

# Der Allalin – Gabbro

Das schönste  
Alpengestein



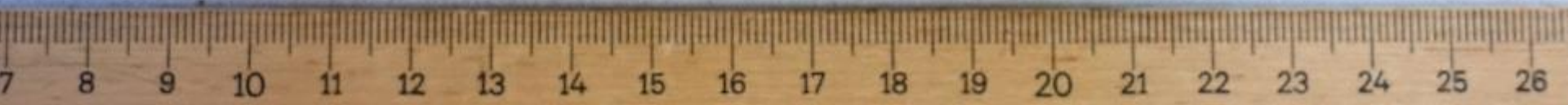
# Warum hier dieser Vortrag?



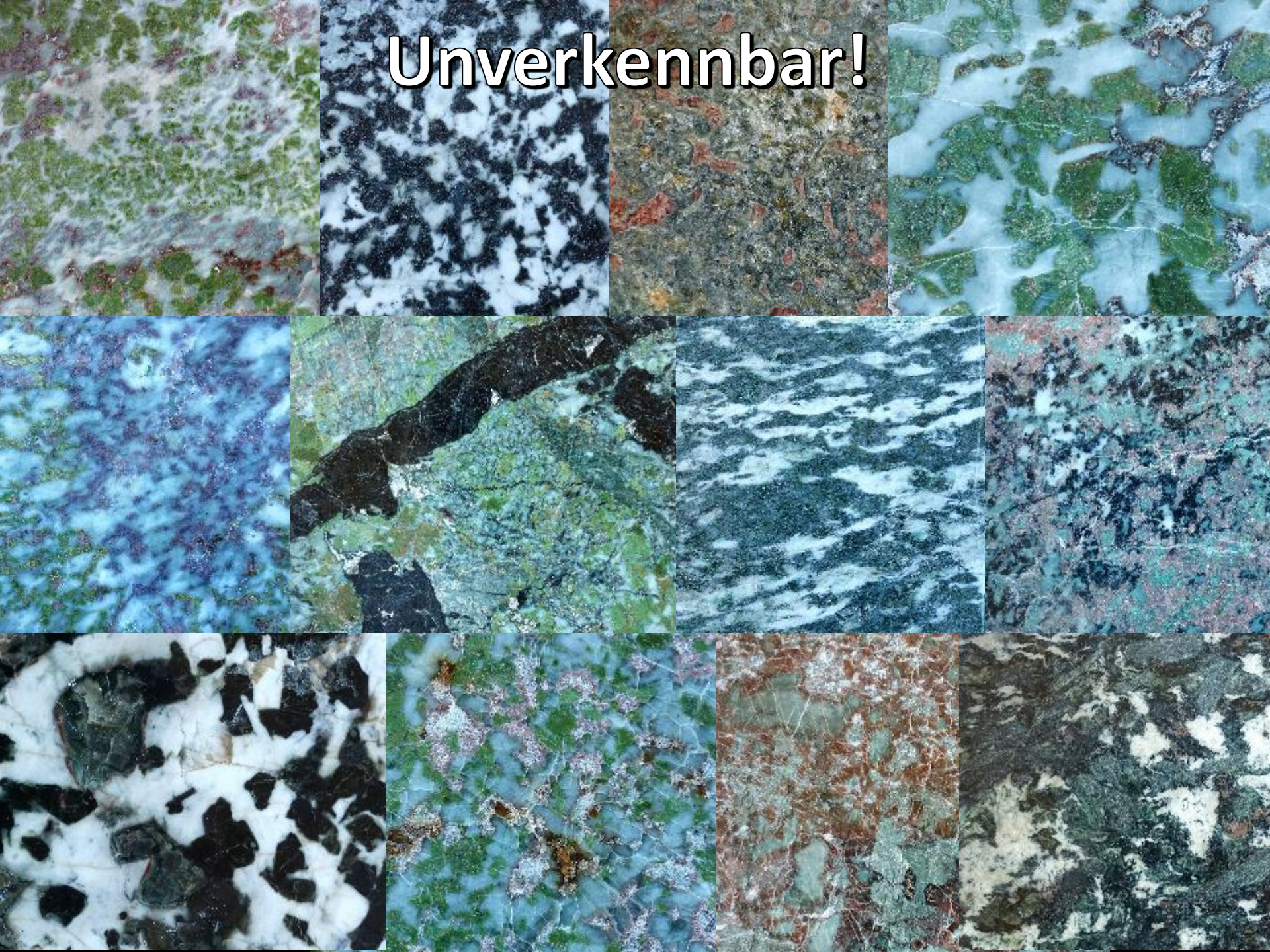








