIR=2.0(5%)]
Tridymite = 2.4 (0.5) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.3) [RIR=2.0(5%)]
Bars
1.5%
2.4%
3.4%
3.5%
4.7%
9.1%
11.0%
14.1%
17.8%
32.5%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

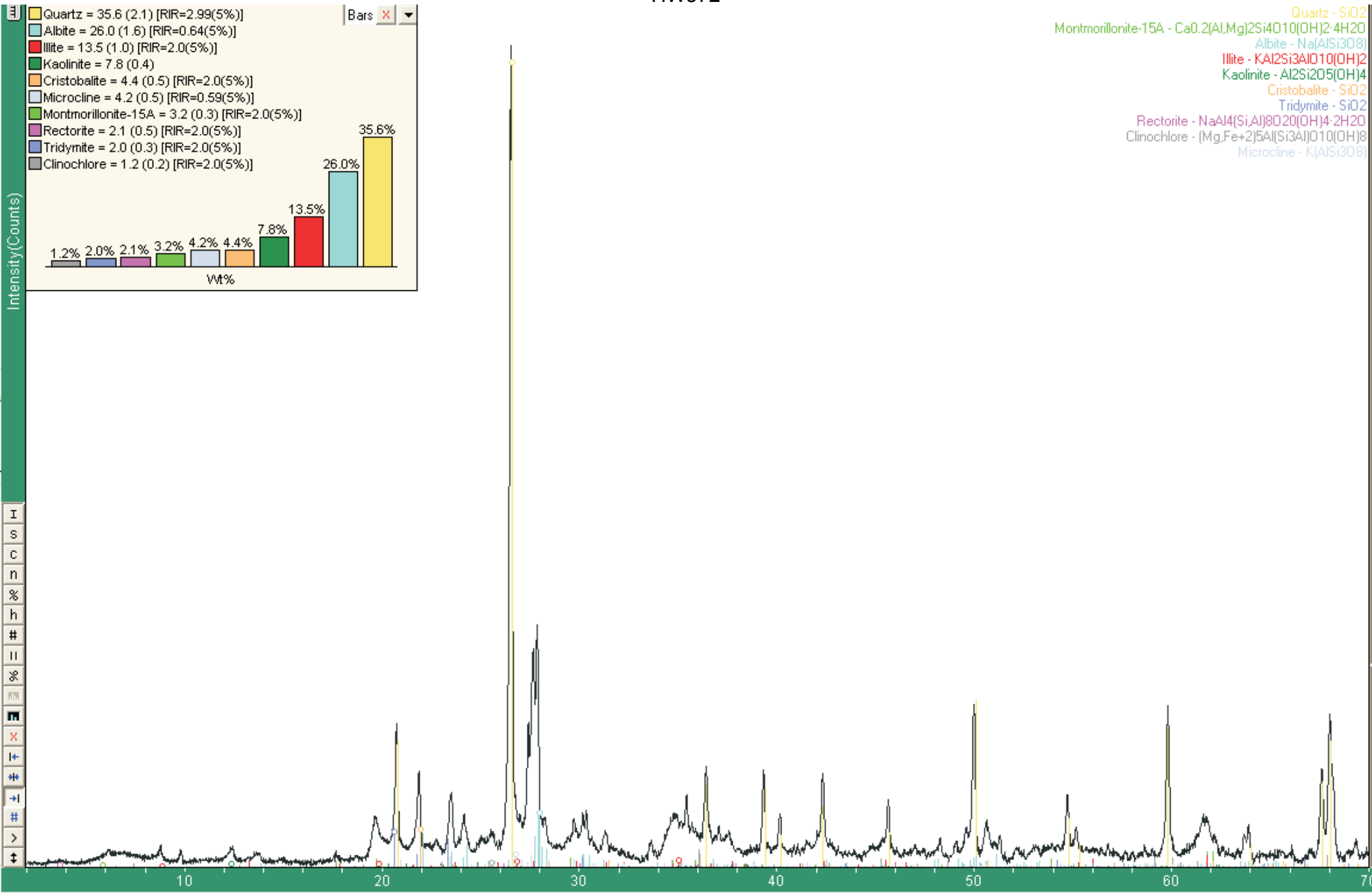

Quartz = 35.1 (2.1) [RIR=2.99(5%)]
Albite = 22.7 (1.5) [RIR=0.64(5%)]
Rectorite = 9.0 (1.1) [RIR=2.0(5%)]
Illite = 8.6 (0.8) [RIR=2.0(5%)]
Kaolinite = 8.1 (0.5)
Microcline = 4.4 (0.5) [RIR=0.59(5%)]
Cristobalite = 4.2 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.5 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.2) [RIR=2.0(5%)]
Bars
X
1.6%
2.5%
3.9%
4.2%
4.4%
8.1%
8.6%
9.0%
22.7%
35.1%
HW371
Wt%

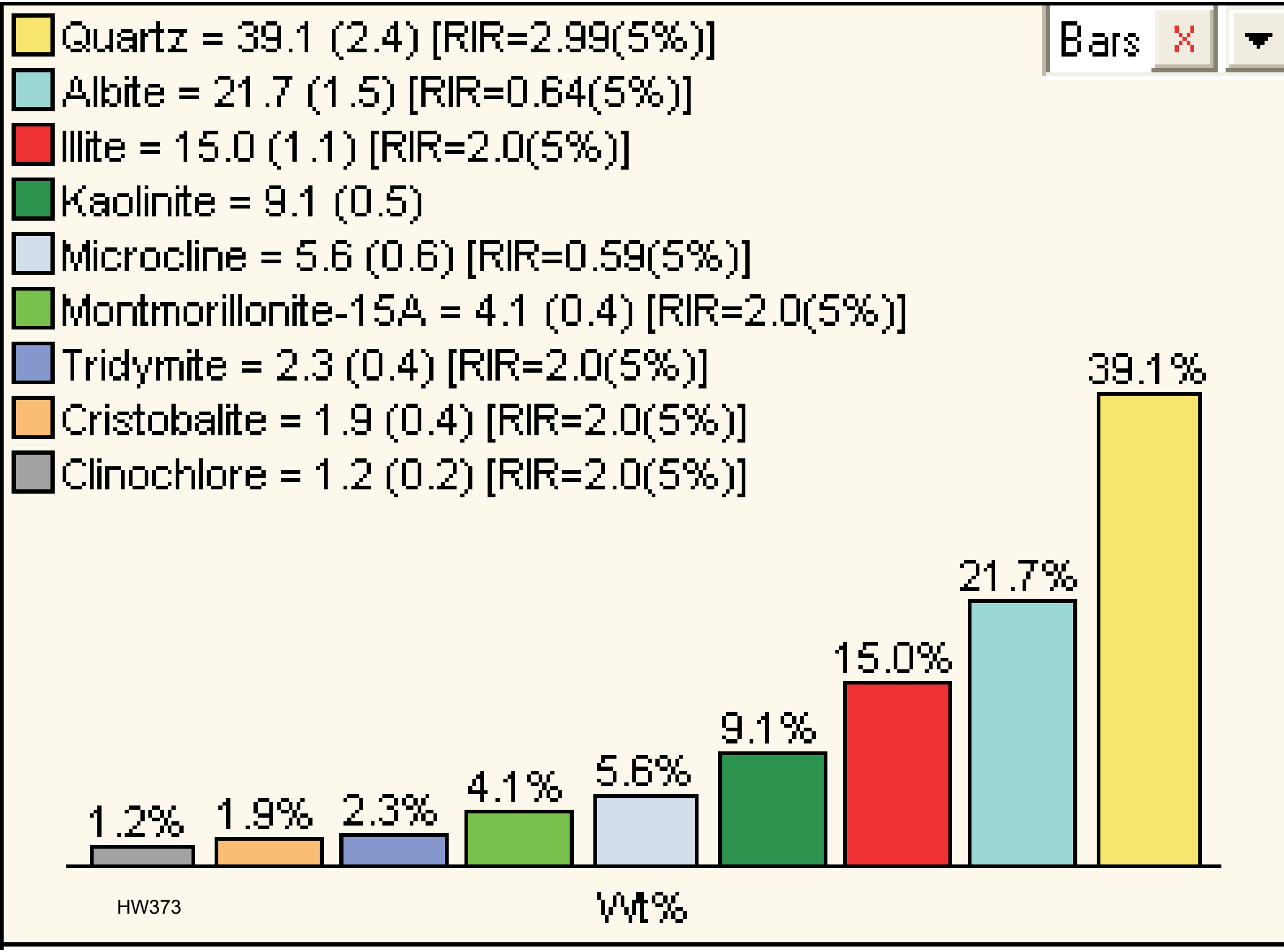
HW371


Quartz = 35.1 (2.1) [RIR=2.99(5%)]
Albite = 22.7 (1.5) [RIR=0.64(5%)]
Rectorite = 9.0 (1.1) [RIR=2.0(5%)]
Illite = 8.6 (0.8) [RIR=2.0(5%)]
Kaolinite = 8.1 (0.5)
Microcline = 4.4 (0.5) [RIR=0.59(5%)]
Cristobalite = 4.2 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.9 (0.4) [RIR=2.0(5%)]
Tridymite = 2.5 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.6 (0.2) [RIR=2.0(5%)]
Bars
1.6% 2.5% 3.9% 4.2% 4.4% 8.1% 8.6% 9.0% 22.7% 35.1%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

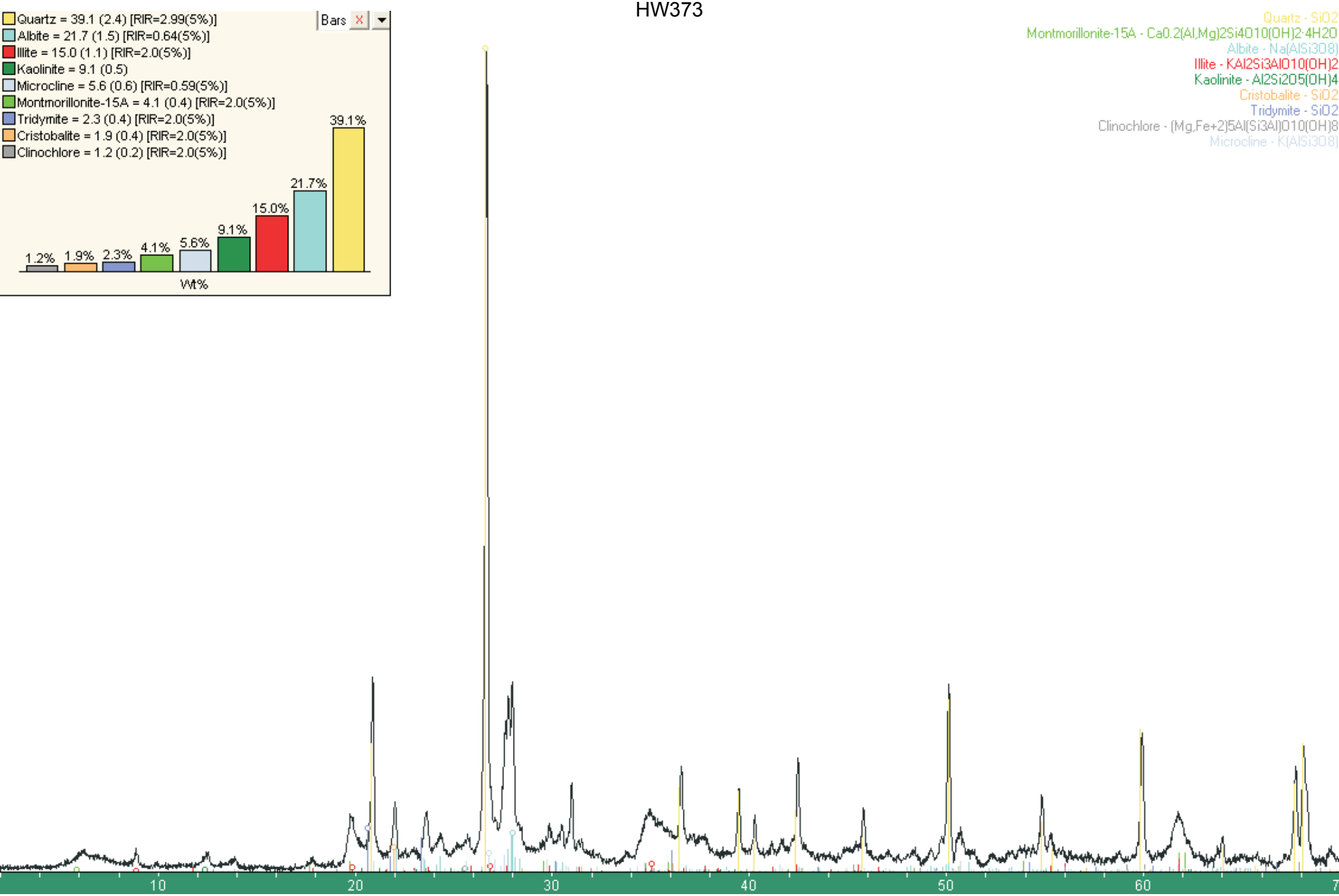

Quartz = 35.6 (2.1) [RIR=2.99(5%)]
Albite = 26.0 (1.6) [RIR=0.64(5%)]
Illite = 13.5 (1.0) [RIR=2.0(5%)]
Kaolinite = 7.8 (0.4)
Cristobalite = 4.4 (0.5) [RIR=2.0(5%)]
Microcline = 4.2 (0.5) [RIR=0.59(5%)]
Montmorillonite-15A = 3.2 (0.3) [RIR=2.0(5%)]
Rectorite = 2.1 (0.5) [RIR=2.0(5%)]
Tridymite = 2.0 (0.3) [RIR=2.0(5%)]
Clinochlore = 1.2 (0.2) [RIR=2.0(5%)]
Bars
1.2%
2.0%
2.1%
3.2%
4.2%
4.4%
7.8%
13.5%
26.0%
35.6%
HW372
Wt%

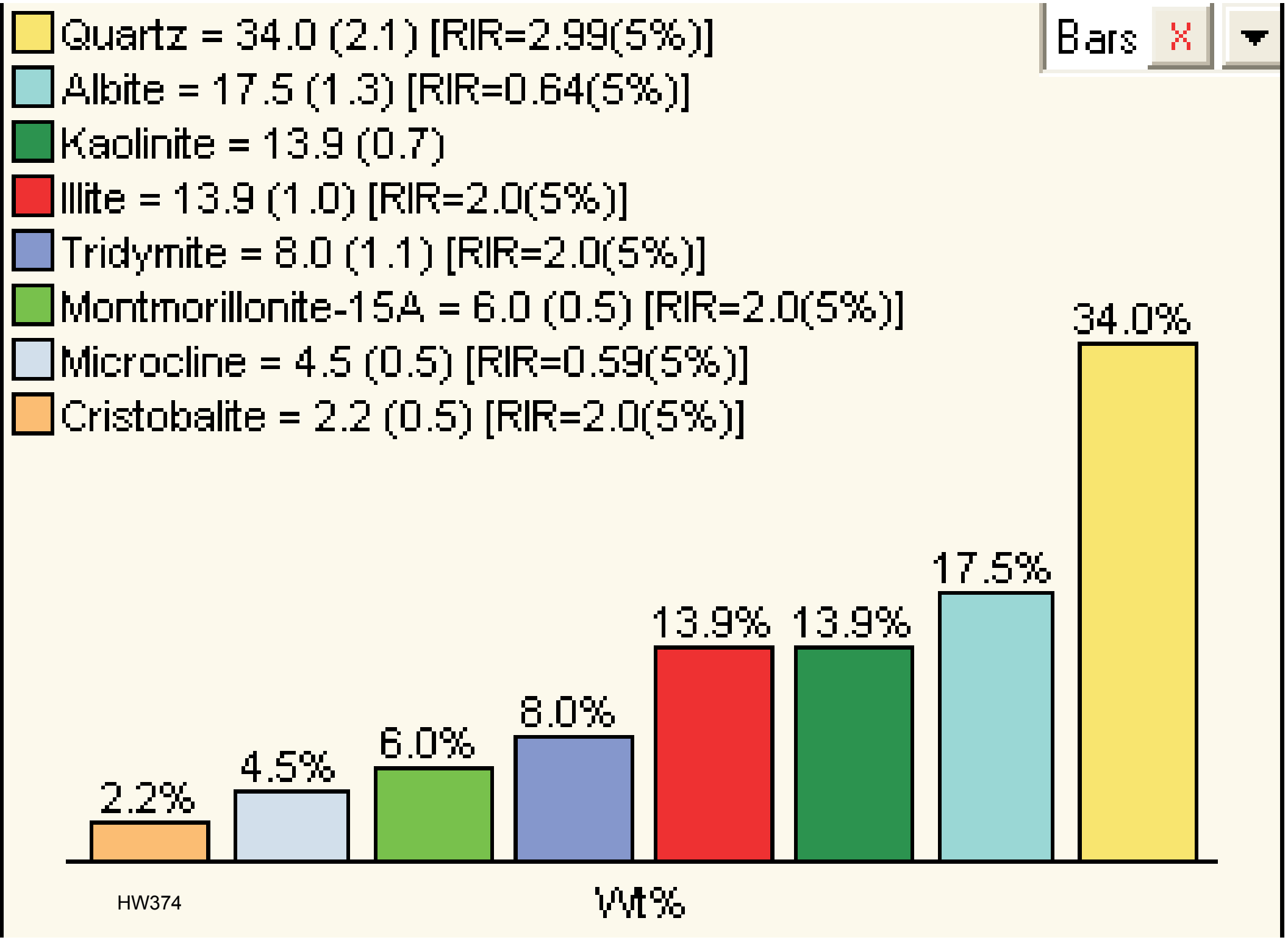
HW372


Quartz = 35.6 (2.1) [RIR=2.99(5%)]
Albite = 26.0 (1.6) [RIR=0.64(5%)]
Illite = 13.5 (1.0) [RIR=2.0(5%)]
Kaolinite = 7.8 (0.4)
Cristobalite = 4.4 (0.5) [RIR=2.0(5%)]
Microcline = 4.2 (0.5) [RIR=0.59(5%)]
Montmorillonite-15A = 3.2 (0.3) [RIR=2.0(5%)]
Rectorite = 2.1 (0.5) [RIR=2.0(5%)]
Tridymite = 2.0 (0.3) [RIR=2.0(5%)]
Clinochlore = 1.2 (0.2) [RIR=2.0(5%)]
Bars
1.2% 2.0% 2.1% 3.2% 4.2% 4.4% 7.8% 13.5% 26.0% 35.6%
Wt%
Intensity(Counts)
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Microcline - K(AlSi3O8)
10
20
30
40
50
60
70

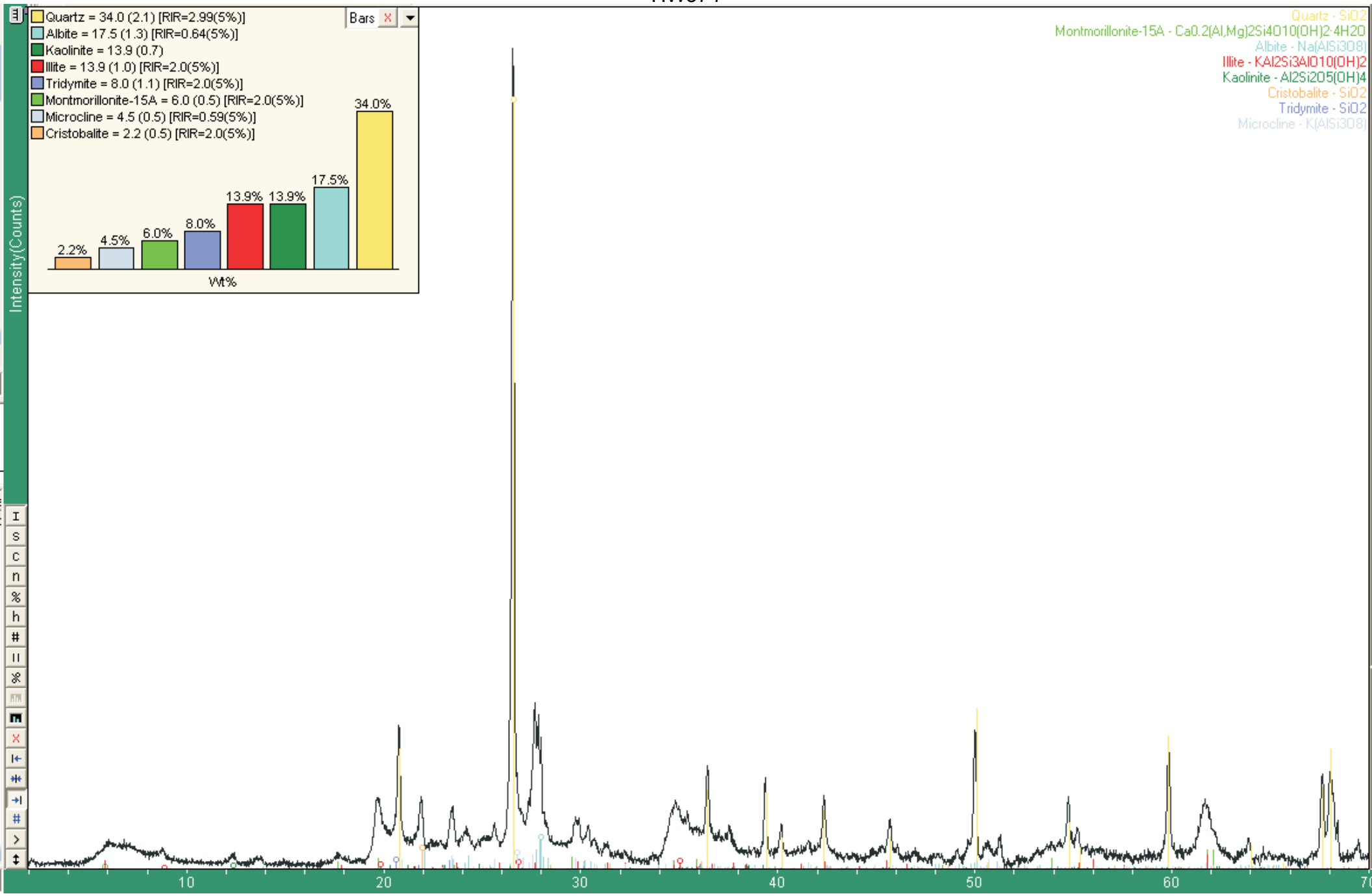

Quartz = 39.1 (2.4) [RIR=2.99(5%)]
Albite = 21.7 (1.5) [RIR=0.64(5%)]
Illite = 15.0 (1.1) [RIR=2.0(5%)]
Kaolinite = 9.1 (0.5)
Microcline = 5.6 (0.6) [RIR=0.59(5%)]
Montmorillonite-15A = 4.1 (0.4) [RIR=2.0(5%)]
Tridymite = 2.3 (0.4) [RIR=2.0(5%)]
Cristobalite = 1.9 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.2 (0.2) [RIR=2.0(5%)]
Bars
1.2%
1.9%
2.3%
4.1%
5.6%
9.1%
15.0%
21.7%
39.1%
HW373
Wt%

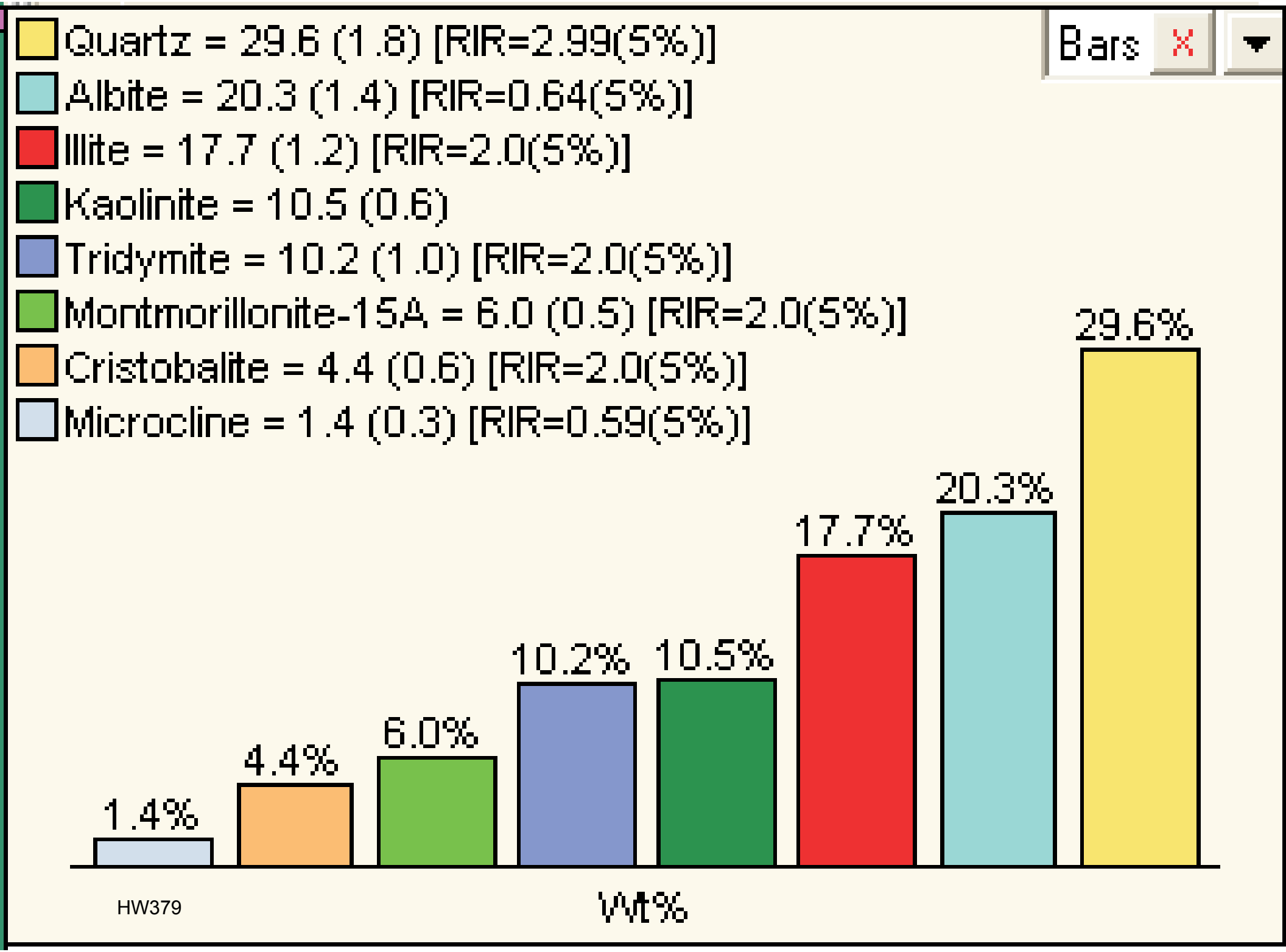
HW373


Quartz = 39.1 (2.4) [RIR=2.99(5%)]
Albite = 21.7 (1.5) [RIR=0.64(5%)]
Illite = 15.0 (1.1) [RIR=2.0(5%)]
Kaolinite = 9.1 (0.5)
Microcline = 5.6 (0.6) [RIR=0.59(5%)]
Montmorillonite-15A = 4.1 (0.4) [RIR=2.0(5%)]
Tridymite = 2.3 (0.4) [RIR=2.0(5%)]
Cristobalite = 1.9 (0.4) [RIR=2.0(5%)]
Clinochlore = 1.2 (0.2) [RIR=2.0(5%)]
Bars
1.2%
1.9%
2.3%
4.1%
5.6%
9.1%
15.0%
21.7%
39.1%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Microcline - K(AlSi3O8)
10
20
30
40
50
60

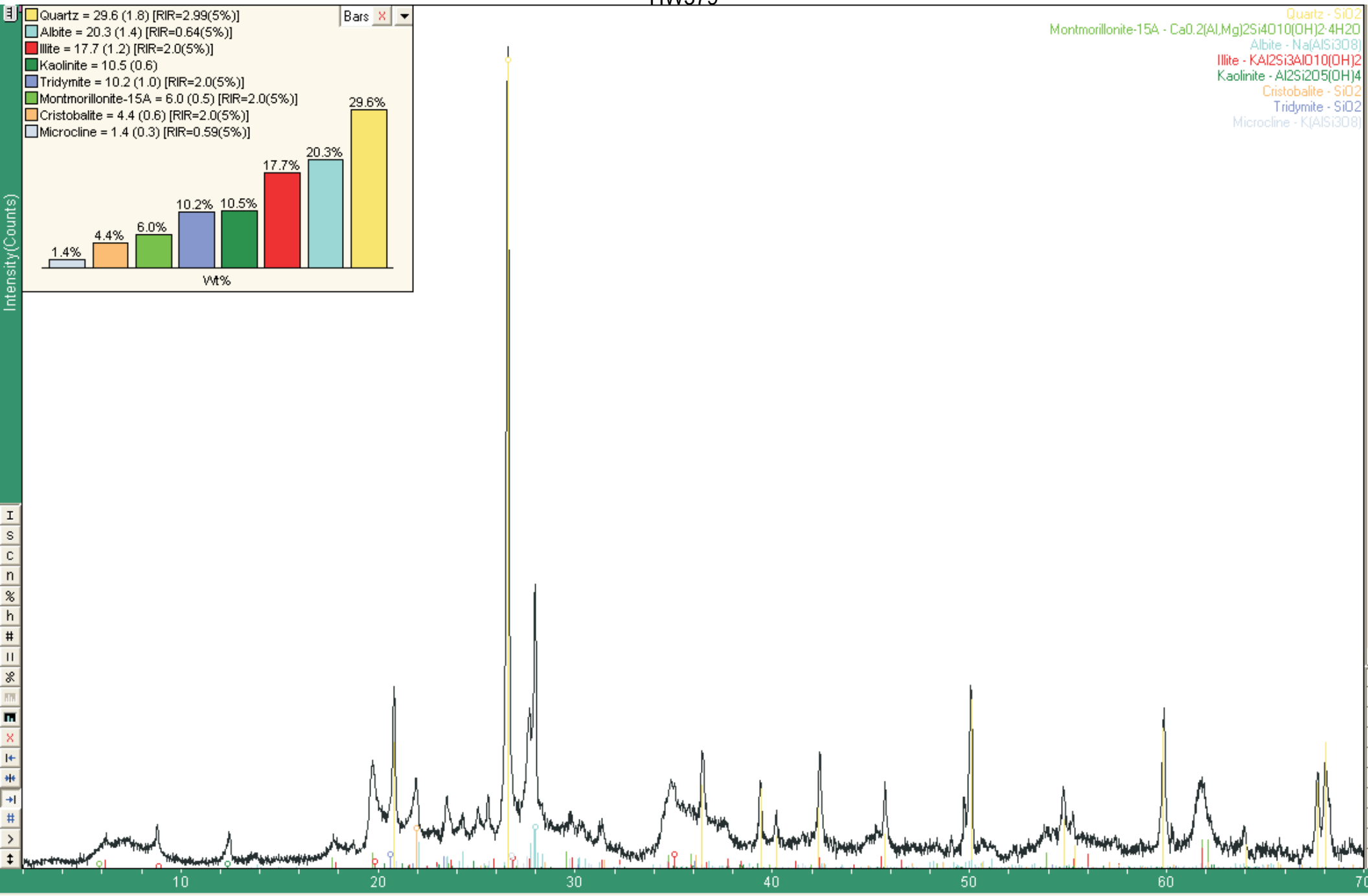

Quartz = 34.0 (2.1) [RIR=2.99(5%)]
Albite = 17.5 (1.3) [RIR=0.64(5%)]
Kaolinite = 13.9 (0.7)
Illite = 13.9 (1.0) [RIR=2.0(5%)]
Tridymite = 8.0 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 6.0 (0.5) [RIR=2.0(5%)]
Microcline = 4.5 (0.5) [RIR=0.59(5%)]
Cristobalite = 2.2 (0.5) [RIR=2.0(5%)]
Bars
2.2%
4.5%
6.0%
8.0%
13.9%
13.9%
17.5%
34.0%
HW374
Wt%

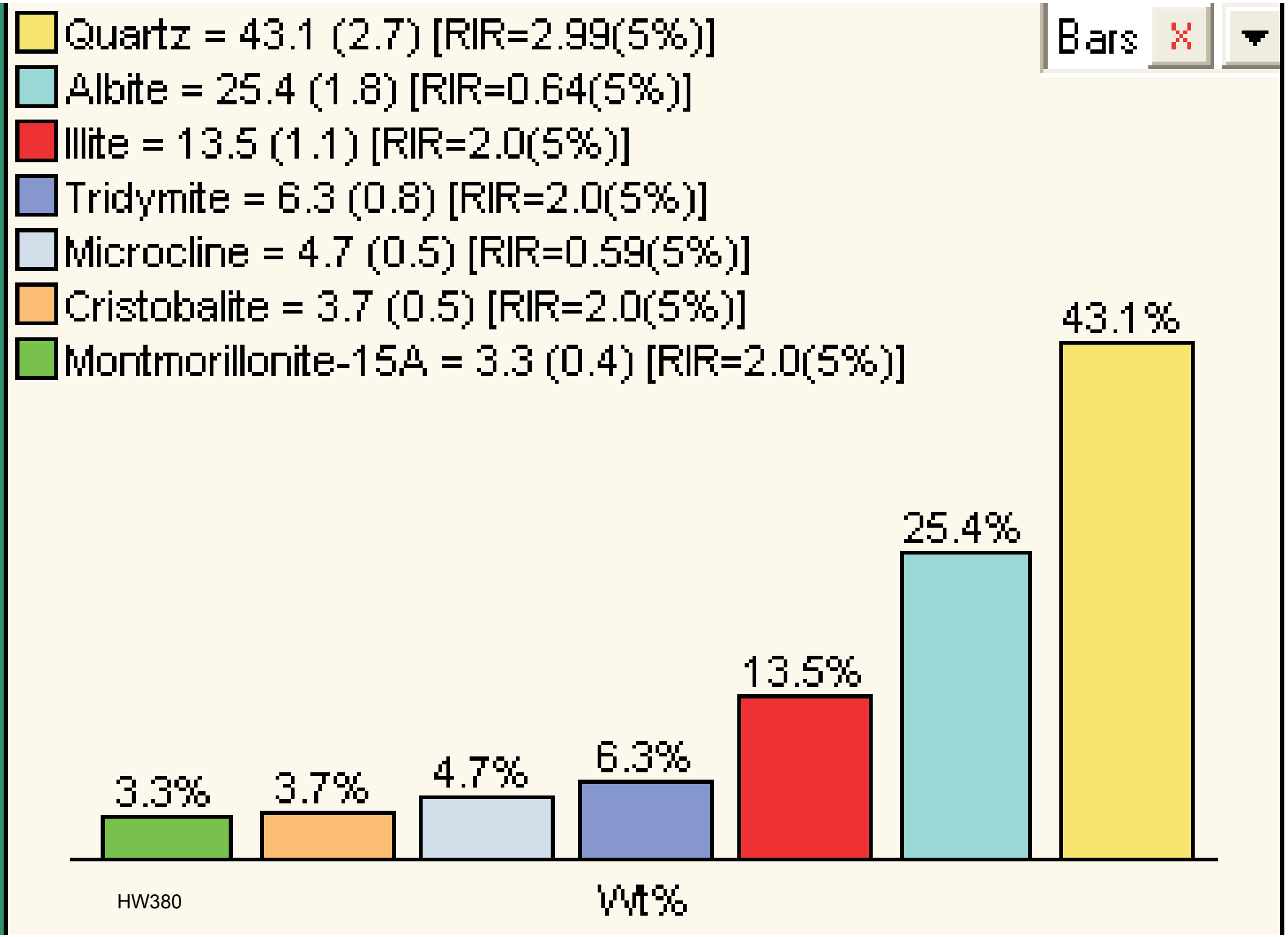
HW374


Quartz = 34.0 (2.1) [RIR=2.99(5%)]
Albite = 17.5 (1.3) [RIR=0.64(5%)]
Kaolinite = 13.9 (0.7)
Illite = 13.9 (1.0) [RIR=2.0(5%)]
Tridymite = 8.0 (1.1) [RIR=2.0(5%)]
Montmorillonite-15A = 6.0 (0.5) [RIR=2.0(5%)]
Microcline = 4.5 (0.5) [RIR=0.59(5%)]
Cristobalite = 2.2 (0.5) [RIR=2.0(5%)]
Bars
2.2%
4.5%
6.0%
8.0%
13.9%
13.9%
17.5%
34.0%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

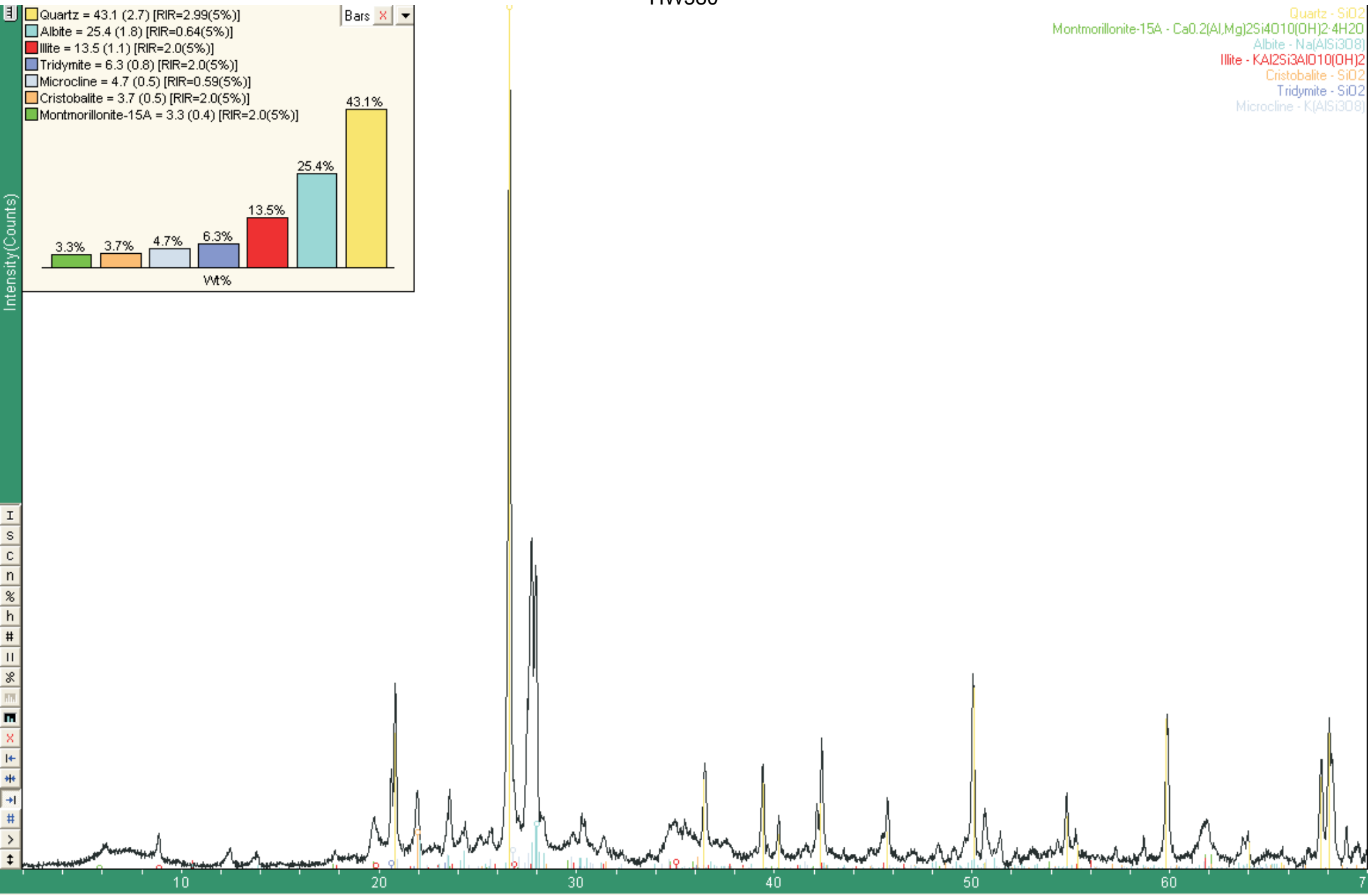

Quartz = 29.6 (1.8) [RIR=2.99(5%)]
Albite = 20.3 (1.4) [RIR=0.64(5%)]
Illite = 17.7 (1.2) [RIR=2.0(5%)]
Kaolinite = 10.5 (0.6)
Tridymite = 10.2 (1.0) [RIR=2.0(5%)]
Montmorillonite-15A = 6.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 4.4 (0.6) [RIR=2.0(5%)]
Microcline = 1.4 (0.3) [RIR=0.59(5%)]
Bars
1.4%
4.4%
6.0%
10.2%
10.5%
17.7%
20.3%
29.6%
HW379
Wt%

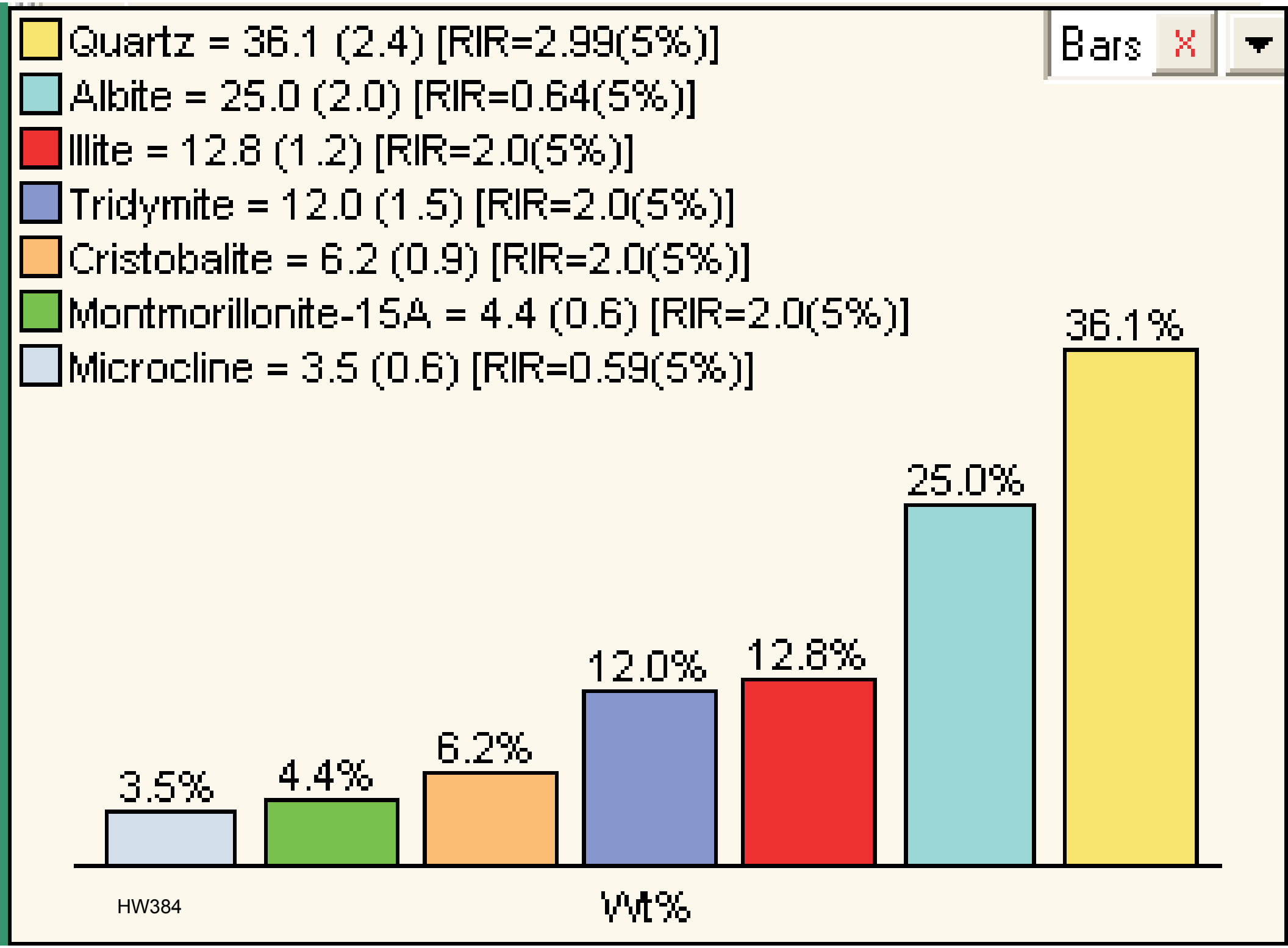
HW379


Quartz = 29.6 (1.8) [RIR=2.99(5%)]
Albite = 20.3 (1.4) [RIR=0.64(5%)]
Illite = 17.7 (1.2) [RIR=2.0(5%)]
Kaolinite = 10.5 (0.6)
Tridymite = 10.2 (1.0) [RIR=2.0(5%)]
Montmorillonite-15A = 6.0 (0.5) [RIR=2.0(5%)]
Cristobalite = 4.4 (0.6) [RIR=2.0(5%)]
Microcline = 1.4 (0.3) [RIR=0.59(5%)]
Bars
1.4%
4.4%
6.0%
10.2%
10.5%
17.7%
20.3%
29.6%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

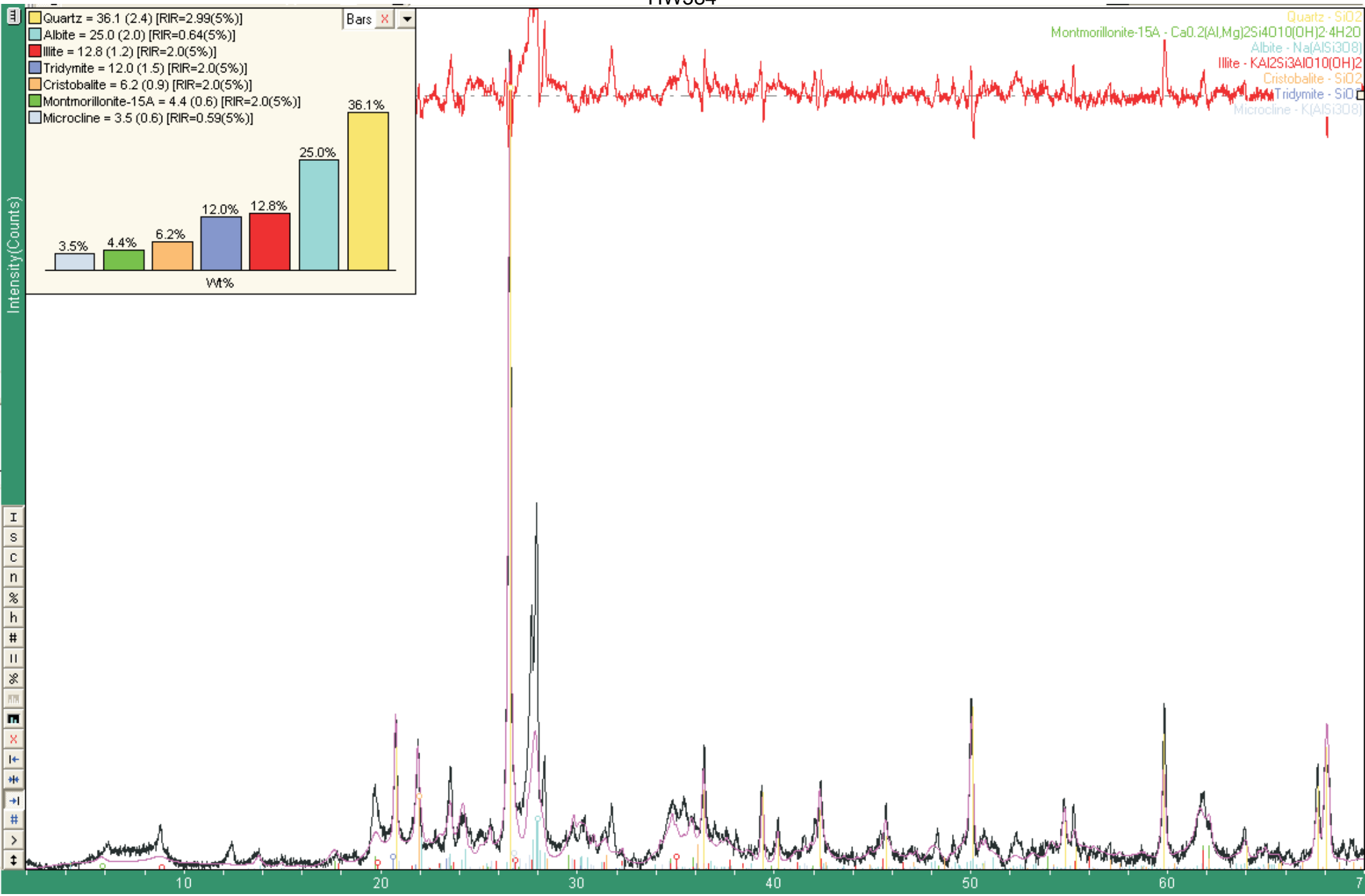

Quartz = 43.1 (2.7) [RIR=2.99(5%)]
Albite = 25.4 (1.8) [RIR=0.64(5%)]
Illite = 13.5 (1.1) [RIR=2.0(5%)]
Tridymite = 6.3 (0.8) [RIR=2.0(5%)]
Microcline = 4.7 (0.5) [RIR=0.59(5%)]
Cristobalite = 3.7 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.3 (0.4) [RIR=2.0(5%)]
Bars
3.3%
3.7%
4.7%
6.3%
13.5%
25.4%
43.1%
HW380
Wt%

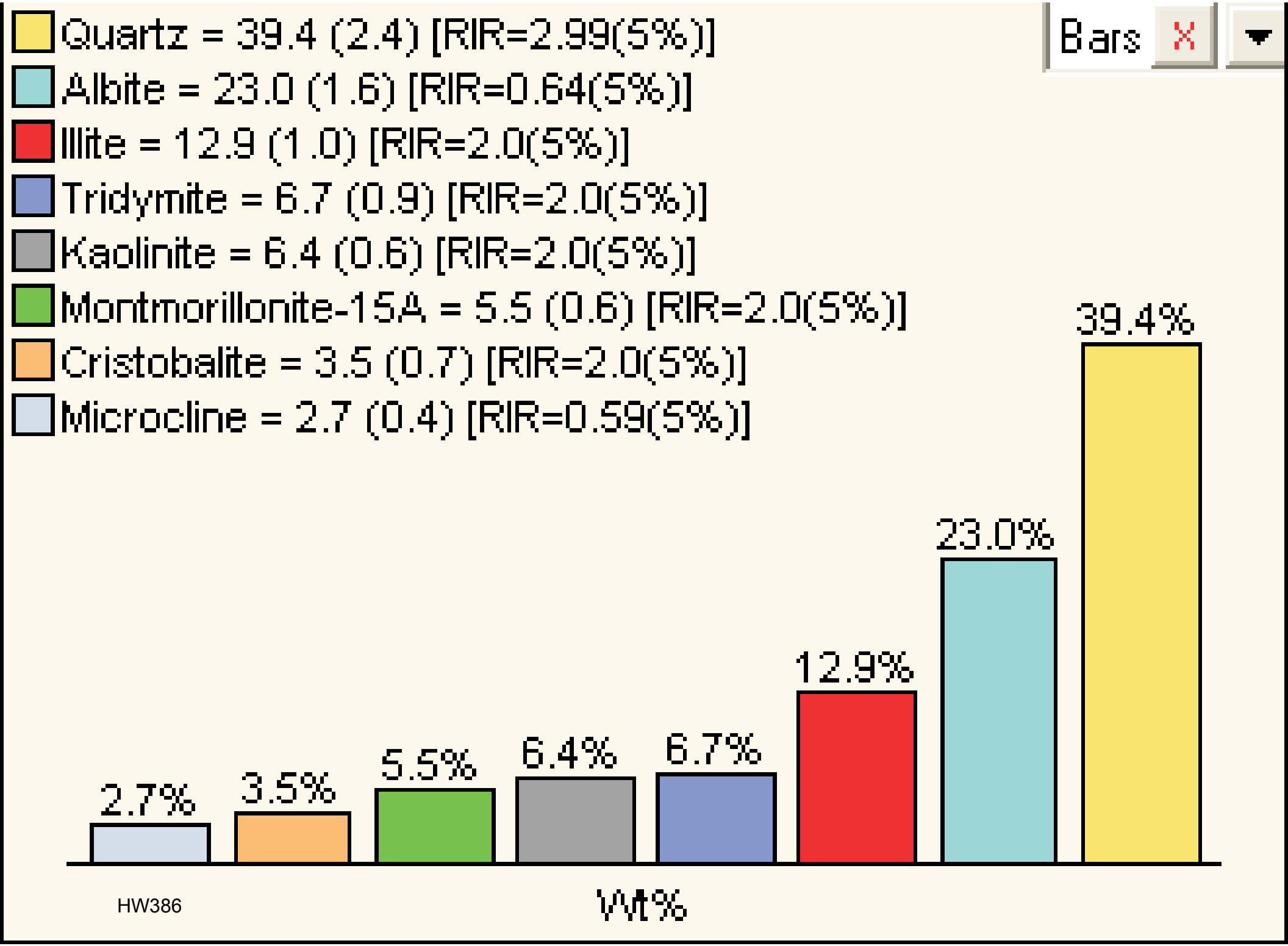
HW380


Quartz = 43.1 (2.7) [RIR=2.99(5%)]
Albite = 25.4 (1.8) [RIR=0.64(5%)]
Illite = 13.5 (1.1) [RIR=2.0(5%)]
Tridymite = 6.3 (0.8) [RIR=2.0(5%)]
Microcline = 4.7 (0.5) [RIR=0.59(5%)]
Cristobalite = 3.7 (0.5) [RIR=2.0(5%)]
Montmorillonite-15A = 3.3 (0.4) [RIR=2.0(5%)]
Bars
3.3%
3.7%
4.7%
6.3%
13.5%
25.4%
43.1%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60