**Unverkennbar!**





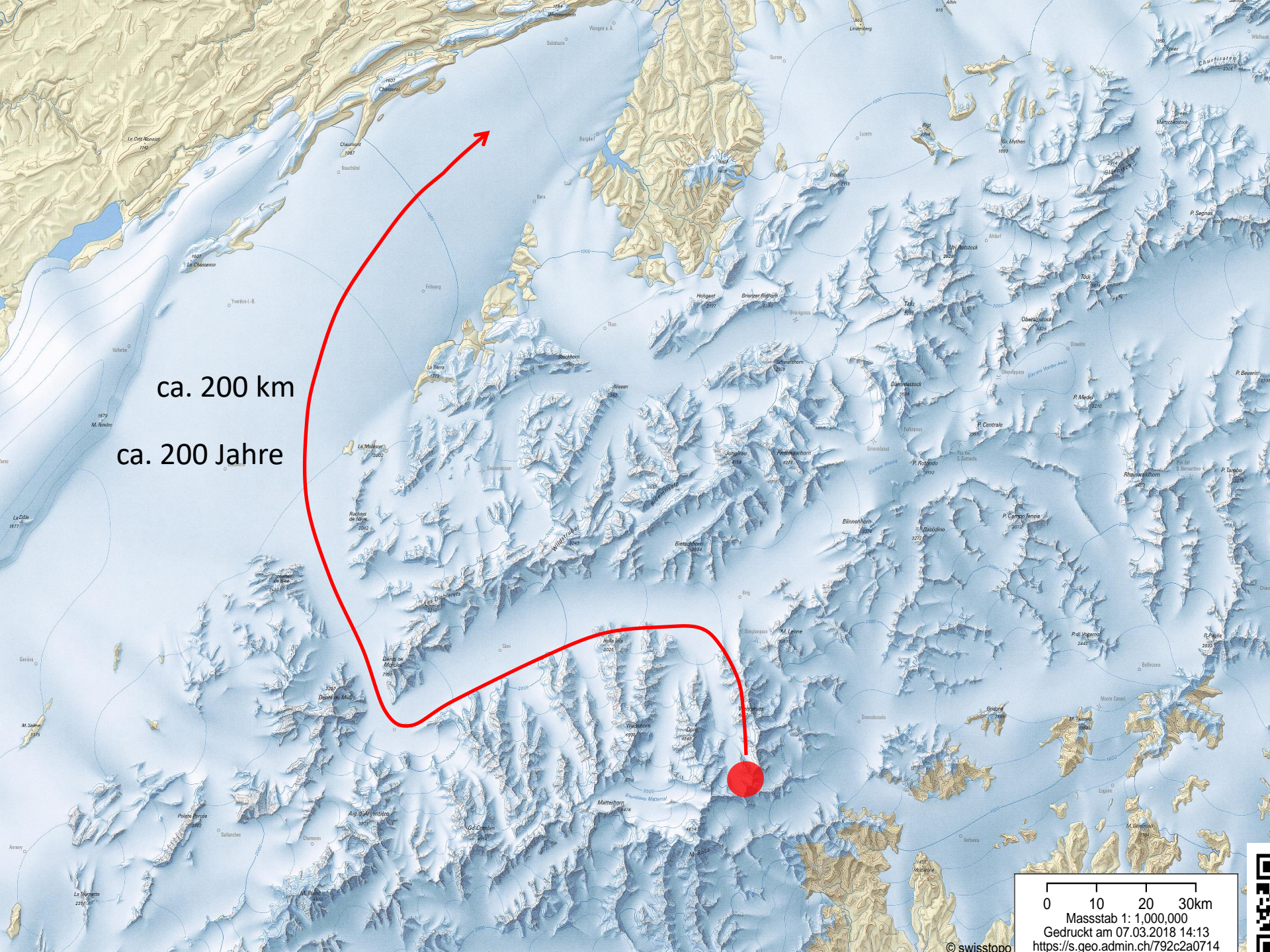












ca. 200 km

ca. 200 Jahre

0 10 20 30km

Massstab 1: 1.000.000

Druckdatum 07.03.2018 14:13

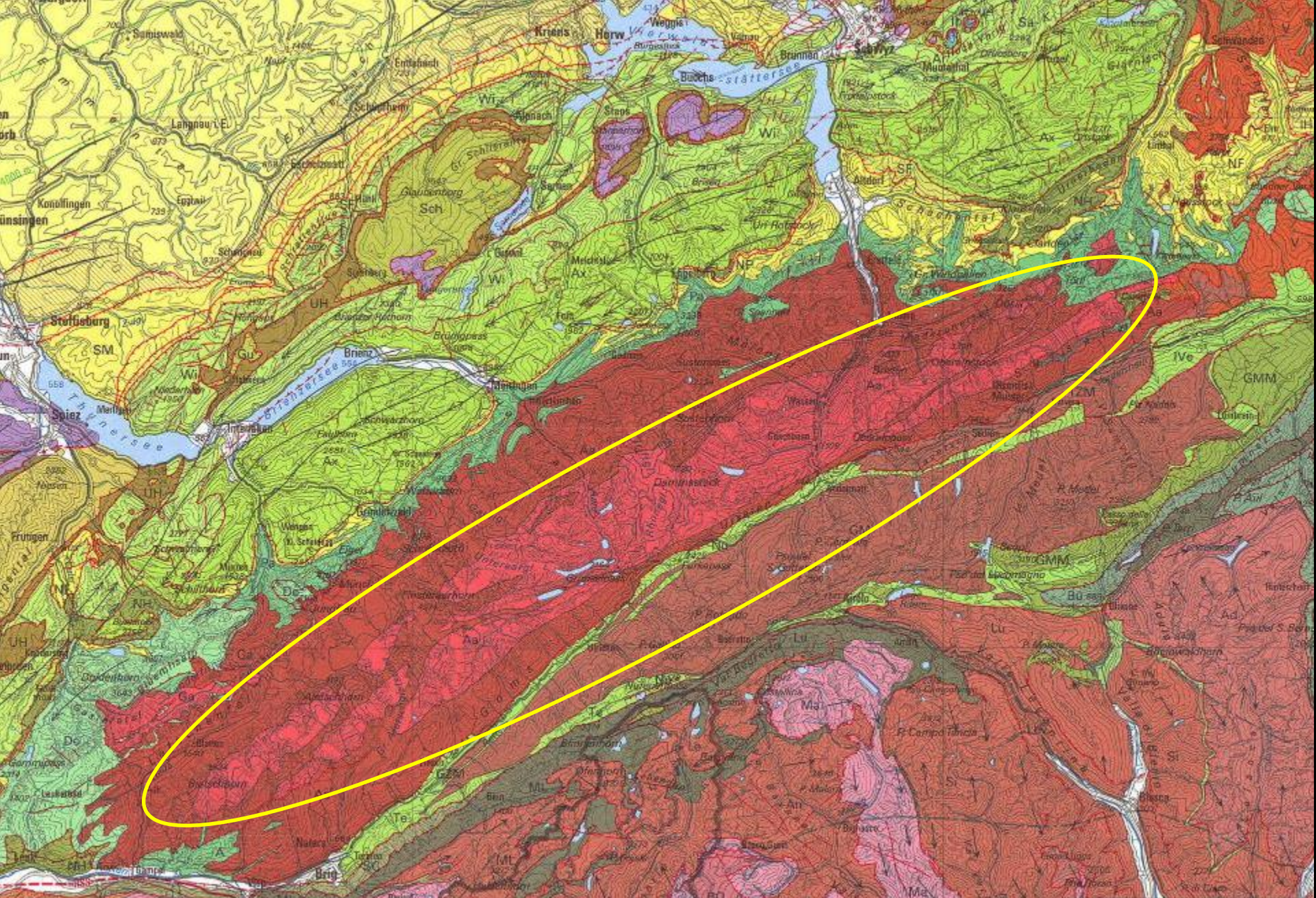
<https://s.geo.admin.ch/792c2a0714>

© swisstopo



**Warum ist der AG so speziell??**





0 5 10 15 km  
Massstab 1: 500'000  
Gedruckt am 18.10.2021 17:33  
<https://s.geo.admin.ch/93bf63e446>