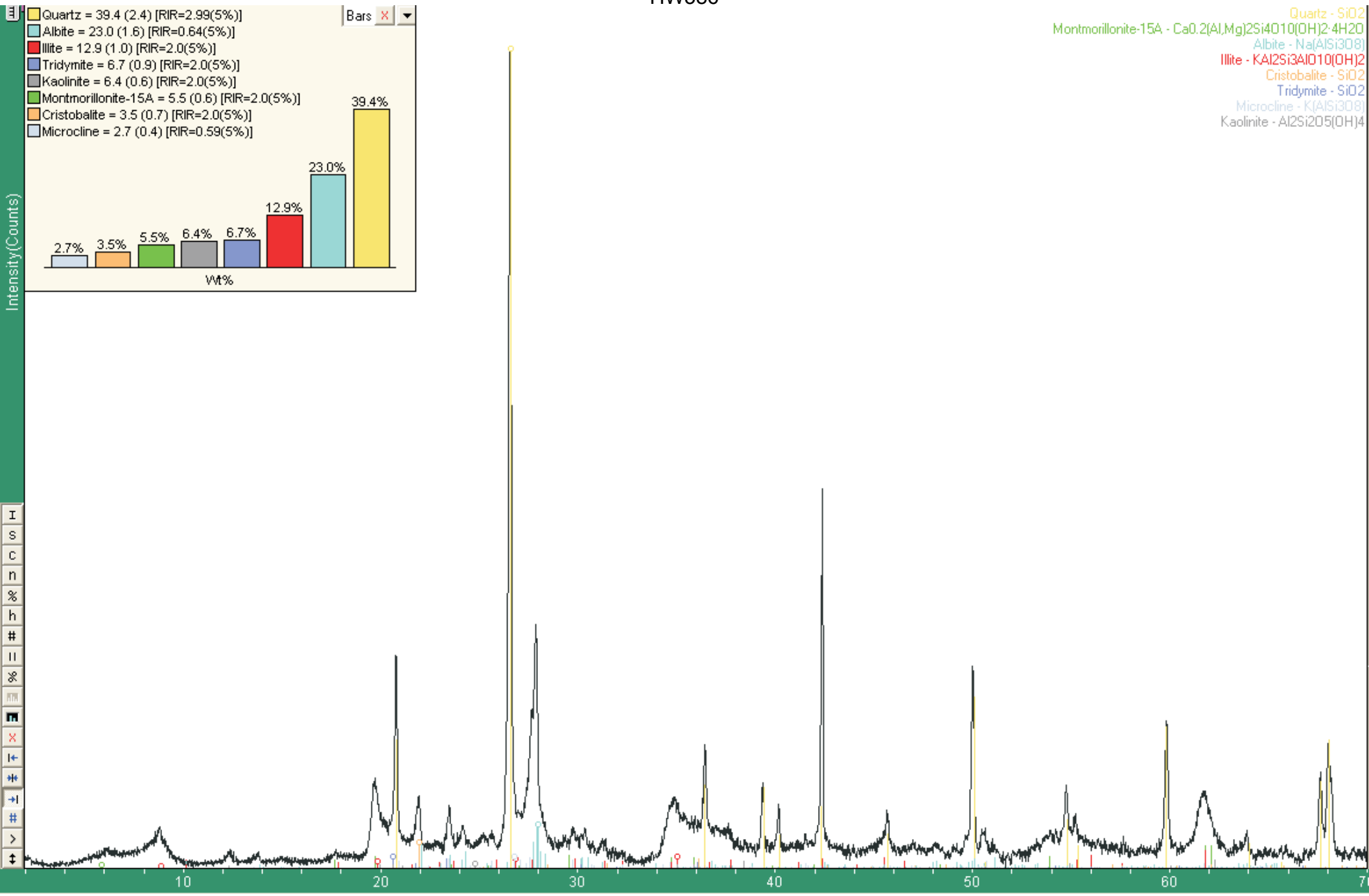

Quartz = 36.1 (2.4) [RIR=2.99(5%)]
Albite = 25.0 (2.0) [RIR=0.64(5%)]
Illite = 12.8 (1.2) [RIR=2.0(5%)]
Tridymite = 12.0 (1.5) [RIR=2.0(5%)]
Cristobalite = 6.2 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 4.4 (0.6) [RIR=2.0(5%)]
Microcline = 3.5 (0.6) [RIR=0.59(5%)]
Bars
3.5%
4.4%
6.2%
12.0%
12.8%
25.0%
36.1%
HW384
Wt%

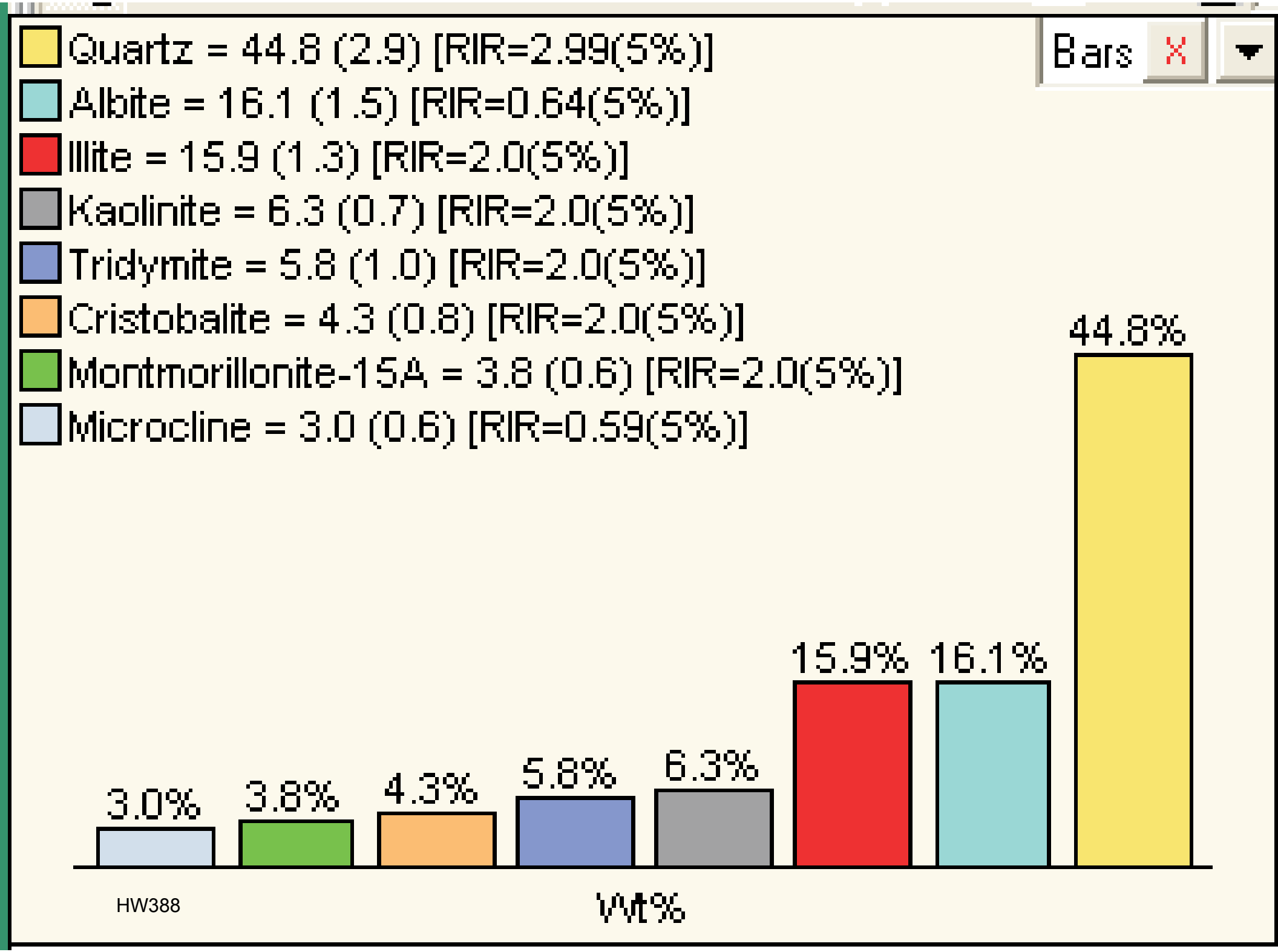
HW384


Quartz = 36.1 (2.4) [RIR=2.99(5%)]
Albite = 25.0 (2.0) [RIR=0.64(5%)]
Illite = 12.8 (1.2) [RIR=2.0(5%)]
Tridymite = 12.0 (1.5) [RIR=2.0(5%)]
Cristobalite = 6.2 (0.9) [RIR=2.0(5%)]
Montmorillonite-15A = 4.4 (0.6) [RIR=2.0(5%)]
Microcline = 3.5 (0.6) [RIR=0.59(5%)]
Bars
3.5%
4.4%
6.2%
12.0%
12.8%
25.0%
36.1%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60

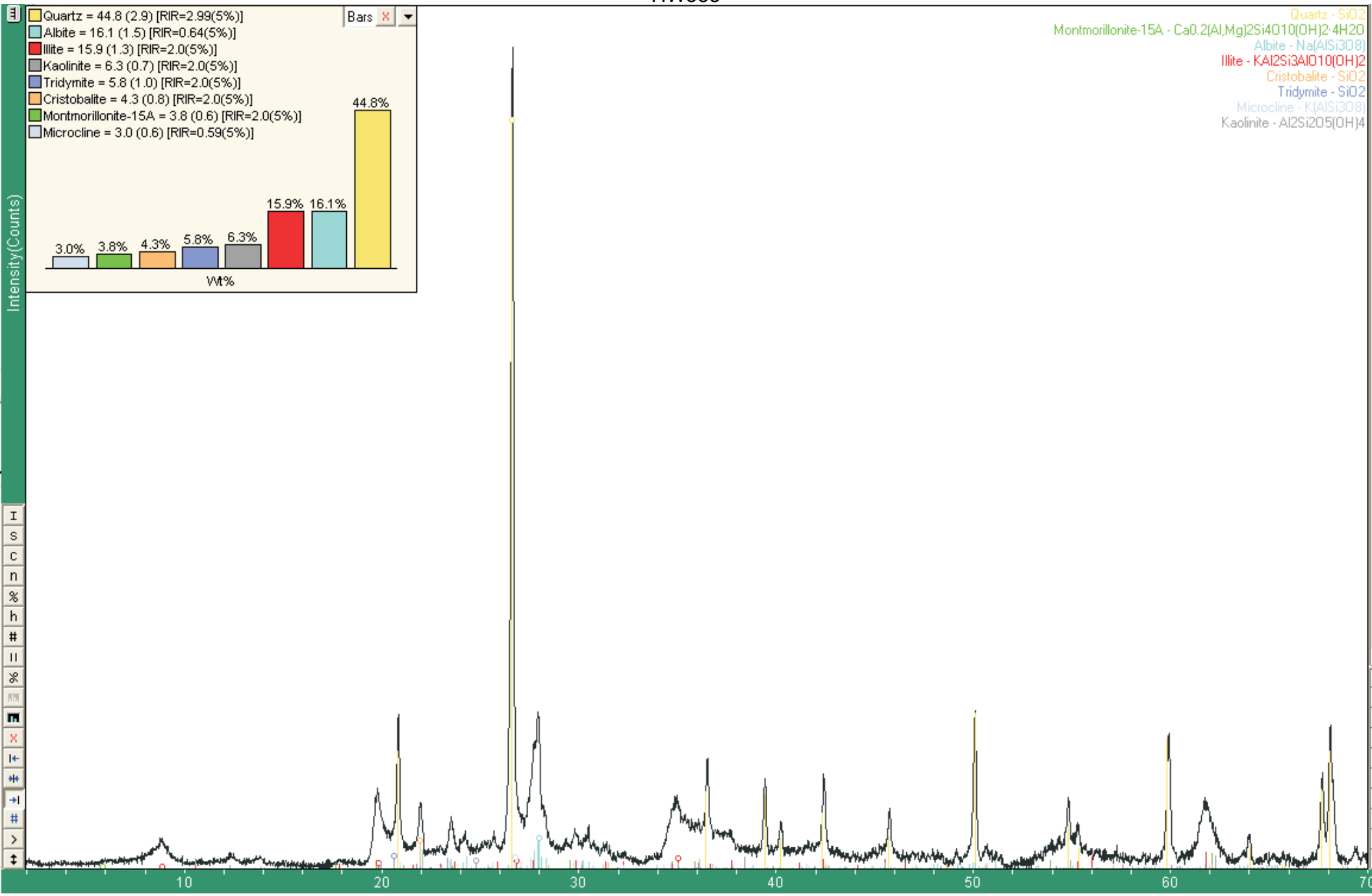

Quartz = 39.4 (2.4) [RIR=2.99(5%)]
Albite = 23.0 (1.6) [RIR=0.64(5%)]
Illite = 12.9 (1.0) [RIR=2.0(5%)]
Tridymite = 6.7 (0.9) [RIR=2.0(5%)]
Kaolinite = 6.4 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 5.5 (0.6) [RIR=2.0(5%)]
Cristobalite = 3.5 (0.7) [RIR=2.0(5%)]
Microcline = 2.7 (0.4) [RIR=0.59(5%)]
Bars
2.7%
3.5%
5.5%
6.4%
6.7%
12.9%
23.0%
39.4%
HW386
Wt%

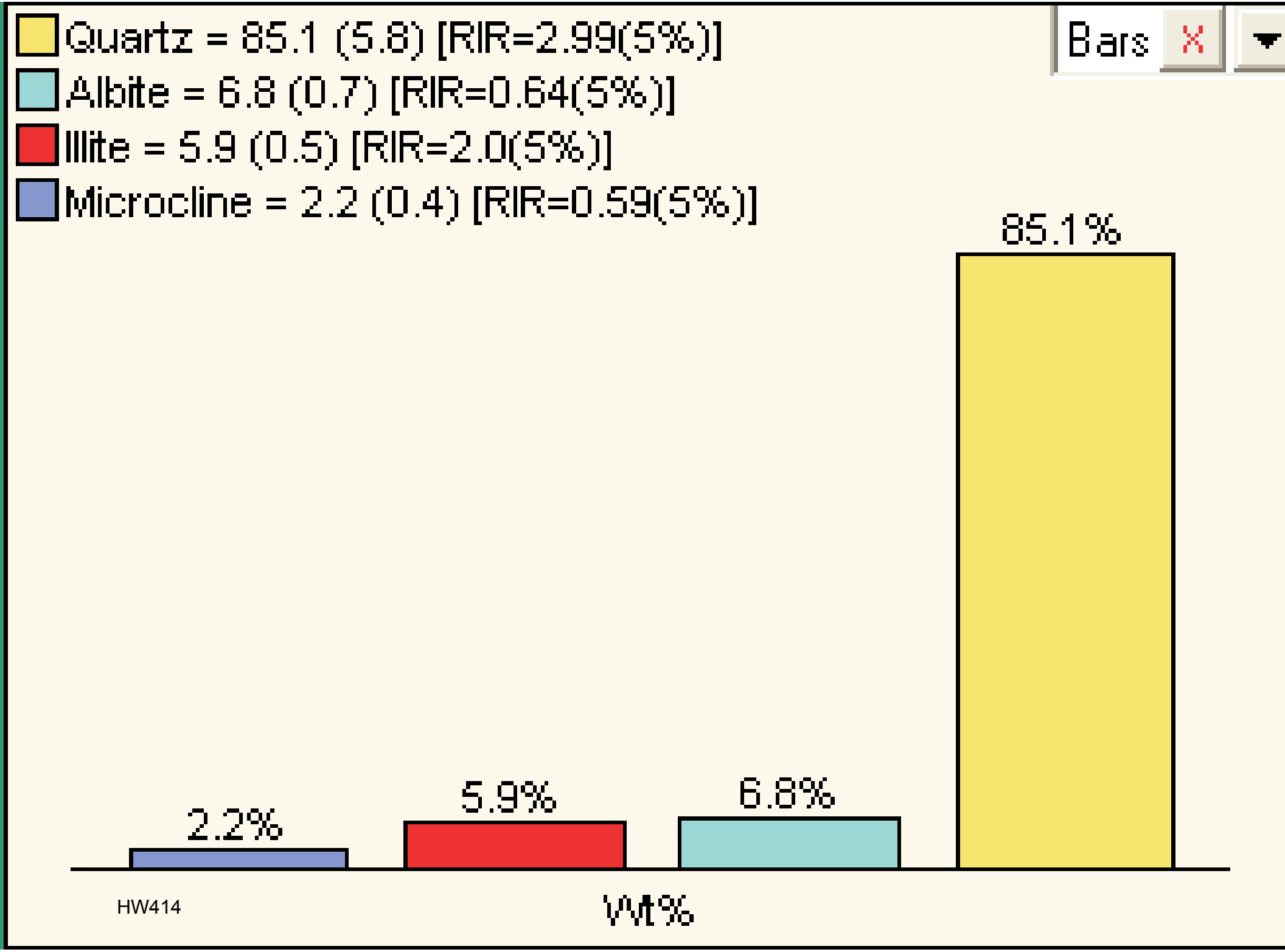
HW386


Quartz = 39.4 (2.4) [RIR=2.99(5%)]
Albite = 23.0 (1.6) [RIR=0.64(5%)]
Illite = 12.9 (1.0) [RIR=2.0(5%)]
Tridymite = 6.7 (0.9) [RIR=2.0(5%)]
Kaolinite = 6.4 (0.6) [RIR=2.0(5%)]
Montmorillonite-15A = 5.5 (0.6) [RIR=2.0(5%)]
Cristobalite = 3.5 (0.7) [RIR=2.0(5%)]
Microcline = 2.7 (0.4) [RIR=0.59(5%)]
Bars
2.7%
3.5%
5.5%
6.4%
6.7%
12.9%
23.0%
39.4%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

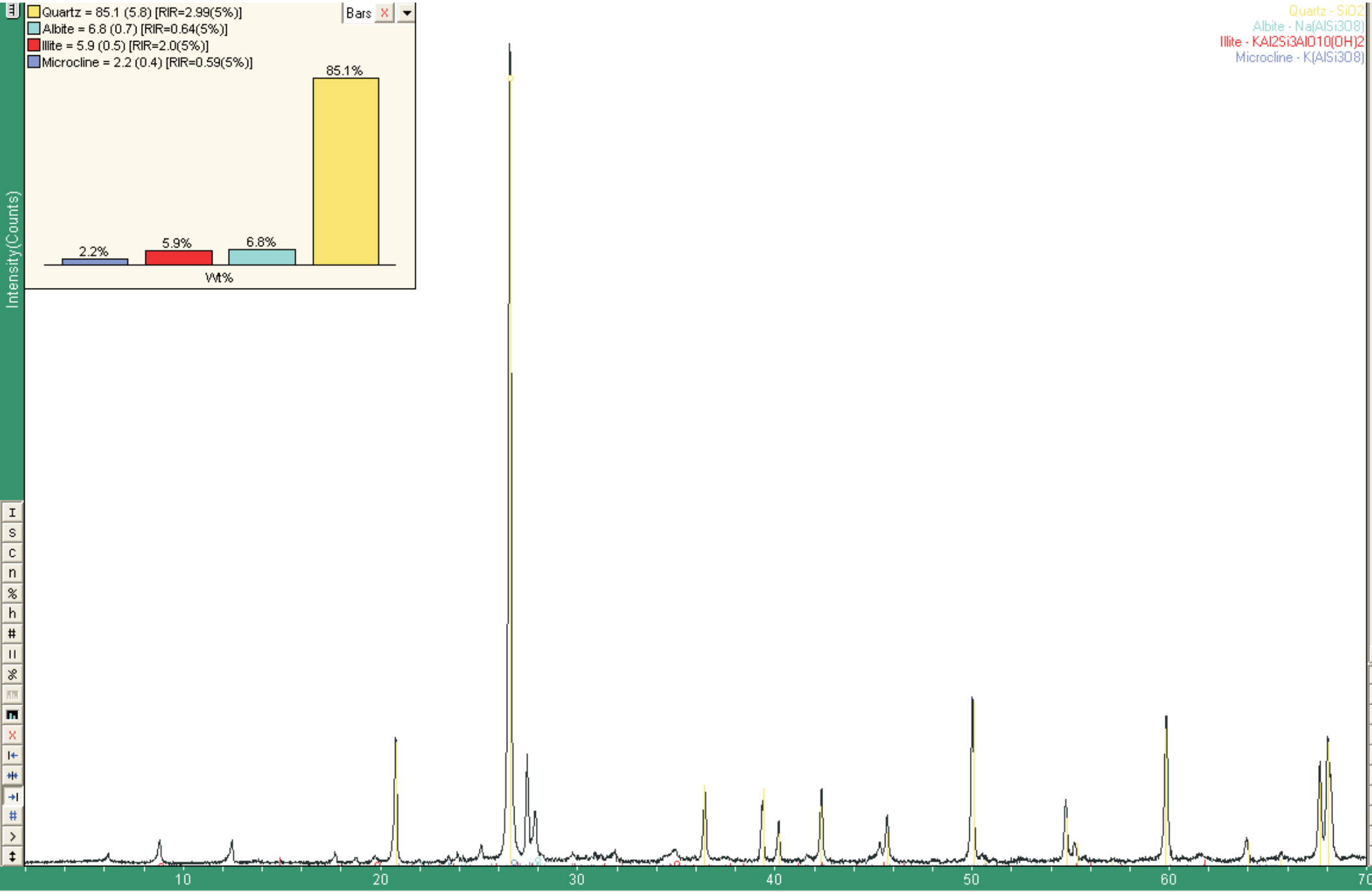

Quartz = 44.8 (2.9) [RIR=2.99(5%)]
Albite = 16.1 (1.5) [RIR=0.64(5%)]
Illite = 15.9 (1.3) [RIR=2.0(5%)]
Kaolinite = 6.3 (0.7) [RIR=2.0(5%)]
Tridymite = 5.8 (1.0) [RIR=2.0(5%)]
Cristobalite = 4.3 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.8 (0.6) [RIR=2.0(5%)]
Microcline = 3.0 (0.6) [RIR=0.59(5%)]
Bars
3.0%
3.8%
4.3%
5.8%
6.3%
15.9%
16.1%
44.8%
HW388
Wt%

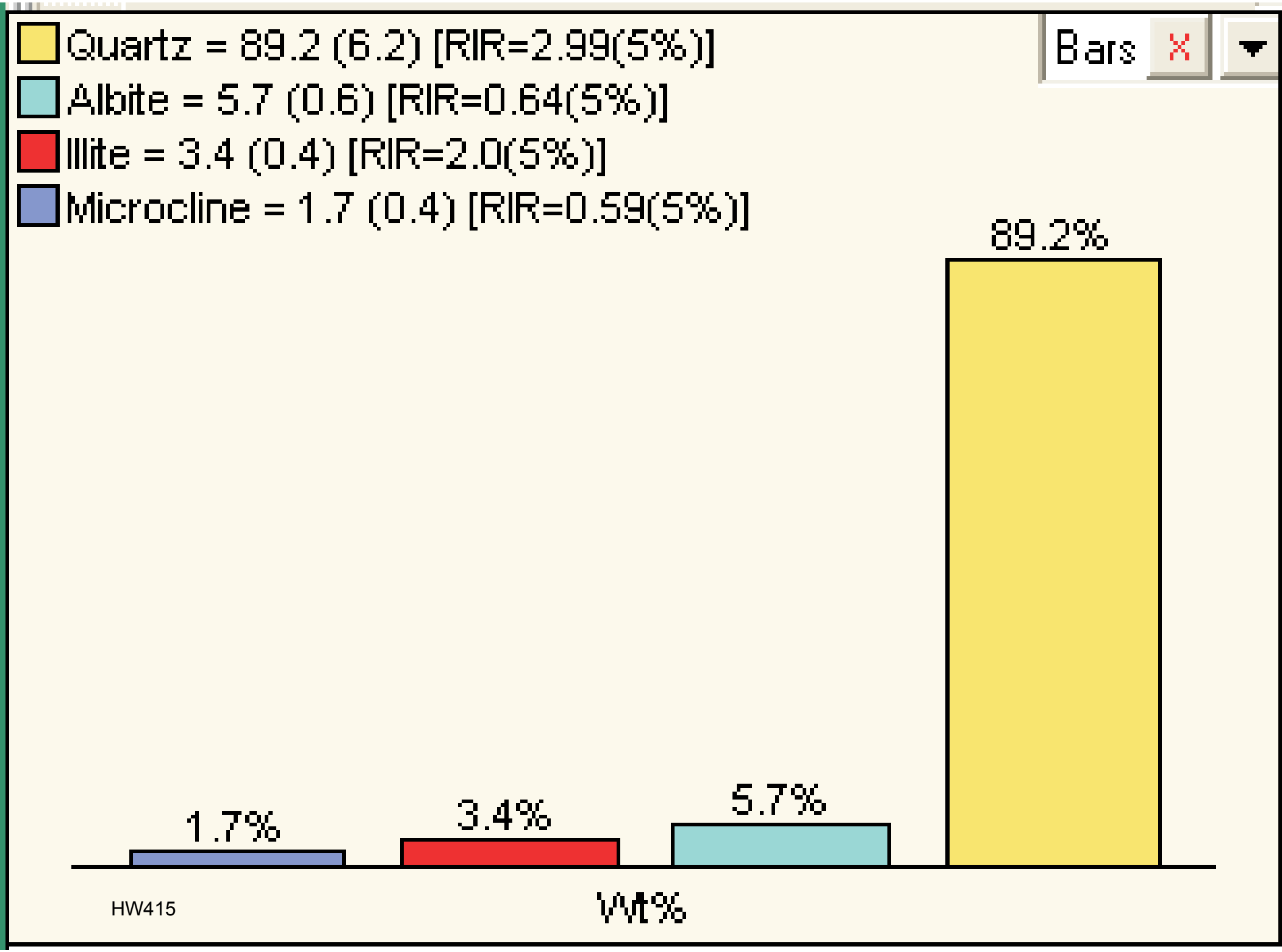
HW388


Quartz = 44.8 (2.9) [RIR=2.99(5%)]
Albite = 16.1 (1.5) [RIR=0.64(5%)]
Illite = 15.9 (1.3) [RIR=2.0(5%)]
Kaolinite = 6.3 (0.7) [RIR=2.0(5%)]
Tridymite = 5.8 (1.0) [RIR=2.0(5%)]
Cristobalite = 4.3 (0.8) [RIR=2.0(5%)]
Montmorillonite-15A = 3.8 (0.6) [RIR=2.0(5%)]
Microcline = 3.0 (0.6) [RIR=0.59(5%)]
Bars
3.0%
3.8%
4.3%
5.8%
6.3%
15.9%
16.1%
44.8%
Wt%
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70

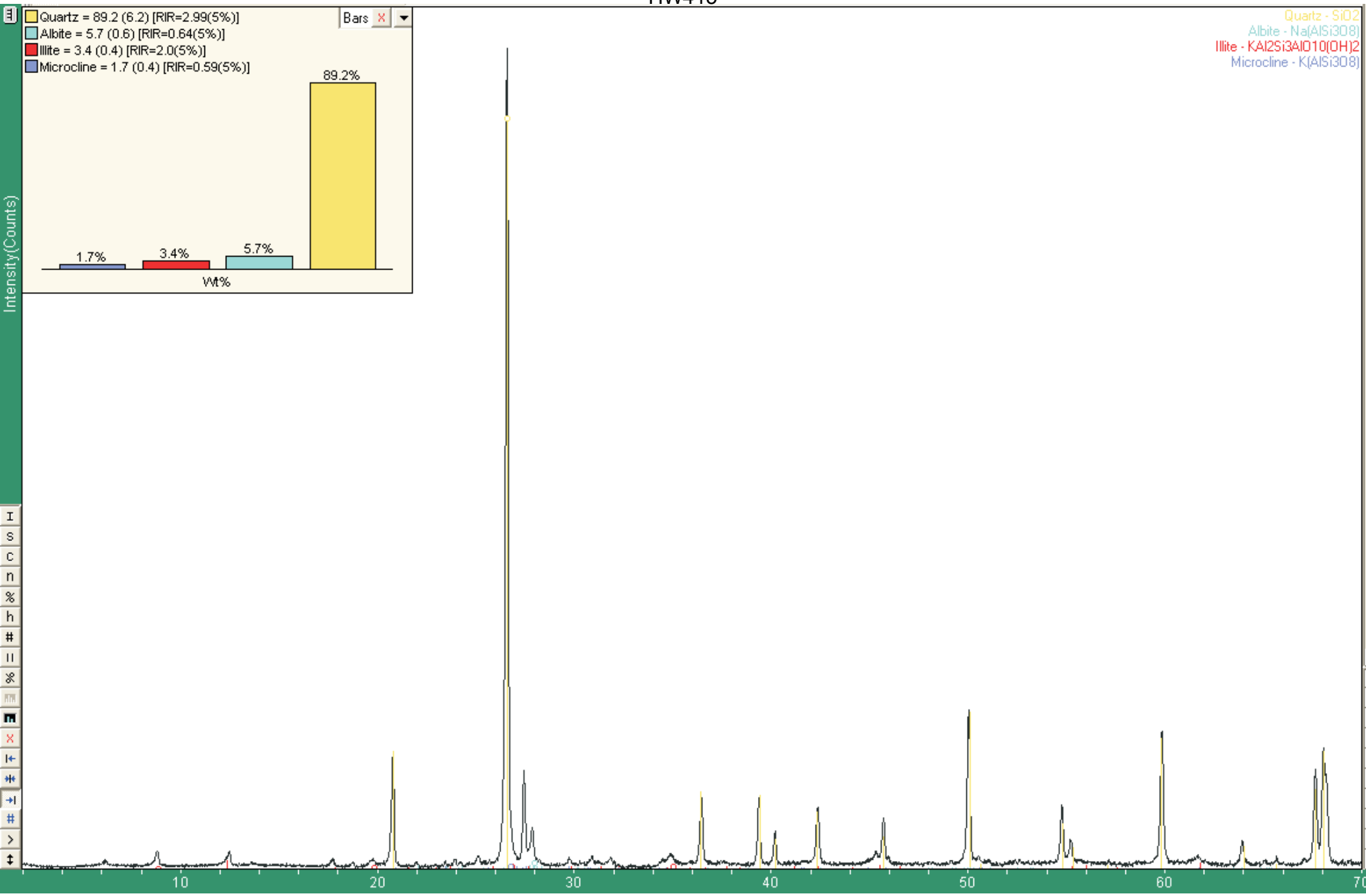

Quartz = 85.1 (5.8) [RIR=2.99(5%)]
Albite = 6.8 (0.7) [RIR=0.64(5%)]
Illite = 5.9 (0.5) [RIR=2.0(5%)]
Microcline = 2.2 (0.4) [RIR=0.59(5%)]
Bars
85.1%
6.8%
5.9%
2.2%
HW414
Wt%

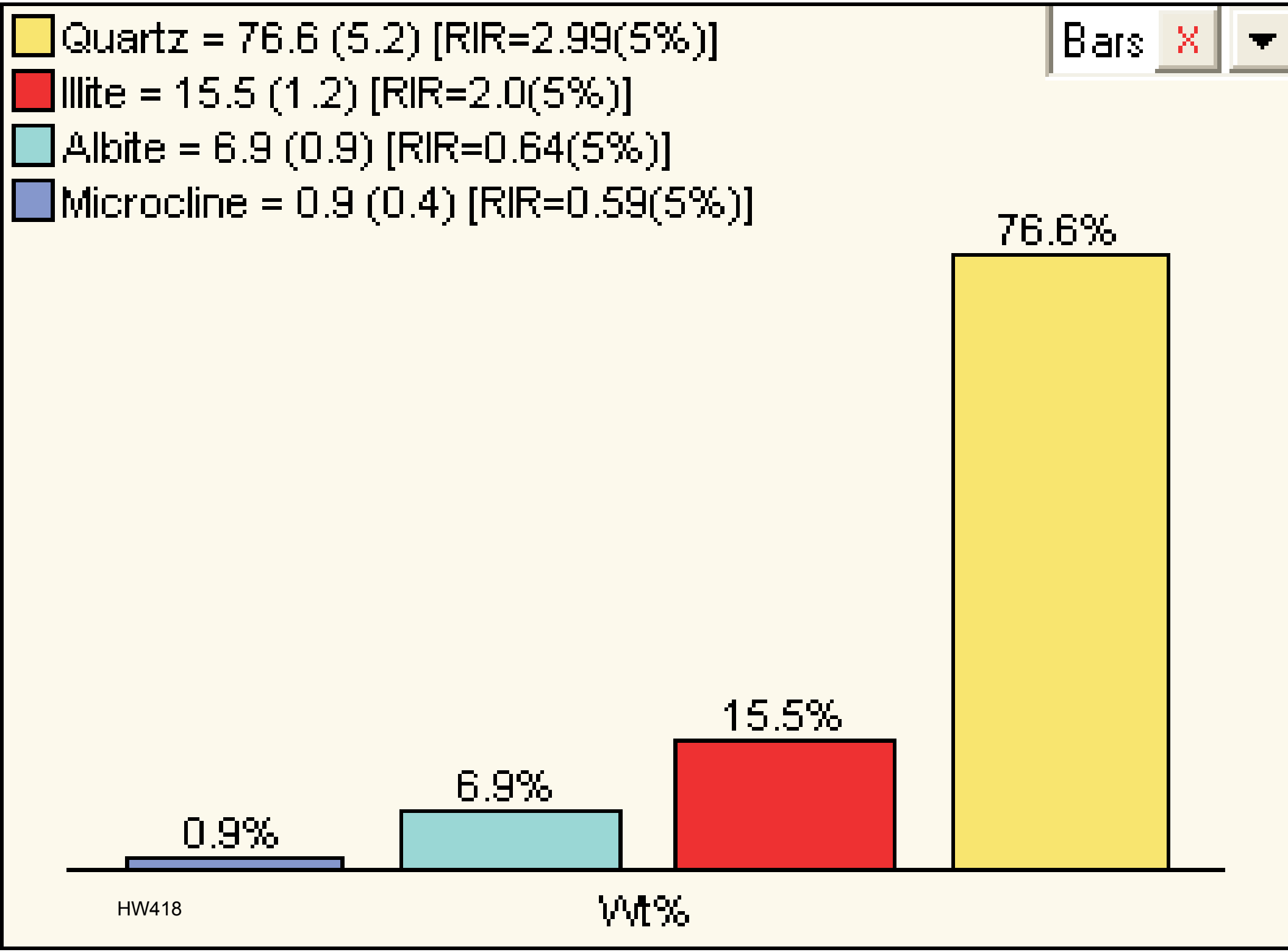
HW414


Quartz = 85.1 (5.8) [RIR=2.99(5%)]
Albite = 6.8 (0.7) [RIR=0.64(5%)]
Illite = 5.9 (0.5) [RIR=2.0(5%)]
Microcline = 2.2 (0.4) [RIR=0.59(5%)]
Bars
85.1%
2.2%
5.9%
6.8%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

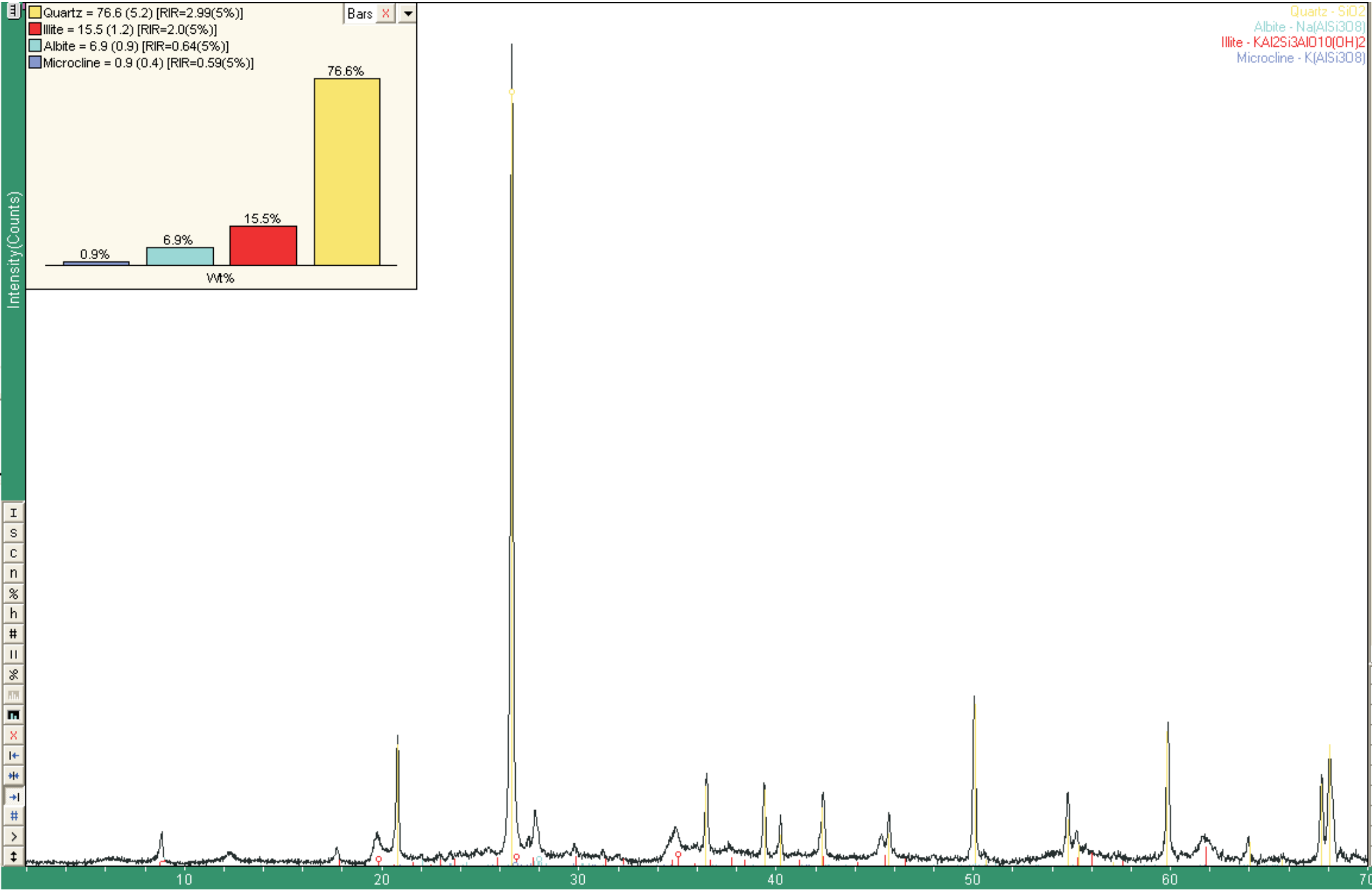

Quartz = 89.2 (6.2) [RIR=2.99(5%)]
Albite = 5.7 (0.6) [RIR=0.64(5%)]
Illite = 3.4 (0.4) [RIR=2.0(5%)]
Microcline = 1.7 (0.4) [RIR=0.59(5%)]
Bars
89.2%
5.7%
3.4%
1.7%
HW415
Wt%

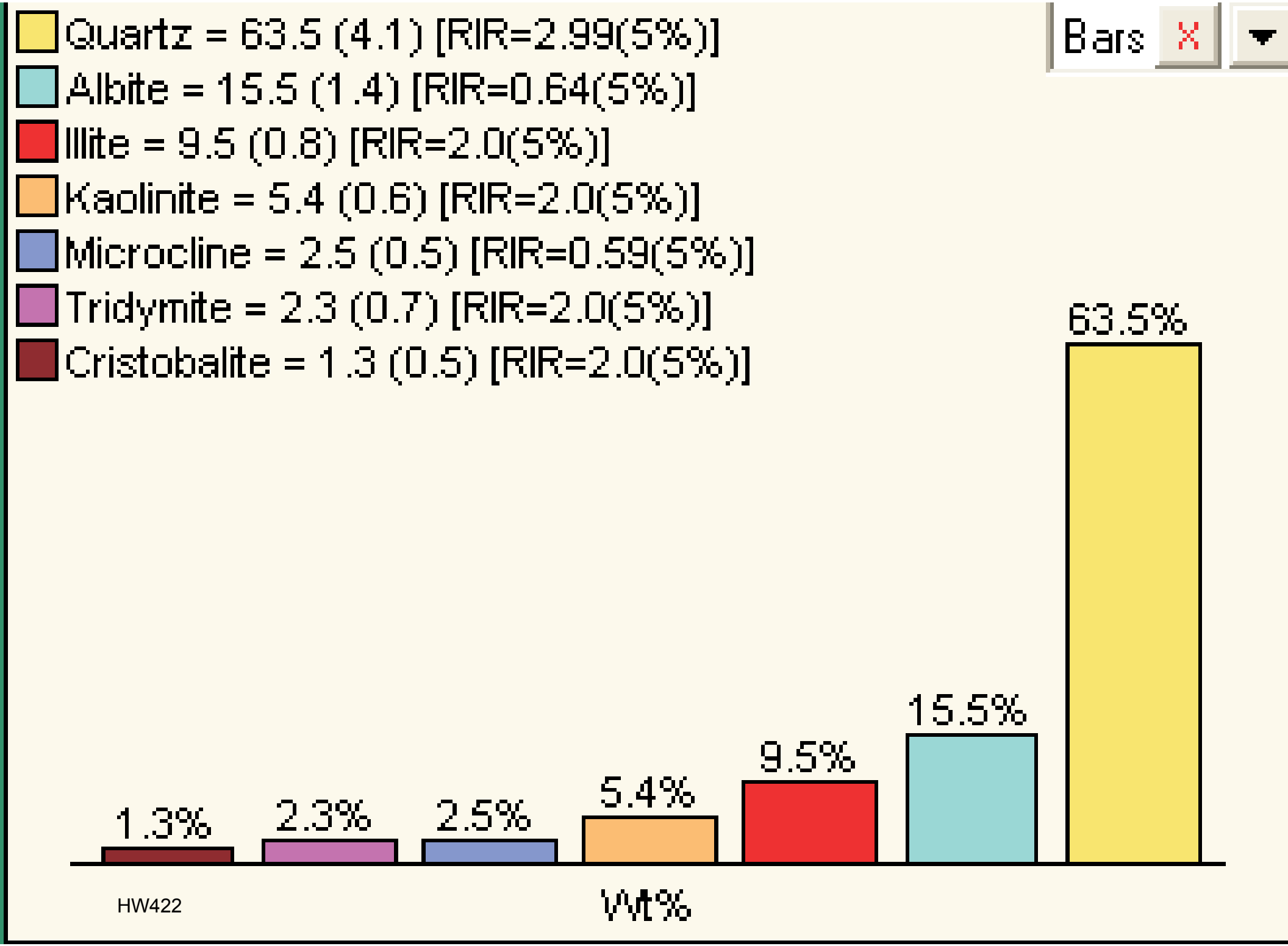
HW415


Quartz = 89.2 (6.2) [RIR=2.99(5%)]
Albite = 5.7 (0.6) [RIR=0.64(5%)]
Illite = 3.4 (0.4) [RIR=2.0(5%)]
Microcline = 1.7 (0.4) [RIR=0.59(5%)]
Bars
89.2%
5.7%
3.4%
1.7%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

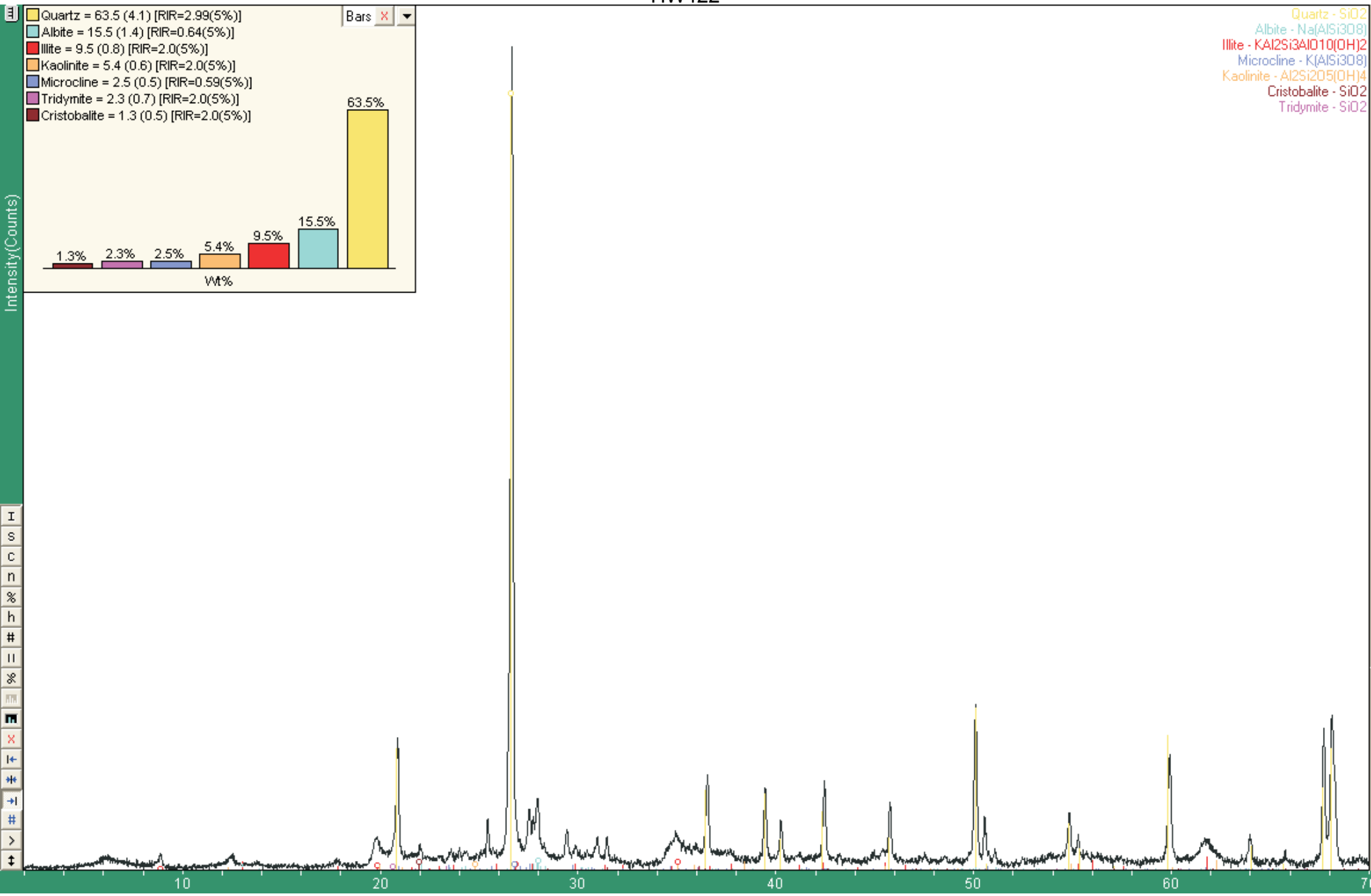

Quartz = 76.6 (5.2) [RIR=2.99(5%)]
Illite = 15.5 (1.2) [RIR=2.0(5%)]
Albite = 6.9 (0.9) [RIR=0.64(5%)]
Microcline = 0.9 (0.4) [RIR=0.59(5%)]
Bars
76.6%
15.5%
6.9%
0.9%
HW418
Wt%

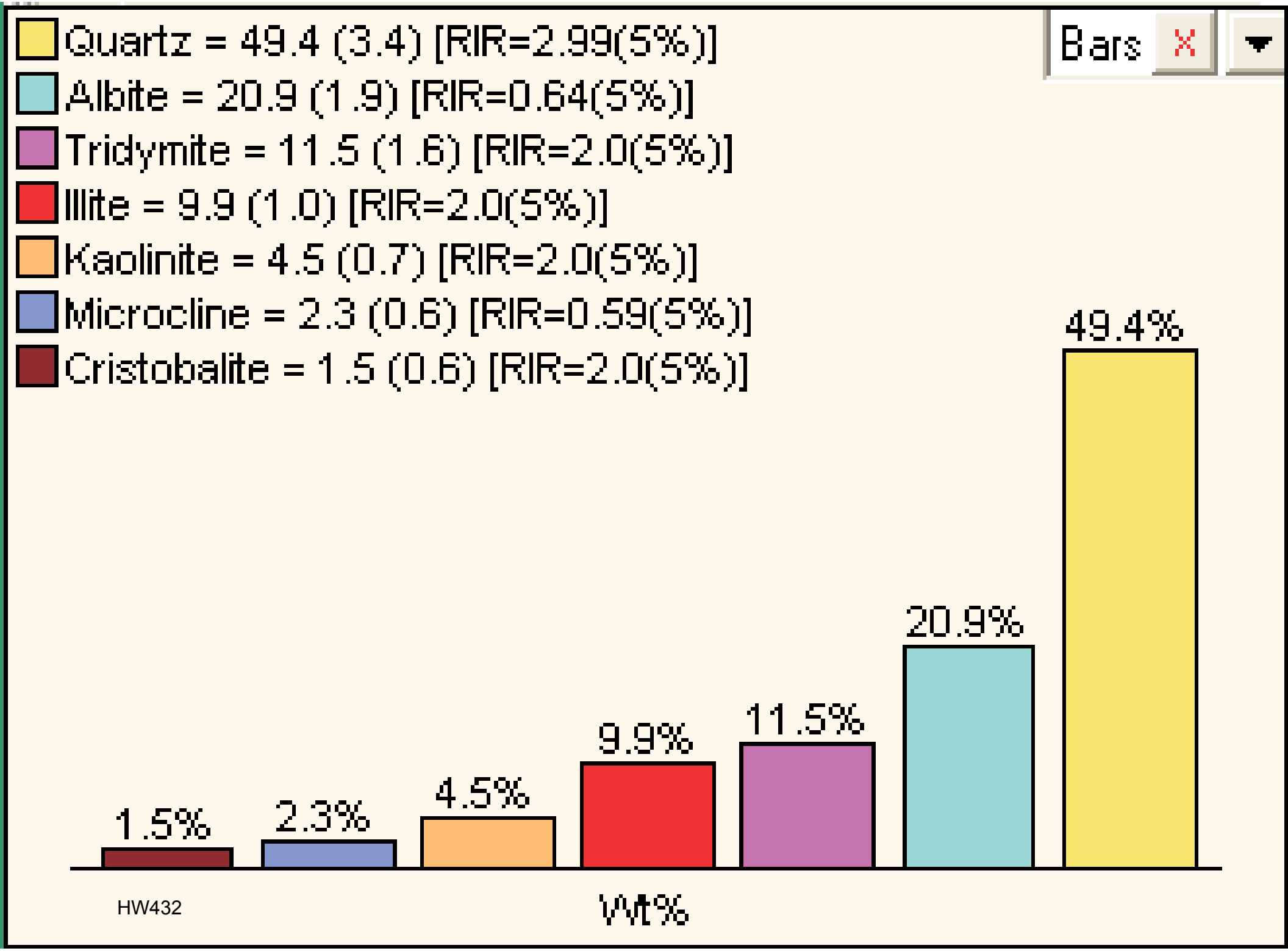
HW418


Quartz = 76.6 (5.2) [RIR=2.99(5%)]
Illite = 15.5 (1.2) [RIR=2.0(5%)]
Albite = 6.9 (0.9) [RIR=0.64(5%)]
Microcline = 0.9 (0.4) [RIR=0.59(5%)]
Bars
76.6%
15.5%
6.9%
0.9%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70

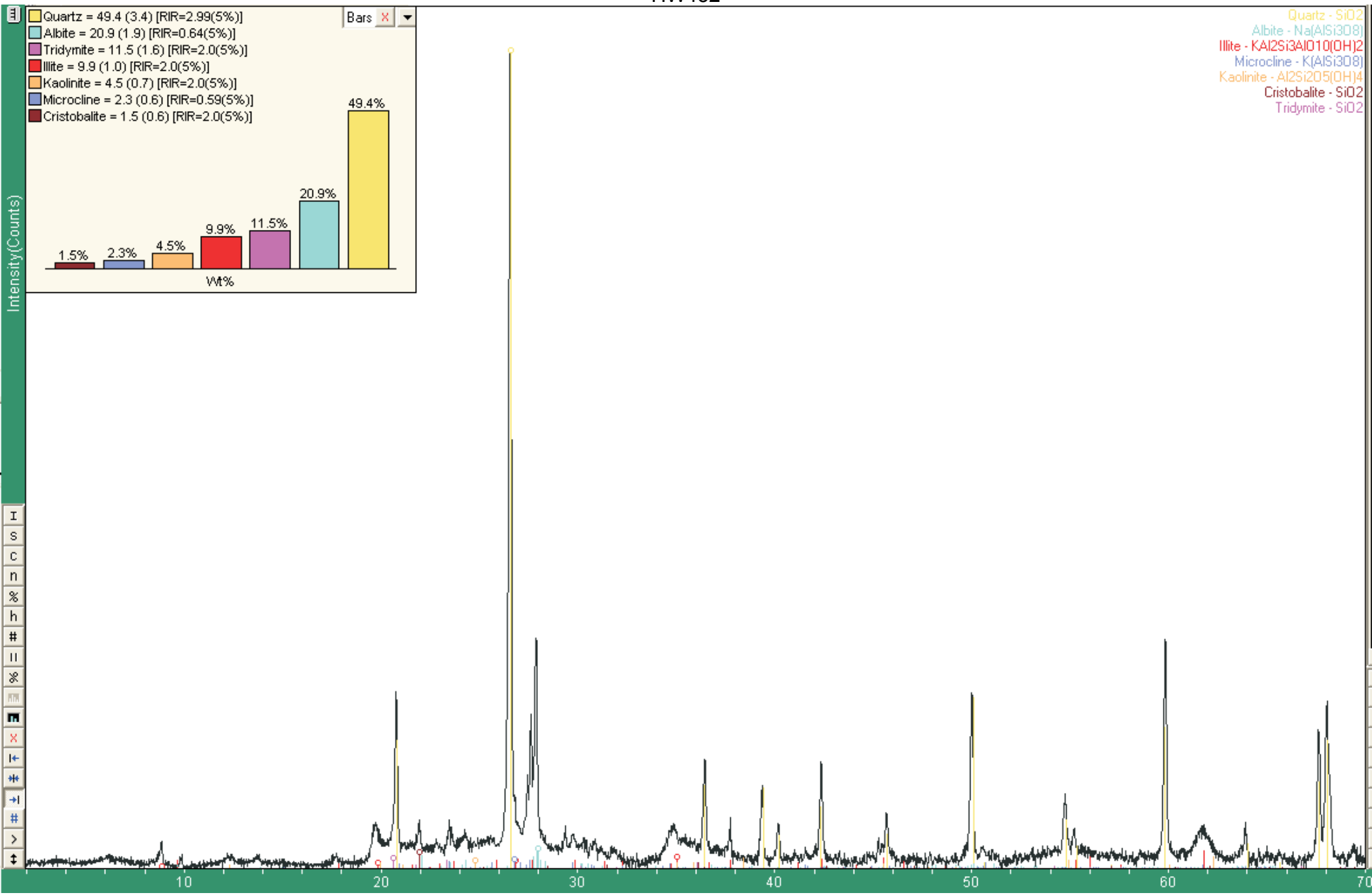

Quartz = 63.5 (4.1) [RIR=2.99(5%)]
Albite = 15.5 (1.4) [RIR=0.64(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Kaolinite = 5.4 (0.6) [RIR=2.0(5%)]
Microcline = 2.5 (0.5) [RIR=0.59(5%)]
Tridymite = 2.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
2.3%
2.5%
5.4%
9.5%
15.5%
63.5%
HW422
Wt%

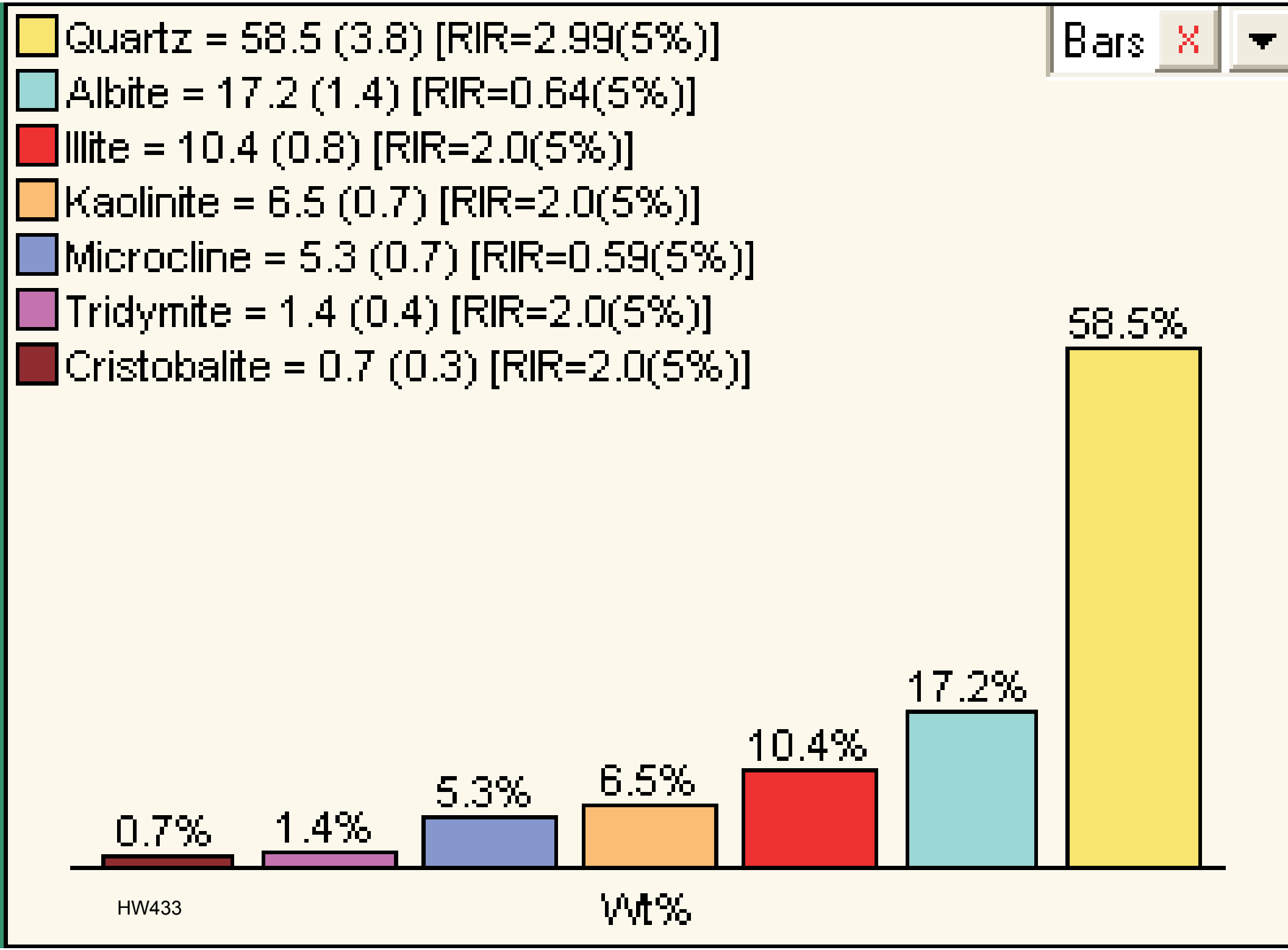
HW422


Quartz = 63.5 (4.1) [RIR=2.99(5%)]
Albite = 15.5 (1.4) [RIR=0.64(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Kaolinite = 5.4 (0.6) [RIR=2.0(5%)]
Microcline = 2.5 (0.5) [RIR=0.59(5%)]
Tridymite = 2.3 (0.7) [RIR=2.0(5%)]
Cristobalite = 1.3 (0.5) [RIR=2.0(5%)]
Bars
1.3%
2.3%
2.5%
5.4%
9.5%
15.5%
63.5%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

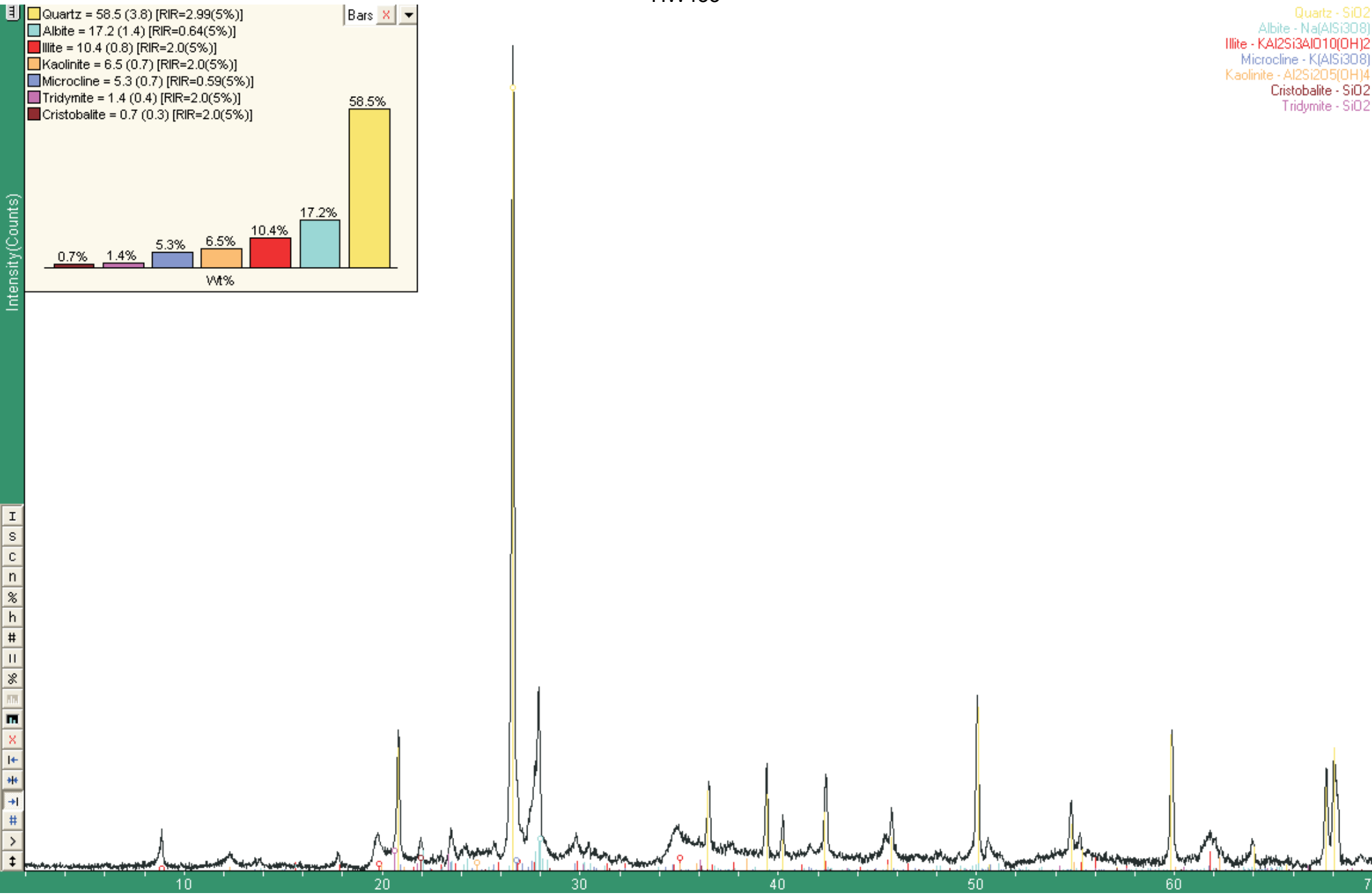

Quartz = 49.4 (3.4) [RIR=2.99(5%)]
Albite = 20.9 (1.9) [RIR=0.64(5%)]
Tridymite = 11.5 (1.6) [RIR=2.0(5%)]
Illite = 9.9 (1.0) [RIR=2.0(5%)]
Kaolinite = 4.5 (0.7) [RIR=2.0(5%)]
Microcline = 2.3 (0.6) [RIR=0.59(5%)]
Cristobalite = 1.5 (0.6) [RIR=2.0(5%)]
Bars
1.5%
2.3%
4.5%
9.9%
11.5%
20.9%
49.4%
HW432
Wt%

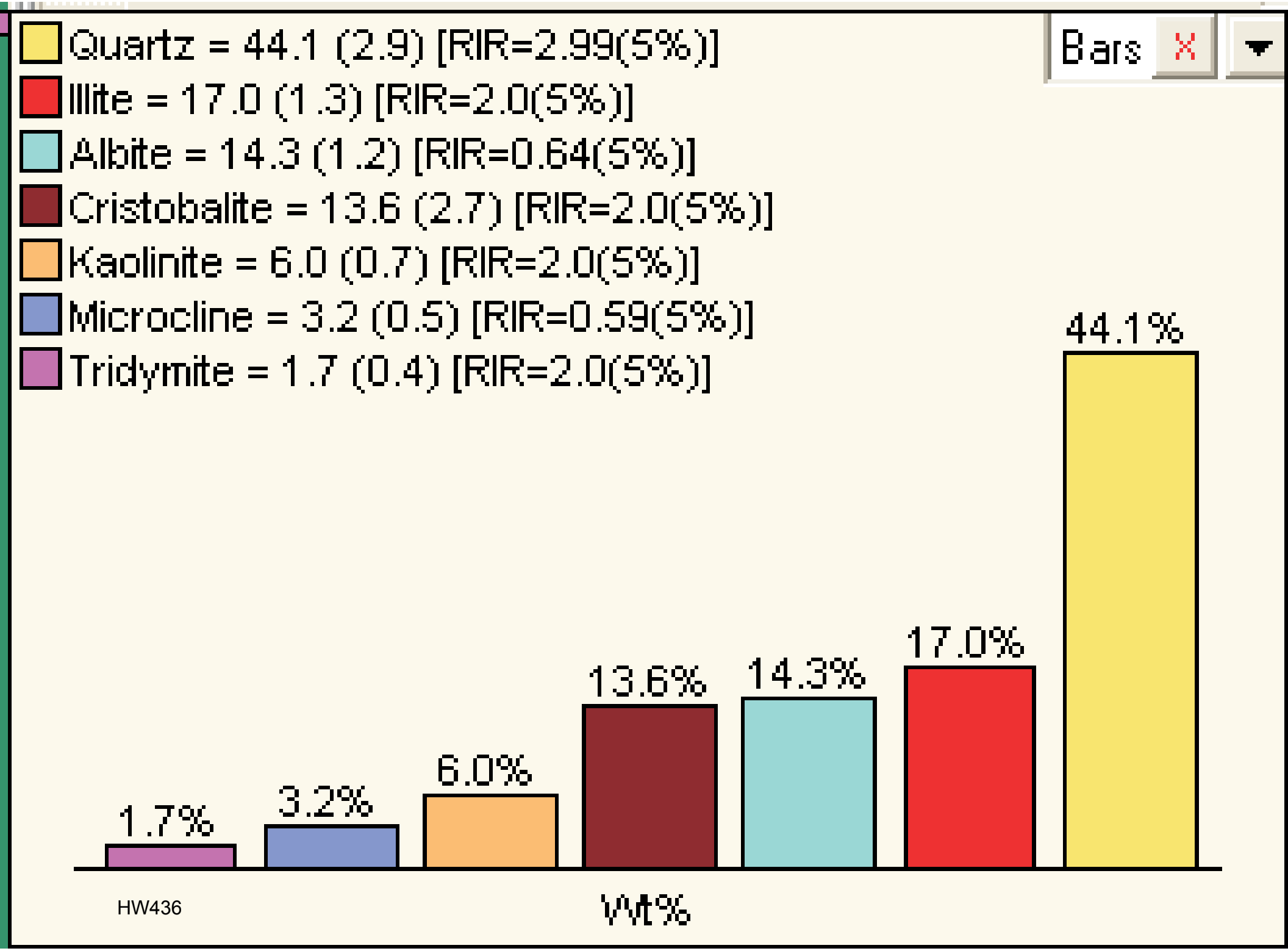
HW432


Quartz = 49.4 (3.4) [RIR=2.99(5%)]
Albite = 20.9 (1.9) [RIR=0.64(5%)]
Tridymite = 11.5 (1.6) [RIR=2.0(5%)]
Illite = 9.9 (1.0) [RIR=2.0(5%)]
Kaolinite = 4.5 (0.7) [RIR=2.0(5%)]
Microcline = 2.3 (0.6) [RIR=0.59(5%)]
Cristobalite = 1.5 (0.6) [RIR=2.0(5%)]
Bars
1.5%
2.3%
4.5%
9.9%
11.5%
20.9%
49.4%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

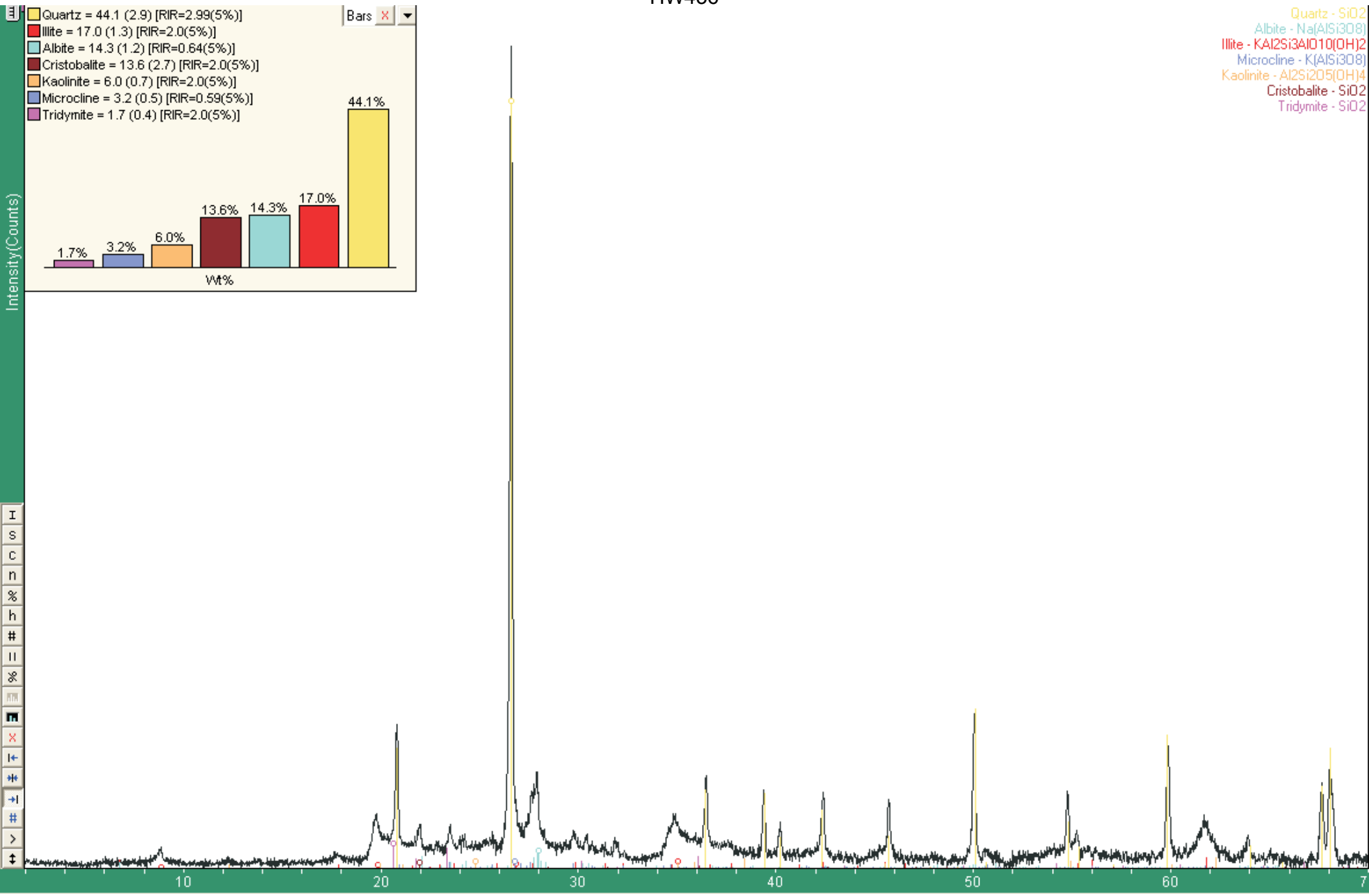

Quartz = 58.5 (3.8) [RIR=2.99(5%)]
Albite = 17.2 (1.4) [RIR=0.64(5%)]
Illite = 10.4 (0.8) [RIR=2.0(5%)]
Kaolinite = 6.5 (0.7) [RIR=2.0(5%)]
Microcline = 5.3 (0.7) [RIR=0.59(5%)]
Tridymite = 1.4 (0.4) [RIR=2.0(5%)]
Cristobalite = 0.7 (0.3) [RIR=2.0(5%)]
Bars
0.7%
1.4%
5.3%
6.5%
10.4%
17.2%
58.5%
HW433
Wt%

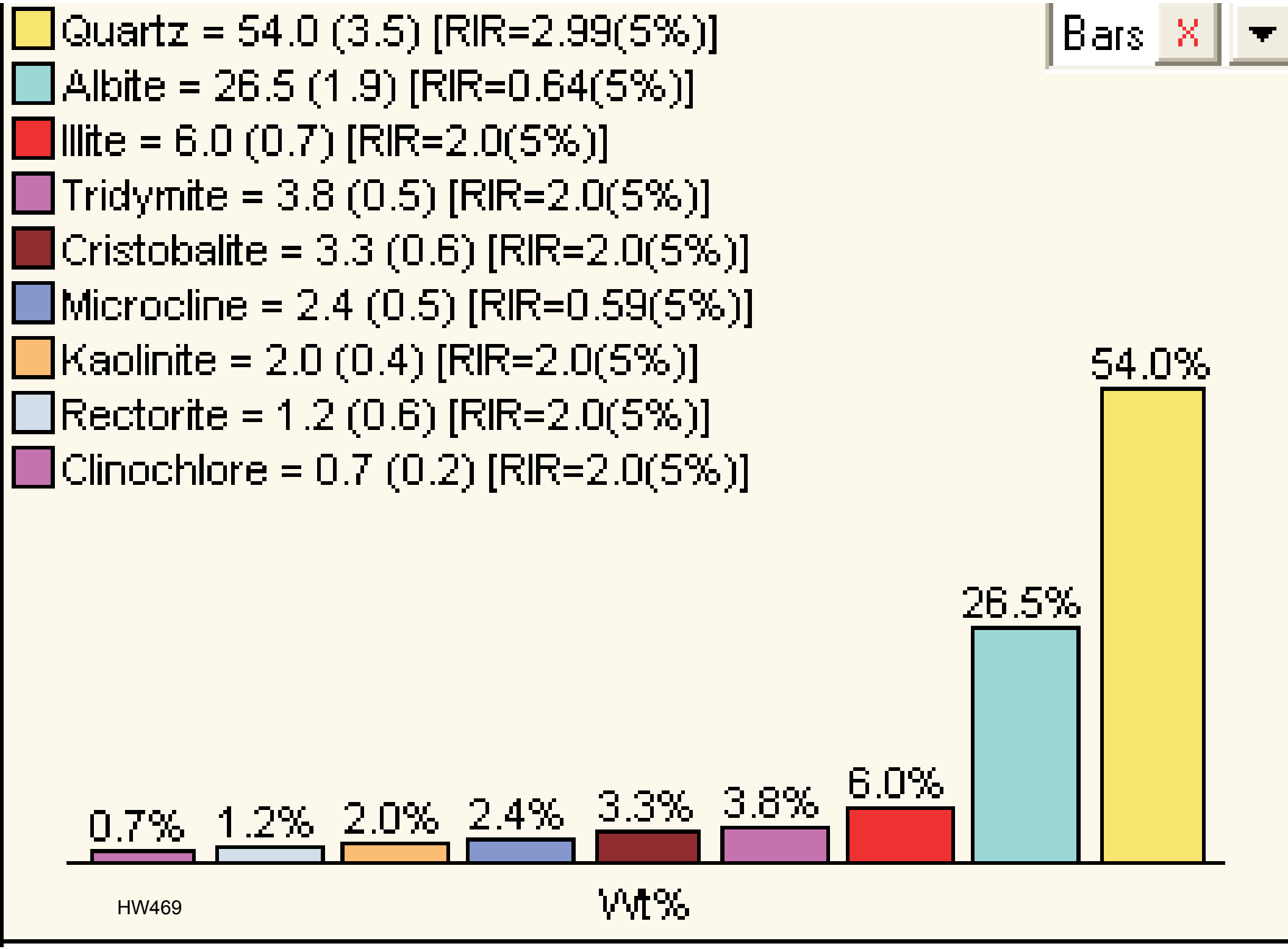
HW433


Quartz = 58.5 (3.8) [RIR=2.99(5%)]
Albite = 17.2 (1.4) [RIR=0.64(5%)]
Illite = 10.4 (0.8) [RIR=2.0(5%)]
Kaolinite = 6.5 (0.7) [RIR=2.0(5%)]
Microcline = 5.3 (0.7) [RIR=0.59(5%)]
Tridymite = 1.4 (0.4) [RIR=2.0(5%)]
Cristobalite = 0.7 (0.3) [RIR=2.0(5%)]
Bars
0.7%
1.4%
5.3%
6.5%
10.4%
17.2%
58.5%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

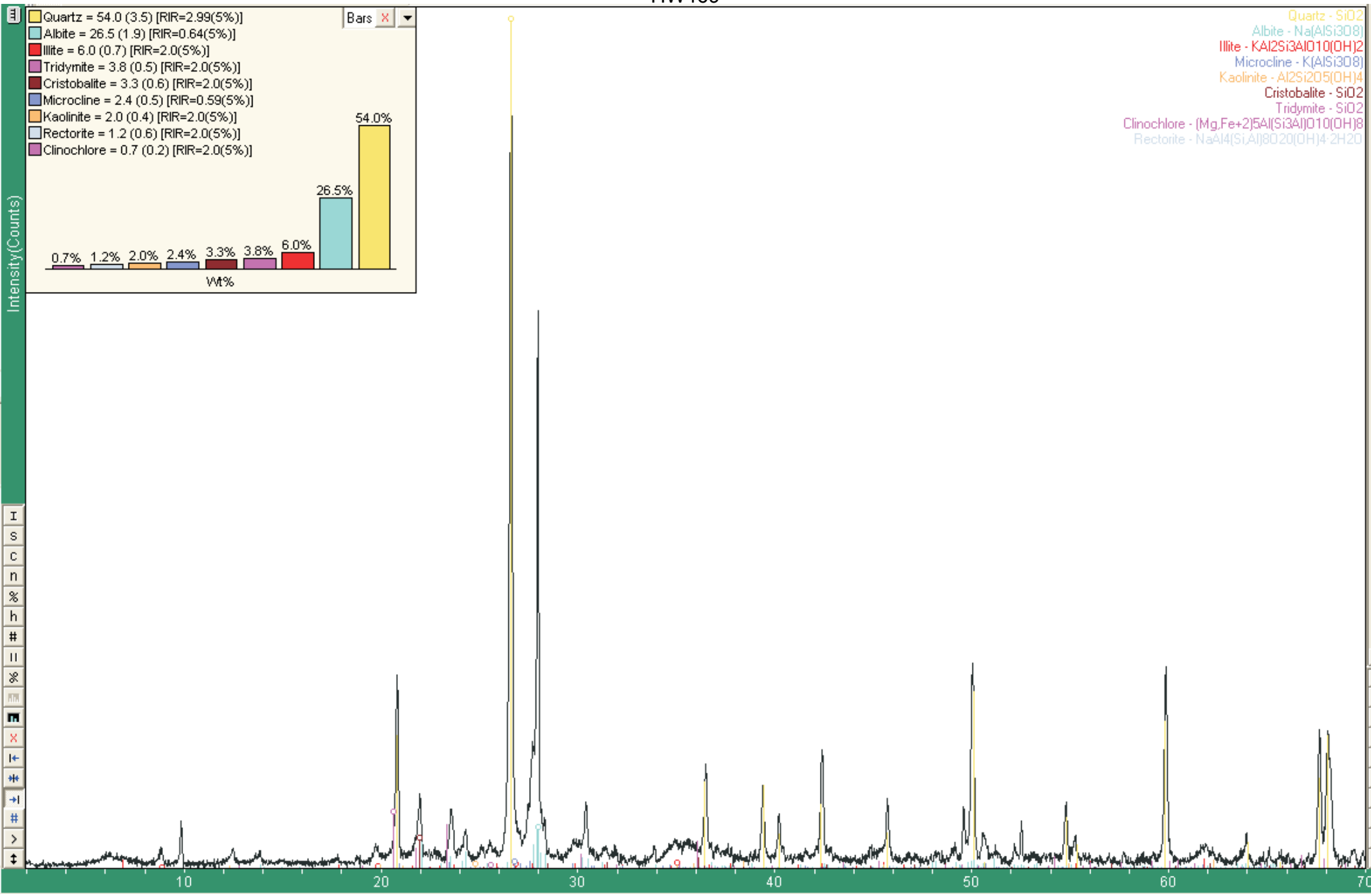

Quartz = 44.1 (2.9) [RIR=2.99(5%)]
Illite = 17.0 (1.3) [RIR=2.0(5%)]
Albite = 14.3 (1.2) [RIR=0.64(5%)]
Cristobalite = 13.6 (2.7) [RIR=2.0(5%)]
Kaolinite = 6.0 (0.7) [RIR=2.0(5%)]
Microcline = 3.2 (0.5) [RIR=0.59(5%)]
Tridymite = 1.7 (0.4) [RIR=2.0(5%)]
Bars
1.7%
3.2%
6.0%
13.6%
14.3%
17.0%
44.1%
HW436
Wt%

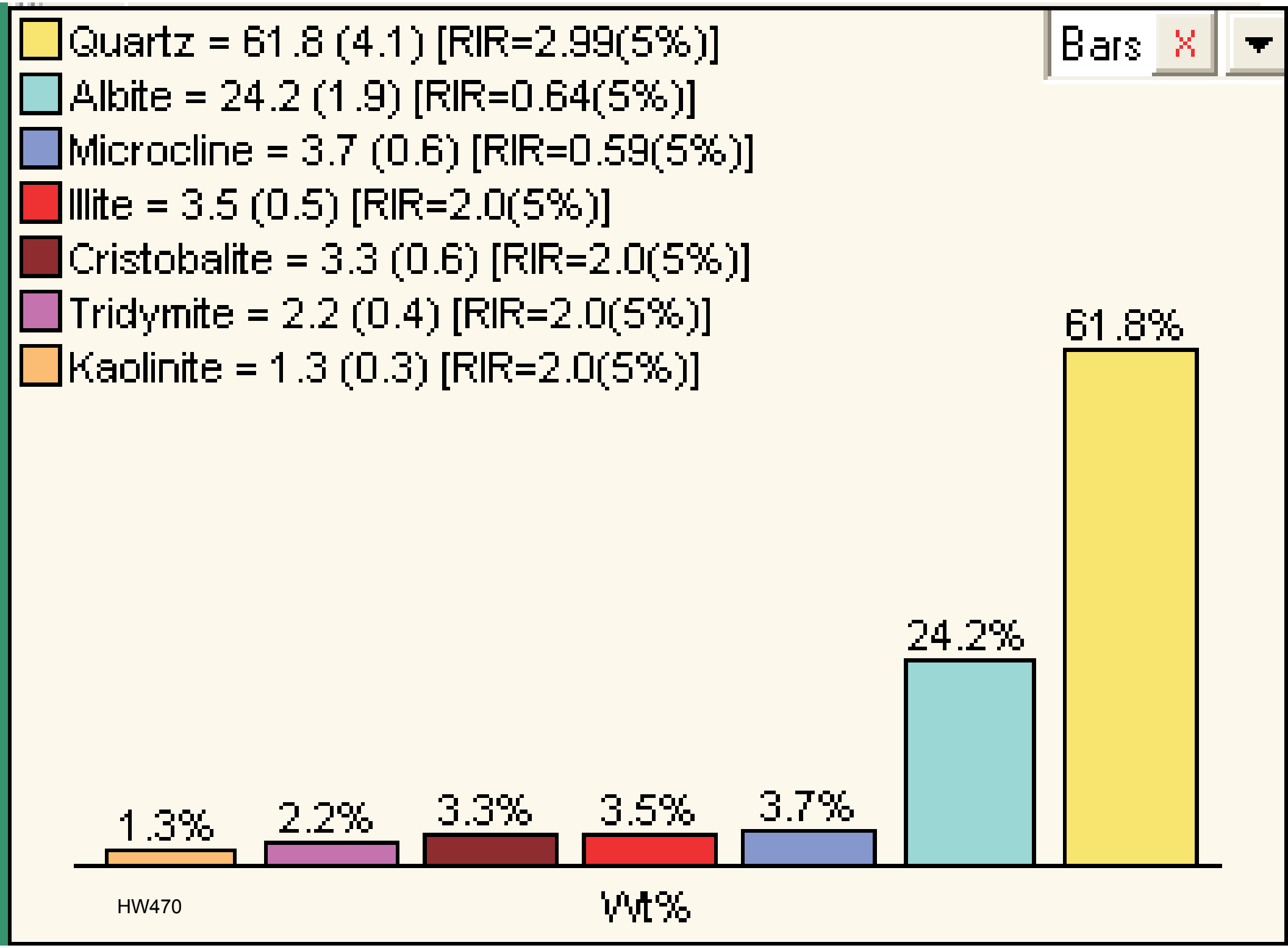
HW436


Quartz = 44.1 (2.9) [RIR=2.99(5%)]
Illite = 17.0 (1.3) [RIR=2.0(5%)]
Albite = 14.3 (1.2) [RIR=0.64(5%)]
Cristobalite = 13.6 (2.7) [RIR=2.0(5%)]
Kaolinite = 6.0 (0.7) [RIR=2.0(5%)]
Microcline = 3.2 (0.5) [RIR=0.59(5%)]
Tridymite = 1.7 (0.4) [RIR=2.0(5%)]
Bars
1.7%
3.2%
6.0%
13.6%
14.3%
17.0%
44.1%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

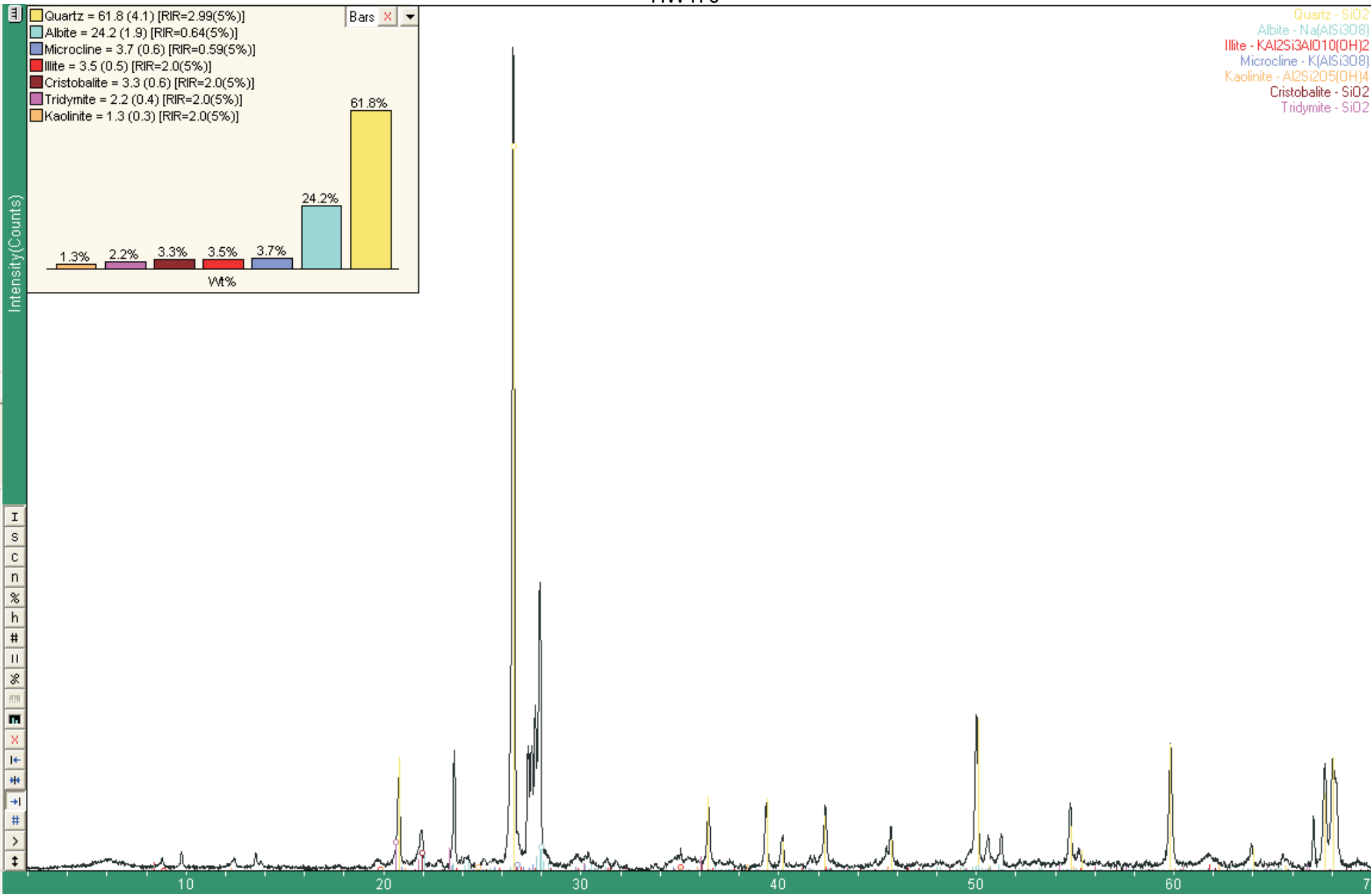

Quartz = 54.0 (3.5) [RIR=2.99(5%)]
Albite = 26.5 (1.9) [RIR=0.64(5%)]
Illite = 6.0 (0.7) [RIR=2.0(5%)]
Tridymite = 3.8 (0.5) [RIR=2.0(5%)]
Cristobalite = 3.3 (0.6) [RIR=2.0(5%)]
Microcline = 2.4 (0.5) [RIR=0.59(5%)]
Kaolinite = 2.0 (0.4) [RIR=2.0(5%)]
Rectorite = 1.2 (0.6) [RIR=2.0(5%)]
Clinochlore = 0.7 (0.2) [RIR=2.0(5%)]
Bars
0.7%
1.2%
2.0%
2.4%
3.3%
3.8%
6.0%
26.5%
54.0%
Wt%
HW469

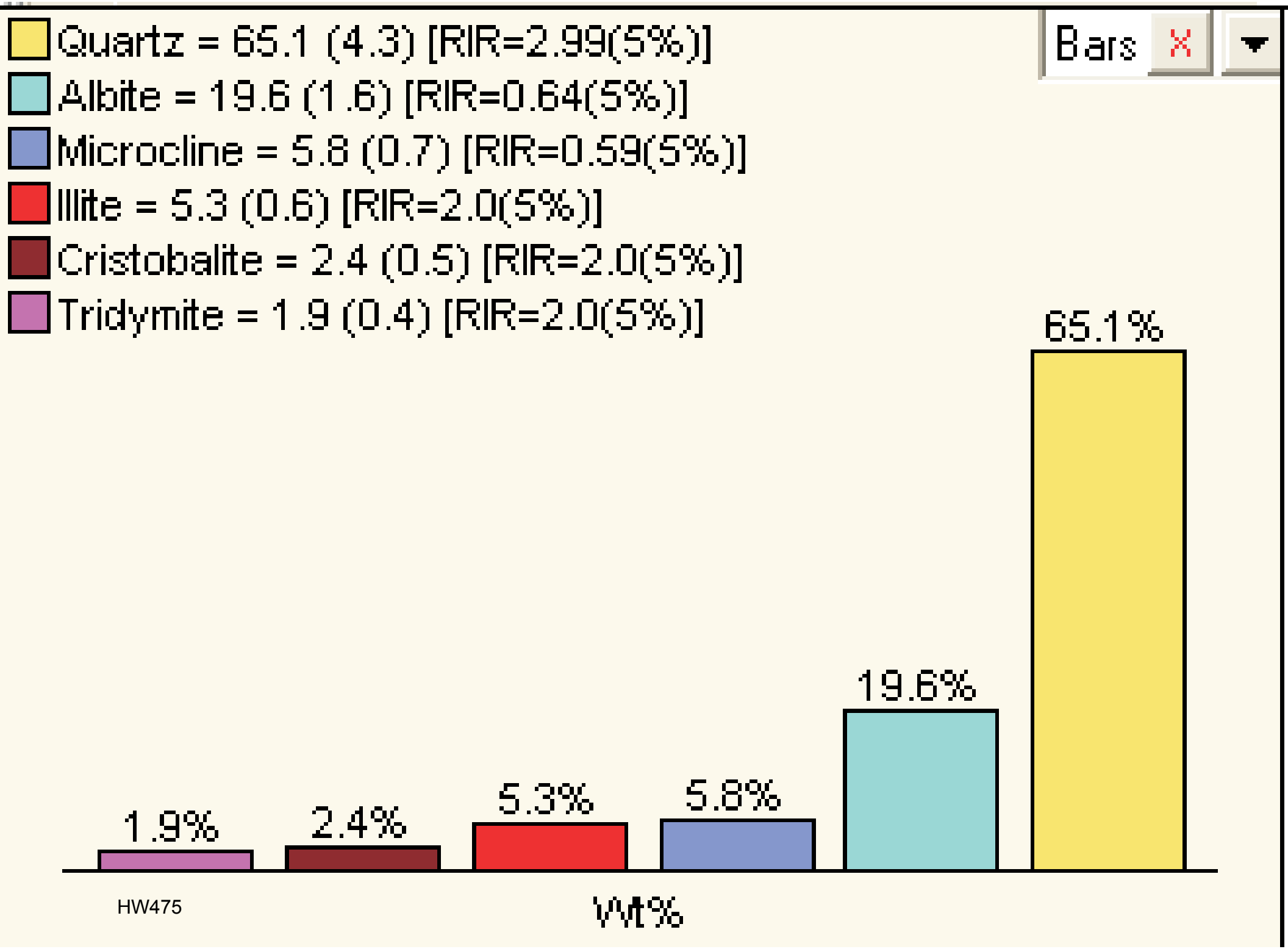
HW469


Quartz = 54.0 (3.5) [RIR=2.99(5%)]
Albite = 26.5 (1.9) [RIR=0.64(5%)]
Illite = 6.0 (0.7) [RIR=2.0(5%)]
Tridymite = 3.8 (0.5) [RIR=2.0(5%)]
Cristobalite = 3.3 (0.6) [RIR=2.0(5%)]
Microcline = 2.4 (0.5) [RIR=0.59(5%)]
Kaolinite = 2.0 (0.4) [RIR=2.0(5%)]
Rectorite = 1.2 (0.6) [RIR=2.0(5%)]
Clinochlore = 0.7 (0.2) [RIR=2.0(5%)]
Bars
0.7%
1.2%
2.0%
2.4%
3.3%
3.8%
6.0%
26.5%
54.0%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
Intensity(Counts)
10
20
30
40
50
60
70

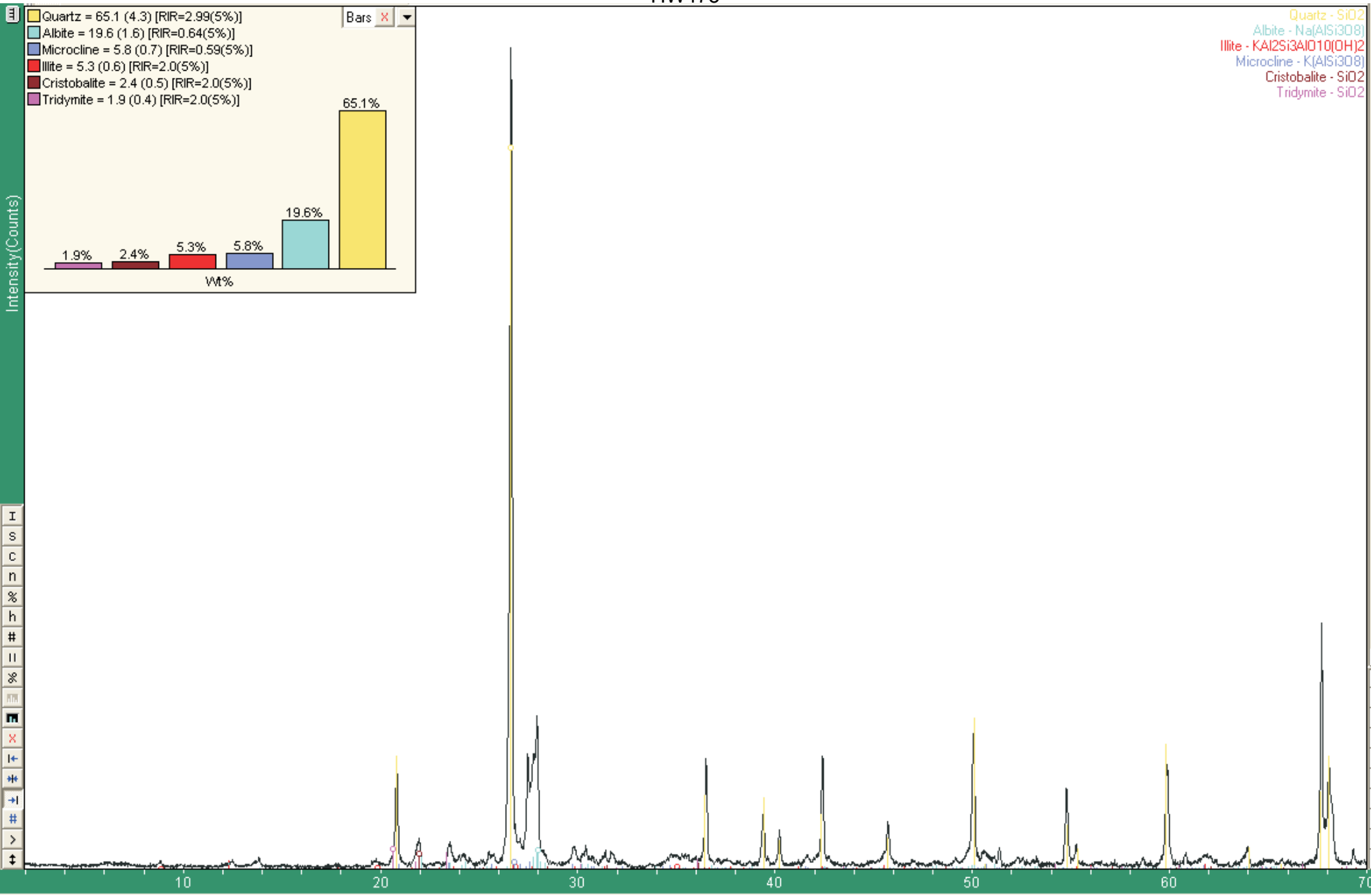

Quartz = 61.8 (4.1) [RIR=2.99(5%)]
Albite = 24.2 (1.9) [RIR=0.64(5%)]
Microcline = 3.7 (0.6) [RIR=0.59(5%)]
Illite = 3.5 (0.5) [RIR=2.0(5%)]
Cristobalite = 3.3 (0.6) [RIR=2.0(5%)]
Tridymite = 2.2 (0.4) [RIR=2.0(5%)]
Kaolinite = 1.3 (0.3) [RIR=2.0(5%)]
Bars
1.3%
2.2%
3.3%
3.5%
3.7%
24.2%
61.8%
HW470
Wt%

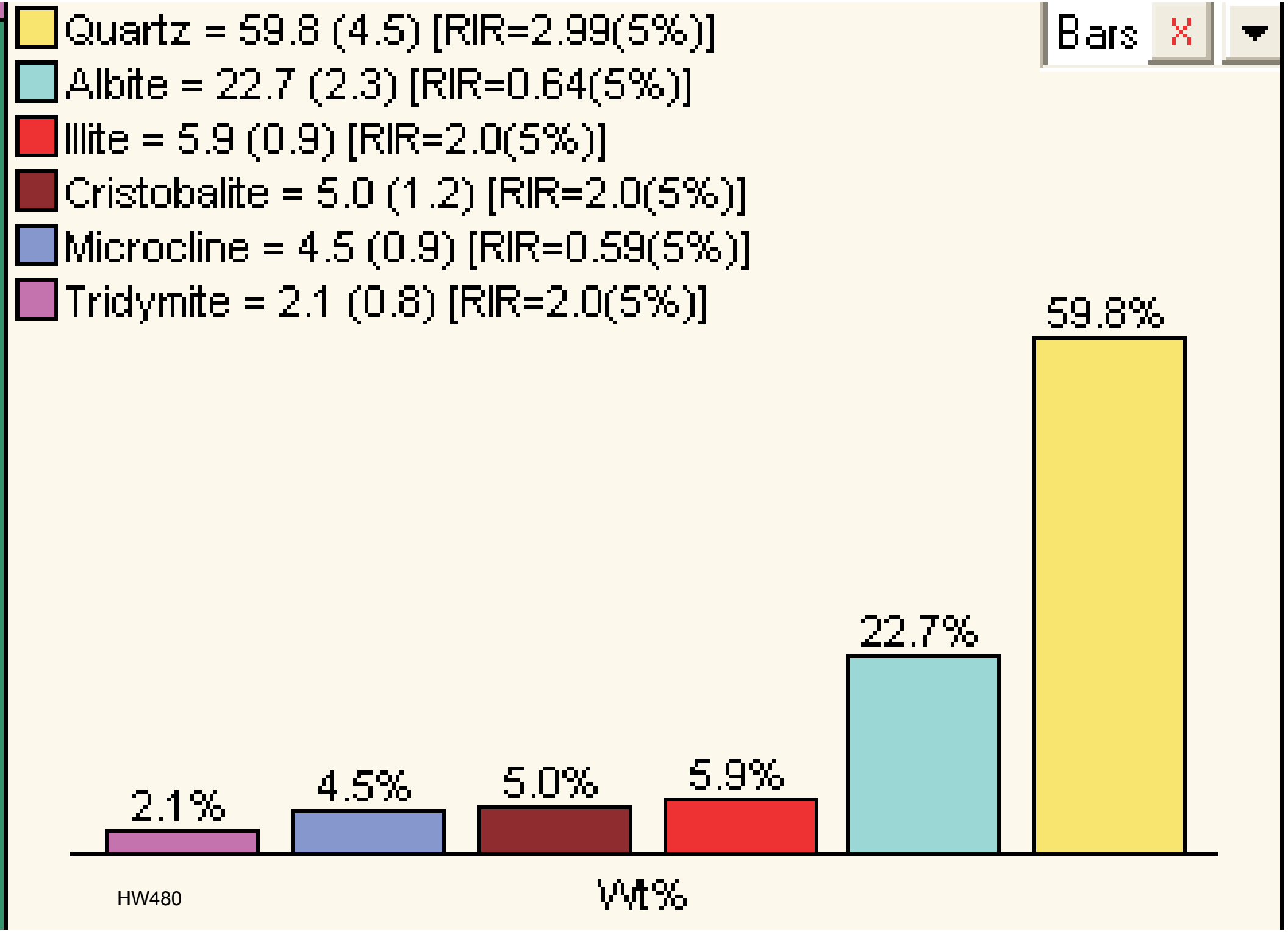
HW470


Quartz = 61.8 (4.1) [RIR=2.99(5%)]
Albite = 24.2 (1.9) [RIR=0.64(5%)]
Microcline = 3.7 (0.6) [RIR=0.59(5%)]
Illite = 3.5 (0.5) [RIR=2.0(5%)]
Cristobalite = 3.3 (0.6) [RIR=2.0(5%)]
Tridymite = 2.2 (0.4) [RIR=2.0(5%)]
Kaolinite = 1.3 (0.3) [RIR=2.0(5%)]
Bars
1.3%
2.2%
3.3%
3.5%
3.7%
24.2%
61.8%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60

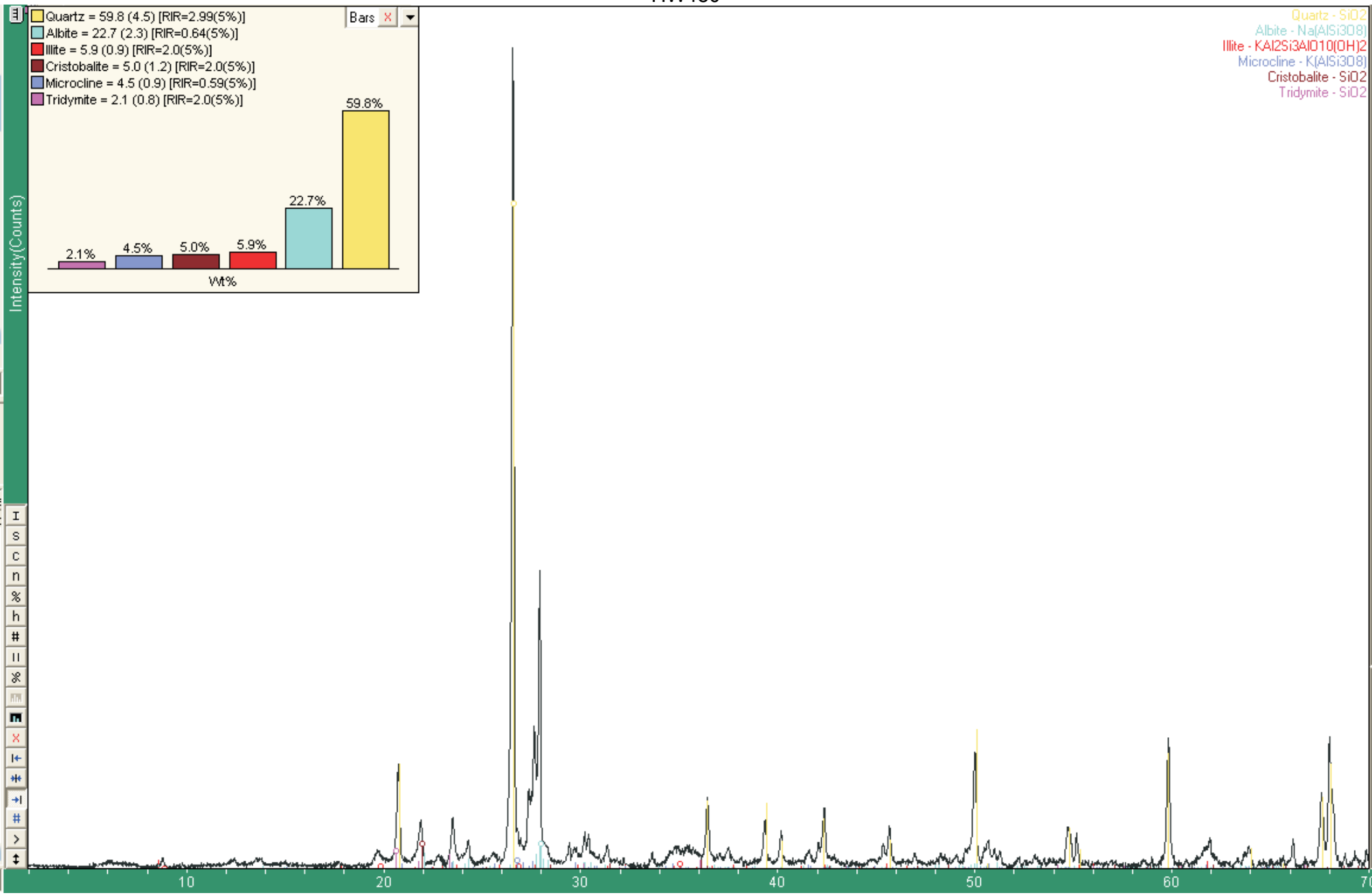

Quartz = 65.1 (4.3) [RIR=2.99(5%)]
Albite = 19.6 (1.6) [RIR=0.64(5%)]
Microcline = 5.8 (0.7) [RIR=0.59(5%)]
Illite = 5.3 (0.6) [RIR=2.0(5%)]
Cristobalite = 2.4 (0.5) [RIR=2.0(5%)]
Tridymite = 1.9 (0.4) [RIR=2.0(5%)]
Bars
65.1%
19.6%
5.8%
5.3%
2.4%
1.9%
HW475
Wt%

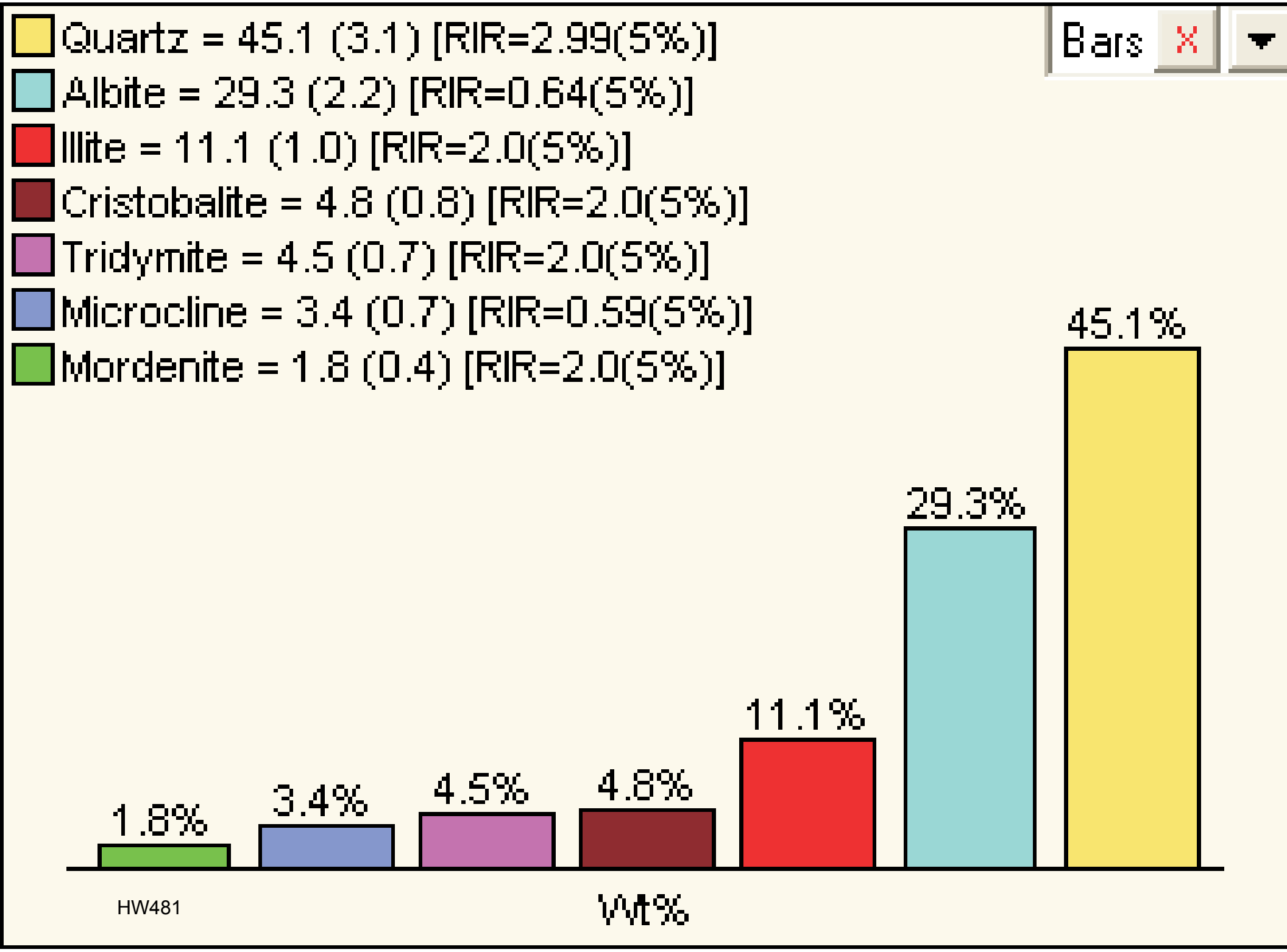
HW475


Quartz = 65.1 (4.3) [RIR=2.99(5%)]
Albite = 19.6 (1.6) [RIR=0.64(5%)]
Microcline = 5.8 (0.7) [RIR=0.59(5%)]
Illite = 5.3 (0.6) [RIR=2.0(5%)]
Cristobalite = 2.4 (0.5) [RIR=2.0(5%)]
Tridymite = 1.9 (0.4) [RIR=2.0(5%)]
Bars
65.1%
19.6%
5.8%
5.3%
2.4%
1.9%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