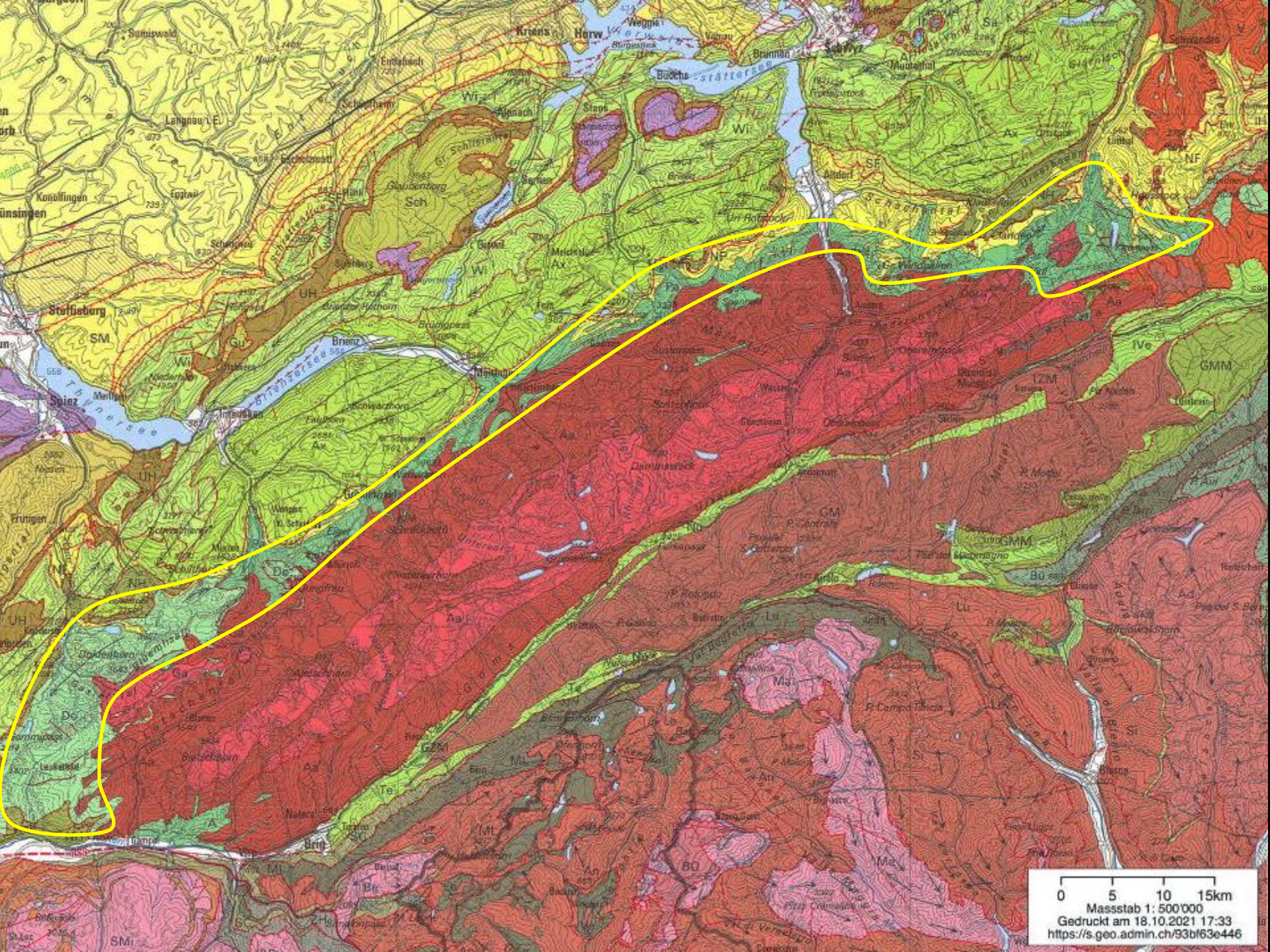












0 5 10 15km  
Masstab 1: 500'000  
Gedruckt am 18.10.2021 17:33  
<https://s.geo.admin.ch/93bf63e446>