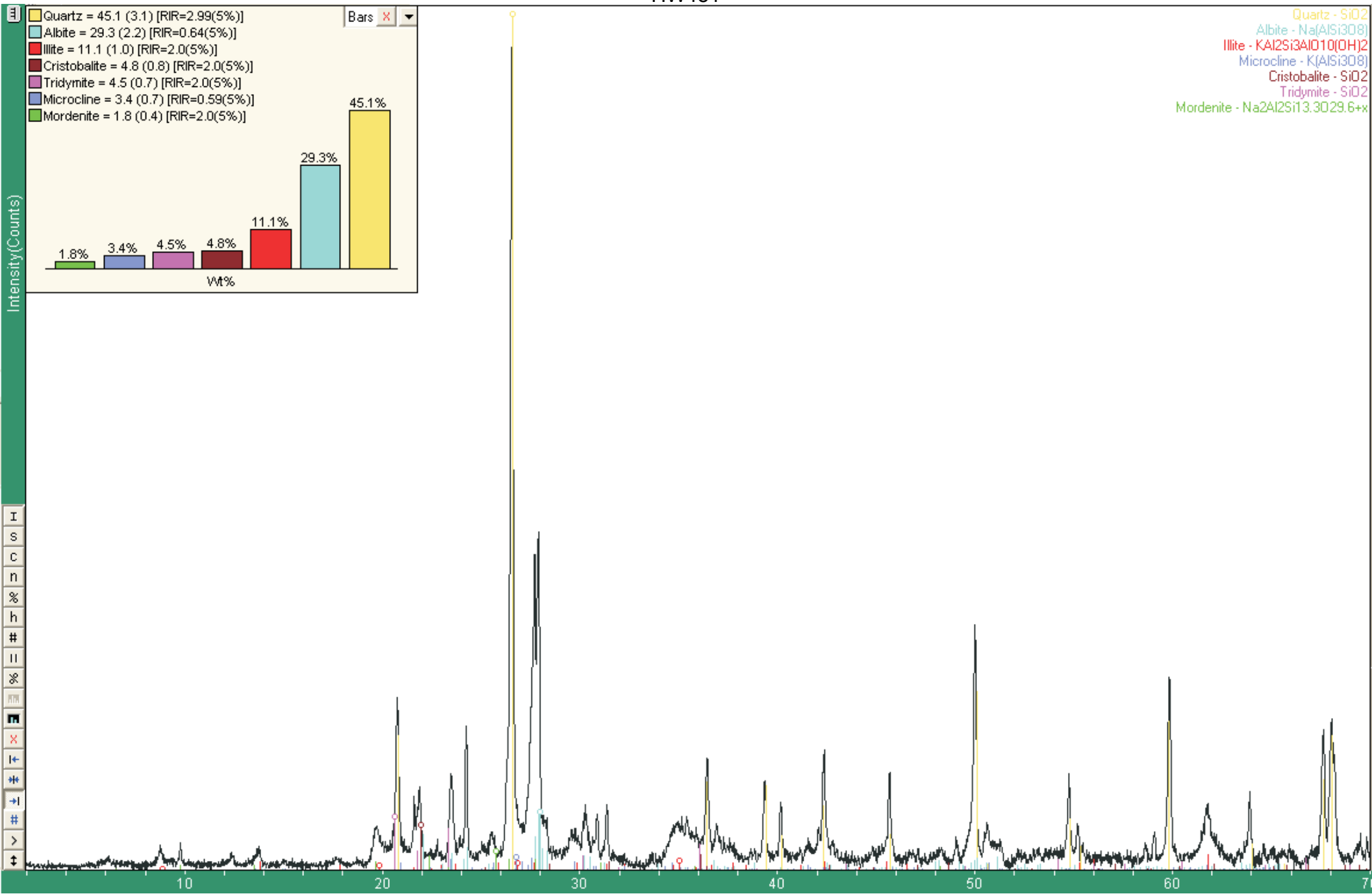

Quartz = 59.8 (4.5) [RIR=2.99(5%)]
Albite = 22.7 (2.3) [RIR=0.64(5%)]
Illite = 5.9 (0.9) [RIR=2.0(5%)]
Cristobalite = 5.0 (1.2) [RIR=2.0(5%)]
Microcline = 4.5 (0.9) [RIR=0.59(5%)]
Tridymite = 2.1 (0.8) [RIR=2.0(5%)]
Bars
2.1%
4.5%
5.0%
5.9%
22.7%
59.8%
HW480
Wt%

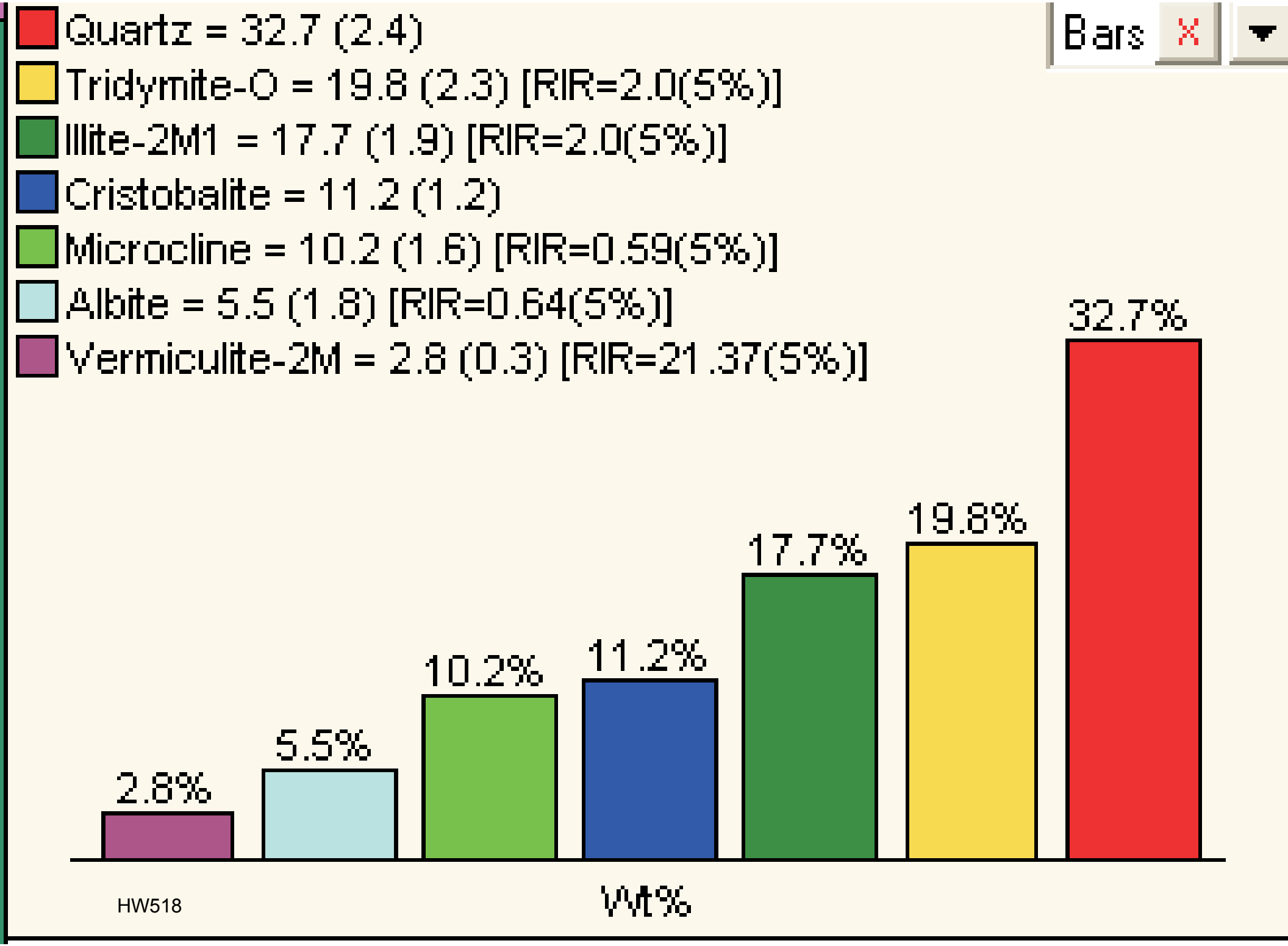
HW480


Quartz = 59.8 (4.5) [RIR=2.99(5%)]
Albite = 22.7 (2.3) [RIR=0.64(5%)]
Illite = 5.9 (0.9) [RIR=2.0(5%)]
Cristobalite = 5.0 (1.2) [RIR=2.0(5%)]
Microcline = 4.5 (0.9) [RIR=0.59(5%)]
Tridymite = 2.1 (0.8) [RIR=2.0(5%)]
Bars
2.1%
4.5%
5.0%
5.9%
22.7%
59.8%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Tridymite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

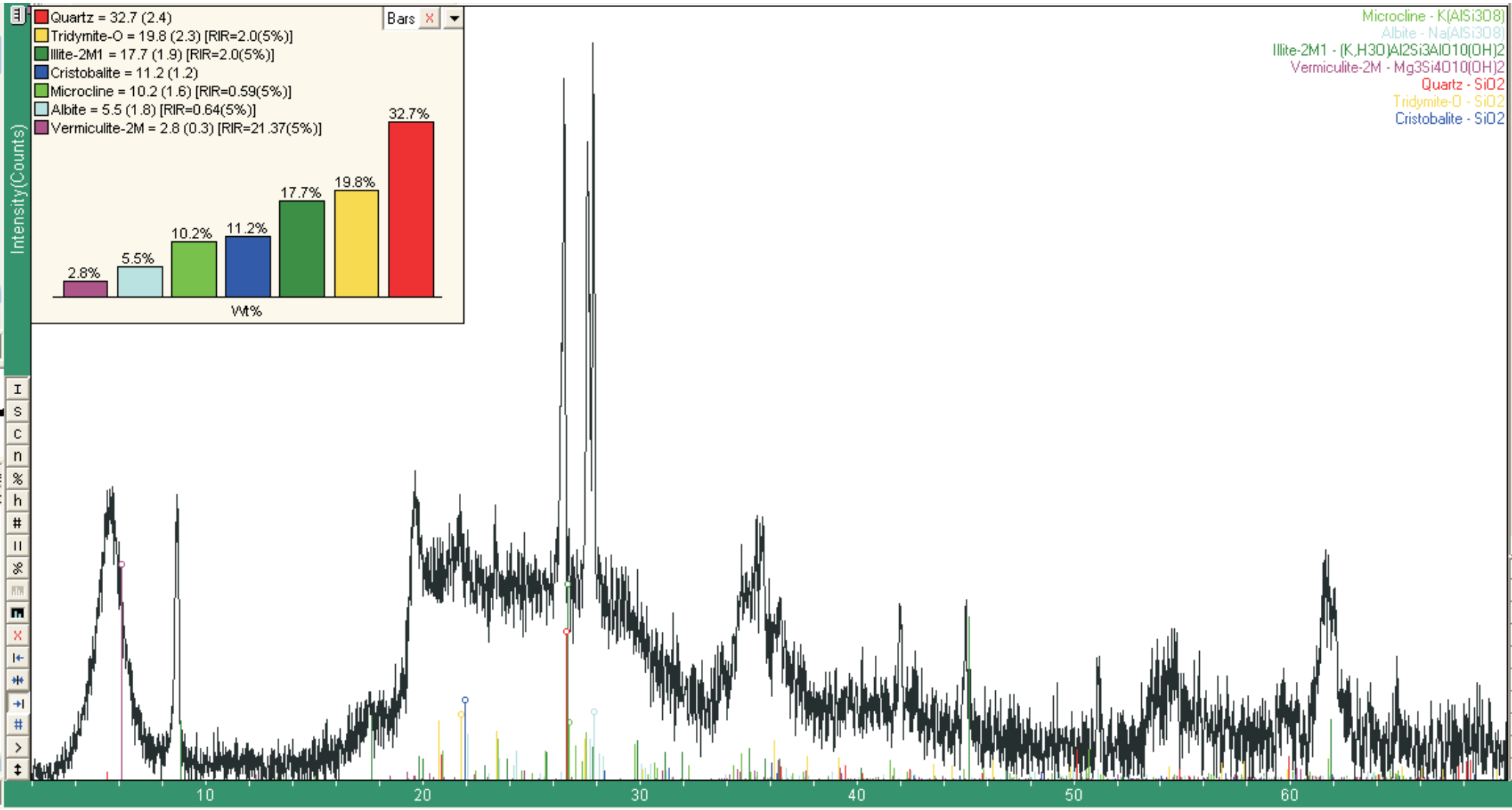

Quartz = 45.1 (3.1) [RIR=2.99(5%)]
Albite = 29.3 (2.2) [RIR=0.64(5%)]
Illite = 11.1 (1.0) [RIR=2.0(5%)]
Cristobalite = 4.8 (0.8) [RIR=2.0(5%)]
Tridymite = 4.5 (0.7) [RIR=2.0(5%)]
Microcline = 3.4 (0.7) [RIR=0.59(5%)]
Mordenite = 1.8 (0.4) [RIR=2.0(5%)]
Bars
1.8%
3.4%
4.5%
4.8%
11.1%
29.3%
45.1%
HW481
Wt%

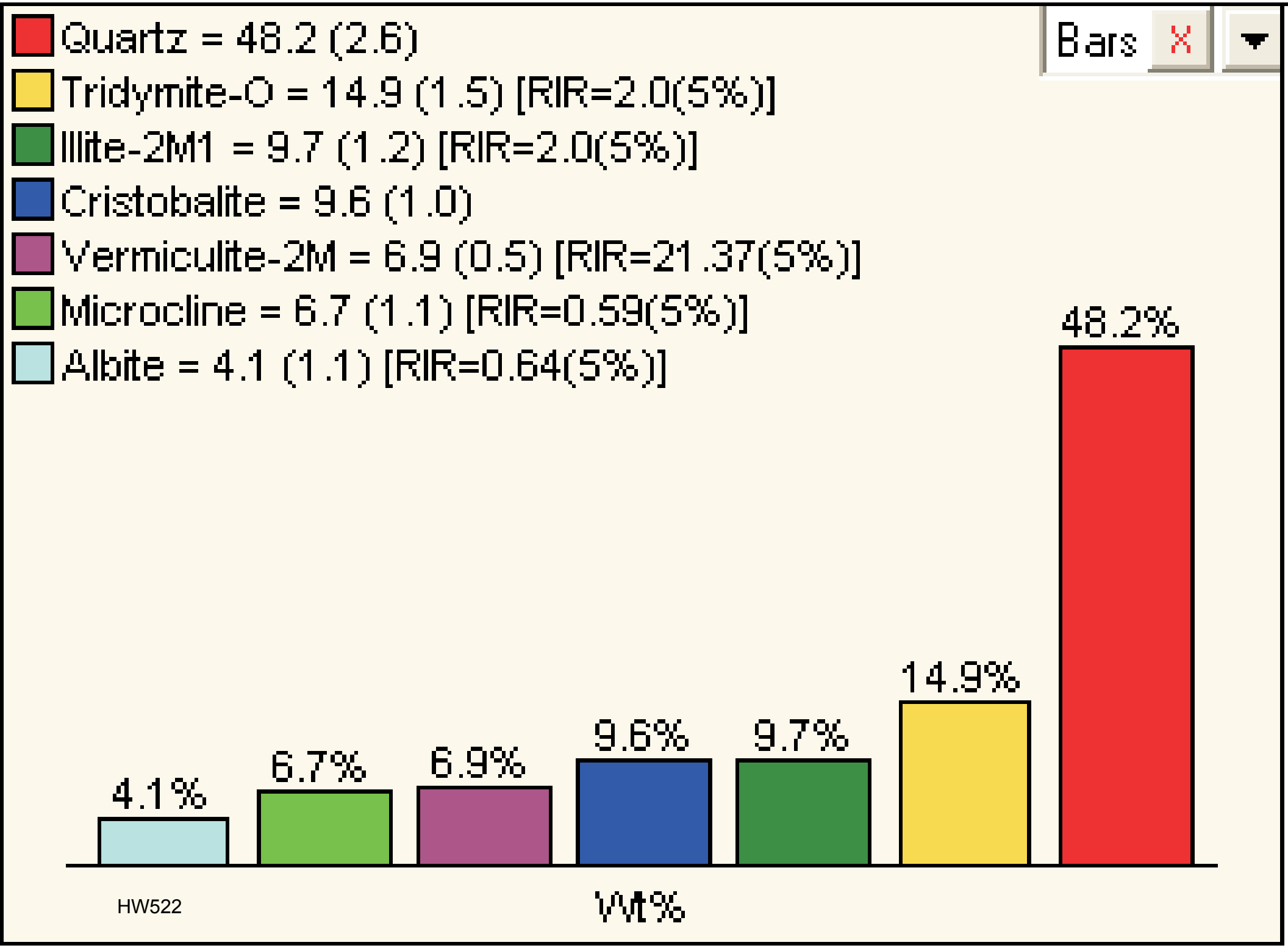
HW481


Quartz = 45.1 (3.1) [RIR=2.99(5%)]
Albite = 29.3 (2.2) [RIR=0.64(5%)]
Illite = 11.1 (1.0) [RIR=2.0(5%)]
Cristobalite = 4.8 (0.8) [RIR=2.0(5%)]
Tridymite = 4.5 (0.7) [RIR=2.0(5%)]
Microcline = 3.4 (0.7) [RIR=0.59(5%)]
Mordenite = 1.8 (0.4) [RIR=2.0(5%)]
Bars
1.8%
3.4%
4.5%
4.8%
11.1%
29.3%
45.1%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Tridymite - SiO2
Mordenite - Na2Al2Si13.3O29.6+x
Intensity(Counts)
10
20
30
40
50
60

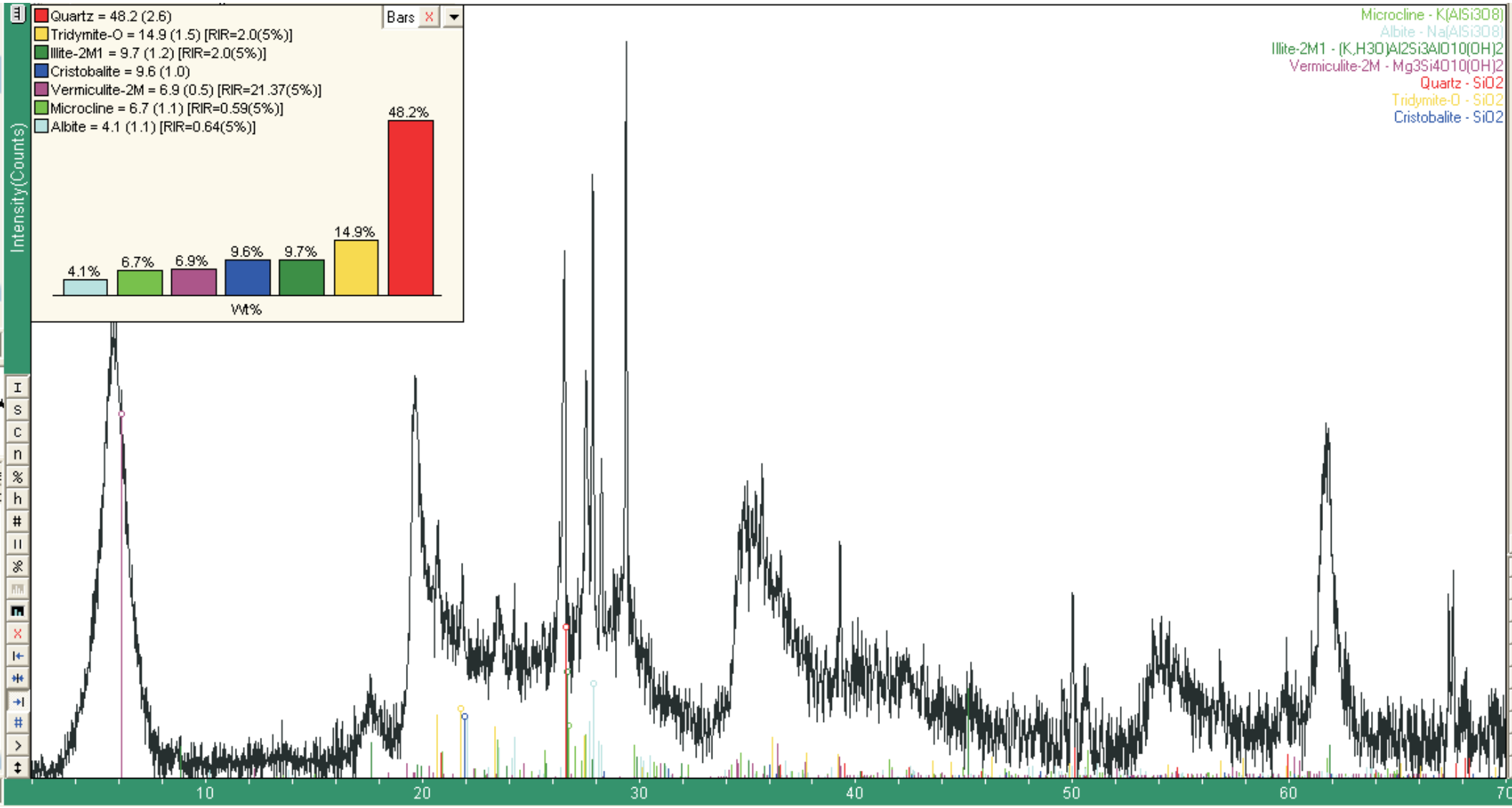

Quartz = 32.7 (2.4)
Tridymite-O = 19.8 (2.3) [RIR=2.0(5%)]
Illite-2M1 = 17.7 (1.9) [RIR=2.0(5%)]
Cristobalite = 11.2 (1.2)
Microcline = 10.2 (1.6) [RIR=0.59(5%)]
Albite = 5.5 (1.8) [RIR=0.64(5%)]
Vermiculite-2M = 2.8 (0.3) [RIR=21.37(5%)]
Bars
2.8%
5.5%
10.2%
11.2%
17.7%
19.8%
32.7%
HW518
Wt%

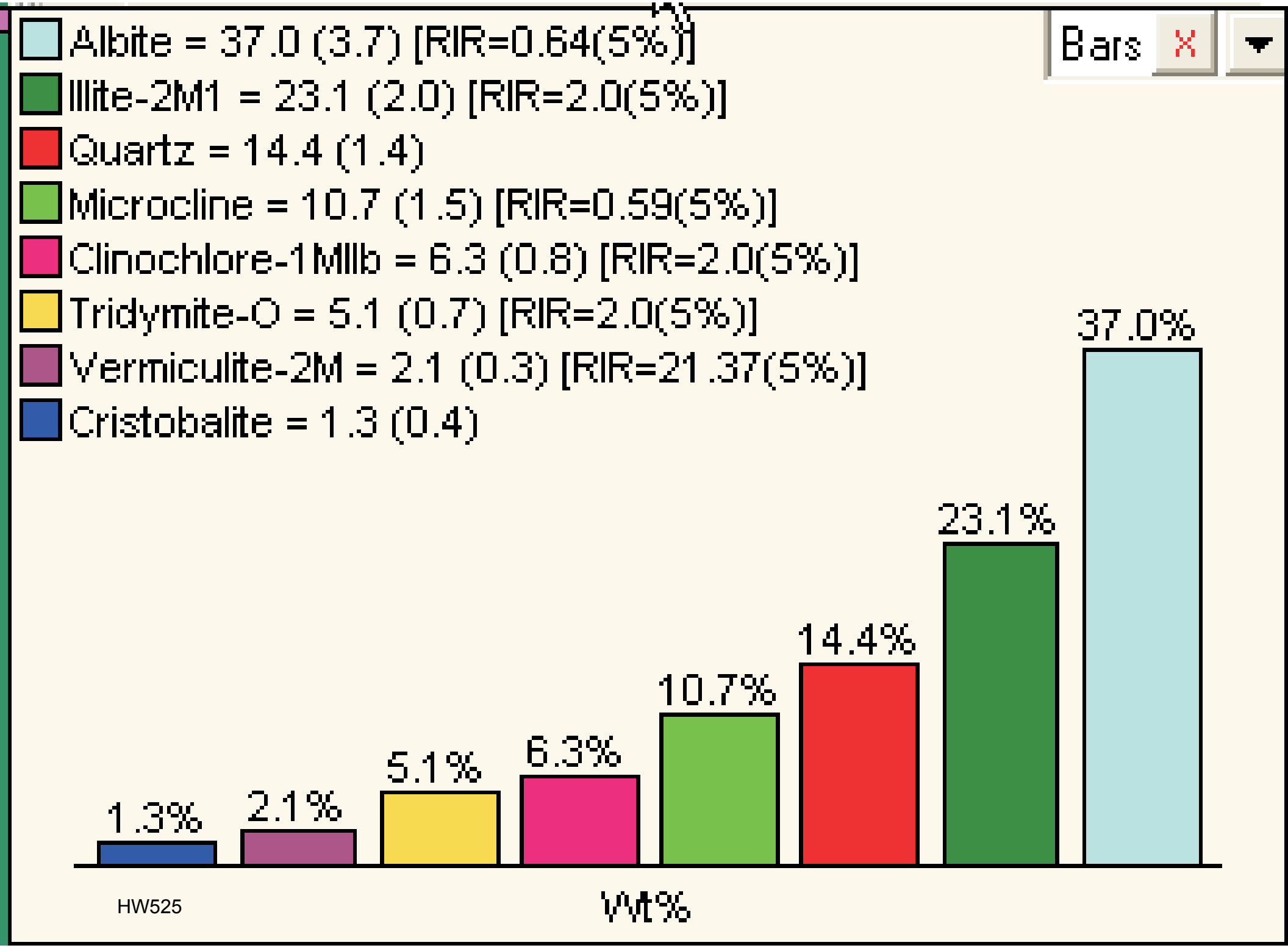
HW518


Quartz = 32.7 (2.4)
Tridymite-O = 19.8 (2.3) [RIR=2.0(5%)]
Illite-2M1 = 17.7 (1.9) [RIR=2.0(5%)]
Cristobalite = 11.2 (1.2)
Microcline = 10.2 (1.6) [RIR=0.59(5%)]
Albite = 5.5 (1.8) [RIR=0.64(5%)]
Vermiculite-2M = 2.8 (0.3) [RIR=21.37(5%)]
Bars
2.8%
5.5%
10.2%
11.2%
17.7%
19.8%
32.7%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Vermiculite-2M - Mg3Si4O10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60

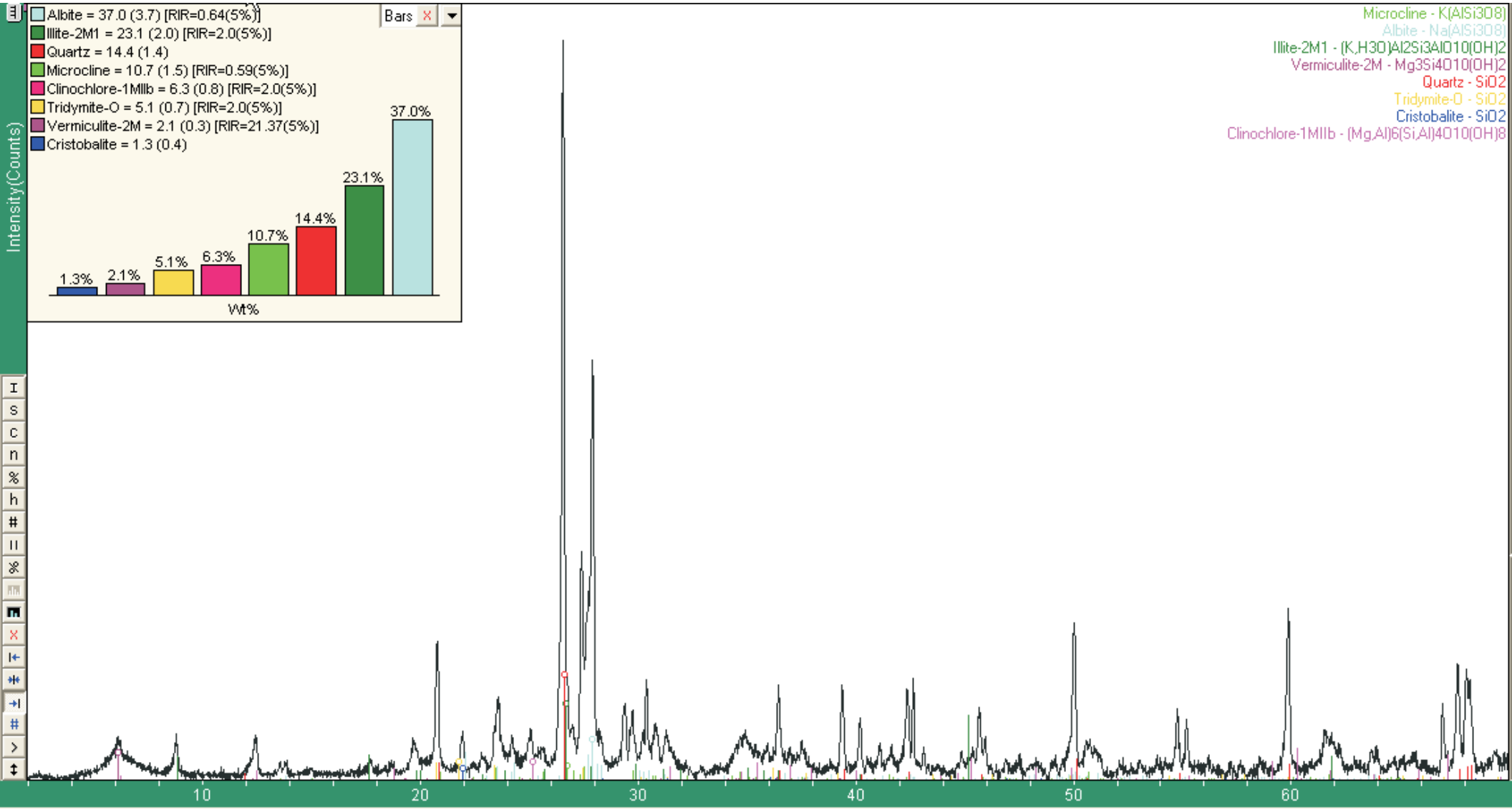

Quartz = 48.2 (2.6)
Tridymite-O = 14.9 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 9.7 (1.2) [RIR=2.0(5%)]
Cristobalite = 9.6 (1.0)
Vermiculite-2M = 6.9 (0.5) [RIR=21.37(5%)]
Microcline = 6.7 (1.1) [RIR=0.59(5%)]
Albite = 4.1 (1.1) [RIR=0.64(5%)]
Bars
4.1%
6.7%
6.9%
9.6%
9.7%
14.9%
48.2%
HW522
Wt%

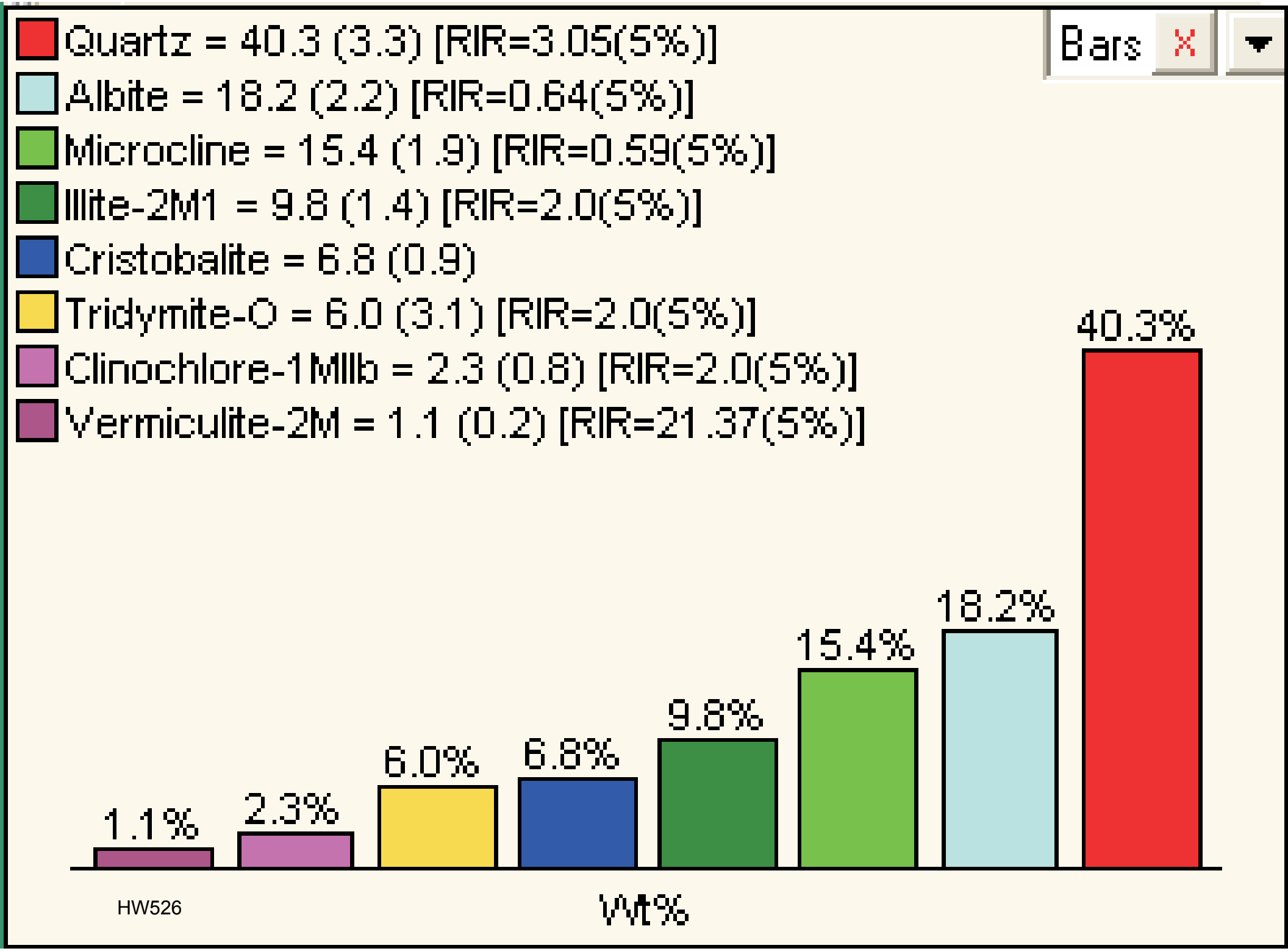
HW522


Quartz = 48.2 (2.6)
Tridymite-O = 14.9 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 9.7 (1.2) [RIR=2.0(5%)]
Cristobalite = 9.6 (1.0)
Vermiculite-2M = 6.9 (0.5) [RIR=21.37(5%)]
Microcline = 6.7 (1.1) [RIR=0.59(5%)]
Albite = 4.1 (1.1) [RIR=0.64(5%)]
Bars
4.1%
6.7%
6.9%
9.6%
9.7%
14.9%
48.2%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Vermiculite-2M - Mg3Si4O10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Intensity(Counts)
10
20
30
40
50
60
70

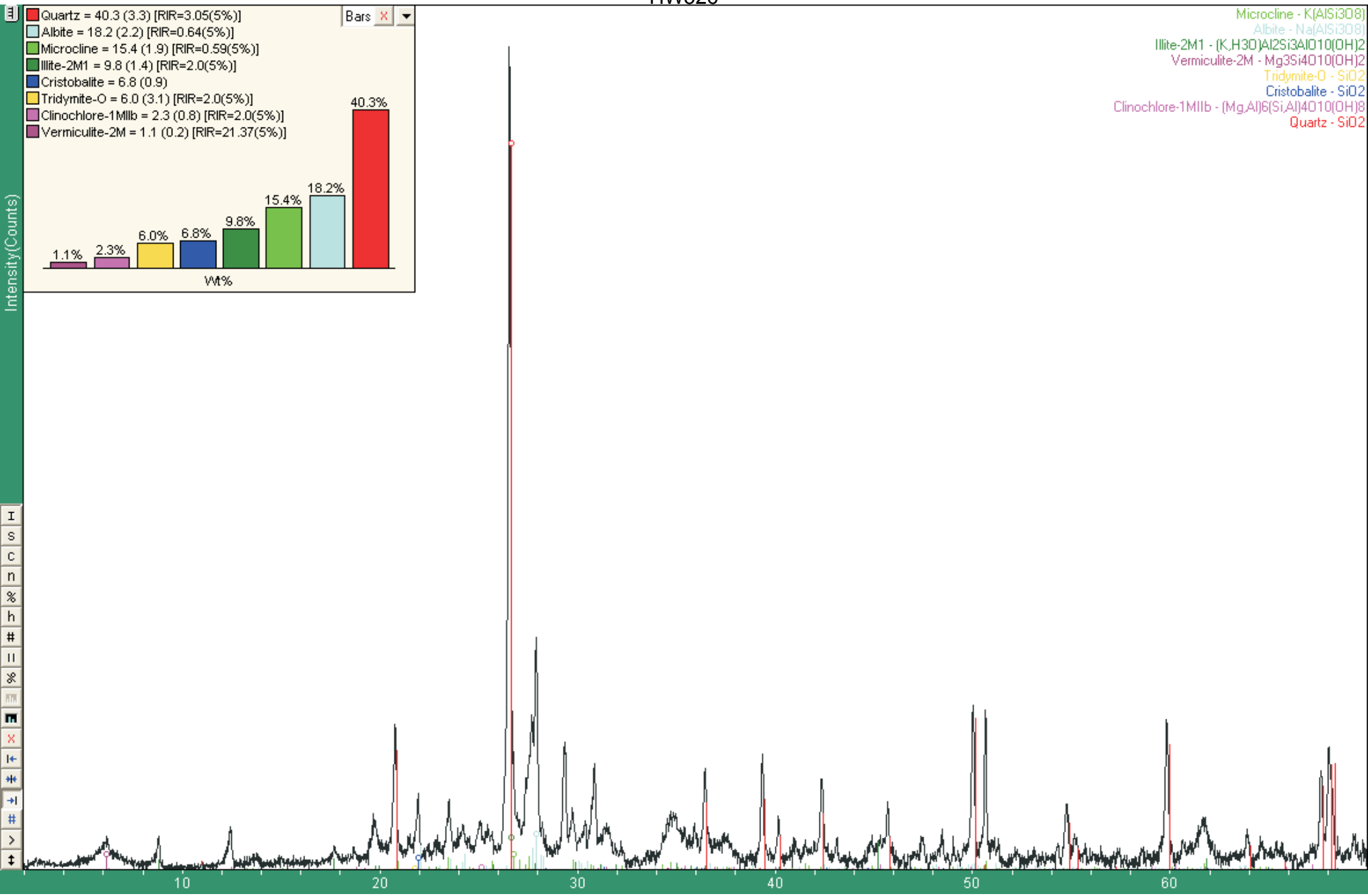

Albite = 37.0 (3.7) [RIR=0.64(5%)]
Illite-2M1 = 23.1 (2.0) [RIR=2.0(5%)]
Quartz = 14.4 (1.4)
Microcline = 10.7 (1.5) [RIR=0.59(5%)]
Clinochlore-1MIIb = 6.3 (0.8) [RIR=2.0(5%)]
Tridymite-O = 5.1 (0.7) [RIR=2.0(5%)]
Vermiculite-2M = 2.1 (0.3) [RIR=21.37(5%)]
Cristobalite = 1.3 (0.4)
Bars
X
1.3%
2.1%
5.1%
6.3%
10.7%
14.4%
23.1%
37.0%
HW525
Wt%

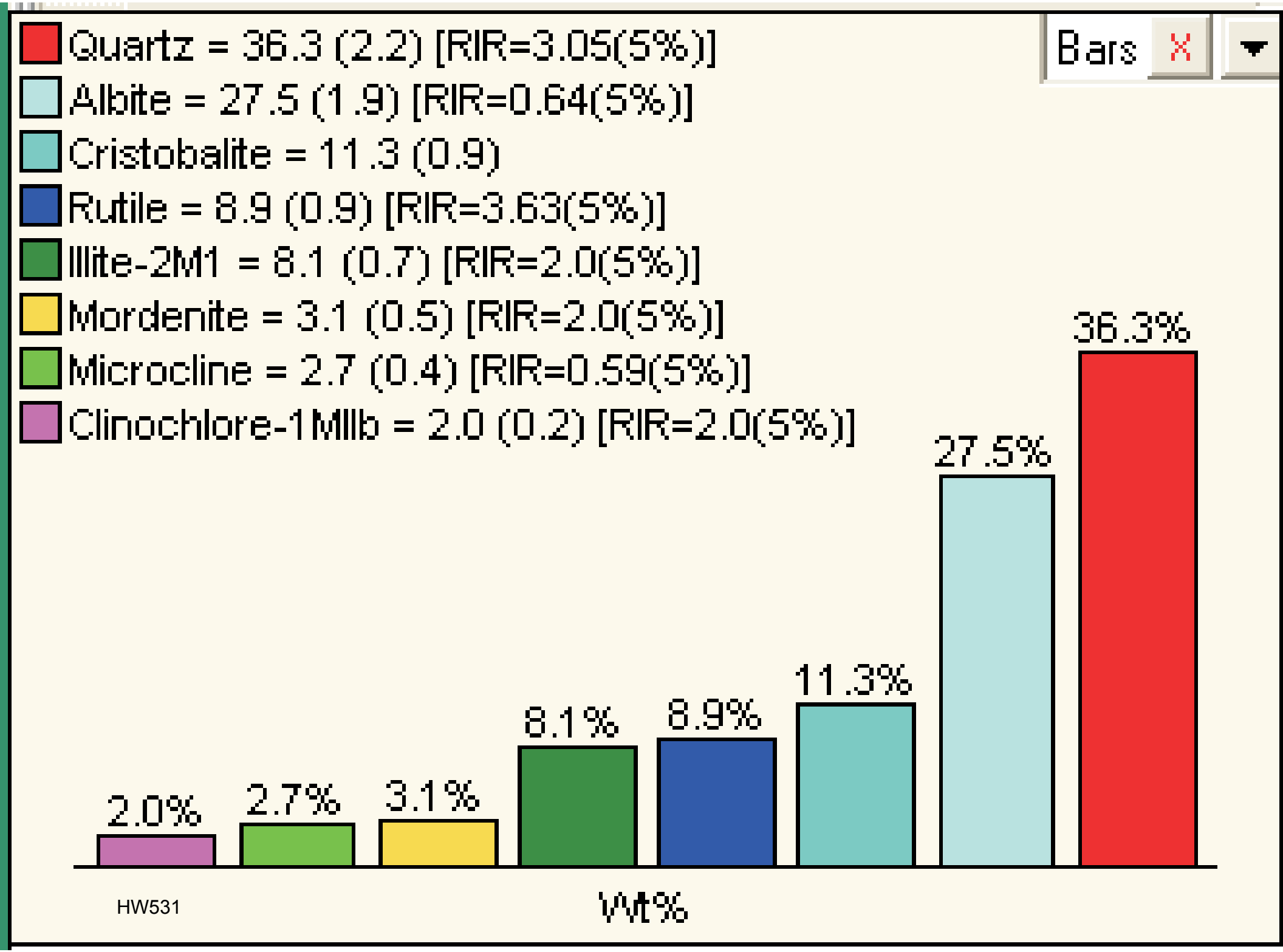
HW525


Albite = 37.0 (3.7) [RIR=0.64(5%)]
Illite-2M1 = 23.1 (2.0) [RIR=2.0(5%)]
Quartz = 14.4 (1.4)
Microcline = 10.7 (1.5) [RIR=0.59(5%)]
Clinochlore-1MIIb = 6.3 (0.8) [RIR=2.0(5%)]
Tridymite-O = 5.1 (0.7) [RIR=2.0(5%)]
Vermiculite-2M = 2.1 (0.3) [RIR=21.37(5%)]
Cristobalite = 1.3 (0.4)
Bars
1.3%
2.1%
5.1%
6.3%
10.7%
14.4%
23.1%
37.0%
Wt%
Intensity(Counts)
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Vermiculite-2M - Mg3Si4O10(OH)2
Quartz - SiO2
Tridymite-O - SiO2
Cristobalite - SiO2
Clinochlore-1MIIb - (Mg,Al)6(Si,Al)4O10(OH)8
10
20
30
40
50
60

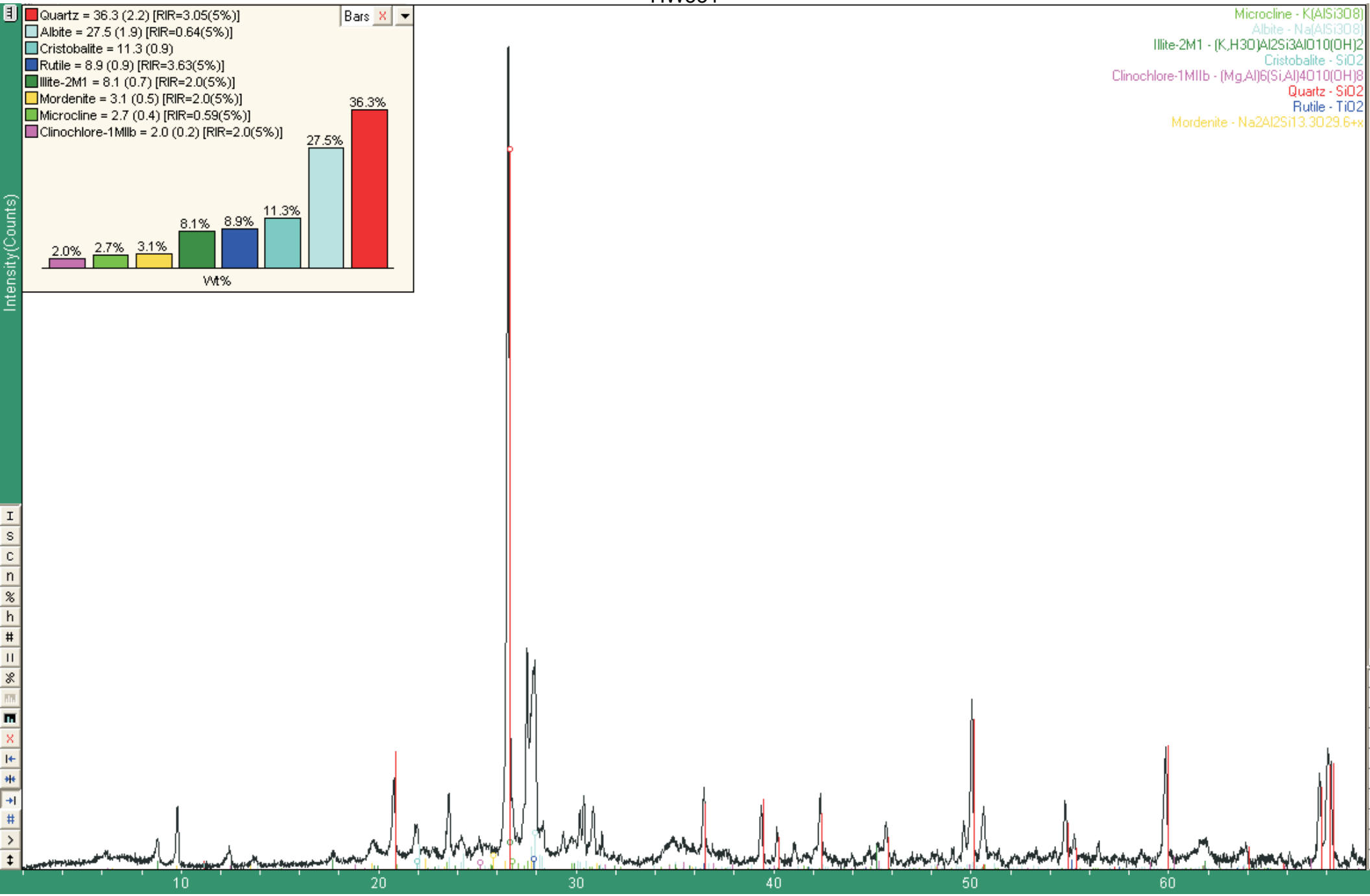

Quartz = 40.3 (3.3) [RIR=3.05(5%)]
Albite = 18.2 (2.2) [RIR=0.64(5%)]
Microcline = 15.4 (1.9) [RIR=0.59(5%)]
Illite-2M1 = 9.8 (1.4) [RIR=2.0(5%)]
Cristobalite = 6.8 (0.9)
Tridymite-O = 6.0 (3.1) [RIR=2.0(5%)]
Clinochlore-1MIIb = 2.3 (0.8) [RIR=2.0(5%)]
Vermiculite-2M = 1.1 (0.2) [RIR=21.37(5%)]
Bars
1.1%
2.3%
6.0%
6.8%
9.8%
15.4%
18.2%
40.3%
HW526
Wt%

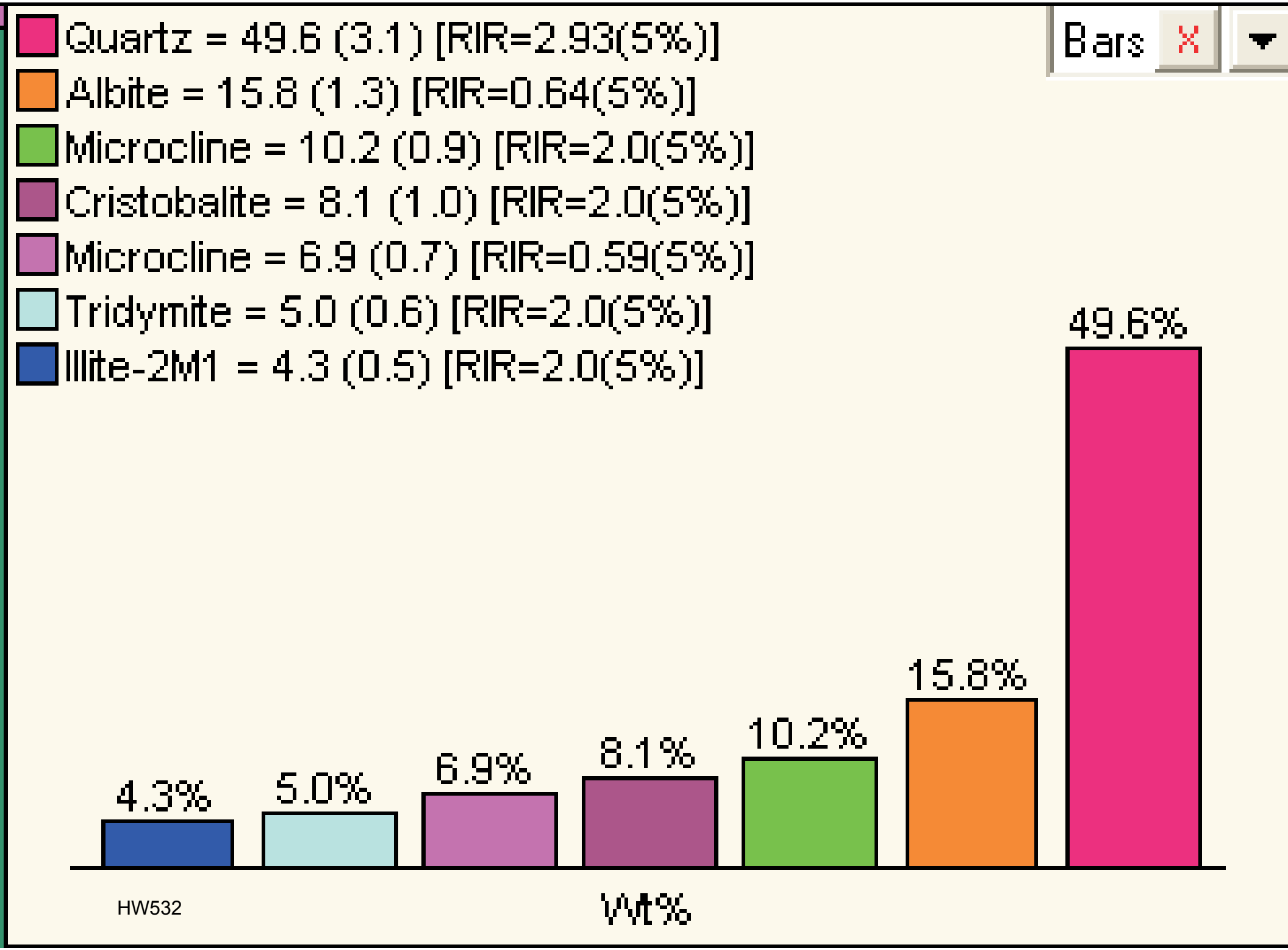
HW526


Quartz = 40.3 (3.3) [RIR=3.05(5%)]
Albite = 18.2 (2.2) [RIR=0.64(5%)]
Microcline = 15.4 (1.9) [RIR=0.59(5%)]
Illite-2M1 = 9.8 (1.4) [RIR=2.0(5%)]
Cristobalite = 6.8 (0.9)
Tridymite-O = 6.0 (3.1) [RIR=2.0(5%)]
Clinochlore-1MIIb = 2.3 (0.8) [RIR=2.0(5%)]
Vermiculite-2M = 1.1 (0.2) [RIR=21.37(5%)]
Bars
1.1%
2.3%
6.0%
6.8%
9.8%
15.4%
18.2%
40.3%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Vermiculite-2M - Mg3Si4O10(OH)2
Tridymite-O - SiO2
Cristobalite - SiO2
Clinochlore-1MIIb - (Mg,Al)6(Si,Al)4O10(OH)8
Quartz - SiO2
Intensity(Counts)
10
20
30
40
50
60

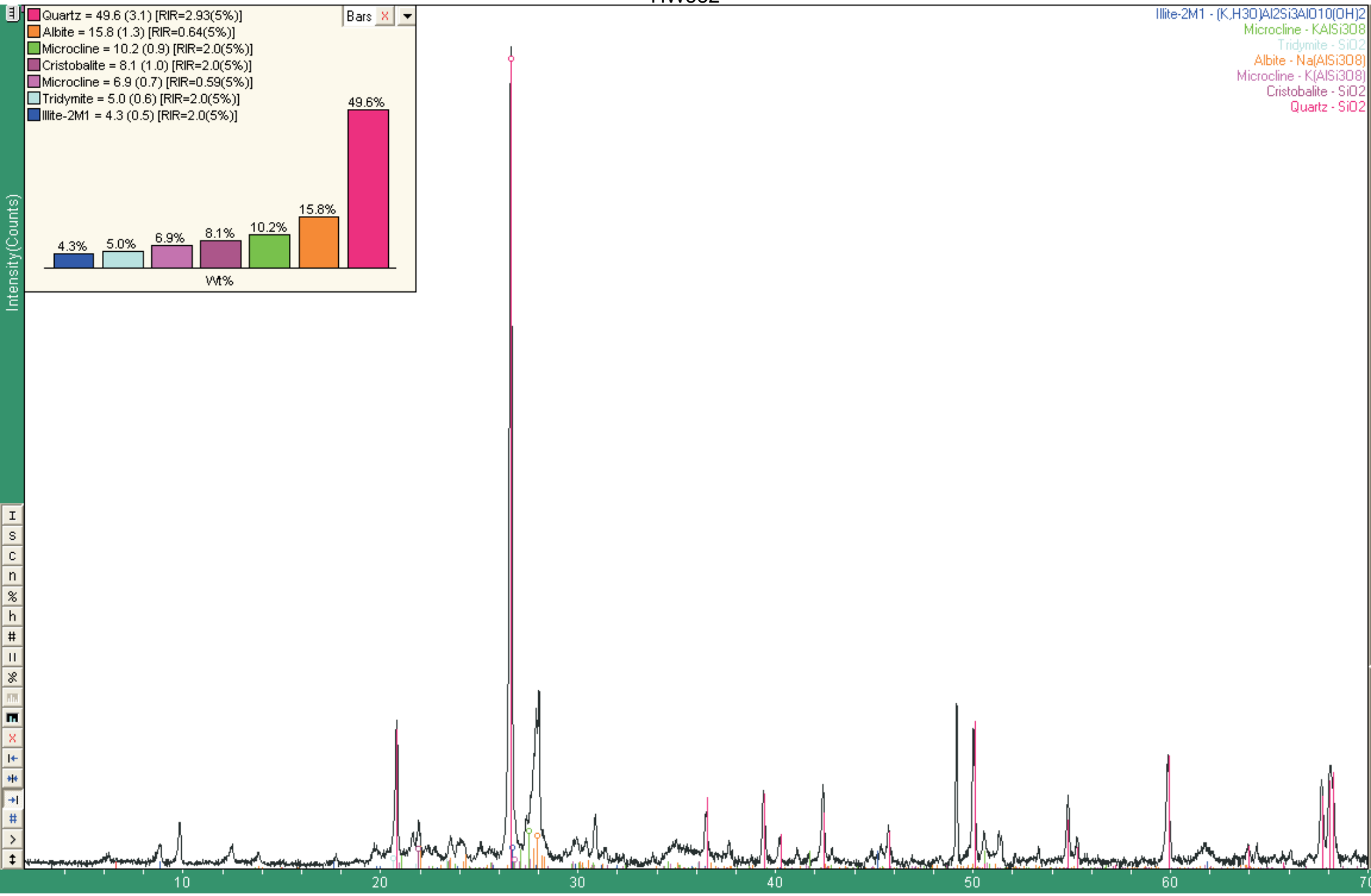

Quartz = 36.3 (2.2) [RIR=3.05(5%)]
Albite = 27.5 (1.9) [RIR=0.64(5%)]
Cristobalite = 11.3 (0.9)
Rutile = 8.9 (0.9) [RIR=3.63(5%)]
Illite-2M1 = 8.1 (0.7) [RIR=2.0(5%)]
Mordenite = 3.1 (0.5) [RIR=2.0(5%)]
Microcline = 2.7 (0.4) [RIR=0.59(5%)]
Clinochlore-1MIIb = 2.0 (0.2) [RIR=2.0(5%)]
Bars
X
36.3%
27.5%
11.3%
8.9%
8.1%
3.1%
2.7%
2.0%
HW531
Wt%

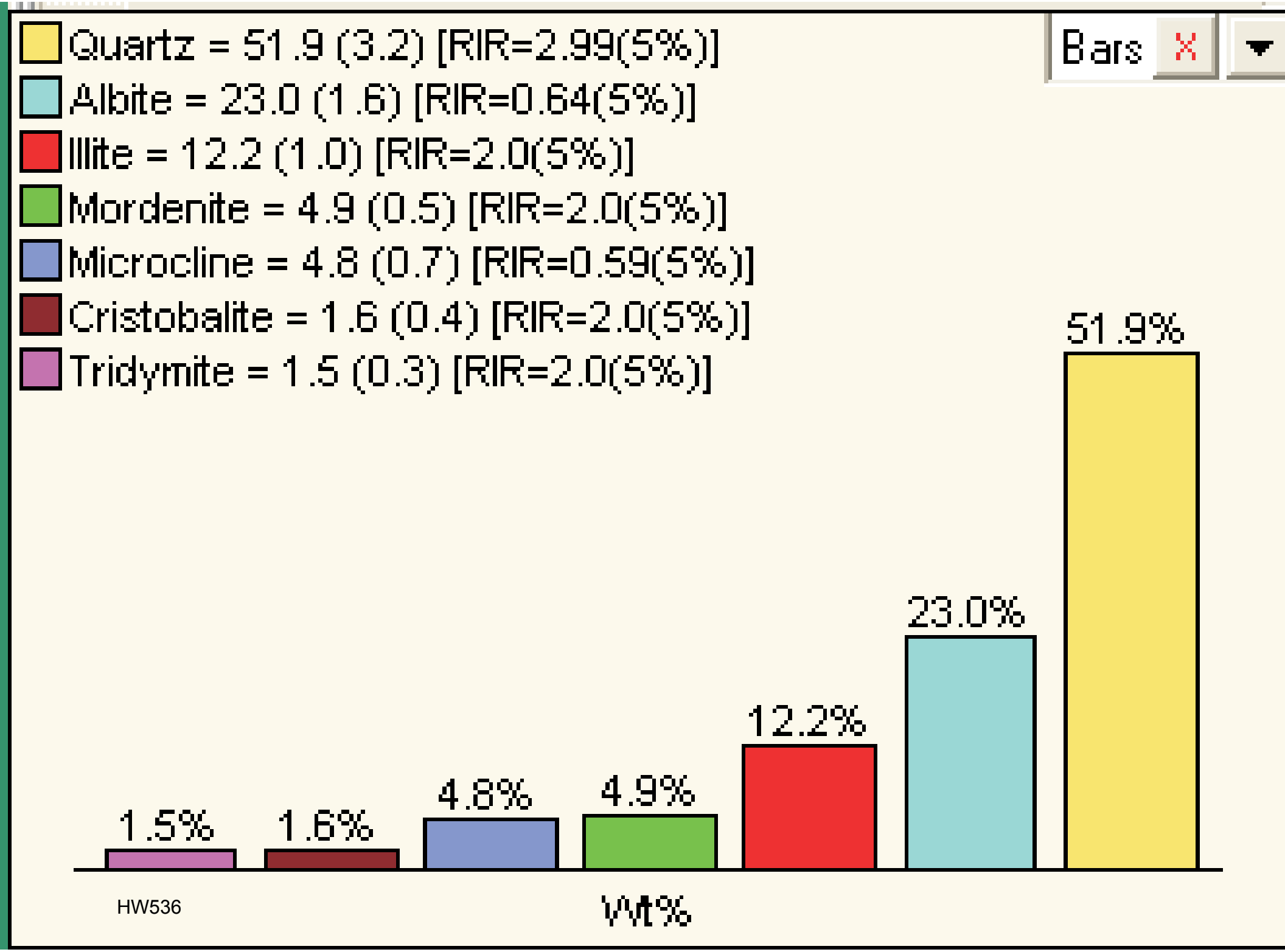
HW531


Quartz = 36.3 (2.2) [RIR=3.05(5%)]
Albite = 27.5 (1.9) [RIR=0.64(5%)]
Cristobalite = 11.3 (0.9)
Rutile = 8.9 (0.9) [RIR=3.63(5%)]
Illite-2M1 = 8.1 (0.7) [RIR=2.0(5%)]
Mordenite = 3.1 (0.5) [RIR=2.0(5%)]
Microcline = 2.7 (0.4) [RIR=0.59(5%)]
Clinochlore-1MIIb = 2.0 (0.2) [RIR=2.0(5%)]
Bars
2.0%
2.7%
3.1%
8.1%
8.9%
11.3%
27.5%
36.3%
Wt%
Microcline - K(AlSi3O8)
Albite - Na(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Cristobalite - SiO2
Clinochlore-1MIIb - (Mg,Al)6(Si,Al)4O10(OH)8
Quartz - SiO2
Rutile - TiO2
Mordenite - Na2Al2Si13.3O29.6+x
Intensity(Counts)
10
20
30
40
50
60

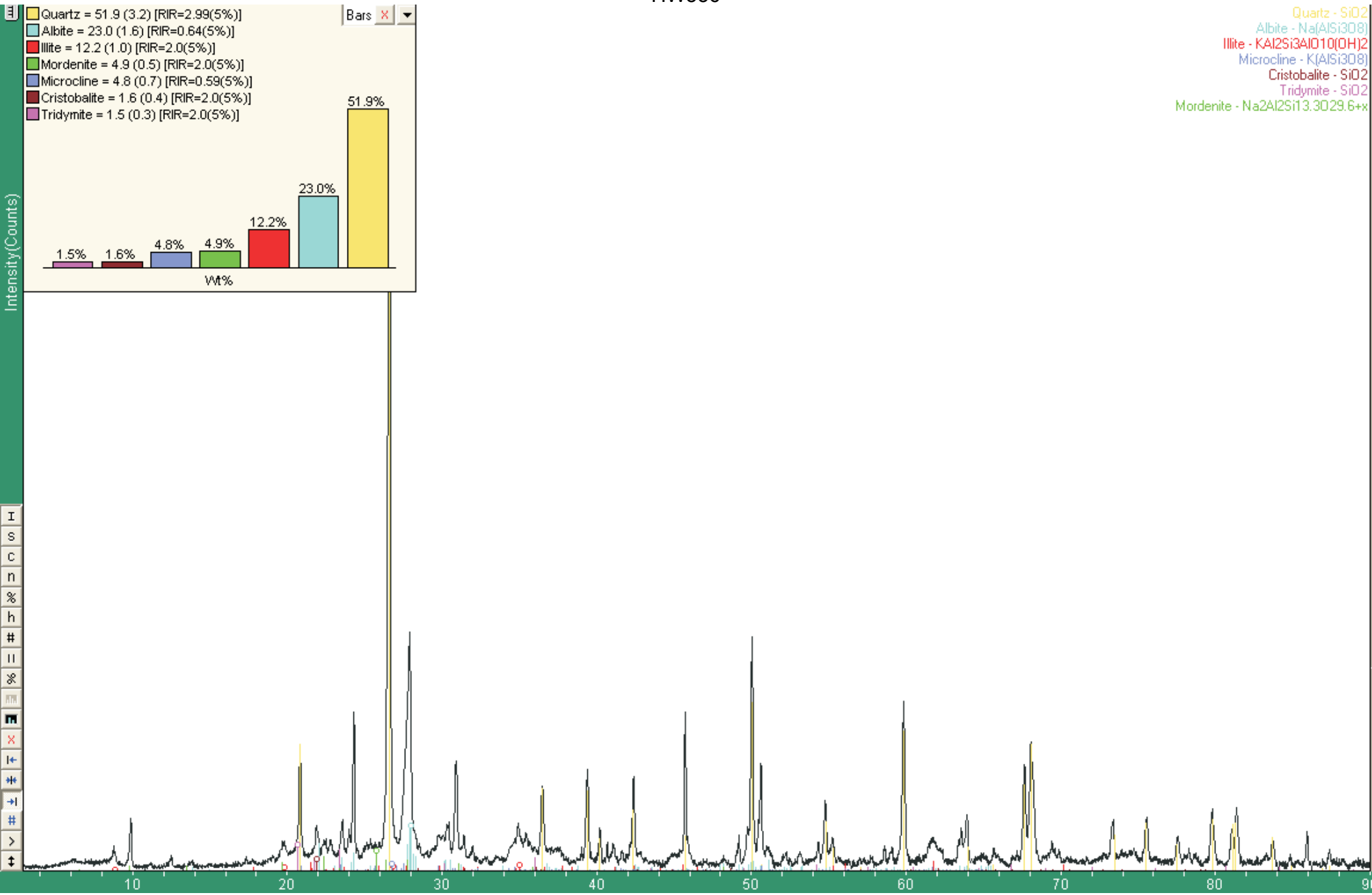

Quartz = 49.6 (3.1) [RIR=2.93(5%)]
Albite = 15.8 (1.3) [RIR=0.64(5%)]
Microcline = 10.2 (0.9) [RIR=2.0(5%)]
Cristobalite = 8.1 (1.0) [RIR=2.0(5%)]
Microcline = 6.9 (0.7) [RIR=0.59(5%)]
Tridymite = 5.0 (0.6) [RIR=2.0(5%)]
Illite-2M1 = 4.3 (0.5) [RIR=2.0(5%)]
Bars
4.3%
5.0%
6.9%
8.1%
10.2%
15.8%
49.6%
HW532
Wt%

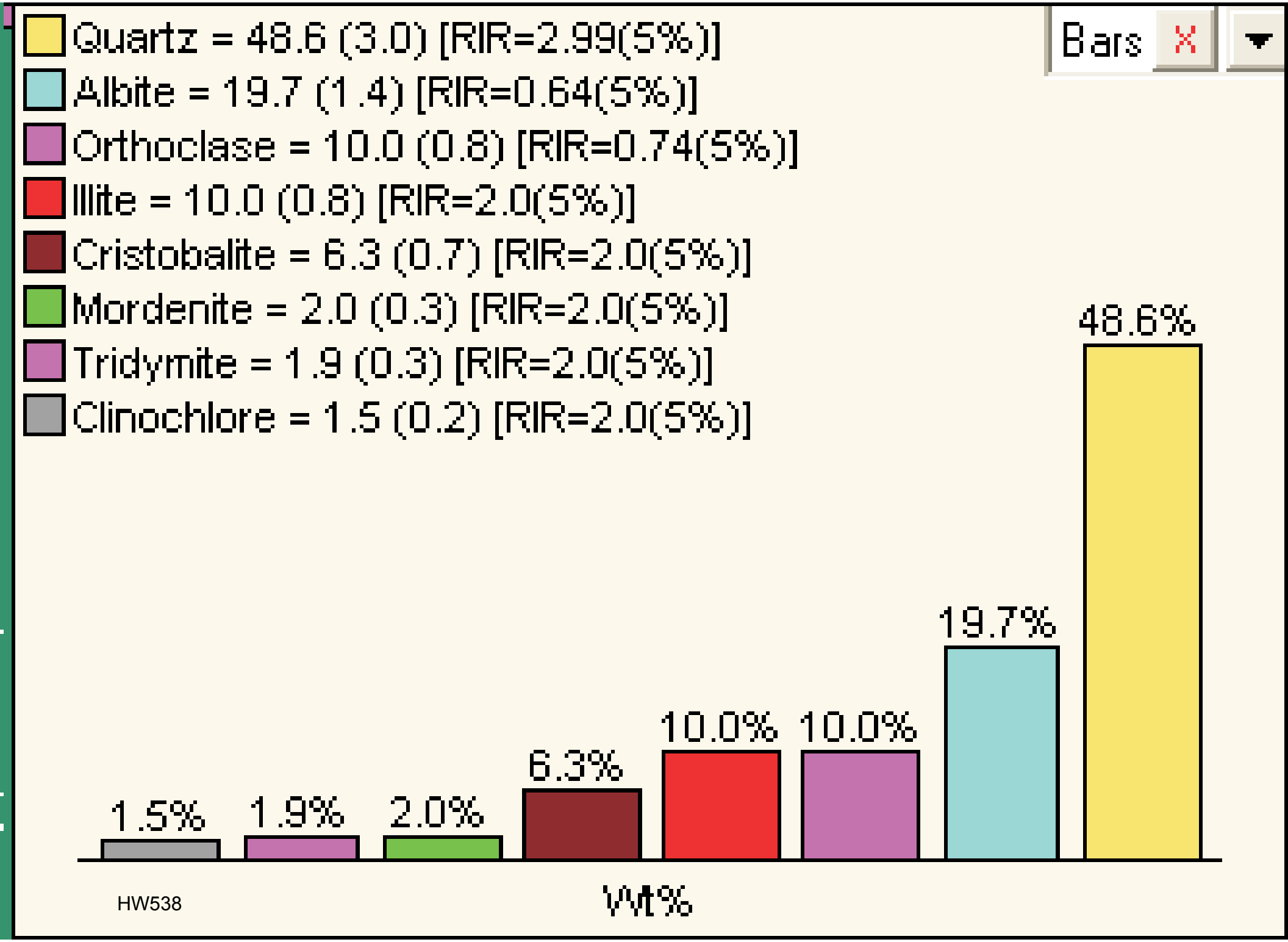
HW532


Quartz = 49.6 (3.1) [RIR=2.93(5%)]
Albite = 15.8 (1.3) [RIR=0.64(5%)]
Microcline = 10.2 (0.9) [RIR=2.0(5%)]
Cristobalite = 8.1 (1.0) [RIR=2.0(5%)]
Microcline = 6.9 (0.7) [RIR=0.59(5%)]
Tridymite = 5.0 (0.6) [RIR=2.0(5%)]
Illite-2M1 = 4.3 (0.5) [RIR=2.0(5%)]
Bars
4.3%
5.0%
6.9%
8.1%
10.2%
15.8%
49.6%
Wt%
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Microcline - KAlSi3O8
Tridymite - SiO2
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Intensity(Counts)
10
20
30
40
50
60

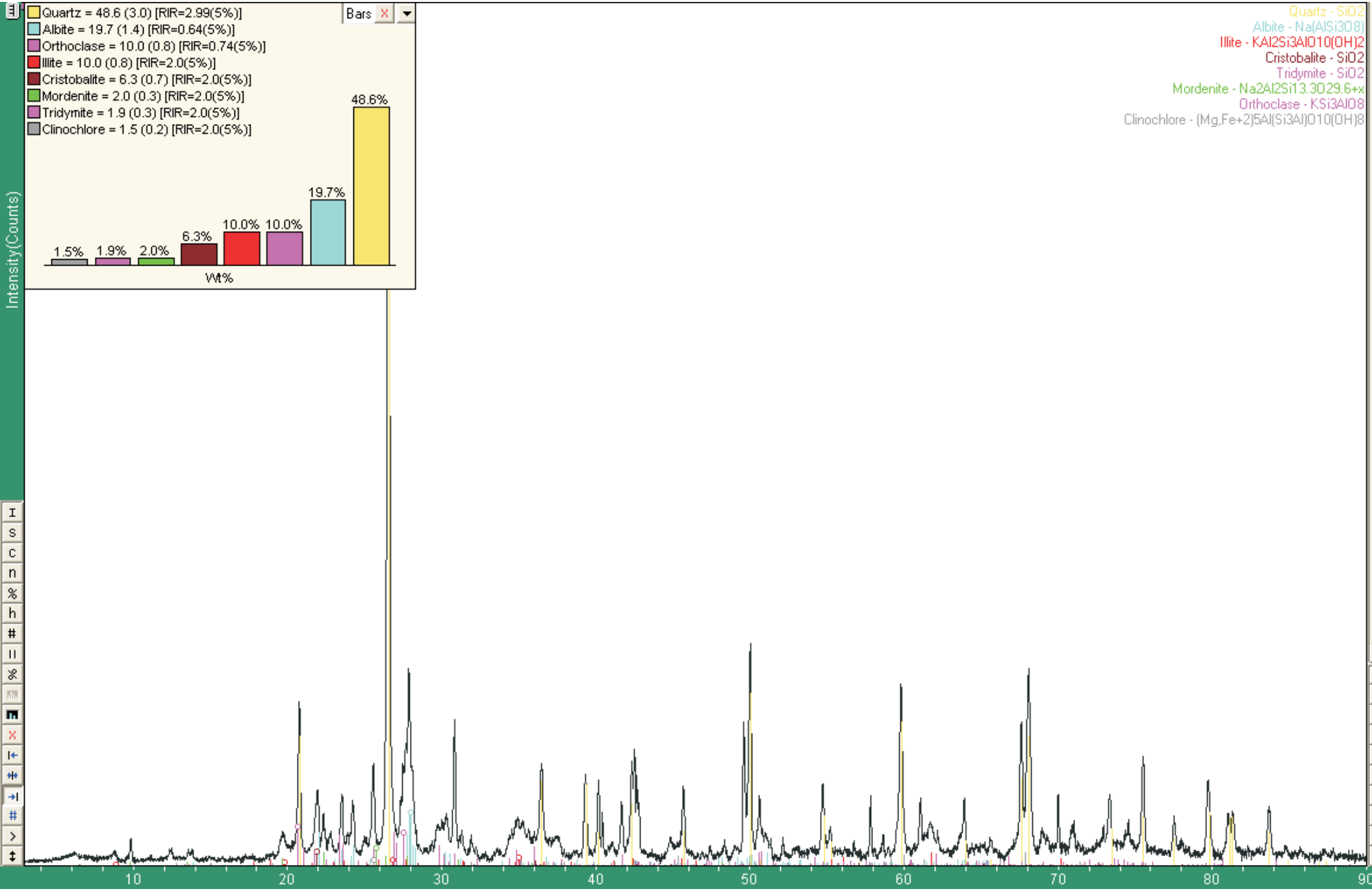

Quartz = 51.9 (3.2) [RIR=2.99(5%)]
Albite = 23.0 (1.6) [RIR=0.64(5%)]
Illite = 12.2 (1.0) [RIR=2.0(5%)]
Mordenite = 4.9 (0.5) [RIR=2.0(5%)]
Microcline = 4.8 (0.7) [RIR=0.59(5%)]
Cristobalite = 1.6 (0.4) [RIR=2.0(5%)]
Tridymite = 1.5 (0.3) [RIR=2.0(5%)]
Bars
1.5%
1.6%
4.8%
4.9%
12.2%
23.0%
51.9%
HW536
Wt%

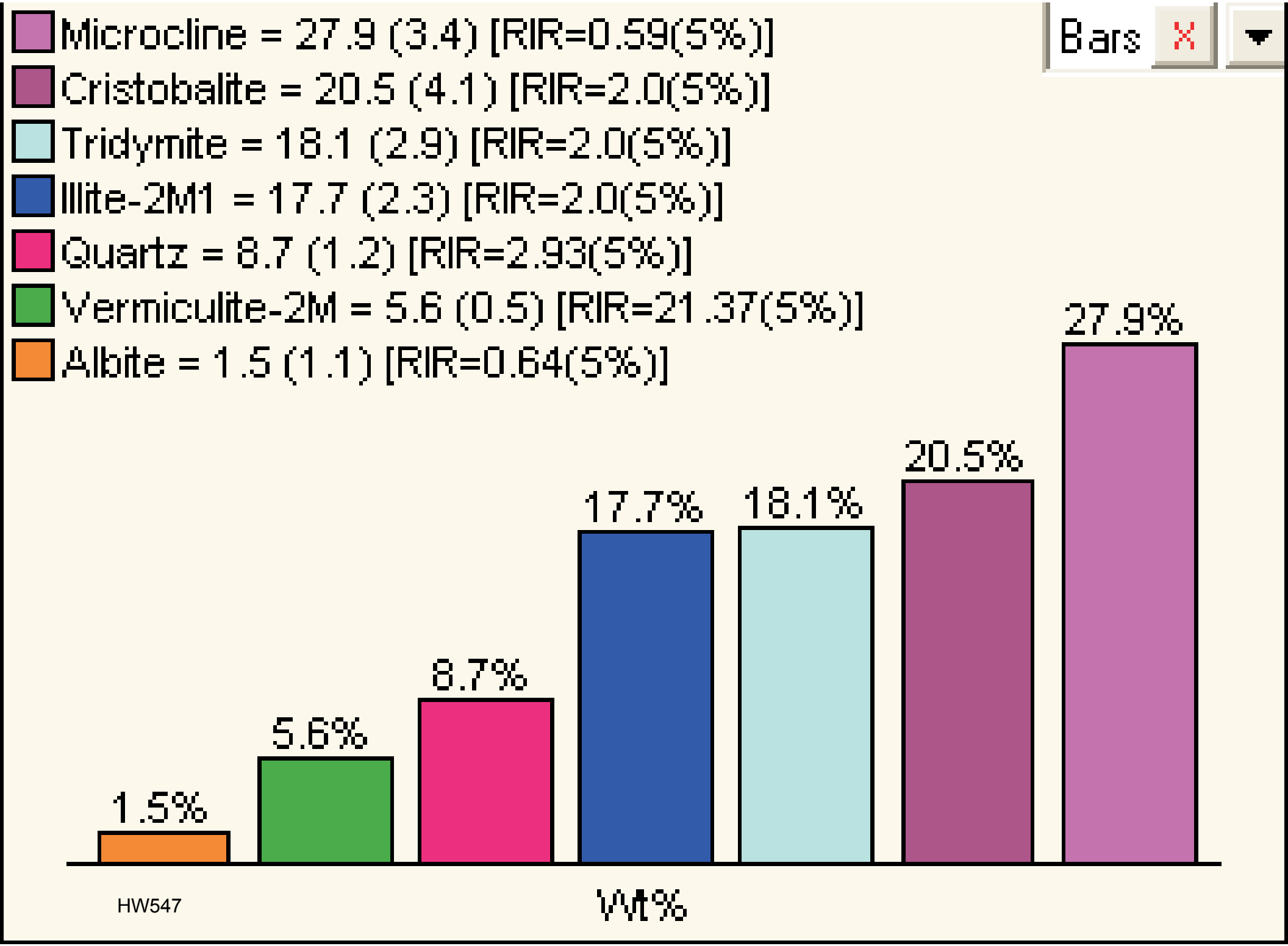
HW536


Quartz = 51.9 (3.2) [RIR=2.99(5%)]
Albite = 23.0 (1.6) [RIR=0.64(5%)]
Illite = 12.2 (1.0) [RIR=2.0(5%)]
Mordenite = 4.9 (0.5) [RIR=2.0(5%)]
Microcline = 4.8 (0.7) [RIR=0.59(5%)]
Cristobalite = 1.6 (0.4) [RIR=2.0(5%)]
Tridymite = 1.5 (0.3) [RIR=2.0(5%)]
Bars
1.5%
1.6%
4.8%
4.9%
12.2%
23.0%
51.9%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Tridymite - SiO2
Mordenite - Na2Al2Si13.3O29.6+x
Intensity(Counts)
10
20
30
40
50
60
70
80

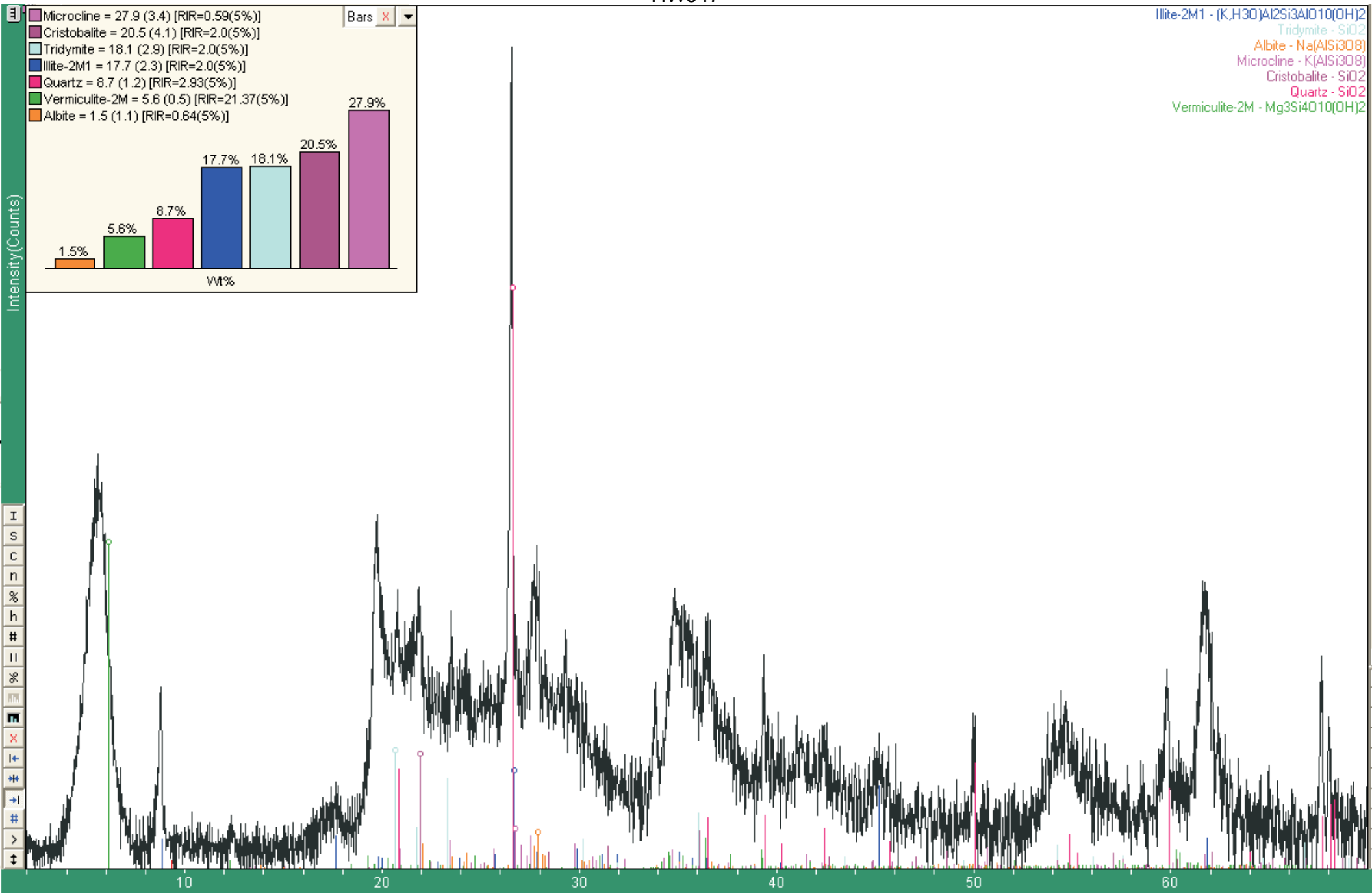

Quartz = 48.6 (3.0) [RIR=2.99(5%)]
Albite = 19.7 (1.4) [RIR=0.64(5%)]
Orthoclase = 10.0 (0.8) [RIR=0.74(5%)]
Illite = 10.0 (0.8) [RIR=2.0(5%)]
Cristobalite = 6.3 (0.7) [RIR=2.0(5%)]
Mordenite = 2.0 (0.3) [RIR=2.0(5%)]
Tridymite = 1.9 (0.3) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.2) [RIR=2.0(5%)]
Bars
48.6%
19.7%
10.0%
10.0%
6.3%
1.5%
1.9%
2.0%
HW538
Wt%

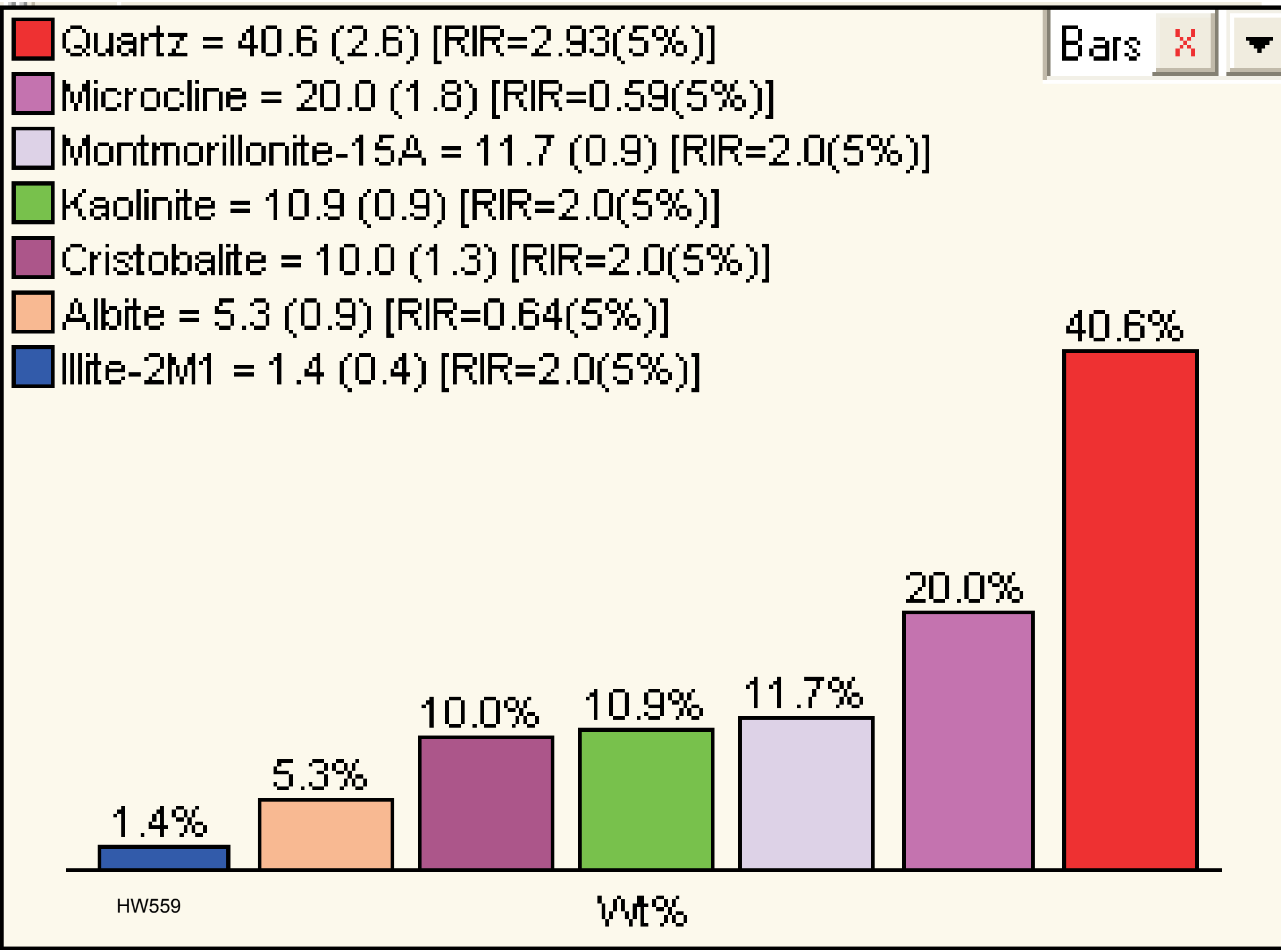
HW538


Quartz = 48.6 (3.0) [RIR=2.99(5%)]
Albite = 19.7 (1.4) [RIR=0.64(5%)]
Orthoclase = 10.0 (0.8) [RIR=0.74(5%)]
Illite = 10.0 (0.8) [RIR=2.0(5%)]
Cristobalite = 6.3 (0.7) [RIR=2.0(5%)]
Mordenite = 2.0 (0.3) [RIR=2.0(5%)]
Tridymite = 1.9 (0.3) [RIR=2.0(5%)]
Clinochlore = 1.5 (0.2) [RIR=2.0(5%)]
Bars
1.5%
1.9%
2.0%
6.3%
10.0%
10.0%
19.7%
48.6%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Mordenite - Na2Al2Si13.3O29.6+x
Orthoclase - KSi3AlO8
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70
80
90

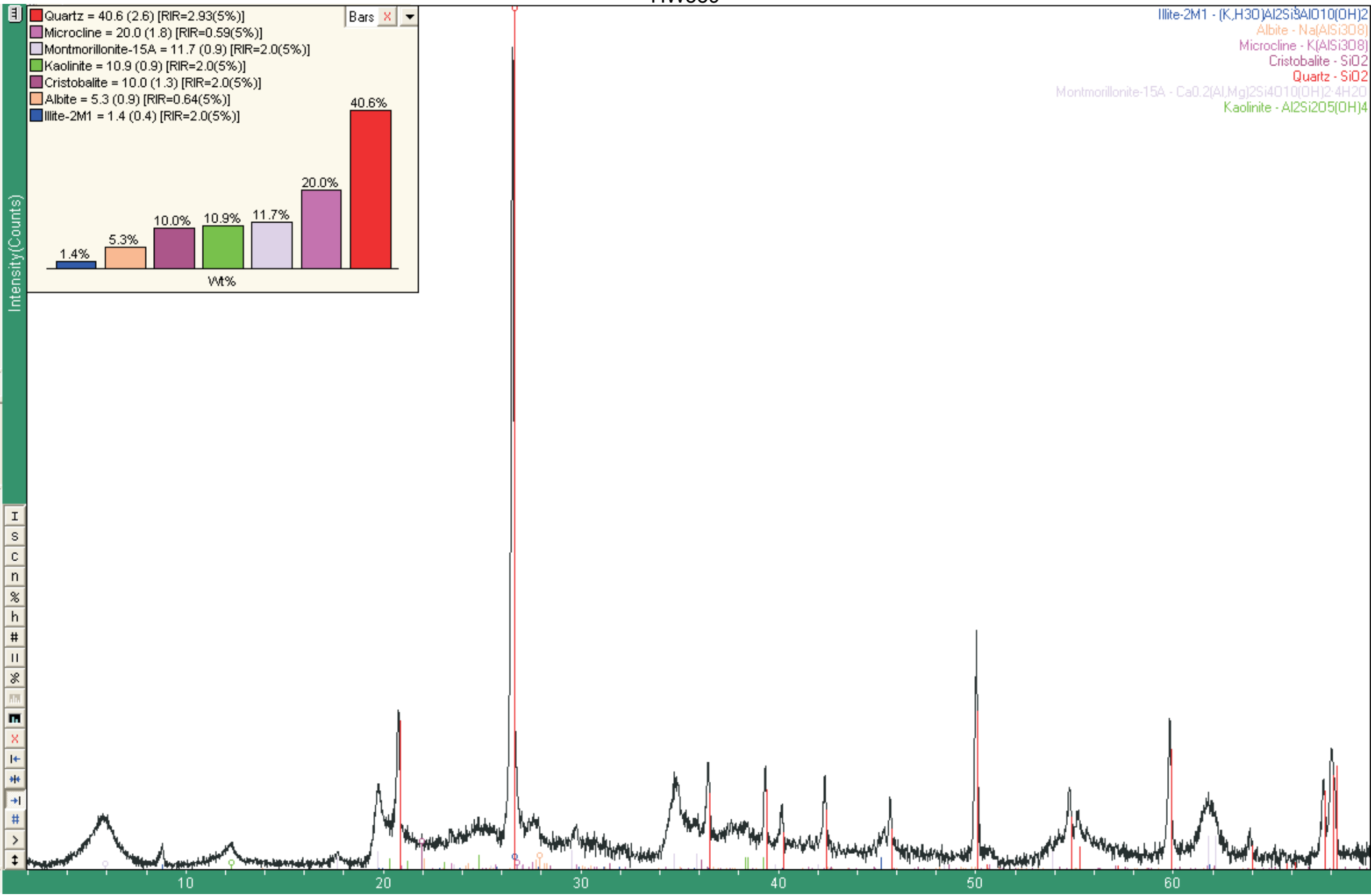

Microcline = 27.9 (3.4) [RIR=0.59(5%)]
Cristobalite = 20.5 (4.1) [RIR=2.0(5%)]
Tridymite = 18.1 (2.9) [RIR=2.0(5%)]
Illite-2M1 = 17.7 (2.3) [RIR=2.0(5%)]
Quartz = 8.7 (1.2) [RIR=2.93(5%)]
Vermiculite-2M = 5.6 (0.5) [RIR=21.37(5%)]
Albite = 1.5 (1.1) [RIR=0.64(5%)]
Bars
1.5%
5.6%
8.7%
17.7%
18.1%
20.5%
27.9%
HW547
Wt%

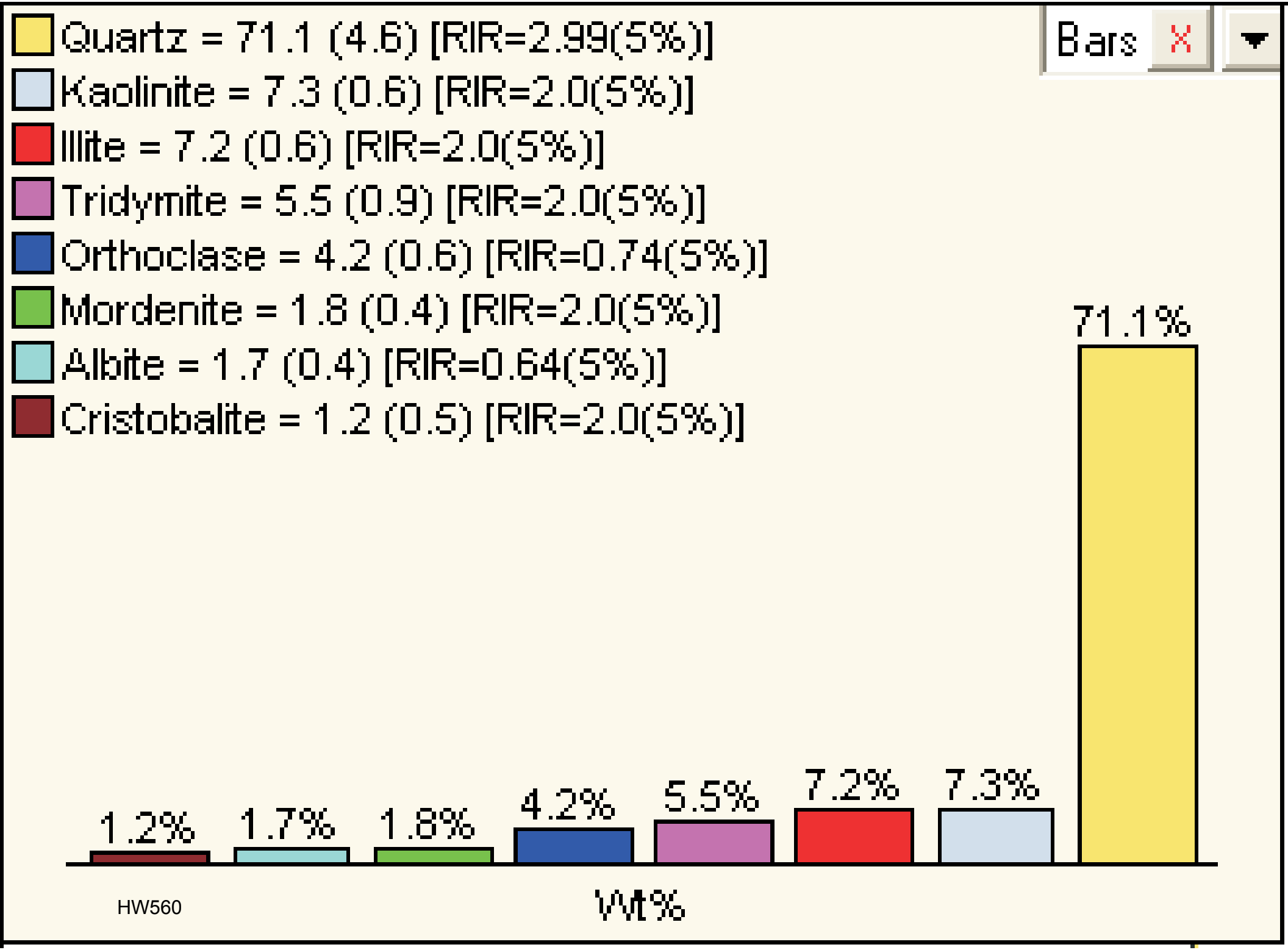
HW547


Microcline = 27.9 (3.4) [RIR=0.59(5%)]
Cristobalite = 20.5 (4.1) [RIR=2.0(5%)]
Tridymite = 18.1 (2.9) [RIR=2.0(5%)]
Illite-2M1 = 17.7 (2.3) [RIR=2.0(5%)]
Quartz = 8.7 (1.2) [RIR=2.93(5%)]
Vermiculite-2M = 5.6 (0.5) [RIR=21.37(5%)]
Albite = 1.5 (1.1) [RIR=0.64(5%)]
Bars
1.5%
5.6%
8.7%
17.7%
18.1%
20.5%
27.9%
Wt%
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Tridymite - SiO2
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Vermiculite-2M - Mg3Si4O10(OH)2
Intensity(Counts)
10
20
30
40
50
60

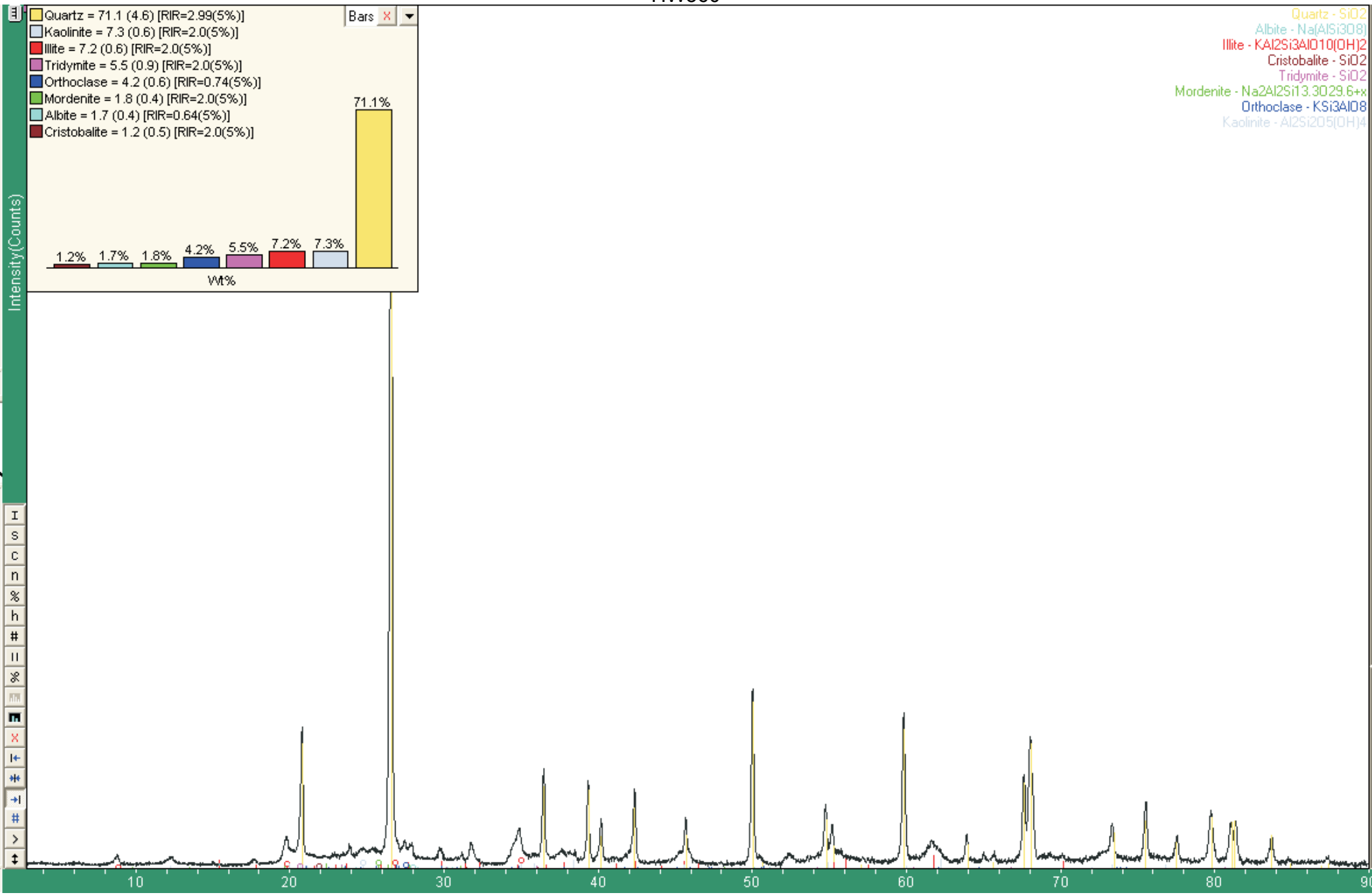

Quartz = 40.6 (2.6) [RIR=2.93(5%)]
Microcline = 20.0 (1.8) [RIR=0.59(5%)]
Montmorillonite-15A = 11.7 (0.9) [RIR=2.0(5%)]
Kaolinite = 10.9 (0.9) [RIR=2.0(5%)]
Cristobalite = 10.0 (1.3) [RIR=2.0(5%)]
Albite = 5.3 (0.9) [RIR=0.64(5%)]
Illite-2M1 = 1.4 (0.4) [RIR=2.0(5%)]
Bars
1.4%
5.3%
10.0%
10.9%
11.7%
20.0%
40.6%
HW559
Wt%

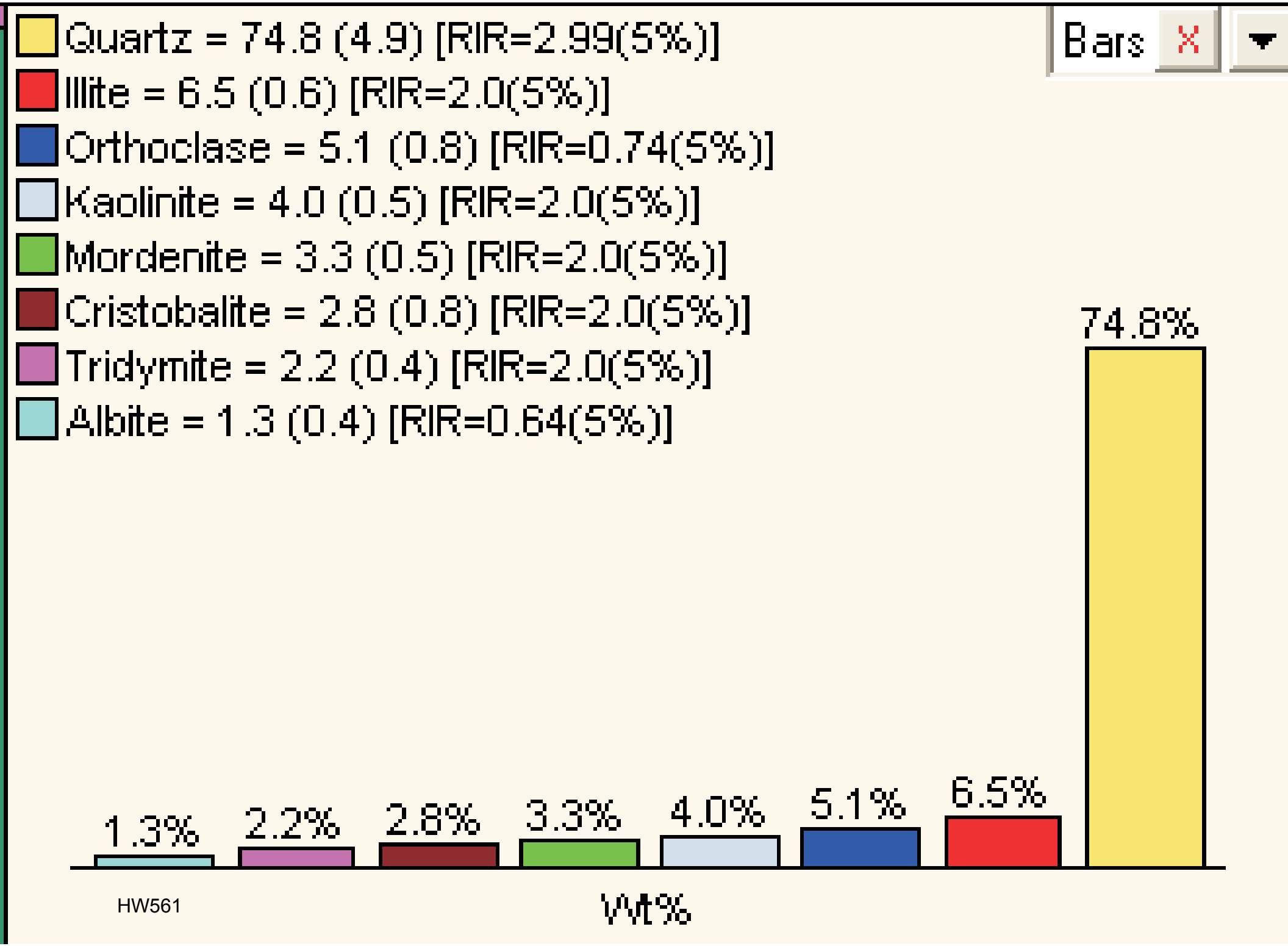
HW559


Quartz = 40.6 (2.6) [RIR=2.93(5%)]
Microcline = 20.0 (1.8) [RIR=0.59(5%)]
Montmorillonite-15A = 11.7 (0.9) [RIR=2.0(5%)]
Kaolinite = 10.9 (0.9) [RIR=2.0(5%)]
Cristobalite = 10.0 (1.3) [RIR=2.0(5%)]
Albite = 5.3 (0.9) [RIR=0.64(5%)]
Illite-2M1 = 1.4 (0.4) [RIR=2.0(5%)]
Bars
1.4%
5.3%
10.0%
10.9%
11.7%
20.0%
40.6%
Wt%
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60

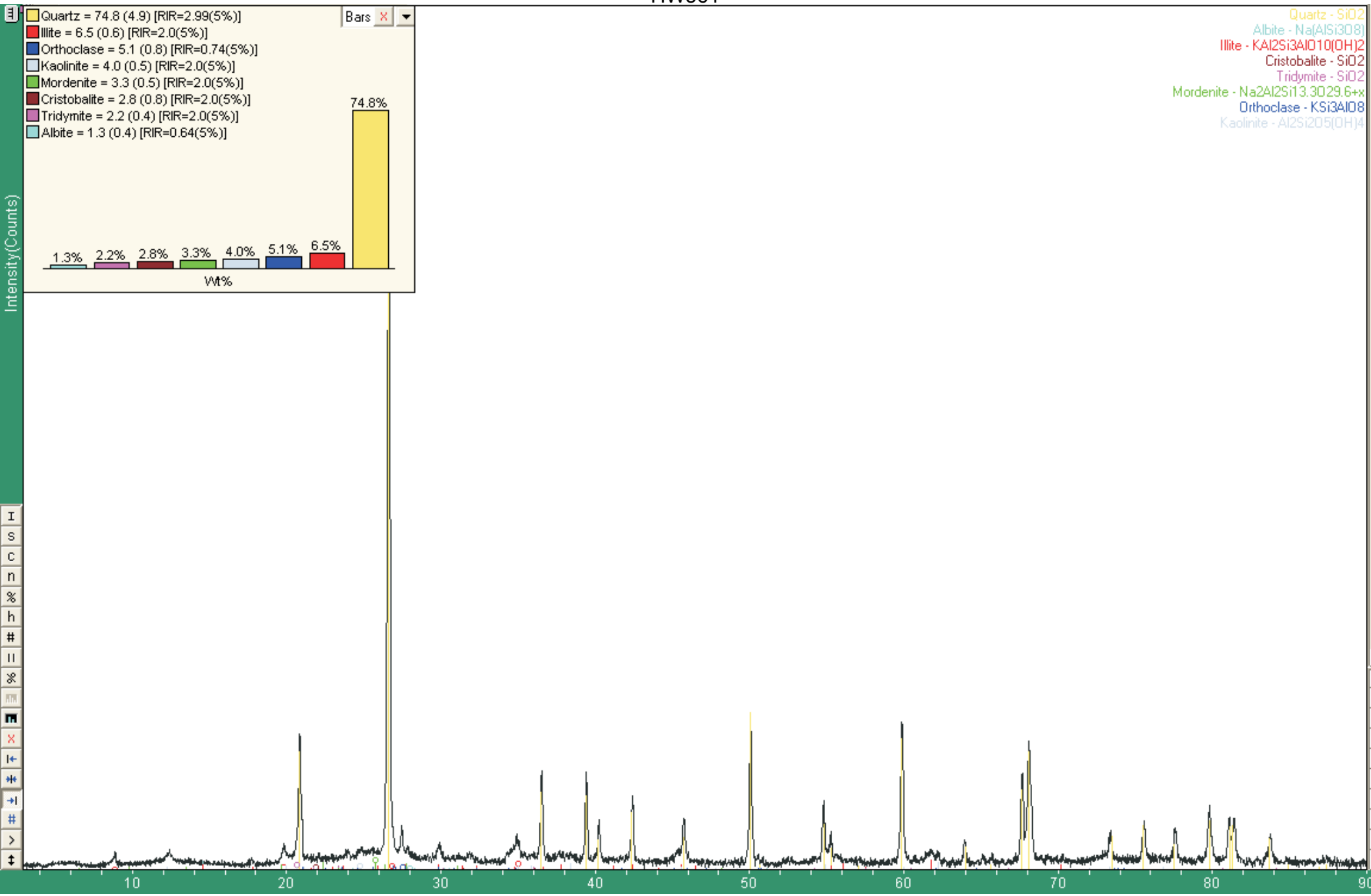

Quartz = 71.1 (4.6) [RIR=2.99(5%)]
Kaolinite = 7.3 (0.6) [RIR=2.0(5%)]
Illite = 7.2 (0.6) [RIR=2.0(5%)]
Tridymite = 5.5 (0.9) [RIR=2.0(5%)]
Orthoclase = 4.2 (0.6) [RIR=0.74(5%)]
Mordenite = 1.8 (0.4) [RIR=2.0(5%)]
Albite = 1.7 (0.4) [RIR=0.64(5%)]
Cristobalite = 1.2 (0.5) [RIR=2.0(5%)]
Bars
1.2%
1.7%
1.8%
4.2%
5.5%
7.2%
7.3%
71.1%
HW560
Wt%

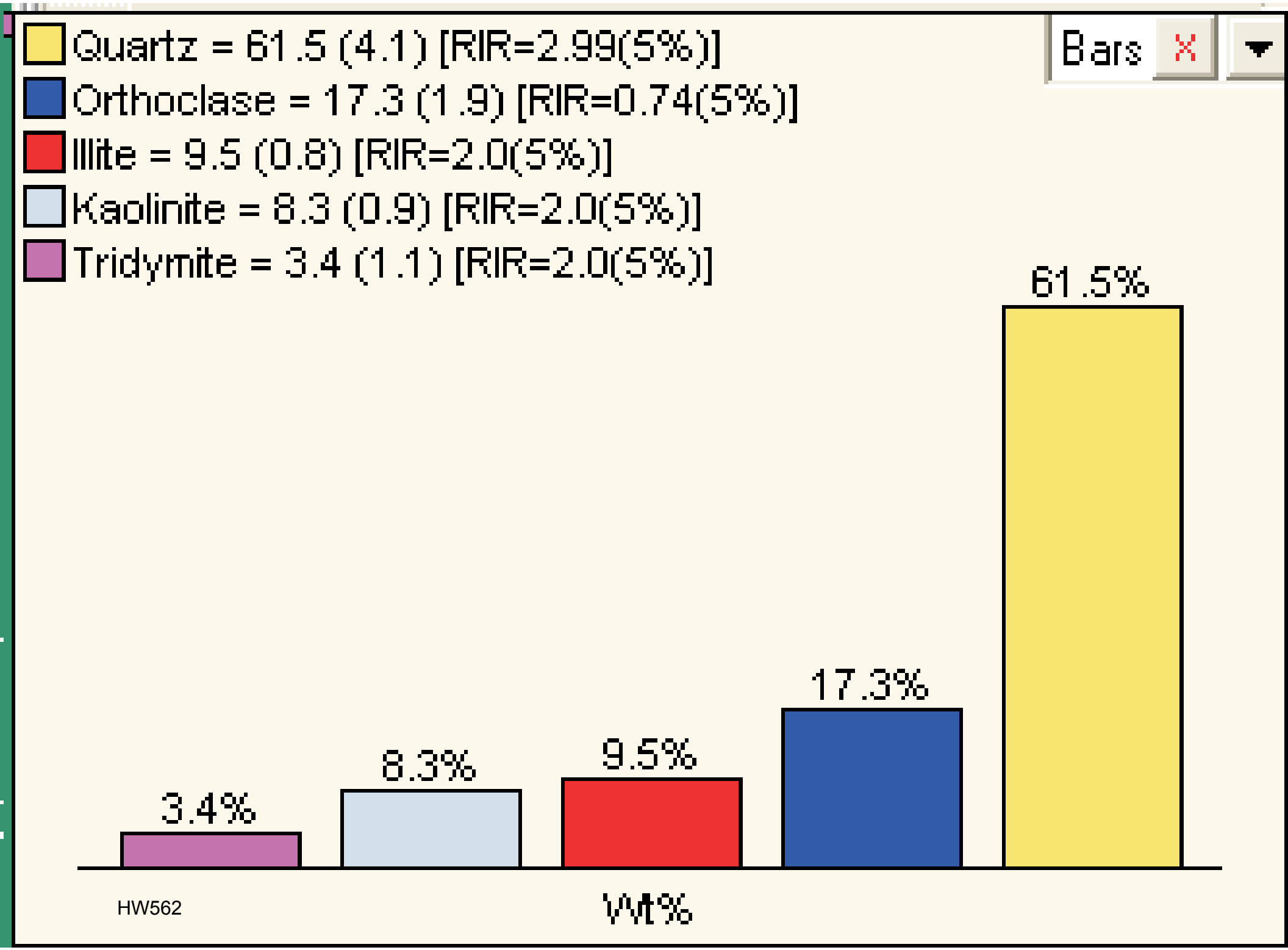
HW560


Quartz = 71.1 (4.6) [RIR=2.99(5%)]
Kaolinite = 7.3 (0.6) [RIR=2.0(5%)]
Illite = 7.2 (0.6) [RIR=2.0(5%)]
Tridymite = 5.5 (0.9) [RIR=2.0(5%)]
Orthoclase = 4.2 (0.6) [RIR=0.74(5%)]
Mordenite = 1.8 (0.4) [RIR=2.0(5%)]
Albite = 1.7 (0.4) [RIR=0.64(5%)]
Cristobalite = 1.2 (0.5) [RIR=2.0(5%)]
Bars
71.1%
7.3%
7.2%
5.5%
4.2%
1.8%
1.7%
1.2%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Mordenite - Na2Al2Si13.3O29.6+x
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70
80
90

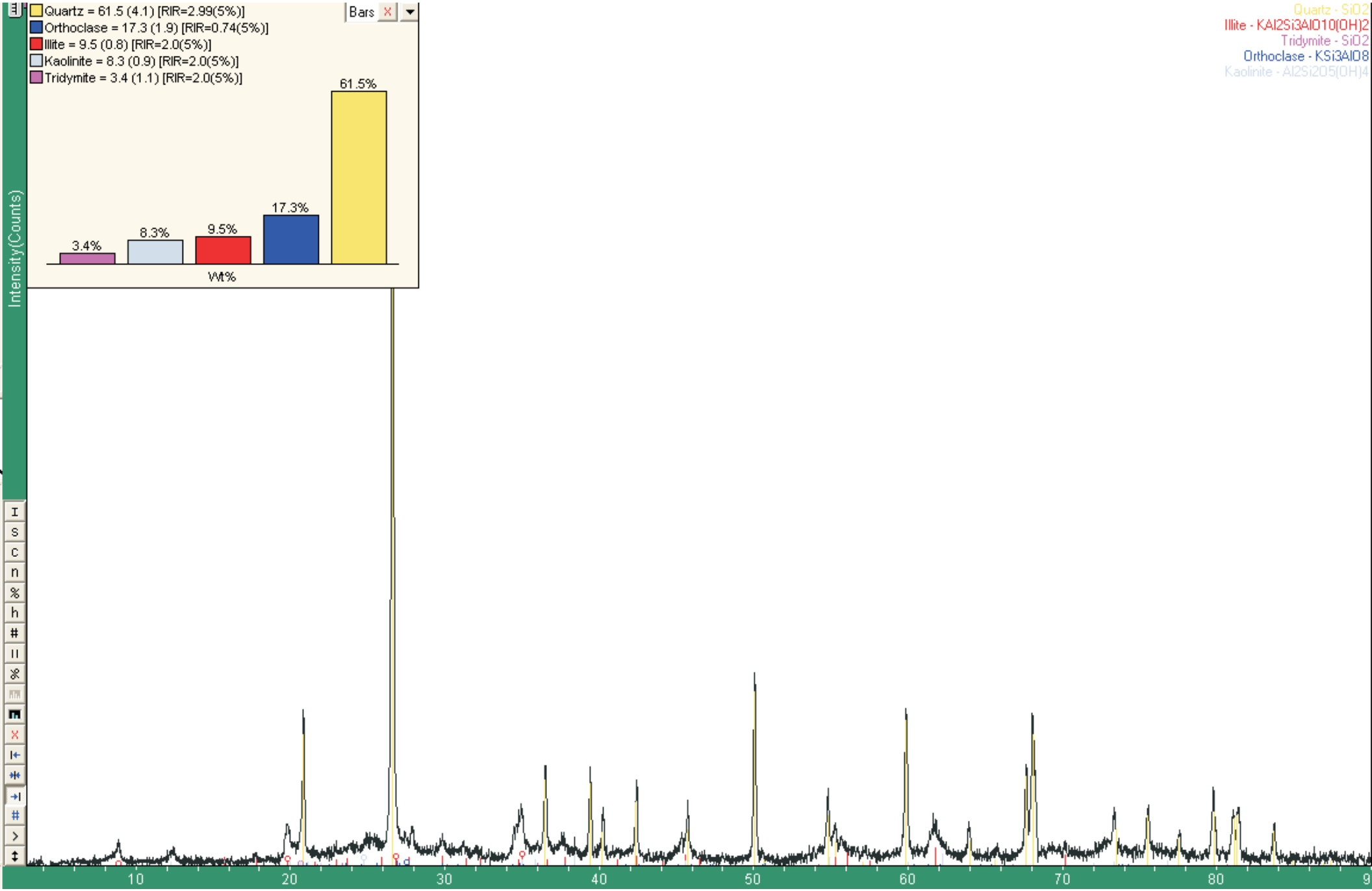

Quartz = 74.8 (4.9) [RIR=2.99(5%)]
Illite = 6.5 (0.6) [RIR=2.0(5%)]
Orthoclase = 5.1 (0.8) [RIR=0.74(5%)]
Kaolinite = 4.0 (0.5) [RIR=2.0(5%)]
Mordenite = 3.3 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.8 (0.8) [RIR=2.0(5%)]
Tridymite = 2.2 (0.4) [RIR=2.0(5%)]
Albite = 1.3 (0.4) [RIR=0.64(5%)]
Bars
74.8%
1.3%
2.2%
2.8%
3.3%
4.0%
5.1%
6.5%
HW561
Wt%

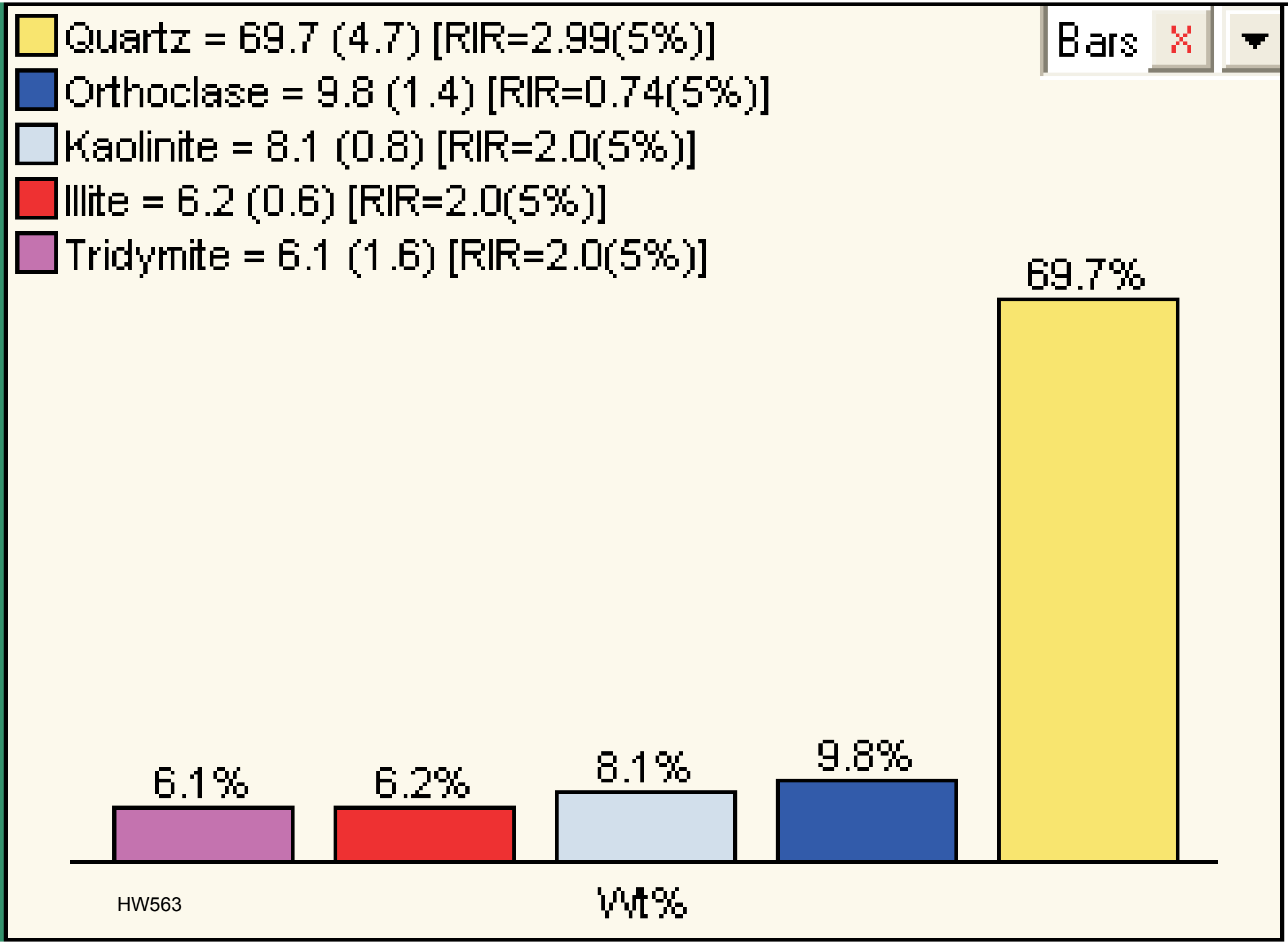
HW561


Quartz = 74.8 (4.9) [RIR=2.99(5%)]
Illite = 6.5 (0.6) [RIR=2.0(5%)]
Orthoclase = 5.1 (0.8) [RIR=0.74(5%)]
Kaolinite = 4.0 (0.5) [RIR=2.0(5%)]
Mordenite = 3.3 (0.5) [RIR=2.0(5%)]
Cristobalite = 2.8 (0.8) [RIR=2.0(5%)]
Tridymite = 2.2 (0.4) [RIR=2.0(5%)]
Albite = 1.3 (0.4) [RIR=0.64(5%)]
Bars
74.8%
1.3%
2.2%
2.8%
3.3%
4.0%
5.1%
6.5%
Wt%
Quartz - SiO2
Albite - Na(AlSi3O8)
Illite - KAl2Si3AlO10(OH)2
Cristobalite - SiO2
Tridymite - SiO2
Mordenite - Na2Al2Si13.3O29.6+x
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70
80
90

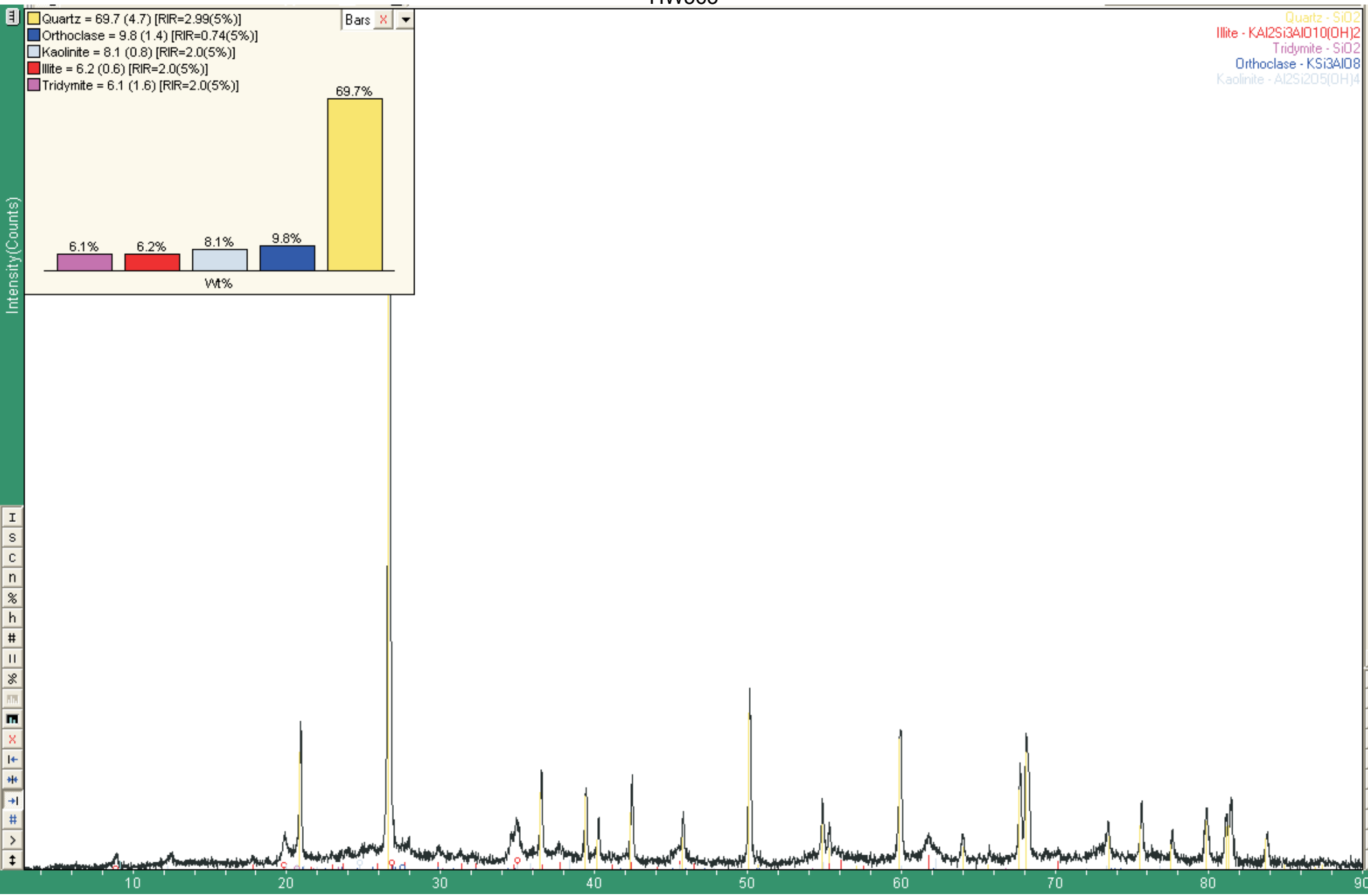

Quartz = 61.5 (4.1) [RIR=2.99(5%)]
Orthoclase = 17.3 (1.9) [RIR=0.74(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Kaolinite = 8.3 (0.9) [RIR=2.0(5%)]
Tridymite = 3.4 (1.1) [RIR=2.0(5%)]
Bars
3.4%
8.3%
9.5%
17.3%
61.5%
HW562
Wt%

HW562

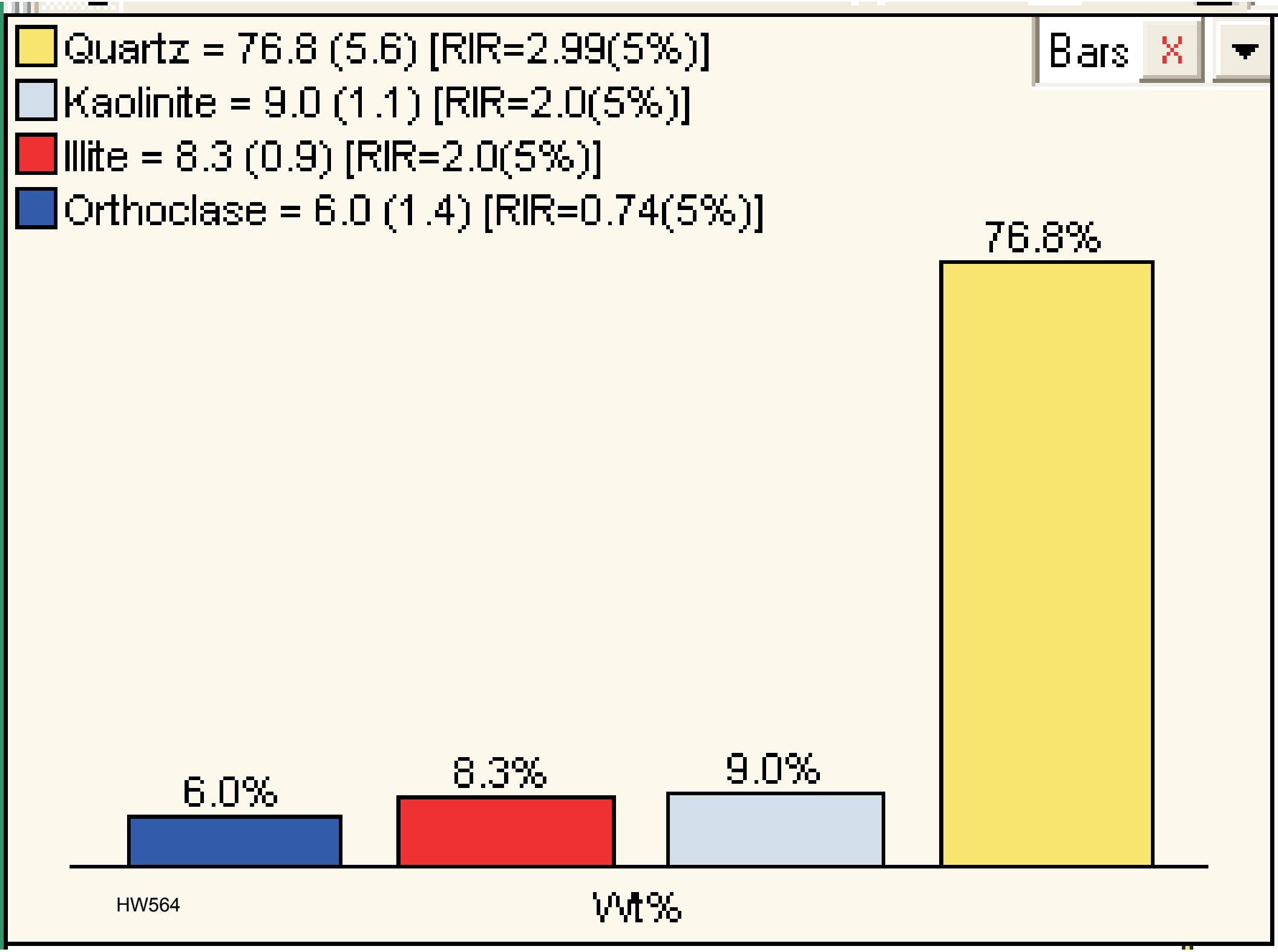

Quartz = 61.5 (4.1) [RIR=2.99(5%)]
Orthoclase = 17.3 (1.9) [RIR=0.74(5%)]
Illite = 9.5 (0.8) [RIR=2.0(5%)]
Kaolinite = 8.3 (0.9) [RIR=2.0(5%)]
Tridymite = 3.4 (1.1) [RIR=2.0(5%)]
Bars
3.4%
8.3%
9.5%
17.3%
61.5%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70
80


Quartz = 69.7 (4.7) [RIR=2.99(5%)]
Orthoclase = 9.8 (1.4) [RIR=0.74(5%)]
Kaolinite = 8.1 (0.8) [RIR=2.0(5%)]
Illite = 6.2 (0.6) [RIR=2.0(5%)]
Tridymite = 6.1 (1.6) [RIR=2.0(5%)]
Bars
69.7%
9.8%
8.1%
6.2%
6.1%
HW563
Wt%

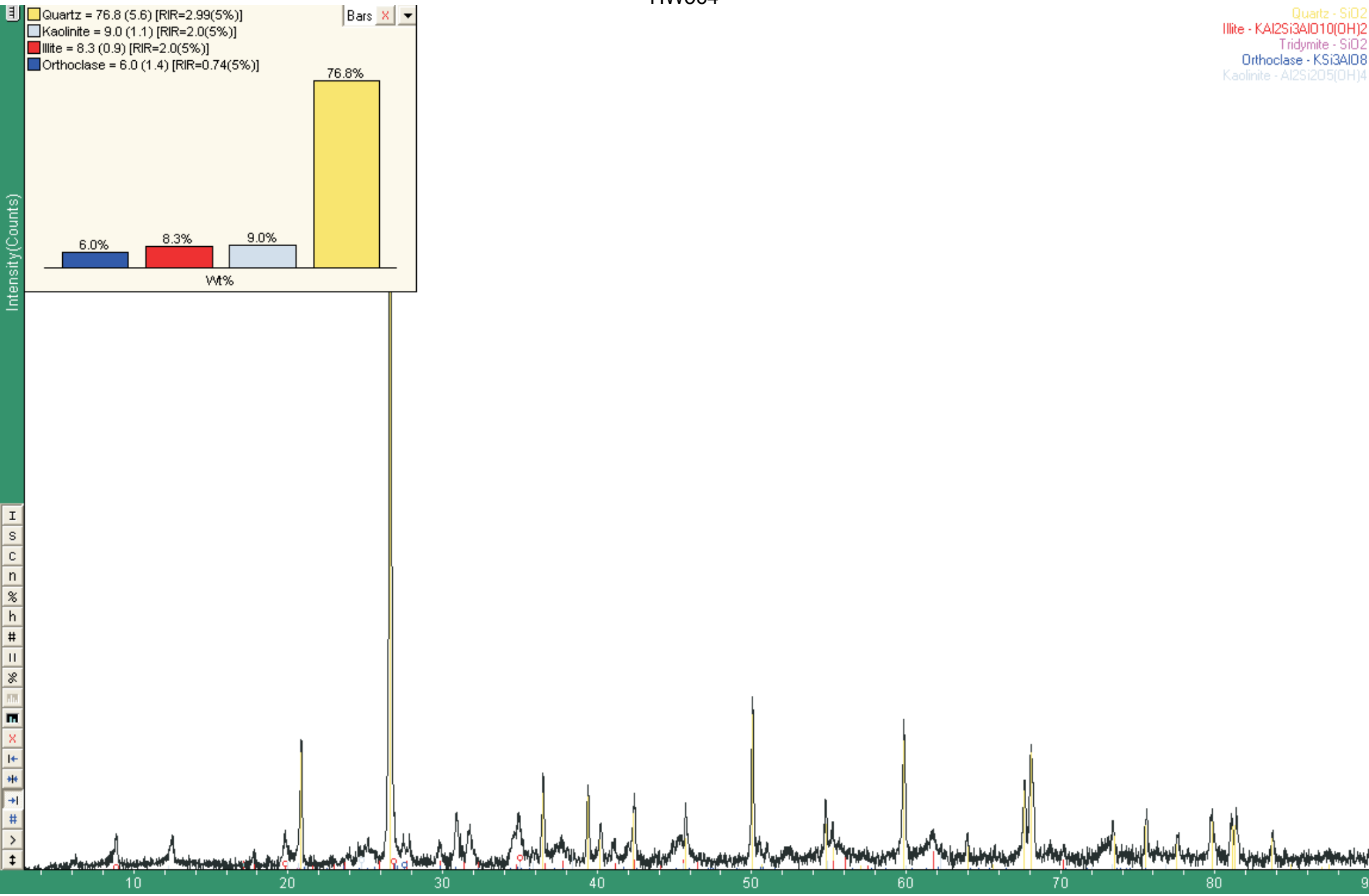
HW563

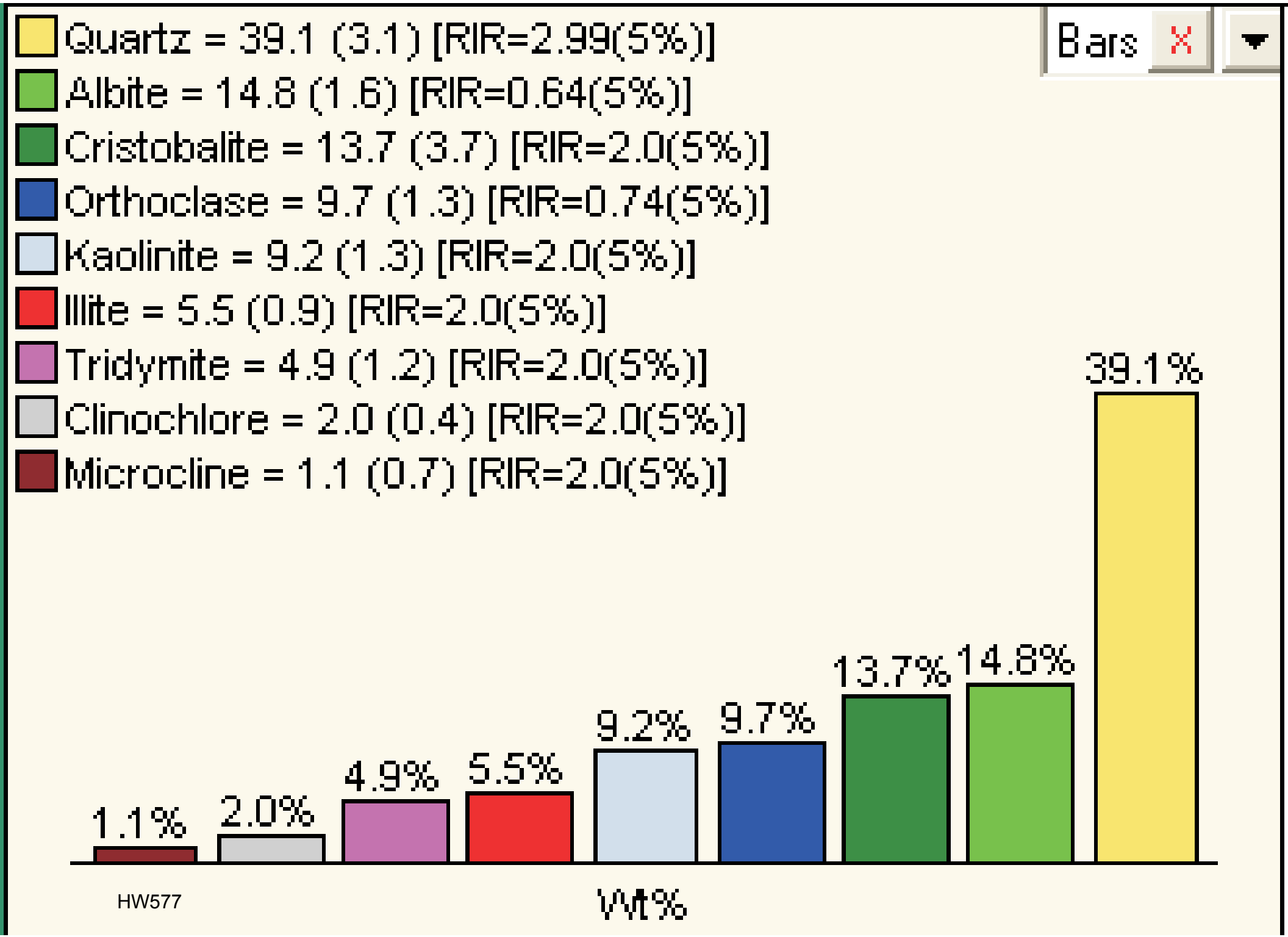

Quartz = 69.7 (4.7) [RIR=2.99(5%)]
Orthoclase = 9.8 (1.4) [RIR=0.74(5%)]
Kaolinite = 8.1 (0.8) [RIR=2.0(5%)]
Illite = 6.2 (0.6) [RIR=2.0(5%)]
Tridymite = 6.1 (1.6) [RIR=2.0(5%)]
Bars
6.1%
6.2%
8.1%
9.8%
69.7%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70
80
90

HW563

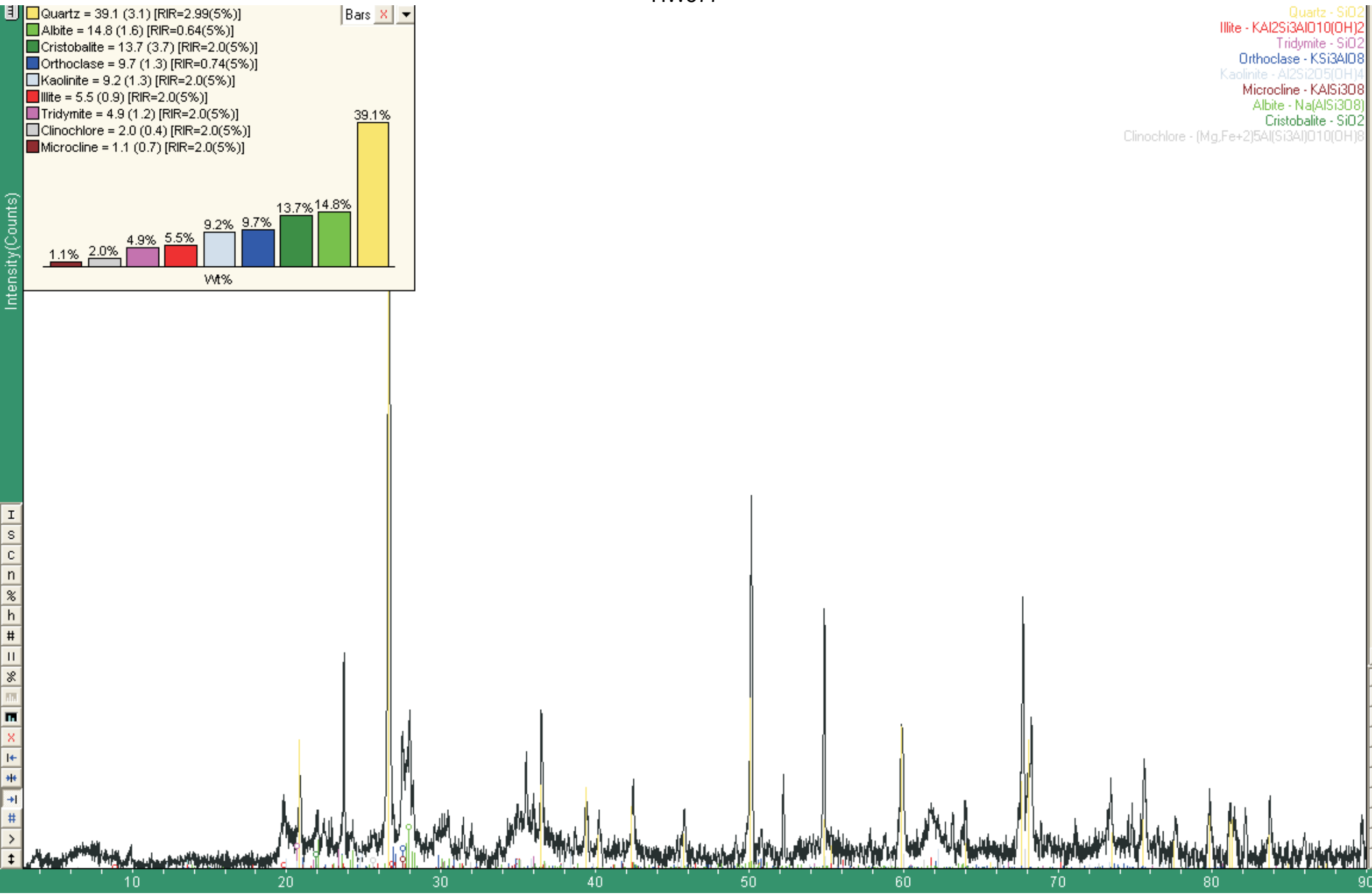

Quartz = 76.8 (5.6) [RIR=2.99(5%)]
Kaolinite = 9.0 (1.1) [RIR=2.0(5%)]
Illite = 8.3 (0.9) [RIR=2.0(5%)]
Orthoclase = 6.0 (1.4) [RIR=0.74(5%)]
Bars
76.8%
6.0%
8.3%
9.0%
HW564
Wt%

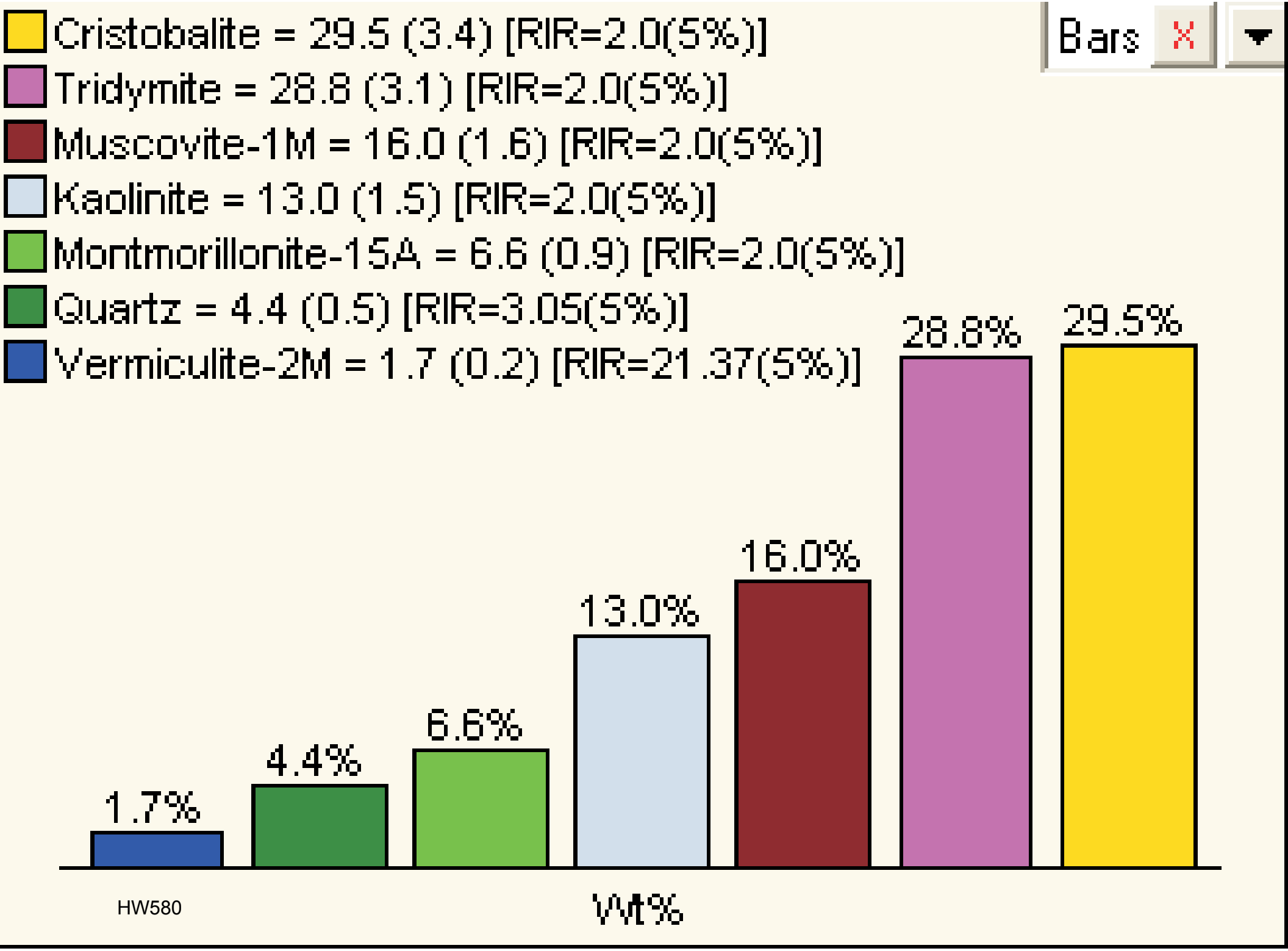
HW564


Quartz = 76.8 (5.6) [RIR=2.99(5%)]
Kaolinite = 9.0 (1.1) [RIR=2.0(5%)]
Illite = 8.3 (0.9) [RIR=2.0(5%)]
Orthoclase = 6.0 (1.4) [RIR=0.74(5%)]
Bars
76.8%
6.0%
8.3%
9.0%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Intensity(Counts)
10
20
30
40
50
60
70
80

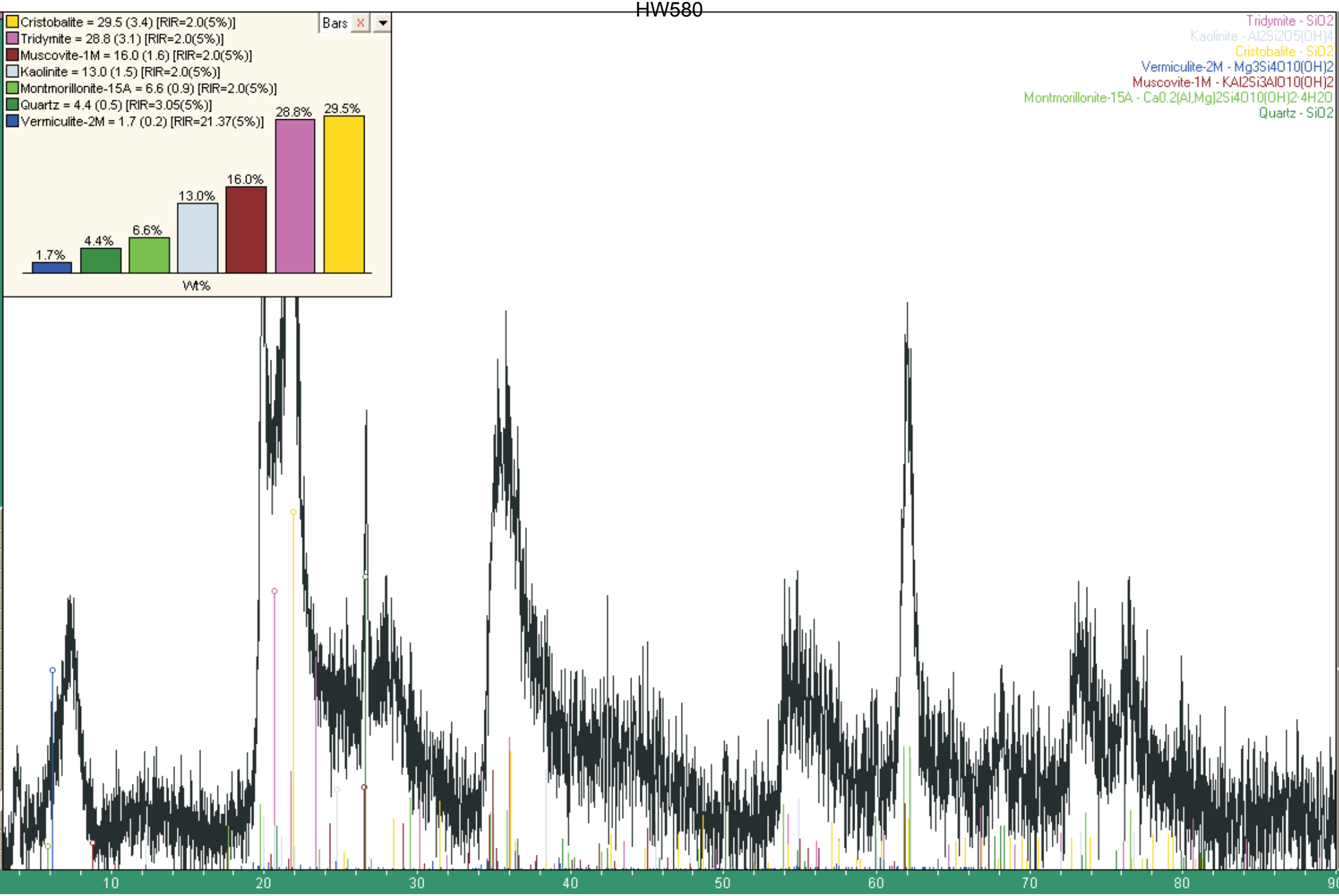

Quartz = 39.1 (3.1) [RIR=2.99(5%)]
Albite = 14.8 (1.6) [RIR=0.64(5%)]
Cristobalite = 13.7 (3.7) [RIR=2.0(5%)]
Orthoclase = 9.7 (1.3) [RIR=0.74(5%)]
Kaolinite = 9.2 (1.3) [RIR=2.0(5%)]
Illite = 5.5 (0.9) [RIR=2.0(5%)]
Tridymite = 4.9 (1.2) [RIR=2.0(5%)]
Clinochlore = 2.0 (0.4) [RIR=2.0(5%)]
Microcline = 1.1 (0.7) [RIR=2.0(5%)]
Bars
1.1%
2.0%
4.9%
5.5%
9.2%
9.7%
13.7%
14.8%
39.1%
HW577
Wt%

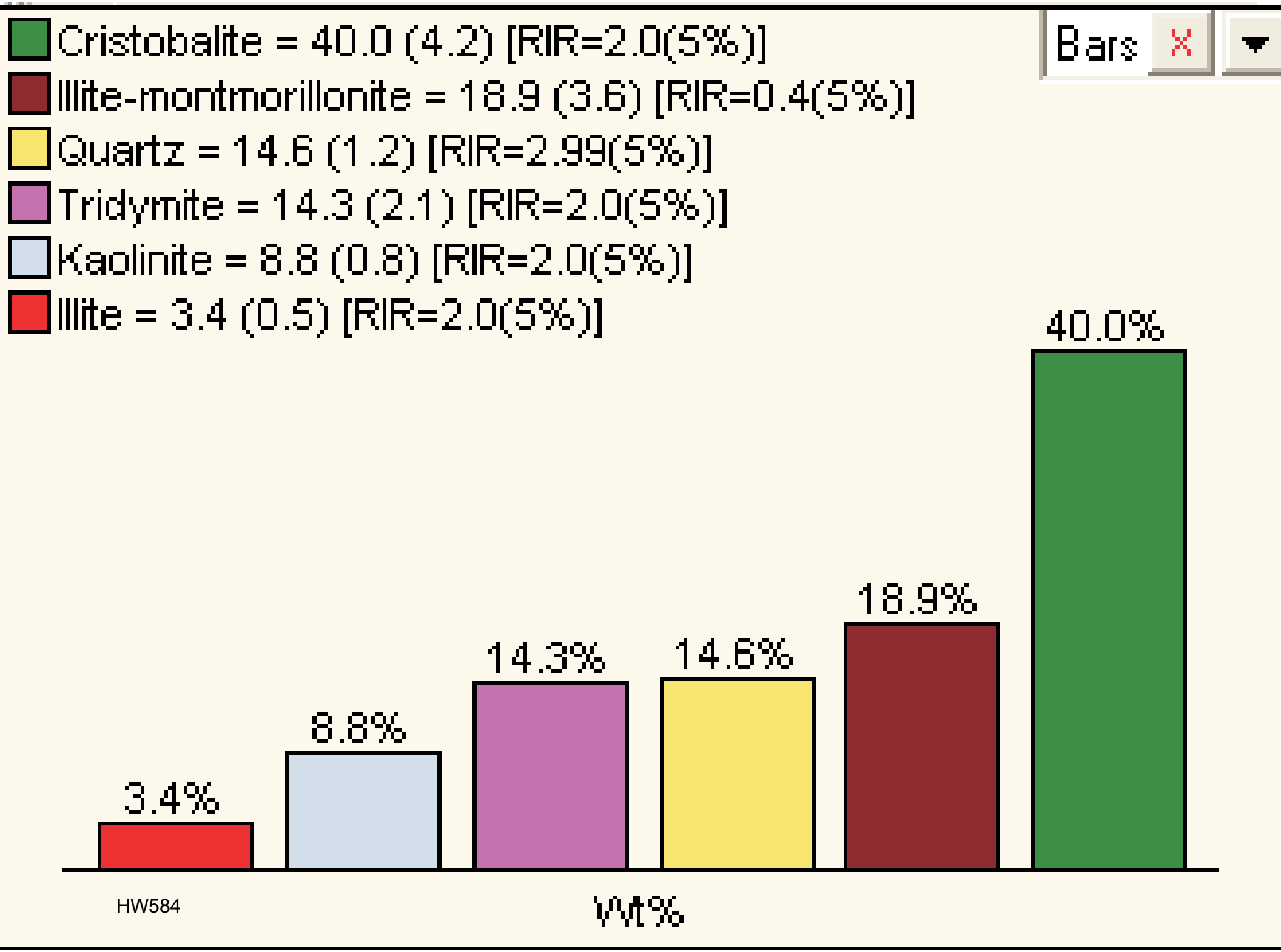
HW577


Quartz = 39.1 (3.1) [RIR=2.99(5%)]
Albite = 14.8 (1.6) [RIR=0.64(5%)]
Cristobalite = 13.7 (3.7) [RIR=2.0(5%)]
Orthoclase = 9.7 (1.3) [RIR=0.74(5%)]
Kaolinite = 9.2 (1.3) [RIR=2.0(5%)]
Illite = 5.5 (0.9) [RIR=2.0(5%)]
Tridymite = 4.9 (1.2) [RIR=2.0(5%)]
Clinochlore = 2.0 (0.4) [RIR=2.0(5%)]
Microcline = 1.1 (0.7) [RIR=2.0(5%)]
Bars
1.1%
2.0%
4.9%
5.5%
9.2%
9.7%
13.7%
14.8%
39.1%
Wt%
Intensity(Counts)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Orthoclase - KSi3AlO8
Kaolinite - Al2Si2O5(OH)4
Microcline - KAlSi3O8
Albite - Na(AlSi3O8)
Cristobalite - SiO2
Clinochlore - (Mg,Fe+2)5Al(Si3Al)O10(OH)8
10
20
30
40
50
60
70
80
90

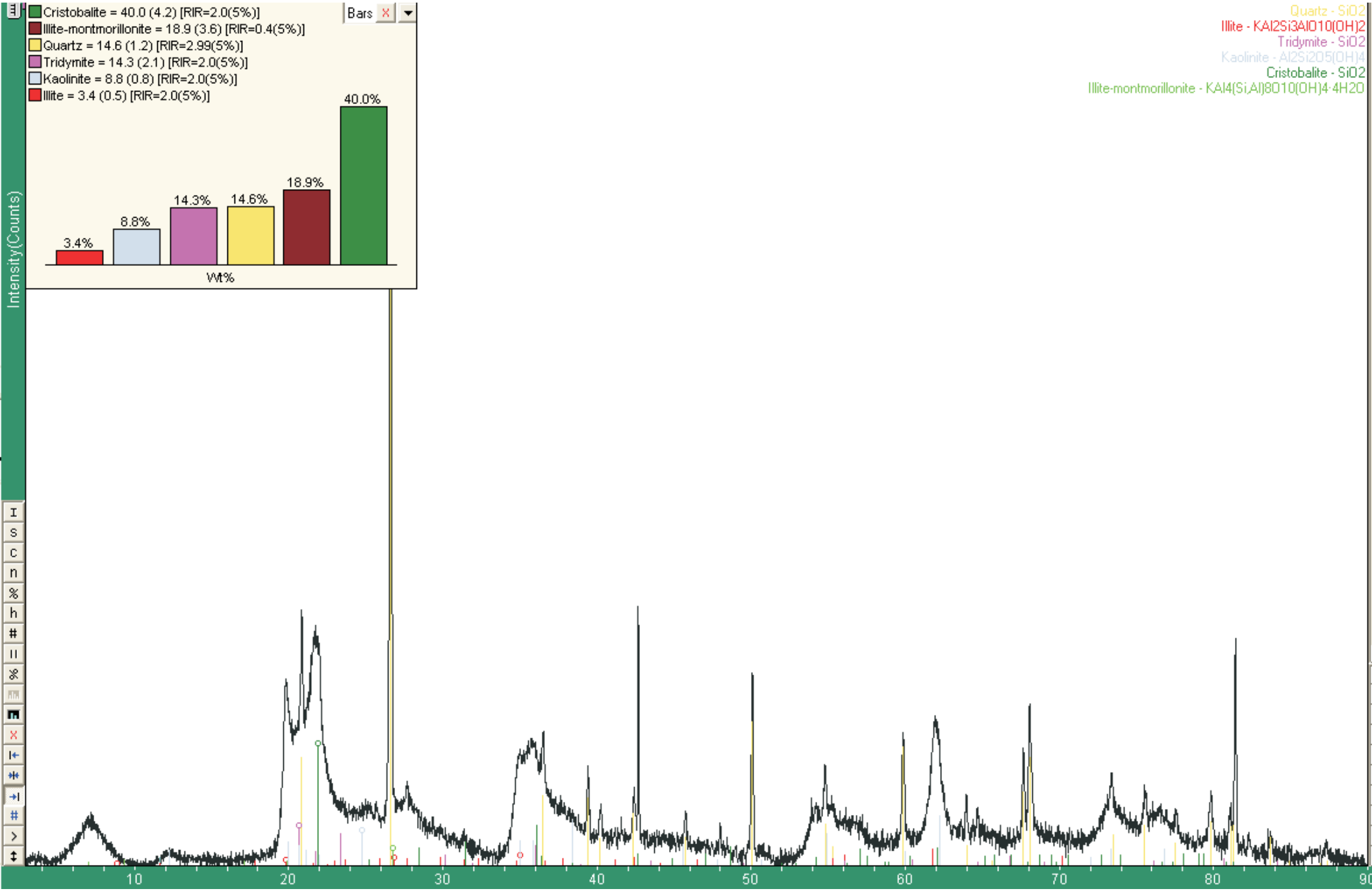

Cristobalite = 29.5 (3.4) [RIR=2.0(5%)]
Tridymite = 28.8 (3.1) [RIR=2.0(5%)]
Muscovite-1M = 16.0 (1.6) [RIR=2.0(5%)]
Kaolinite = 13.0 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 6.6 (0.9) [RIR=2.0(5%)]
Quartz = 4.4 (0.5) [RIR=3.05(5%)]
Vermiculite-2M = 1.7 (0.2) [RIR=21.37(5%)]
Bars
1.7%
4.4%
6.6%
13.0%
16.0%
28.8%
29.5%
HW580
Wt%

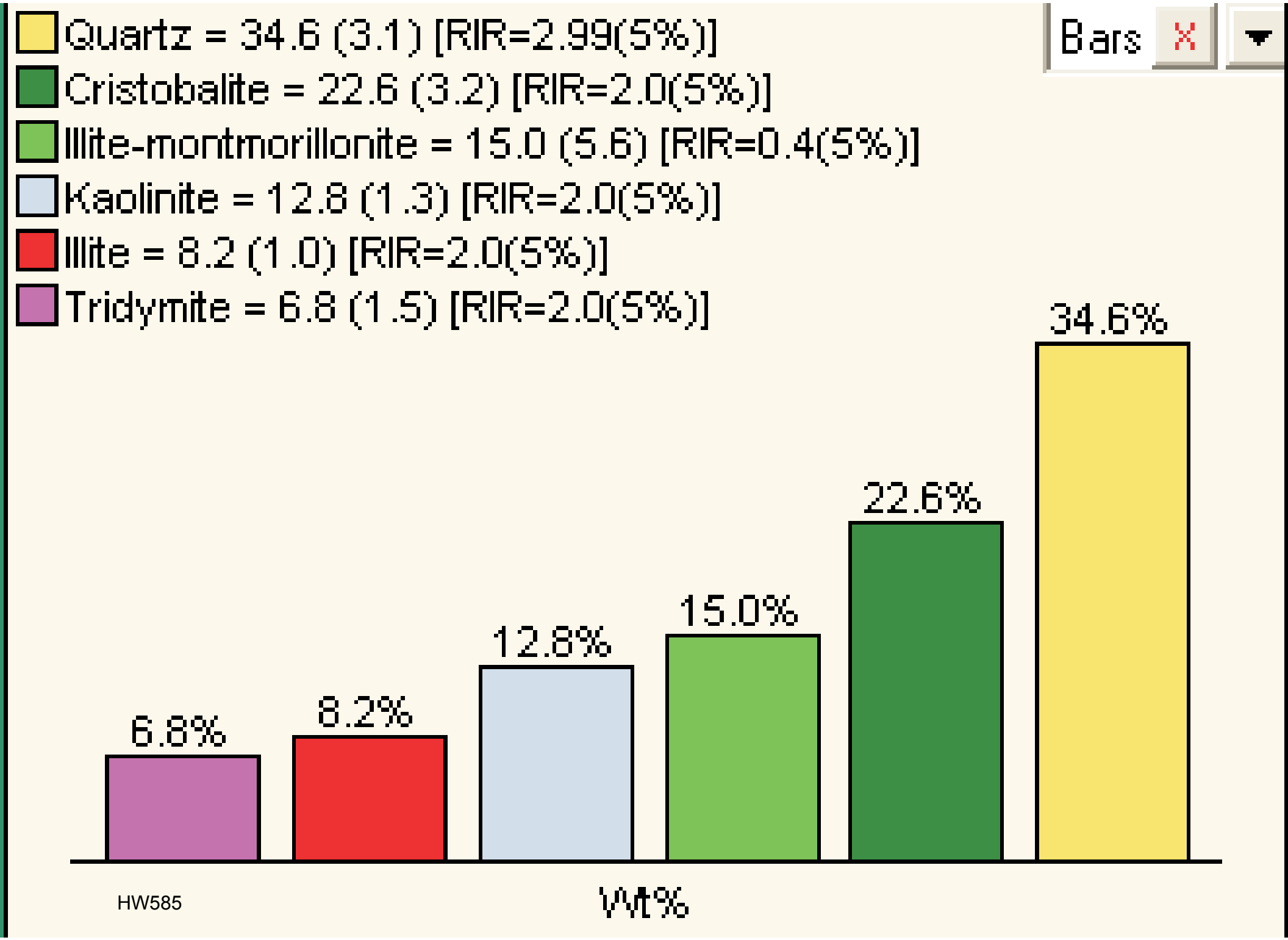
HW580


Cristobalite = 29.5 (3.4) [RIR=2.0(5%)]
Tridymite = 28.8 (3.1) [RIR=2.0(5%)]
Muscovite-1M = 16.0 (1.6) [RIR=2.0(5%)]
Kaolinite = 13.0 (1.5) [RIR=2.0(5%)]
Montmorillonite-15A = 6.6 (0.9) [RIR=2.0(5%)]
Quartz = 4.4 (0.5) [RIR=3.05(5%)]
Vermiculite-2M = 1.7 (0.2) [RIR=21.37(5%)]
Bars
1.7%
4.4%
6.6%
13.0%
16.0%
28.8%
29.5%
Wt%
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Vermiculite-2M - Mg3Si4O10(OH)2
Muscovite-1M - KAl2Si3AlO10(OH)2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Quartz - SiO2
10
20
30
40
50
60
70
80
90

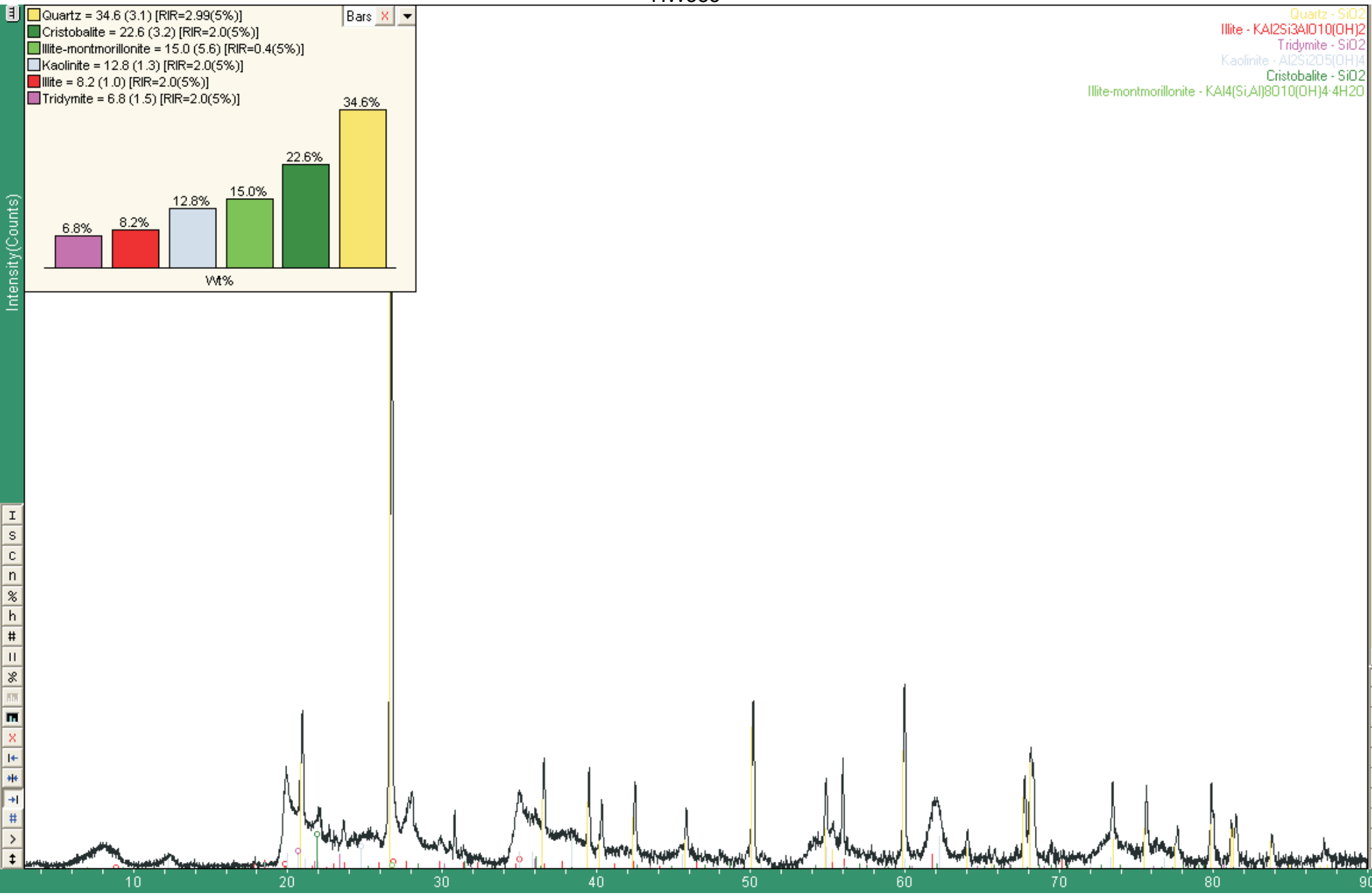

Cristobalite = 40.0 (4.2) [RIR=2.0(5%)]
Illite-montmorillonite = 18.9 (3.6) [RIR=0.4(5%)]
Quartz = 14.6 (1.2) [RIR=2.99(5%)]
Tridymite = 14.3 (2.1) [RIR=2.0(5%)]
Kaolinite = 8.8 (0.8) [RIR=2.0(5%)]
Illite = 3.4 (0.5) [RIR=2.0(5%)]
Bars
3.4%
8.8%
14.3%
14.6%
18.9%
40.0%
HW584
Wt%

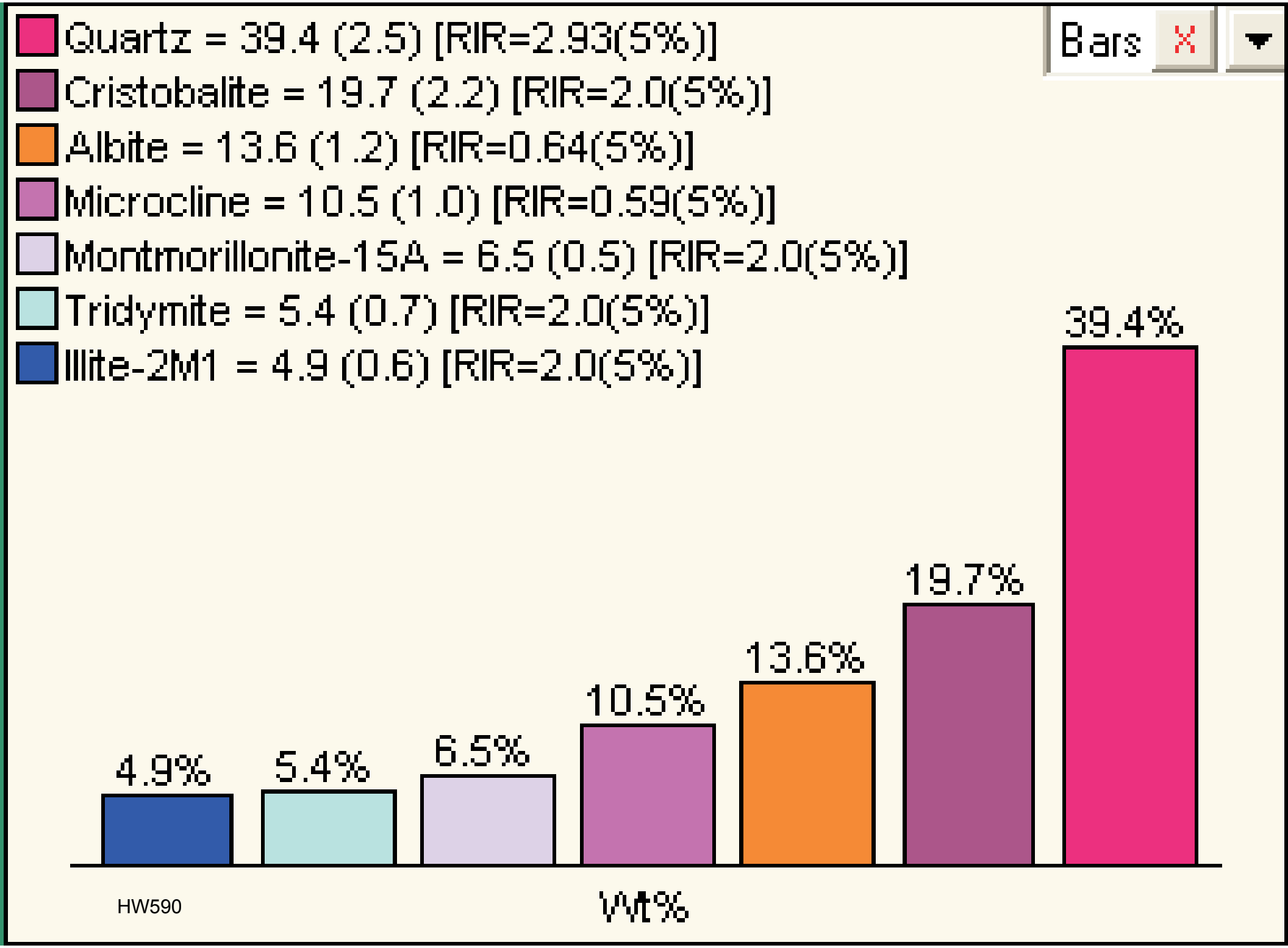
HW584


Cristobalite = 40.0 (4.2) [RIR=2.0(5%)]
Illite-montmorillonite = 18.9 (3.6) [RIR=0.4(5%)]
Quartz = 14.6 (1.2) [RIR=2.99(5%)]
Tridymite = 14.3 (2.1) [RIR=2.0(5%)]
Kaolinite = 8.8 (0.8) [RIR=2.0(5%)]
Illite = 3.4 (0.5) [RIR=2.0(5%)]
Bars
3.4%
8.8%
14.3%
14.6%
18.9%
40.0%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Intensity(Counts)
10
20
30
40
50
60
70
80
90

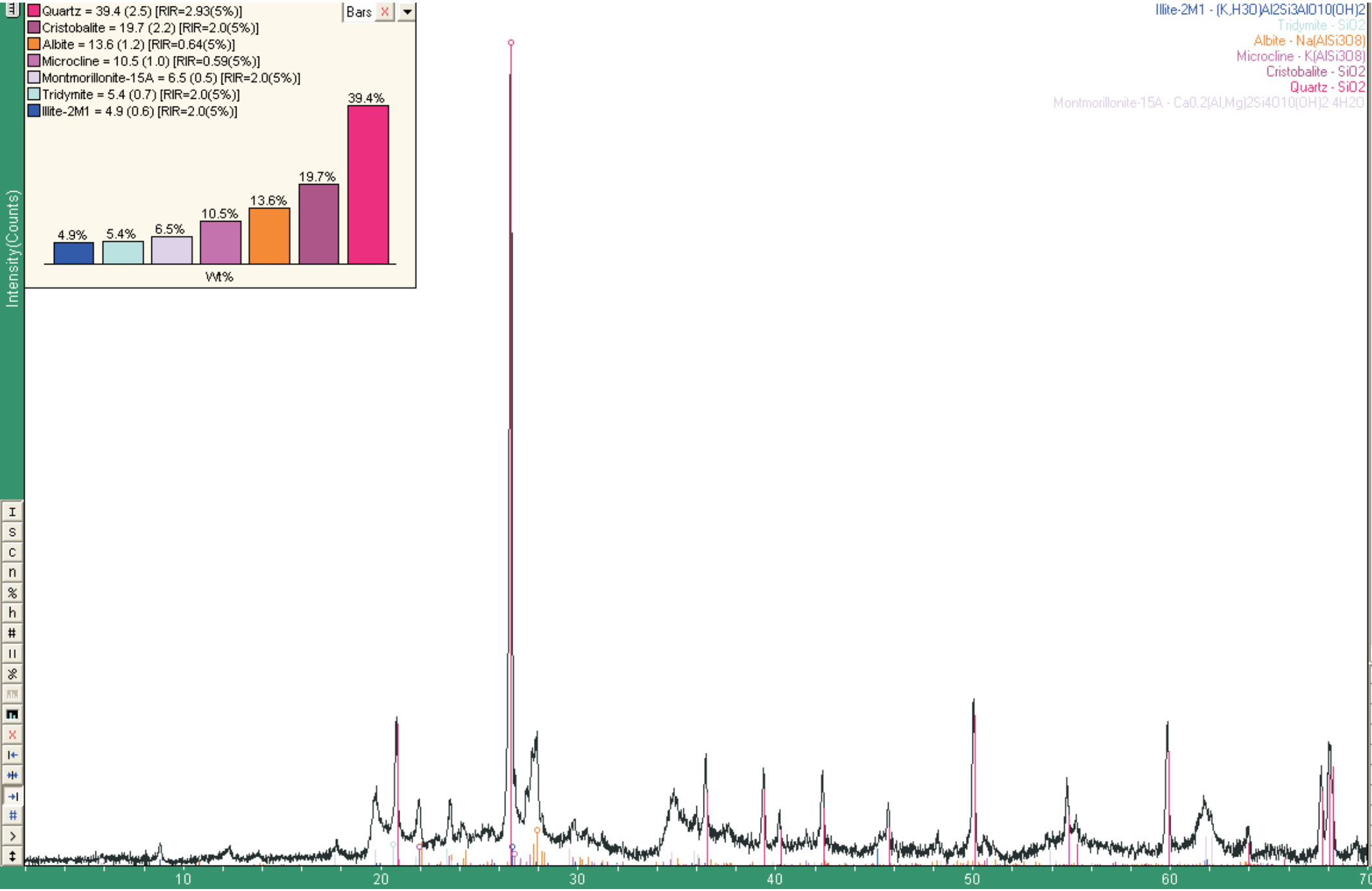

Quartz = 34.6 (3.1) [RIR=2.99(5%)]
Cristobalite = 22.6 (3.2) [RIR=2.0(5%)]
Illite-montmorillonite = 15.0 (5.6) [RIR=0.4(5%)]
Kaolinite = 12.8 (1.3) [RIR=2.0(5%)]
Illite = 8.2 (1.0) [RIR=2.0(5%)]
Tridymite = 6.8 (1.5) [RIR=2.0(5%)]
Bars
6.8%
8.2%
12.8%
15.0%
22.6%
34.6%
HW585
Wt%

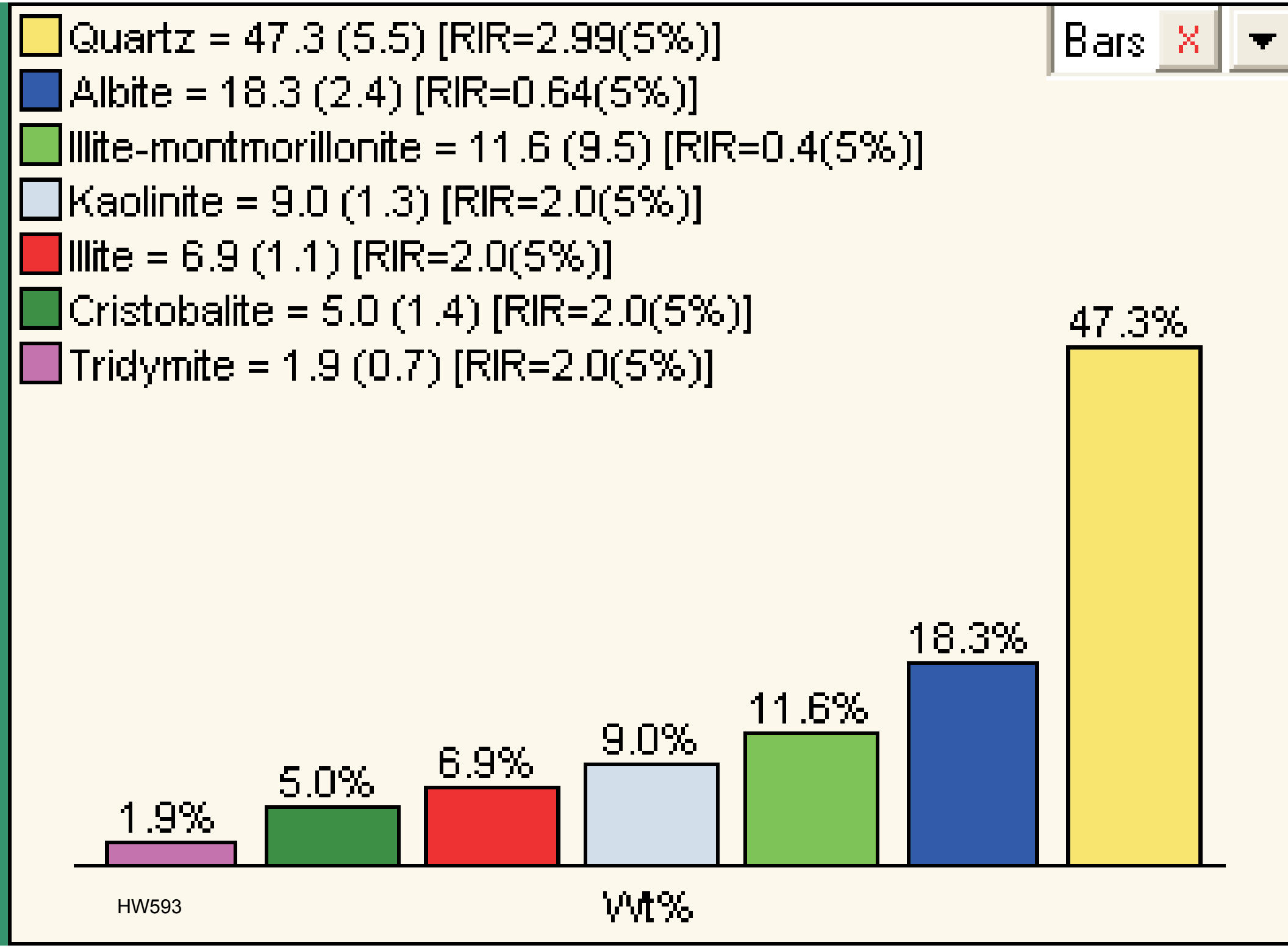
HW585


Quartz = 34.6 (3.1) [RIR=2.99(5%)]
Cristobalite = 22.6 (3.2) [RIR=2.0(5%)]
Illite-montmorillonite = 15.0 (5.6) [RIR=0.4(5%)]
Kaolinite = 12.8 (1.3) [RIR=2.0(5%)]
Illite = 8.2 (1.0) [RIR=2.0(5%)]
Tridymite = 6.8 (1.5) [RIR=2.0(5%)]
Bars
6.8%
8.2%
12.8%
15.0%
22.6%
34.6%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Intensity(Counts)
10
20
30
40
50
60
70
80
90

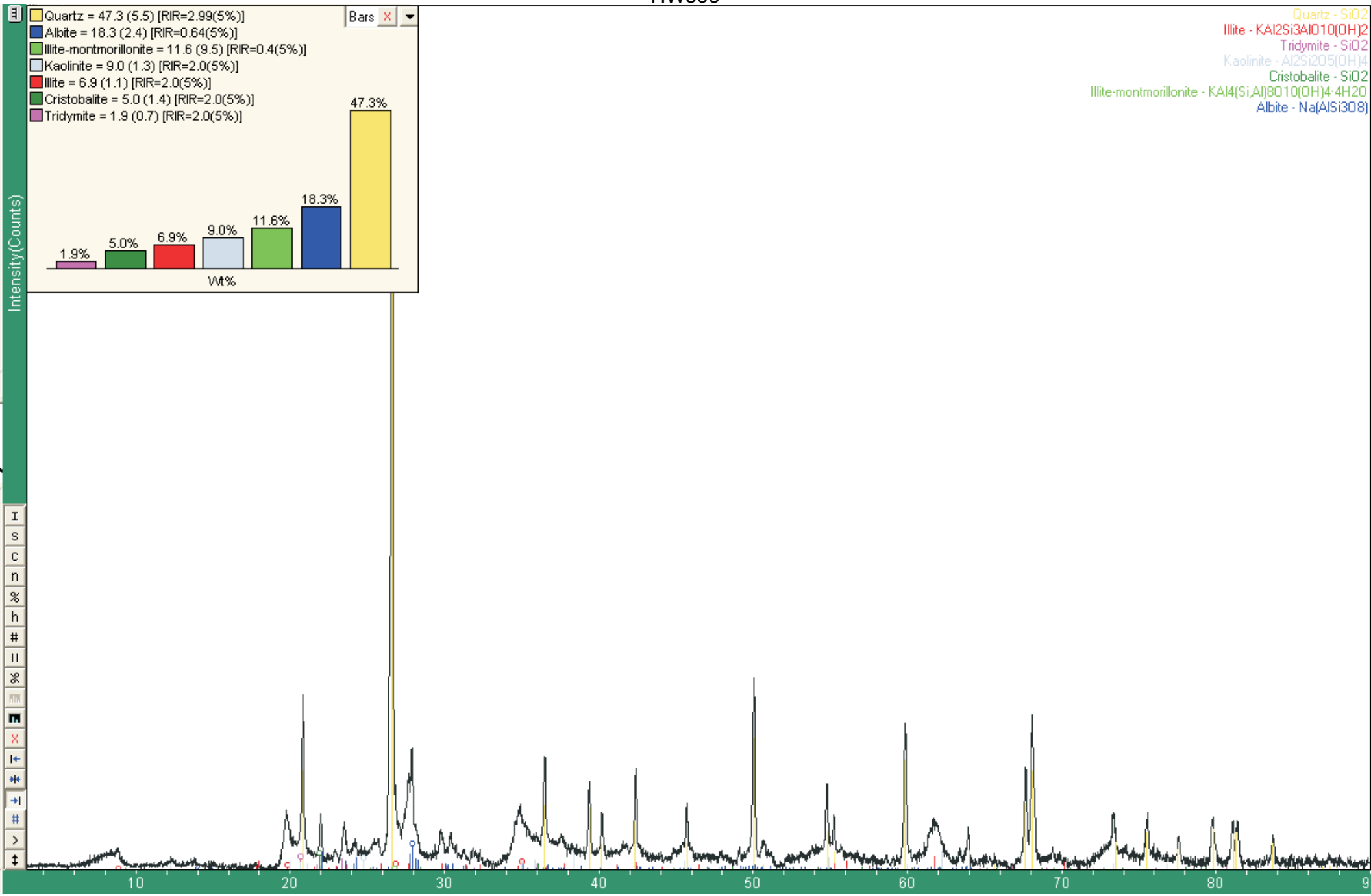

Quartz = 39.4 (2.5) [RIR=2.93(5%)]
Cristobalite = 19.7 (2.2) [RIR=2.0(5%)]
Albite = 13.6 (1.2) [RIR=0.64(5%)]
Microcline = 10.5 (1.0) [RIR=0.59(5%)]
Montmorillonite-15A = 6.5 (0.5) [RIR=2.0(5%)]
Tridymite = 5.4 (0.7) [RIR=2.0(5%)]
Illite-2M1 = 4.9 (0.6) [RIR=2.0(5%)]
Bars
4.9%
5.4%
6.5%
10.5%
13.6%
19.7%
39.4%
HW590
Wt%

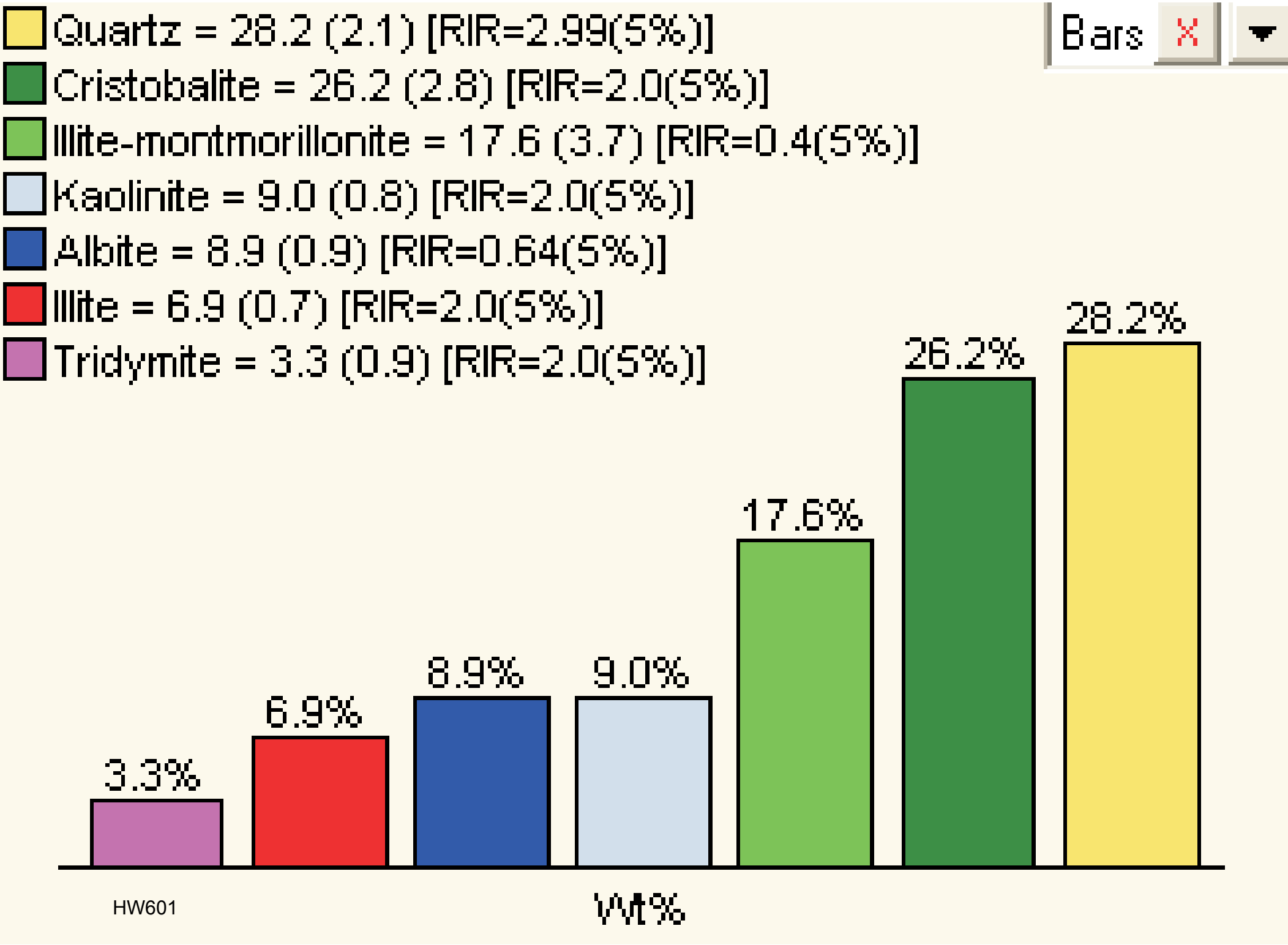
HW590


Quartz = 39.4 (2.5) [RIR=2.93(5%)]
Cristobalite = 19.7 (2.2) [RIR=2.0(5%)]
Albite = 13.6 (1.2) [RIR=0.64(5%)]
Microcline = 10.5 (1.0) [RIR=0.59(5%)]
Montmorillonite-15A = 6.5 (0.5) [RIR=2.0(5%)]
Tridymite = 5.4 (0.7) [RIR=2.0(5%)]
Illite-2M1 = 4.9 (0.6) [RIR=2.0(5%)]
Bars
4.9%
5.4%
6.5%
10.5%
13.6%
19.7%
39.4%
Wt%
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Tridymite - SiO2
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Intensity(Counts)
10
20
30
40
50
60
70

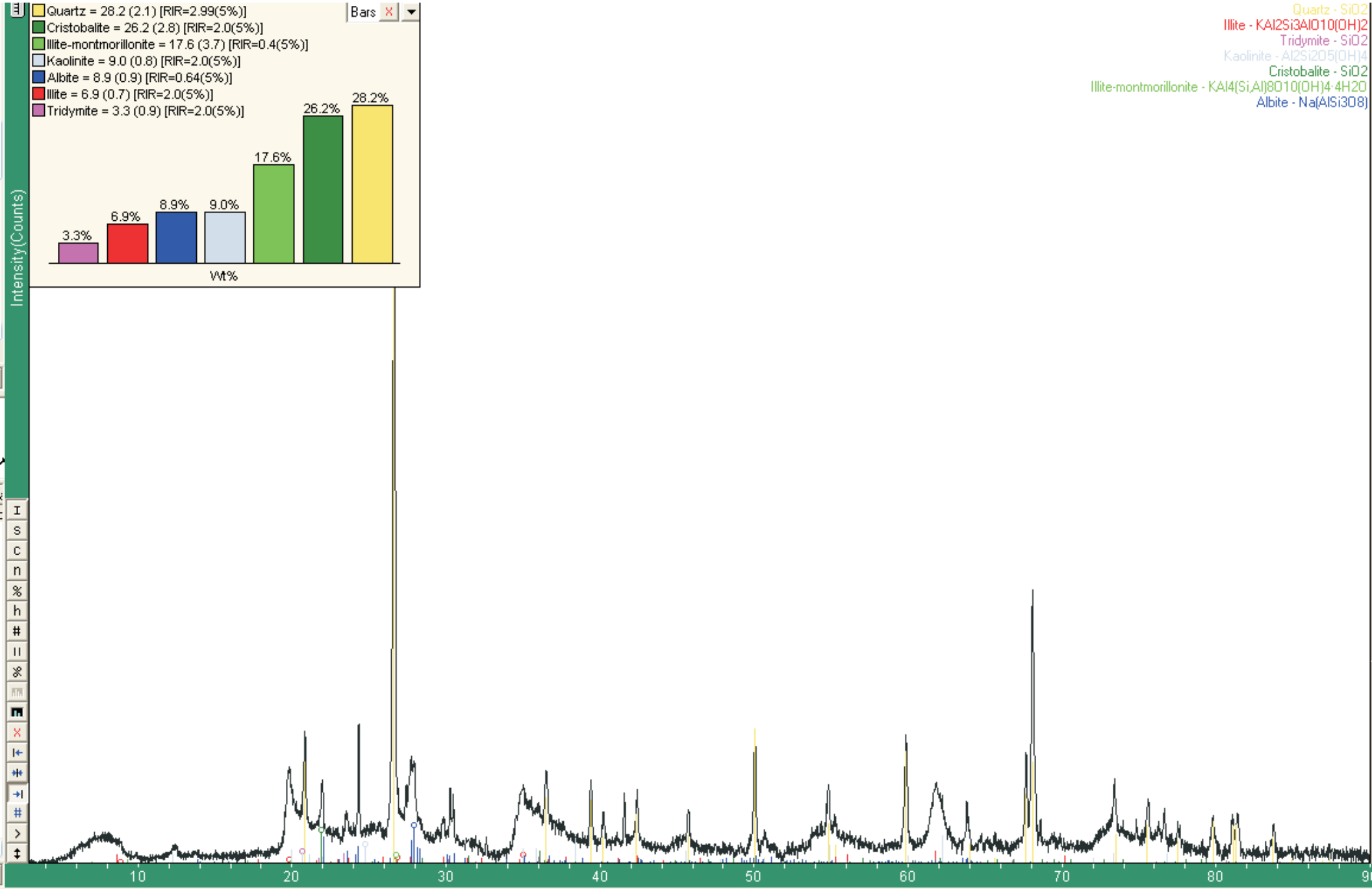

Quartz = 47.3 (5.5) [RIR=2.99(5%)]
Albite = 18.3 (2.4) [RIR=0.64(5%)]
Illite-montmorillonite = 11.6 (9.5) [RIR=0.4(5%)]
Kaolinite = 9.0 (1.3) [RIR=2.0(5%)]
Illite = 6.9 (1.1) [RIR=2.0(5%)]
Cristobalite = 5.0 (1.4) [RIR=2.0(5%)]
Tridymite = 1.9 (0.7) [RIR=2.0(5%)]
Bars
1.9%
5.0%
6.9%
9.0%
11.6%
18.3%
47.3%
HW593
Wt%

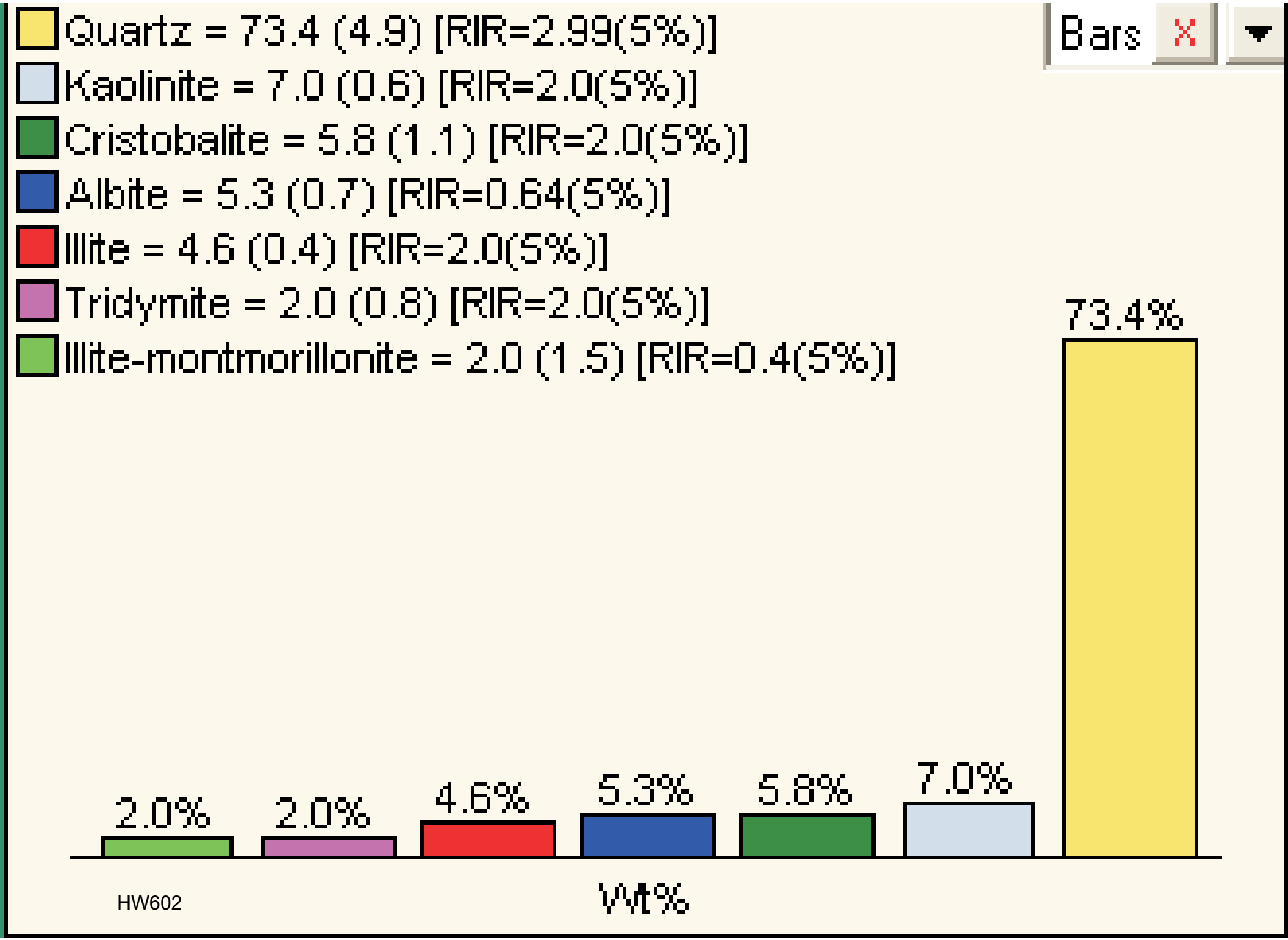
HW593


Quartz = 47.3 (5.5) [RIR=2.99(5%)]
Albite = 18.3 (2.4) [RIR=0.64(5%)]
Illite-montmorillonite = 11.6 (9.5) [RIR=0.4(5%)]
Kaolinite = 9.0 (1.3) [RIR=2.0(5%)]
Illite = 6.9 (1.1) [RIR=2.0(5%)]
Cristobalite = 5.0 (1.4) [RIR=2.0(5%)]
Tridymite = 1.9 (0.7) [RIR=2.0(5%)]
Bars
1.9%
5.0%
6.9%
9.0%
11.6%
18.3%
47.3%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70
80

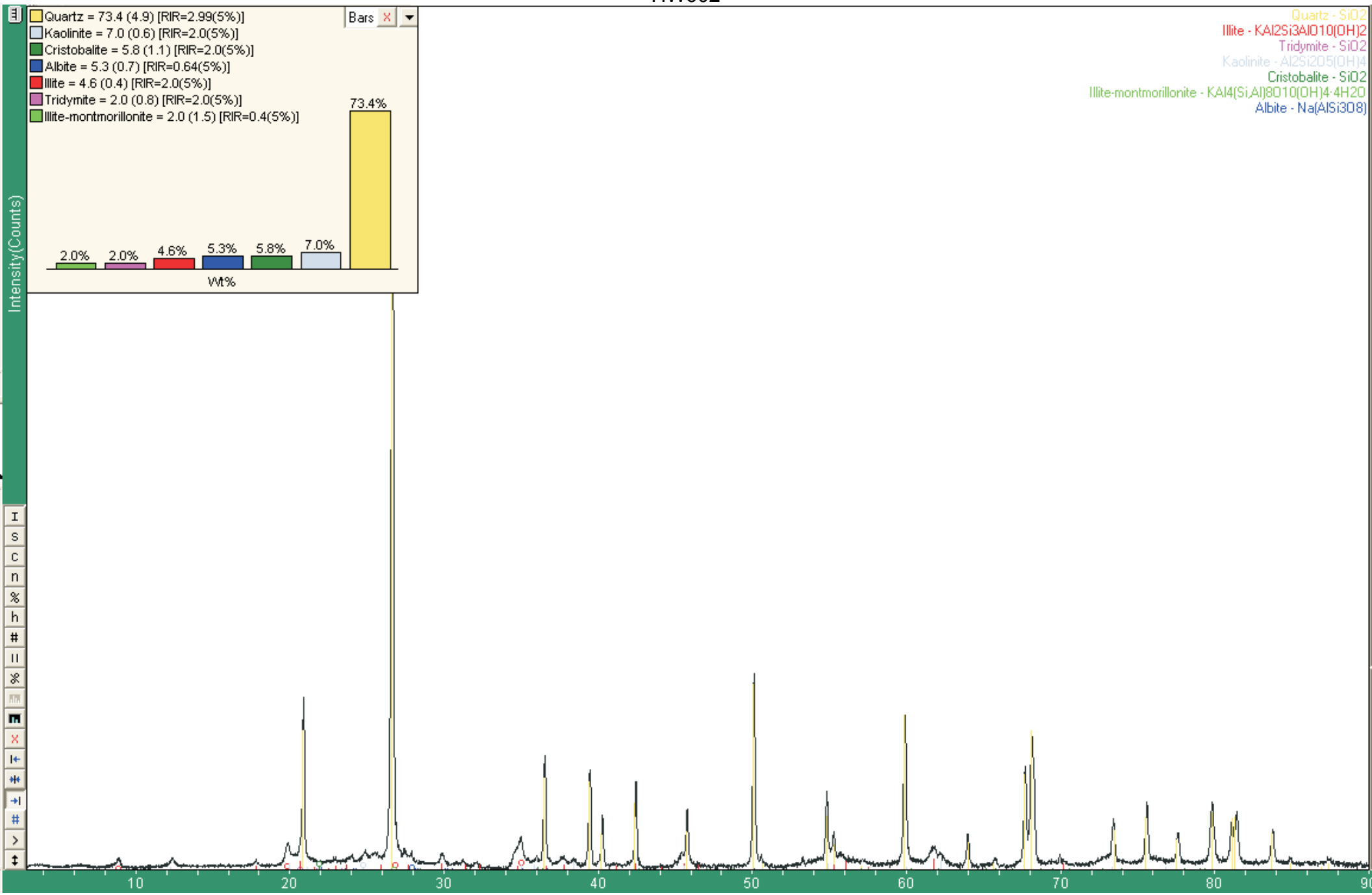

Quartz = 28.2 (2.1) [RIR=2.99(5%)]
Cristobalite = 26.2 (2.8) [RIR=2.0(5%)]
Illite-montmorillonite = 17.6 (3.7) [RIR=0.4(5%)]
Kaolinite = 9.0 (0.8) [RIR=2.0(5%)]
Albite = 8.9 (0.9) [RIR=0.64(5%)]
Illite = 6.9 (0.7) [RIR=2.0(5%)]
Tridymite = 3.3 (0.9) [RIR=2.0(5%)]
Bars
3.3%
6.9%
8.9%
9.0%
17.6%
26.2%
28.2%
HW601
Wt%

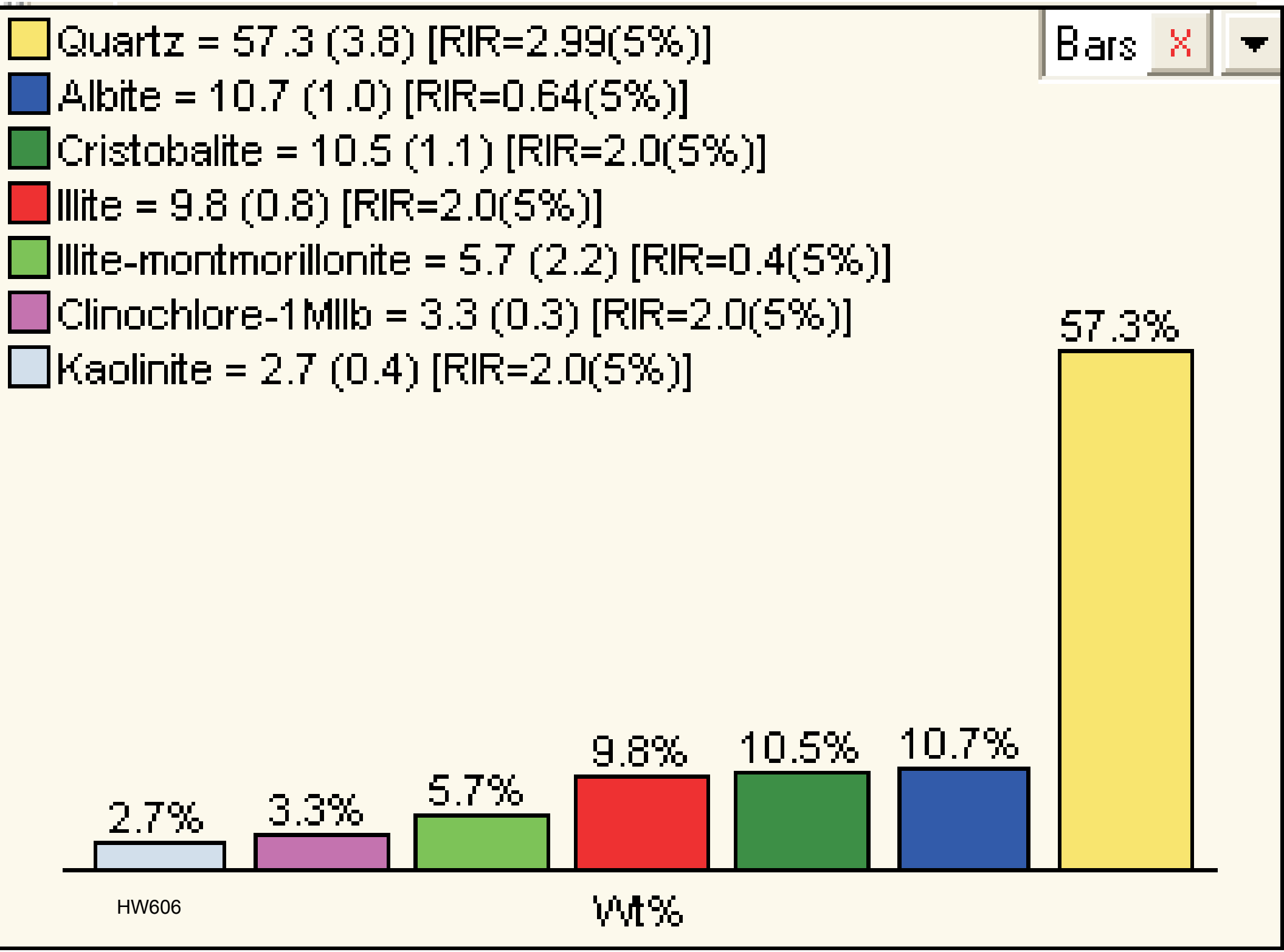
HW601


Quartz = 28.2 (2.1) [RIR=2.99(5%)]
Cristobalite = 26.2 (2.8) [RIR=2.0(5%)]
Illite-montmorillonite = 17.6 (3.7) [RIR=0.4(5%)]
Kaolinite = 9.0 (0.8) [RIR=2.0(5%)]
Albite = 8.9 (0.9) [RIR=0.64(5%)]
Illite = 6.9 (0.7) [RIR=2.0(5%)]
Tridymite = 3.3 (0.9) [RIR=2.0(5%)]
Bars
3.3%
6.9%
8.9%
9.0%
17.6%
26.2%
28.2%
Wt%
Intensity(Counts)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
10
20
30
40
50
60
70
80

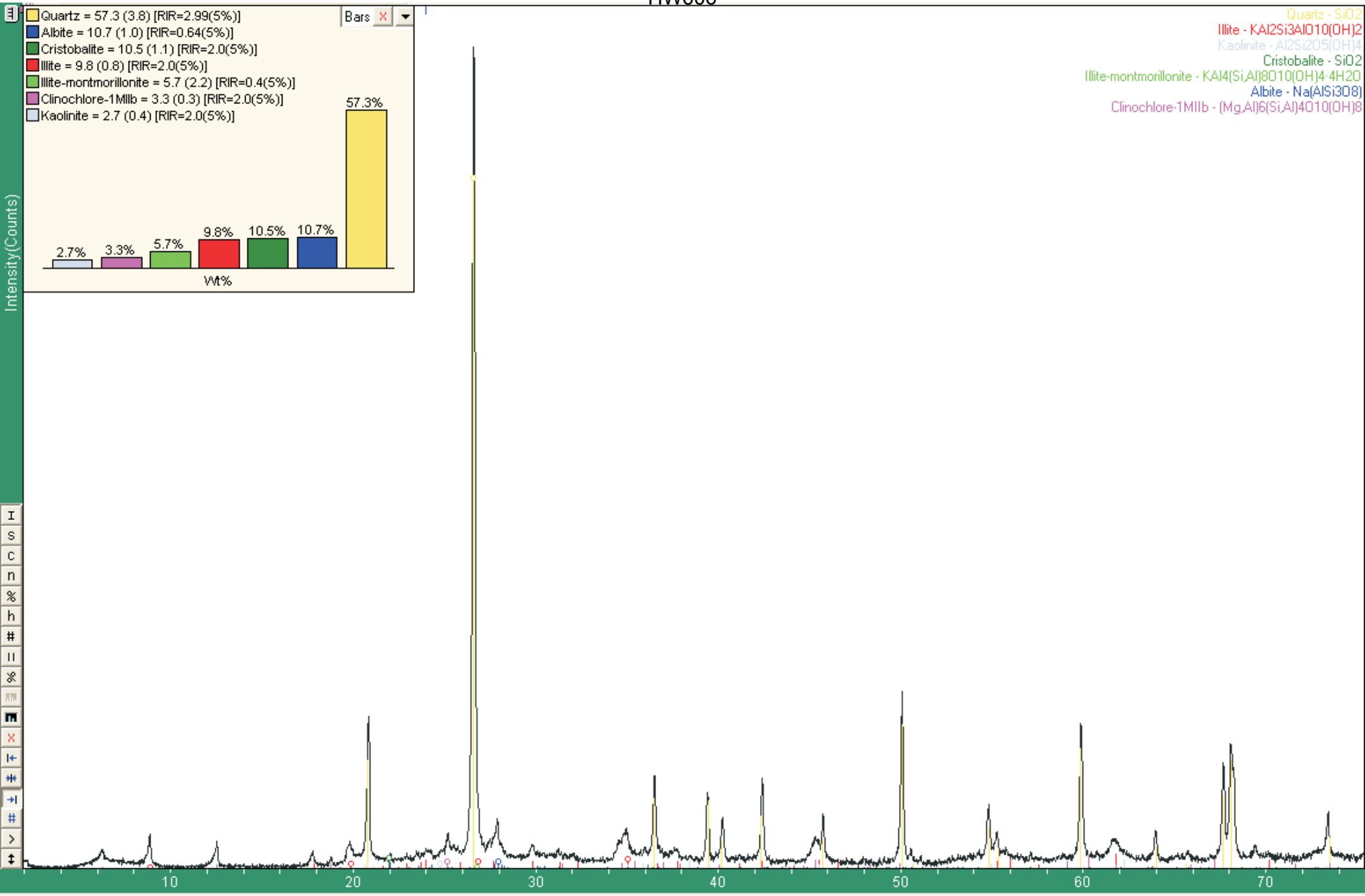

Quartz = 73.4 (4.9) [RIR=2.99(5%)]
Kaolinite = 7.0 (0.6) [RIR=2.0(5%)]
Cristobalite = 5.8 (1.1) [RIR=2.0(5%)]
Albite = 5.3 (0.7) [RIR=0.64(5%)]
Illite = 4.6 (0.4) [RIR=2.0(5%)]
Tridymite = 2.0 (0.8) [RIR=2.0(5%)]
Illite-montmorillonite = 2.0 (1.5) [RIR=0.4(5%)]
Bars
73.4%
7.0%
5.8%
5.3%
4.6%
2.0%
2.0%
HW602
Wt%

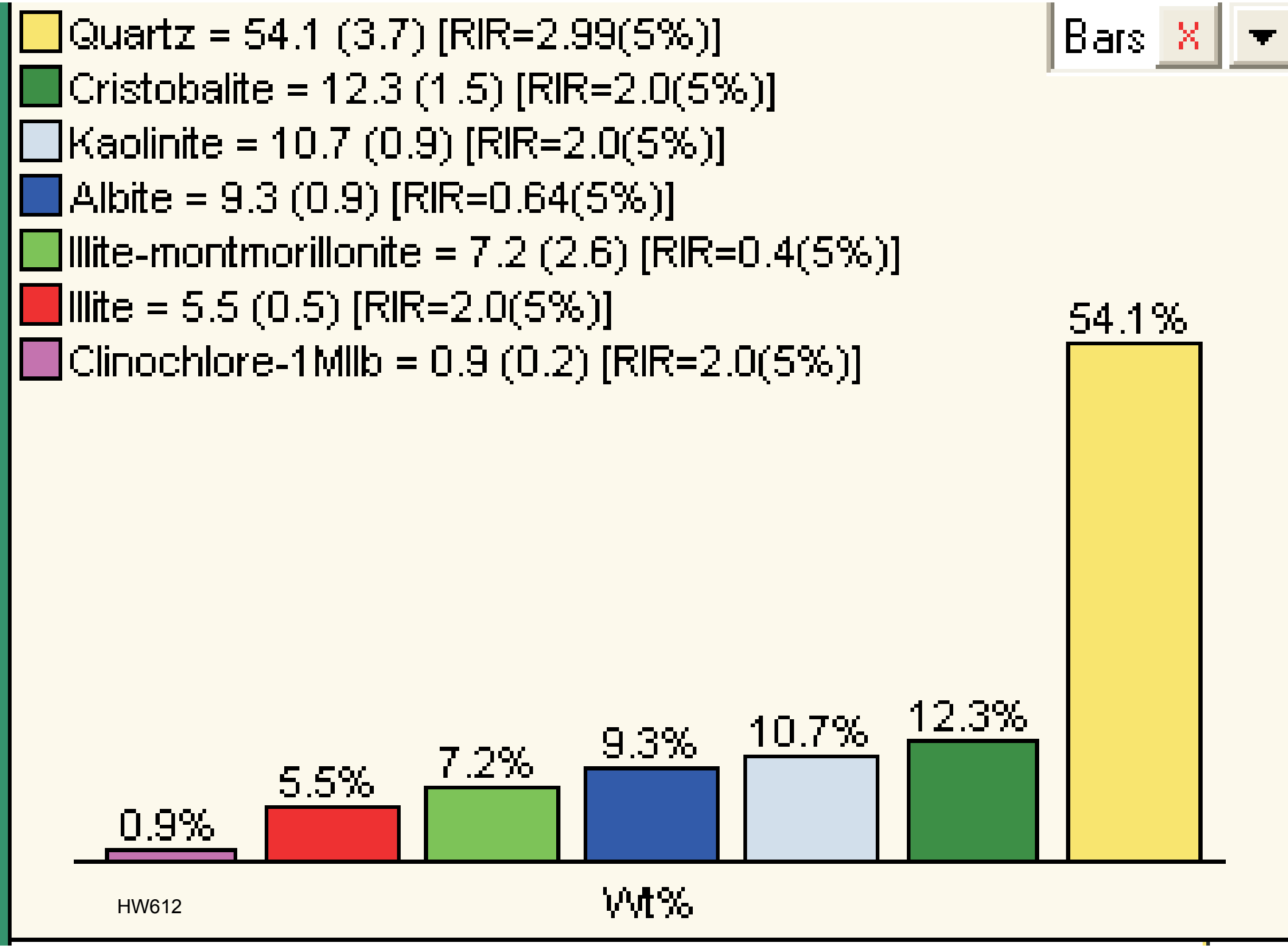
HW602


Quartz = 73.4 (4.9) [RIR=2.99(5%)]
Kaolinite = 7.0 (0.6) [RIR=2.0(5%)]
Cristobalite = 5.8 (1.1) [RIR=2.0(5%)]
Albite = 5.3 (0.7) [RIR=0.64(5%)]
Illite = 4.6 (0.4) [RIR=2.0(5%)]
Tridymite = 2.0 (0.8) [RIR=2.0(5%)]
Illite-montmorillonite = 2.0 (1.5) [RIR=0.4(5%)]
Bars
2.0%
2.0%
4.6%
5.3%
5.8%
7.0%
73.4%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Tridymite - SiO2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
Intensity(Counts)
10
20
30
40
50
60
70
80
90

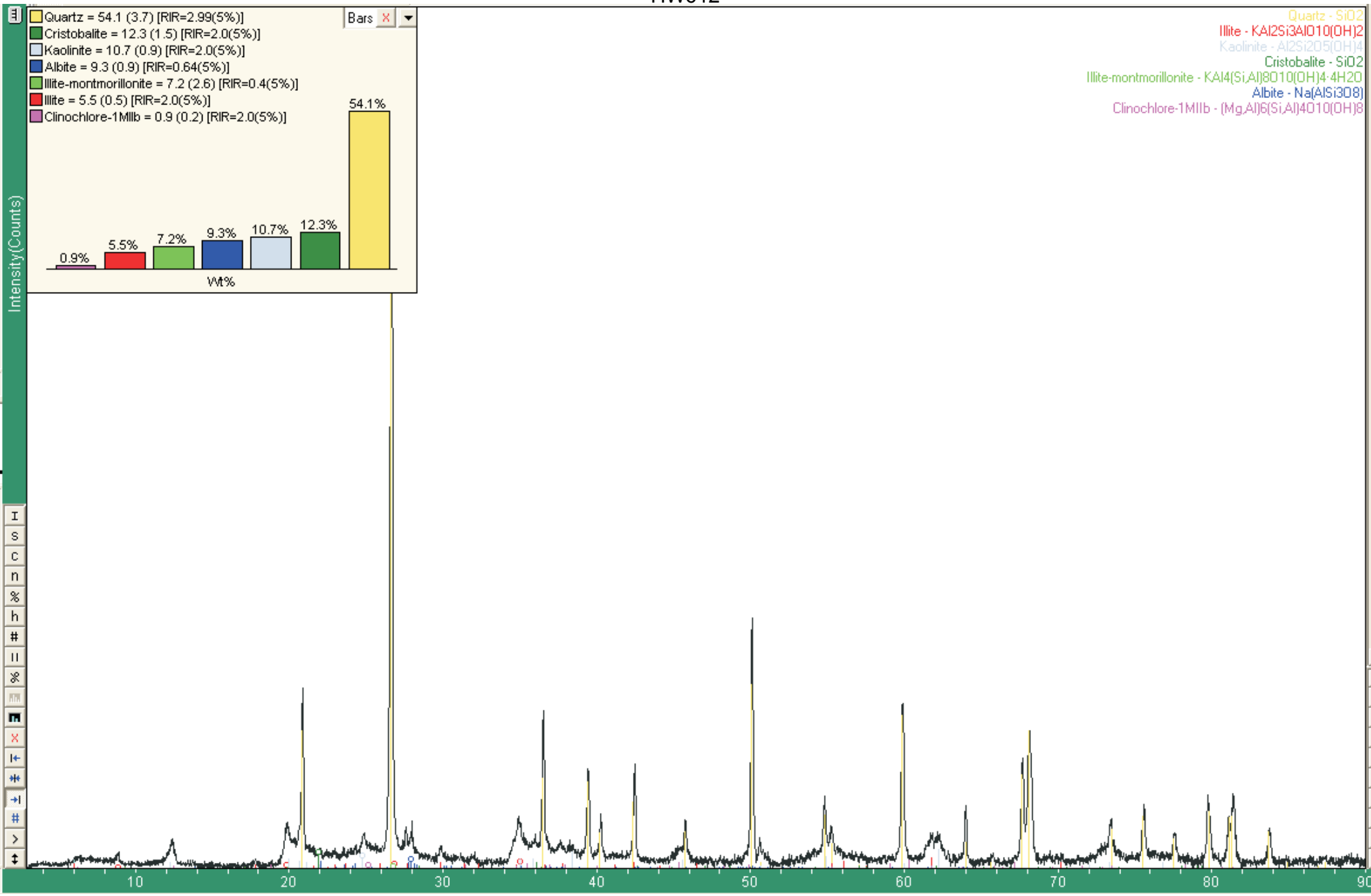

Quartz = 57.3 (3.8) [RIR=2.99(5%)]
Albite = 10.7 (1.0) [RIR=0.64(5%)]
Cristobalite = 10.5 (1.1) [RIR=2.0(5%)]
Illite = 9.8 (0.8) [RIR=2.0(5%)]
Illite-montmorillonite = 5.7 (2.2) [RIR=0.4(5%)]
Clinochlore-1MIIb = 3.3 (0.3) [RIR=2.0(5%)]
Kaolinite = 2.7 (0.4) [RIR=2.0(5%)]
Bars
2.7%
3.3%
5.7%
9.8%
10.5%
10.7%
57.3%
HW606
Wt%

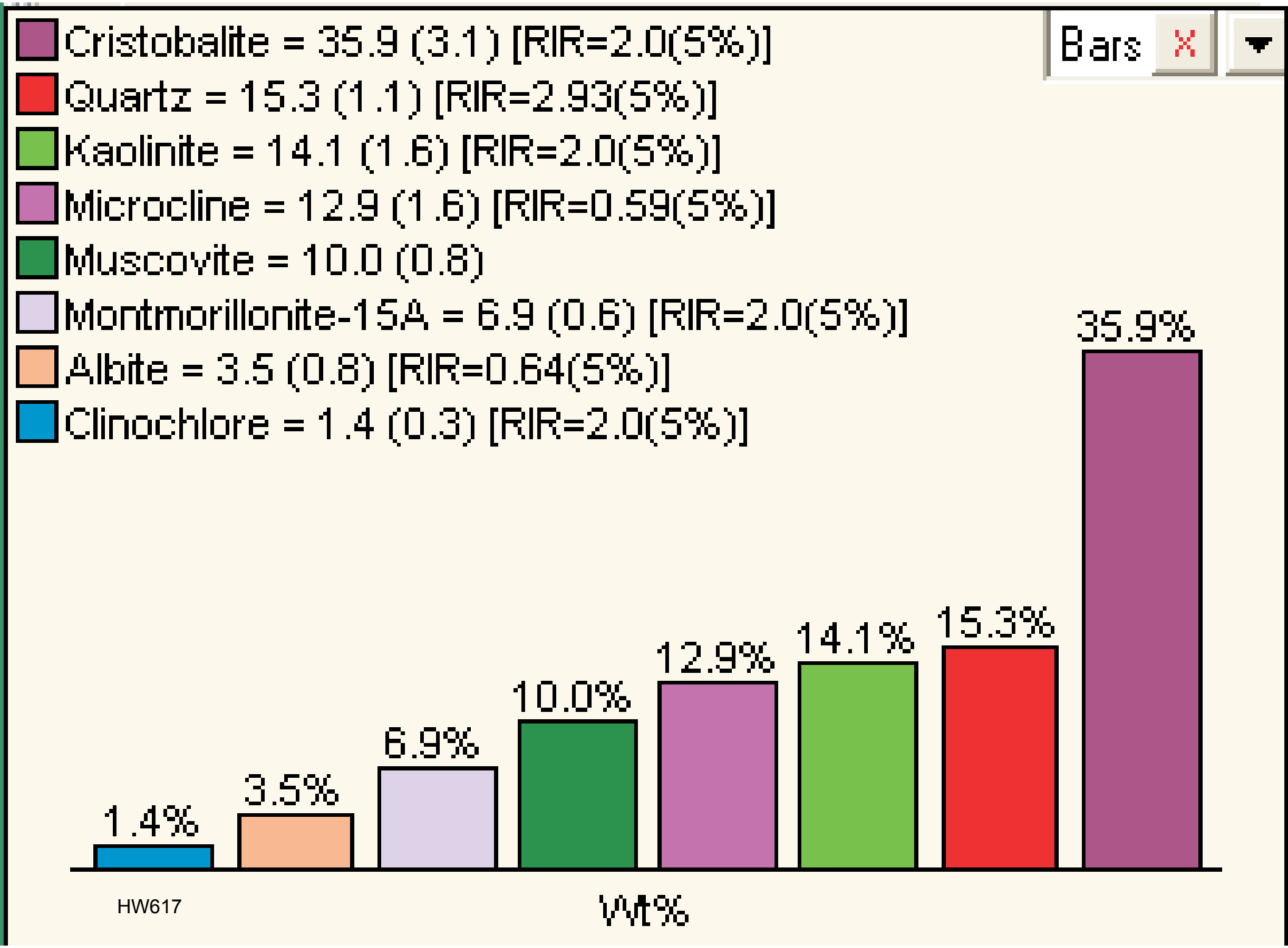
HW606


Quartz = 57.3 (3.8) [RIR=2.99(5%)]
Albite = 10.7 (1.0) [RIR=0.64(5%)]
Cristobalite = 10.5 (1.1) [RIR=2.0(5%)]
Illite = 9.8 (0.8) [RIR=2.0(5%)]
Illite-montmorillonite = 5.7 (2.2) [RIR=0.4(5%)]
Clinochlore-1MIIb = 3.3 (0.3) [RIR=2.0(5%)]
Kaolinite = 2.7 (0.4) [RIR=2.0(5%)]
Bars
2.7%
3.3%
5.7%
9.8%
10.5%
10.7%
57.3%
Wt%
Intensity(Counts)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
Clinochlore-1MIIb - (Mg,Al)6(Si,Al)4O10(OH)8
10
20
30
40
50
60
70

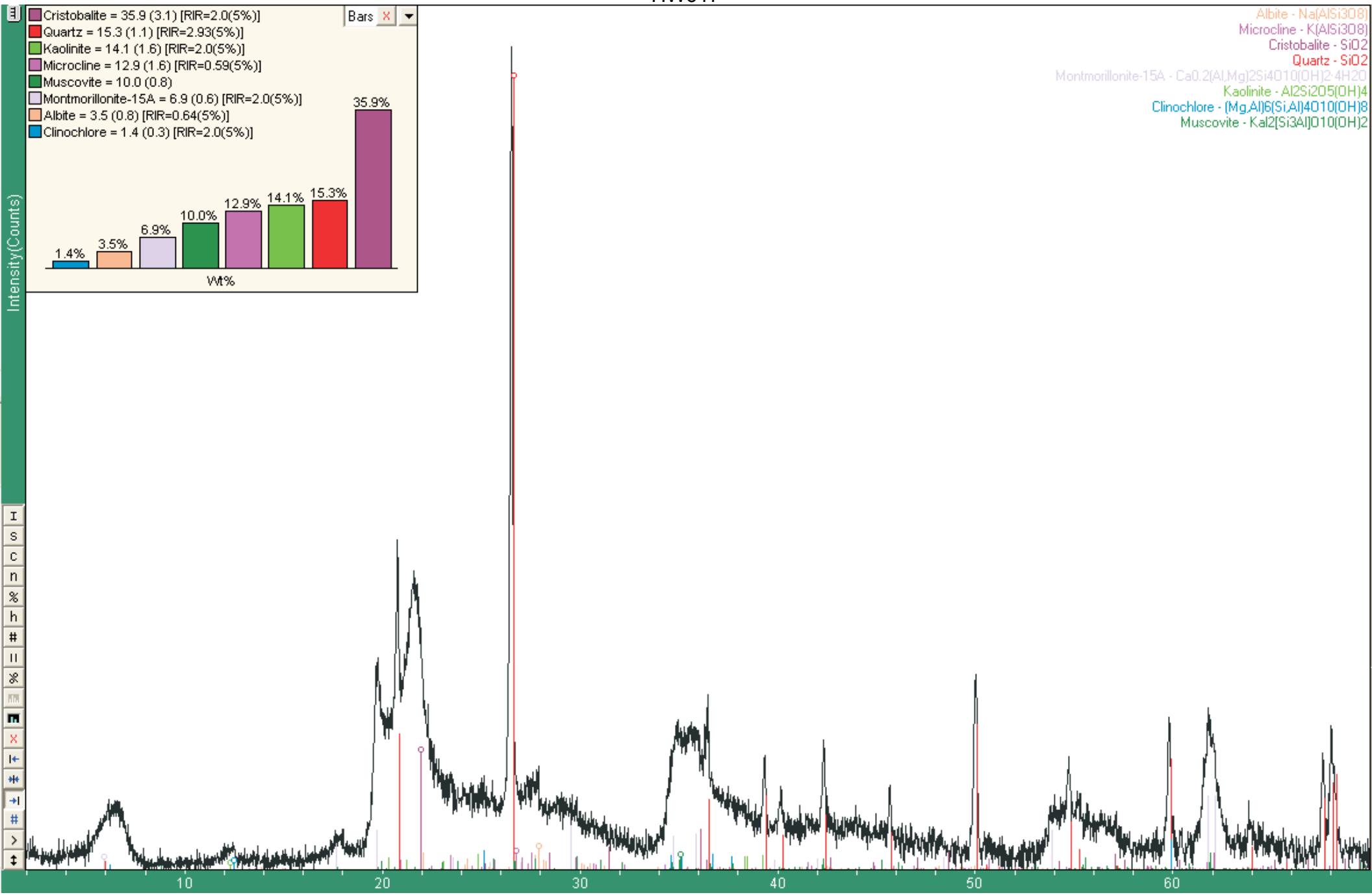

Quartz = 54.1 (3.7) [RIR=2.99(5%)]
Cristobalite = 12.3 (1.5) [RIR=2.0(5%)]
Kaolinite = 10.7 (0.9) [RIR=2.0(5%)]
Albite = 9.3 (0.9) [RIR=0.64(5%)]
Illite-montmorillonite = 7.2 (2.6) [RIR=0.4(5%)]
Illite = 5.5 (0.5) [RIR=2.0(5%)]
Clinochlore-1MIIb = 0.9 (0.2) [RIR=2.0(5%)]
Bars
0.9%
5.5%
7.2%
9.3%
10.7%
12.3%
54.1%
HW612
Wt%

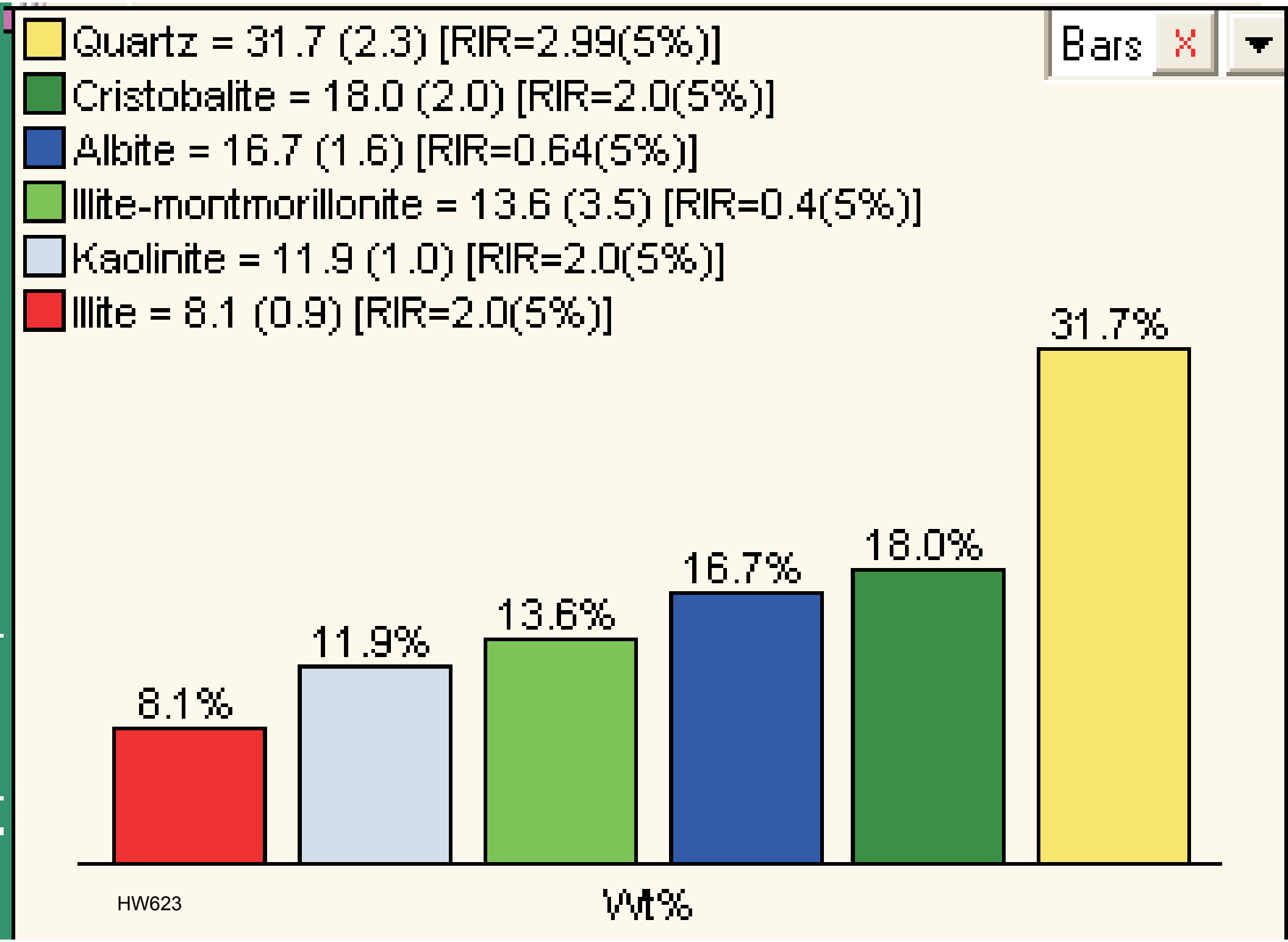
HW612


Quartz = 54.1 (3.7) [RIR=2.99(5%)]
Cristobalite = 12.3 (1.5) [RIR=2.0(5%)]
Kaolinite = 10.7 (0.9) [RIR=2.0(5%)]
Albite = 9.3 (0.9) [RIR=0.64(5%)]
Illite-montmorillonite = 7.2 (2.6) [RIR=0.4(5%)]
Illite = 5.5 (0.5) [RIR=2.0(5%)]
Clinochlore-1MIIb = 0.9 (0.2) [RIR=2.0(5%)]
Bars
0.9%
5.5%
7.2%
9.3%
10.7%
12.3%
54.1%
Wt%
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
Clinochlore-1MIIb - (Mg,Al)6(Si,Al)4O10(OH)8
Intensity(Counts)
10
20
30
40
50
60
70
80
90

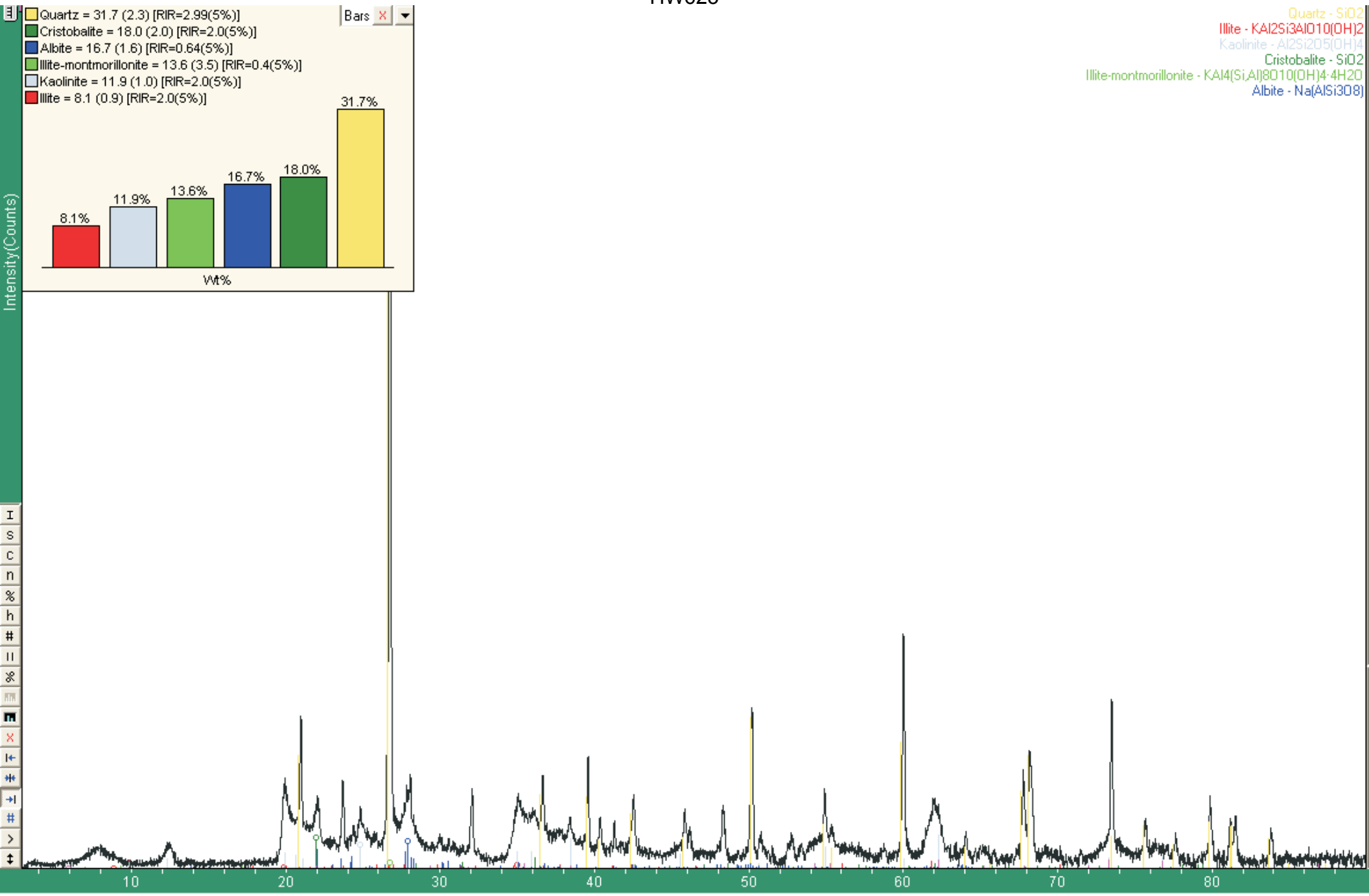

Cristobalite = 35.9 (3.1) [RIR=2.0(5%)]
Quartz = 15.3 (1.1) [RIR=2.93(5%)]
Kaolinite = 14.1 (1.6) [RIR=2.0(5%)]
Microcline = 12.9 (1.6) [RIR=0.59(5%)]
Muscovite = 10.0 (0.8)
Montmorillonite-15A = 6.9 (0.6) [RIR=2.0(5%)]
Albite = 3.5 (0.8) [RIR=0.64(5%)]
Clinochlore = 1.4 (0.3) [RIR=2.0(5%)]
Bars
1.4%
3.5%
6.9%
10.0%
12.9%
14.1%
15.3%
35.9%
HW617
Wt%

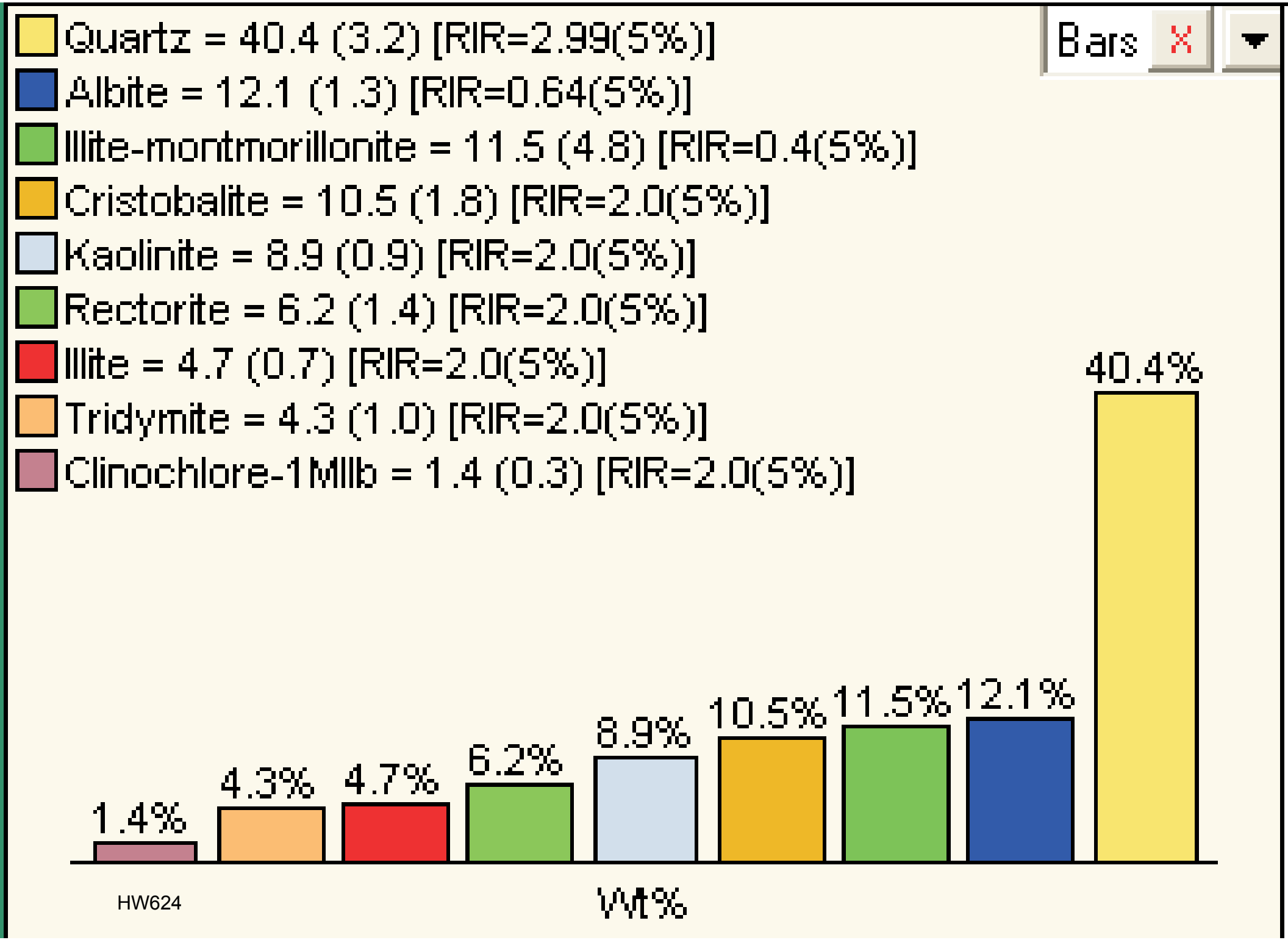
HW617


Cristobalite = 35.9 (3.1) [RIR=2.0(5%)]
Quartz = 15.3 (1.1) [RIR=2.93(5%)]
Kaolinite = 14.1 (1.6) [RIR=2.0(5%)]
Microcline = 12.9 (1.6) [RIR=0.59(5%)]
Muscovite = 10.0 (0.8)
Montmorillonite-15A = 6.9 (0.6) [RIR=2.0(5%)]
Albite = 3.5 (0.8) [RIR=0.64(5%)]
Clinochlore = 1.4 (0.3) [RIR=2.0(5%)]
Bars
1.4%
3.5%
6.9%
10.0%
12.9%
14.1%
15.3%
35.9%
Wt%
Albite - Na(AlSi3O8)
Microcline - K(AlSi3O8)
Cristobalite - SiO2
Quartz - SiO2
Montmorillonite-15A - Ca0.2(Al,Mg)2Si4O10(OH)2·4H2O
Kaolinite - Al2Si2O5(OH)4
Clinochlore - (Mg,Al)6(Si,Al)4O10(OH)8
Muscovite - KAl2[Si3Al]O10(OH)2
Intensity(Counts)
10
20
30
40
50
60

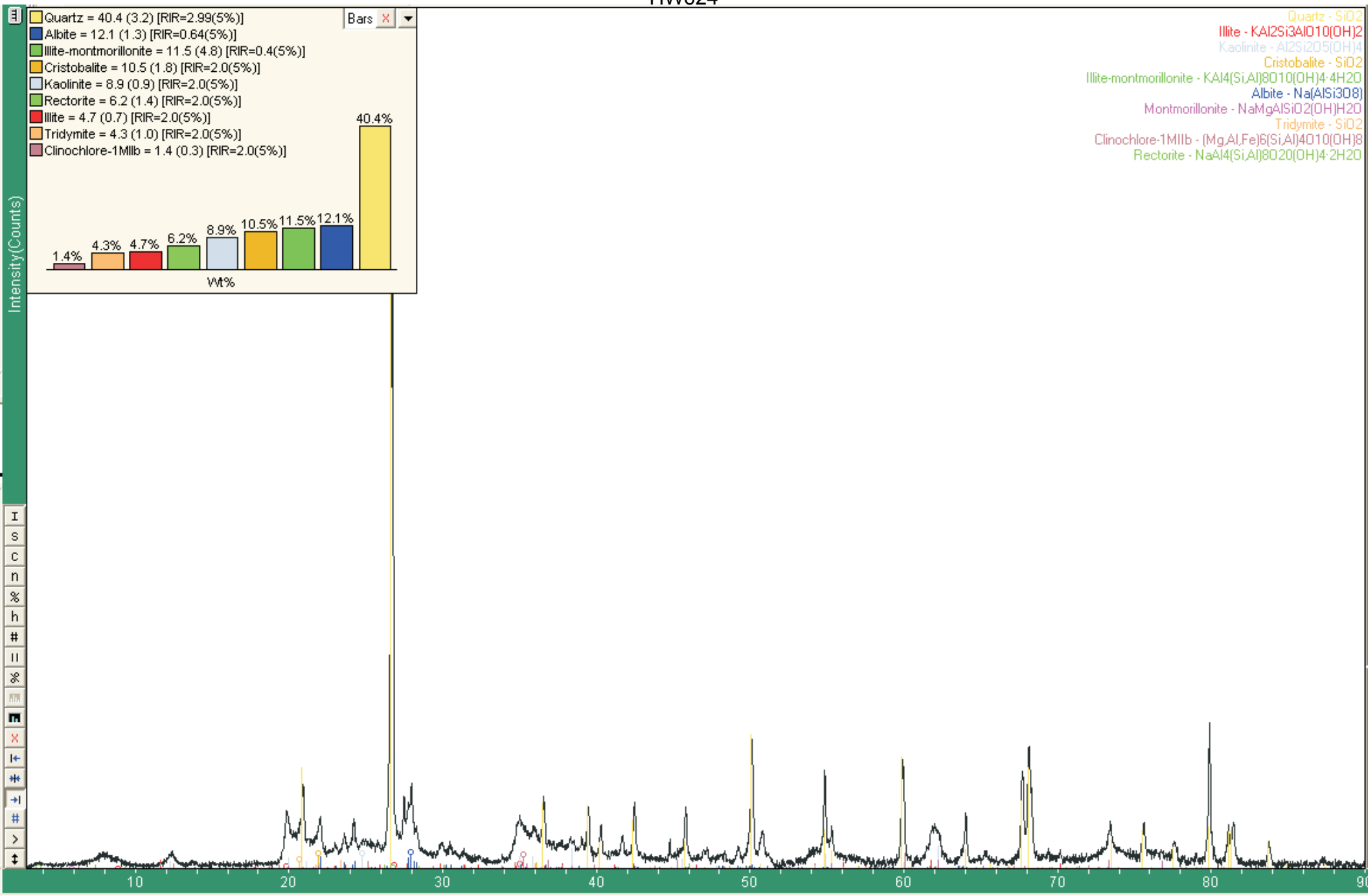

Quartz = 31.7 (2.3) [RIR=2.99(5%)]
Cristobalite = 18.0 (2.0) [RIR=2.0(5%)]
Albite = 16.7 (1.6) [RIR=0.64(5%)]
Illite-montmorillonite = 13.6 (3.5) [RIR=0.4(5%)]
Kaolinite = 11.9 (1.0) [RIR=2.0(5%)]
Illite = 8.1 (0.9) [RIR=2.0(5%)]
Bars
8.1%
11.9%
13.6%
16.7%
18.0%
31.7%
HW623
Wt%

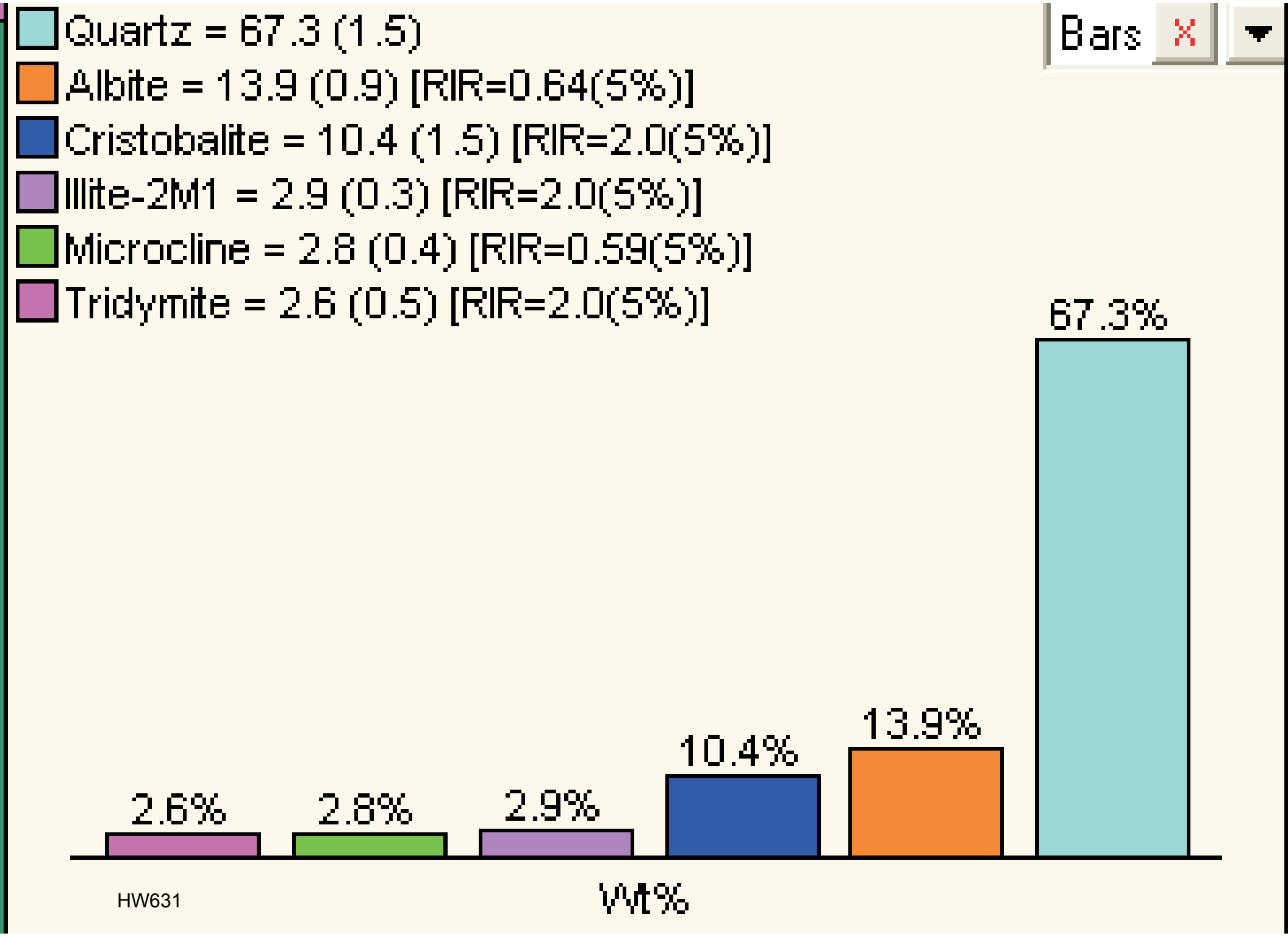
HW623


Quartz = 31.7 (2.3) [RIR=2.99(5%)]
Cristobalite = 18.0 (2.0) [RIR=2.0(5%)]
Albite = 16.7 (1.6) [RIR=0.64(5%)]
Illite-montmorillonite = 13.6 (3.5) [RIR=0.4(5%)]
Kaolinite = 11.9 (1.0) [RIR=2.0(5%)]
Illite = 8.1 (0.9) [RIR=2.0(5%)]
Bars
8.1%
11.9%
13.6%
16.7%
18.0%
31.7%
Wt%
Intensity(Counts)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
10
20
30
40
50
60
70
80

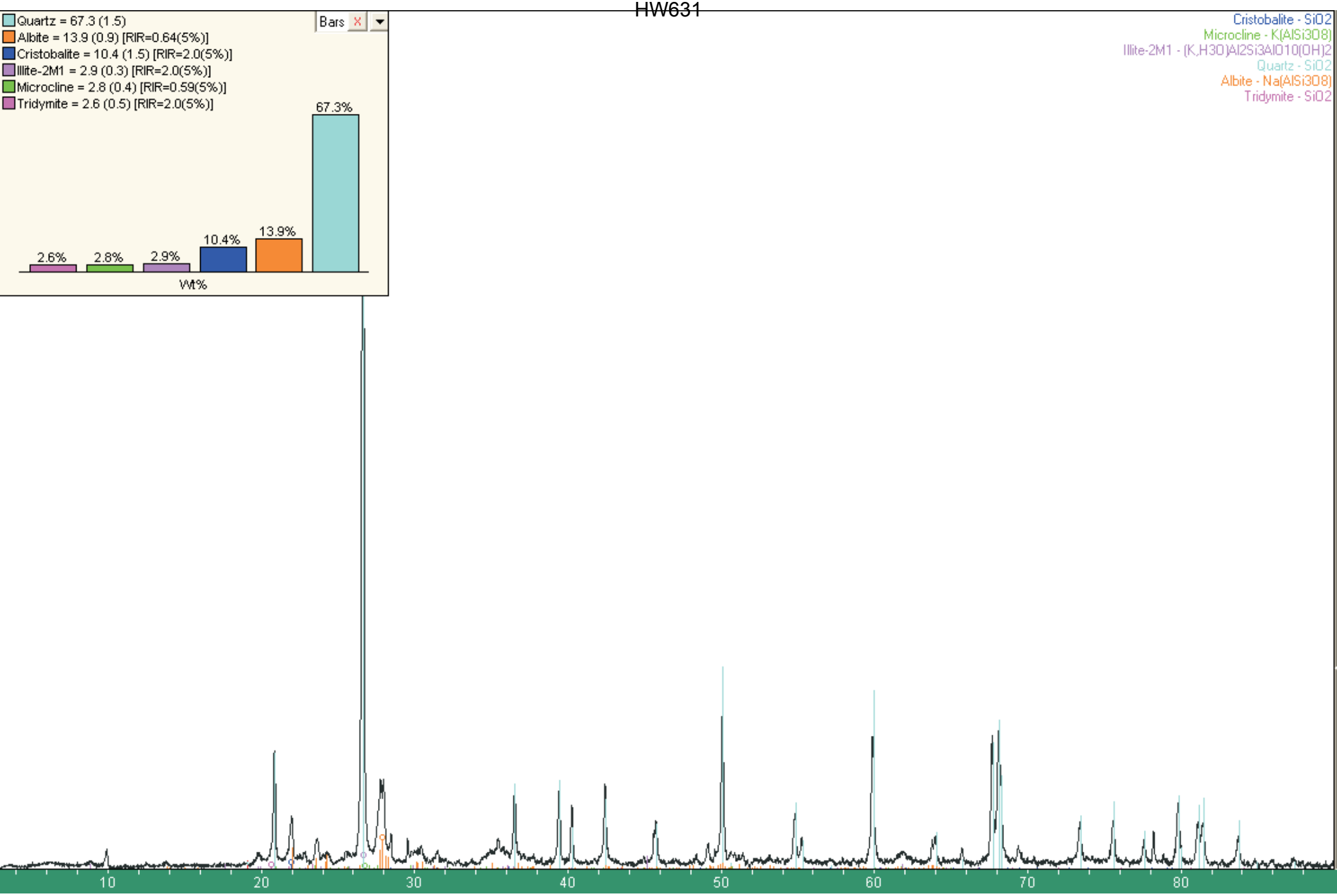

Quartz = 40.4 (3.2) [RIR=2.99(5%)]
Albite = 12.1 (1.3) [RIR=0.64(5%)]
Illite-montmorillonite = 11.5 (4.8) [RIR=0.4(5%)]
Cristobalite = 10.5 (1.8) [RIR=2.0(5%)]
Kaolinite = 8.9 (0.9) [RIR=2.0(5%)]
Rectorite = 6.2 (1.4) [RIR=2.0(5%)]
Illite = 4.7 (0.7) [RIR=2.0(5%)]
Tridymite = 4.3 (1.0) [RIR=2.0(5%)]
Clinochlore-1MIIb = 1.4 (0.3) [RIR=2.0(5%)]
Bars
1.4%
4.3%
4.7%
6.2%
8.9%
10.5%
11.5%
12.1%
40.4%
HW624
Wt%

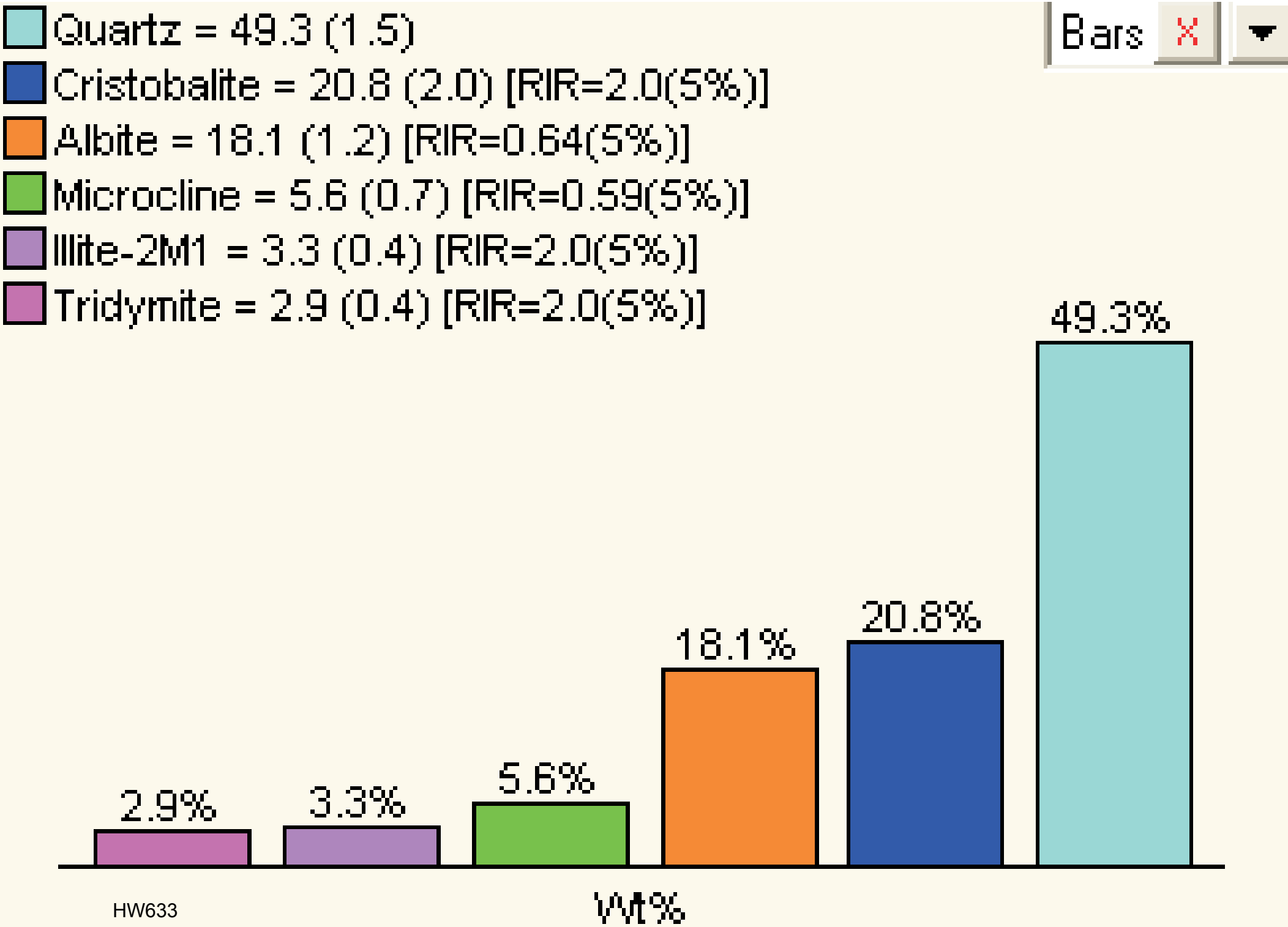
HW624


Quartz = 40.4 (3.2) [RIR=2.99(5%)]
Albite = 12.1 (1.3) [RIR=0.64(5%)]
Illite-montmorillonite = 11.5 (4.8) [RIR=0.4(5%)]
Cristobalite = 10.5 (1.8) [RIR=2.0(5%)]
Kaolinite = 8.9 (0.9) [RIR=2.0(5%)]
Rectorite = 6.2 (1.4) [RIR=2.0(5%)]
Illite = 4.7 (0.7) [RIR=2.0(5%)]
Tridymite = 4.3 (1.0) [RIR=2.0(5%)]
Clinochlore-1MIIb = 1.4 (0.3) [RIR=2.0(5%)]
Bars
1.4%
4.3%
4.7%
6.2%
8.9%
10.5%
11.5%
12.1%
40.4%
Wt%
Intensity(Counts)
Quartz - SiO2
Illite - KAl2Si3AlO10(OH)2
Kaolinite - Al2Si2O5(OH)4
Cristobalite - SiO2
Illite-montmorillonite - KAl4(Si,Al)8O10(OH)4·4H2O
Albite - Na(AlSi3O8)
Montmorillonite - NaMgAlSiO2(OH)H2O
Tridymite - SiO2
Clinochlore-1MIIb - (Mg,Al,Fe)6(Si,Al)4O10(OH)8
Rectorite - NaAl4(Si,Al)8O20(OH)4·2H2O
10
20
30
40
50
60
70
80

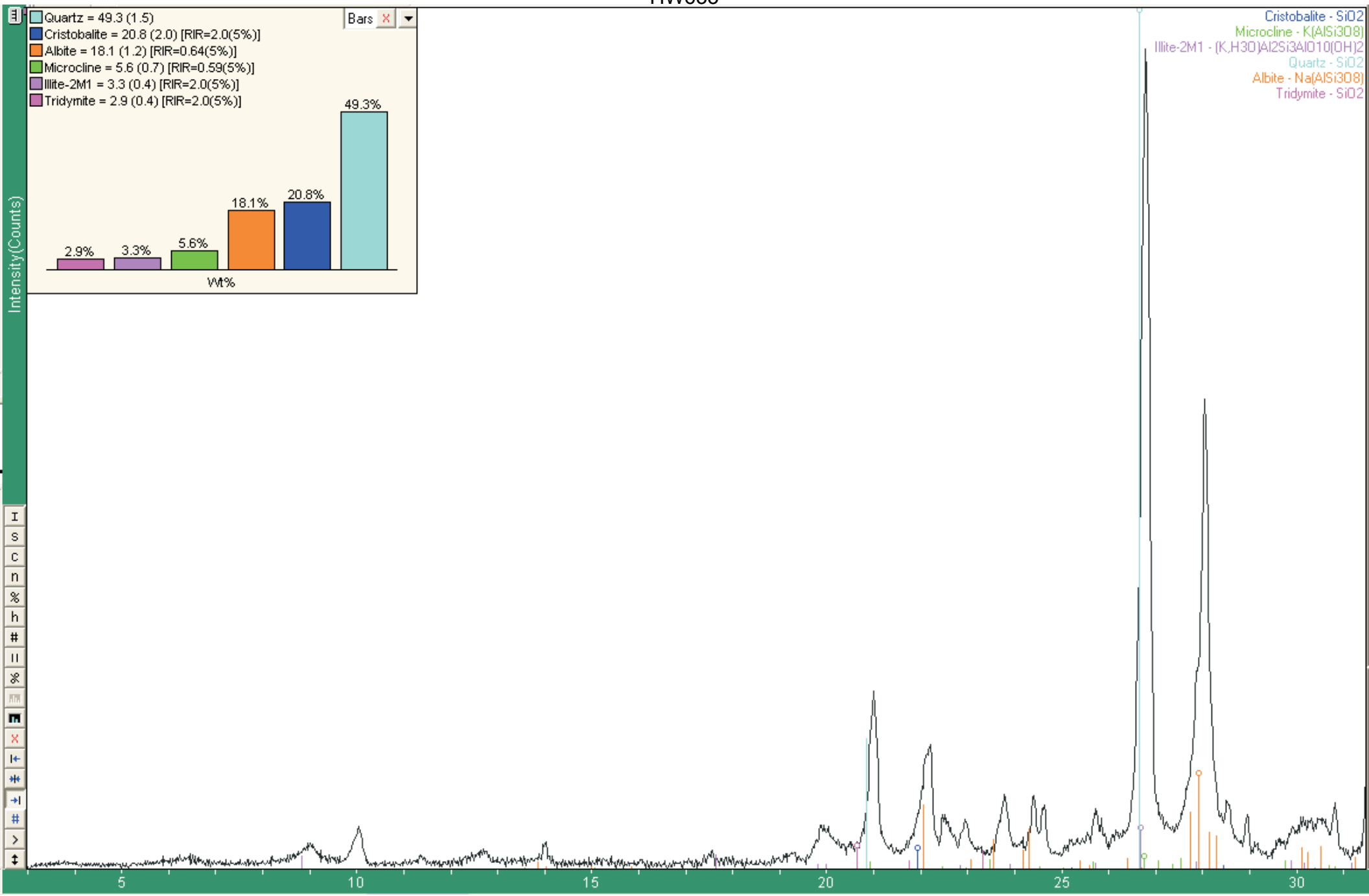

Quartz = 67.3 (1.5)
Albite = 13.9 (0.9) [RIR=0.64(5%)]
Cristobalite = 10.4 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 2.9 (0.3) [RIR=2.0(5%)]
Microcline = 2.8 (0.4) [RIR=0.59(5%)]
Tridymite = 2.6 (0.5) [RIR=2.0(5%)]
Bars
67.3%
13.9%
10.4%
2.9%
2.8%
2.6%
HW631
Wt%

HW631


Quartz = 67.3 (1.5)
Albite = 13.9 (0.9) [RIR=0.64(5%)]
Cristobalite = 10.4 (1.5) [RIR=2.0(5%)]
Illite-2M1 = 2.9 (0.3) [RIR=2.0(5%)]
Microcline = 2.8 (0.4) [RIR=0.59(5%)]
Tridymite = 2.6 (0.5) [RIR=2.0(5%)]
Bars
67.3%
13.9%
10.4%
2.9%
2.8%
2.6%
Wt%
Cristobalite - SiO2
Microcline - K(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Quartz - SiO2
Albite - Na(AlSi3O8)
Tridymite - SiO2
10
20
30
40
50
60
70
80


Quartz = 49.3 (1.5)
Cristobalite = 20.8 (2.0) [RIR=2.0(5%)]
Albite = 18.1 (1.2) [RIR=0.64(5%)]
Microcline = 5.6 (0.7) [RIR=0.59(5%)]
Illite-2M1 = 3.3 (0.4) [RIR=2.0(5%)]
Tridymite = 2.9 (0.4) [RIR=2.0(5%)]
Bars
2.9%
3.3%
5.6%
18.1%
20.8%
49.3%
HW633
Wt%

HW633


Quartz = 49.3 (1.5)
Cristobalite = 20.8 (2.0) [RIR=2.0(5%)]
Albite = 18.1 (1.2) [RIR=0.64(5%)]
Microcline = 5.6 (0.7) [RIR=0.59(5%)]
Illite-2M1 = 3.3 (0.4) [RIR=2.0(5%)]
Tridymite = 2.9 (0.4) [RIR=2.0(5%)]
Bars
2.9%
3.3%
5.6%
18.1%
20.8%
49.3%
Wt%
Intensity(Counts)
Cristobalite - SiO2
Microcline - K(AlSi3O8)
Illite-2M1 - (K,H3O)Al2Si3AlO10(OH)2
Quartz - SiO2
Albite - Na(AlSi3O8)
Tridymite - SiO2
5
10
15
20
25
30