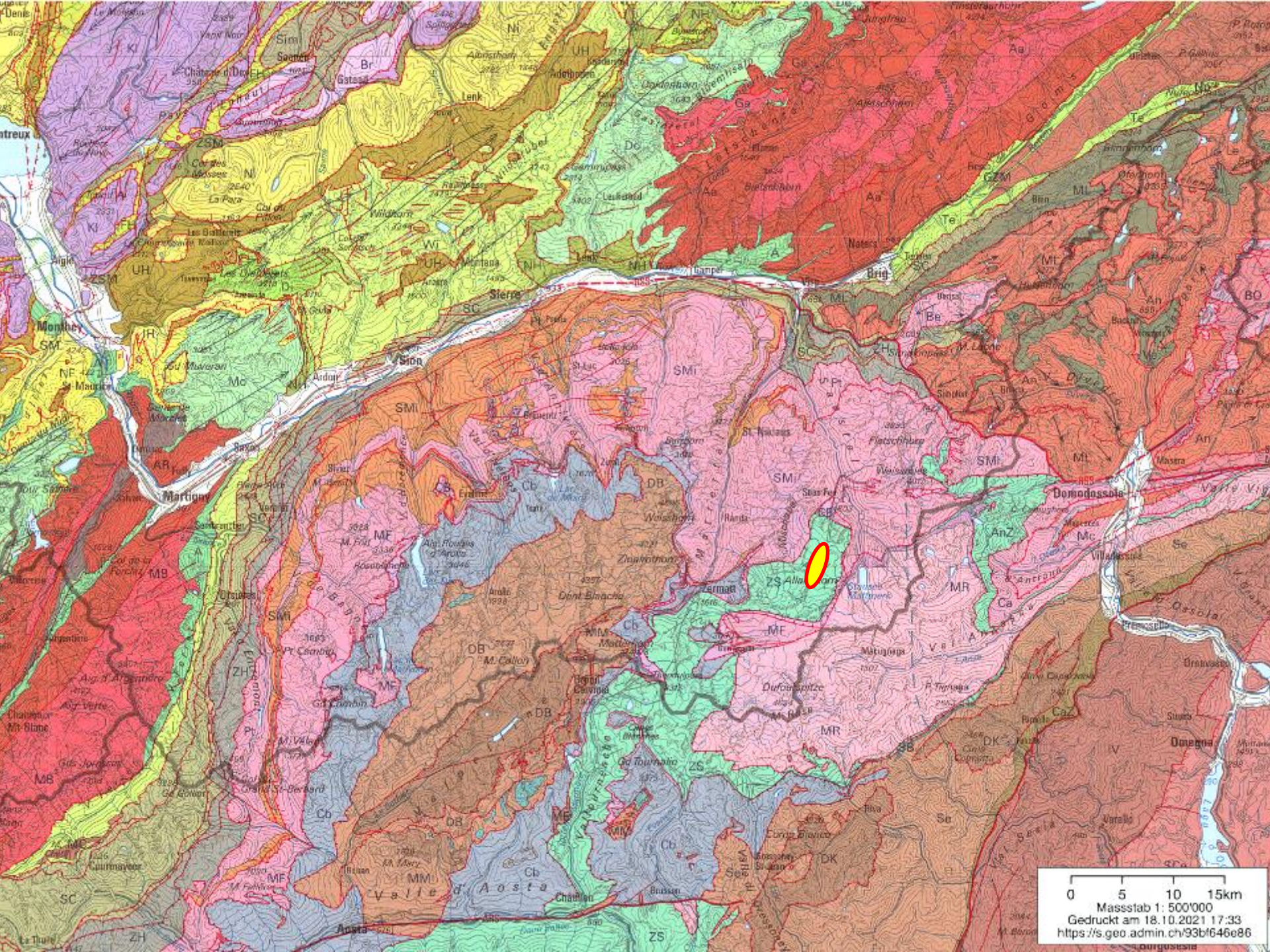












0 5 10 15km  
Massestab 1: 500'000  
Gedruckt am 18.10.2021 17:33  
<https://s.geo.admin.ch/93b646e86>







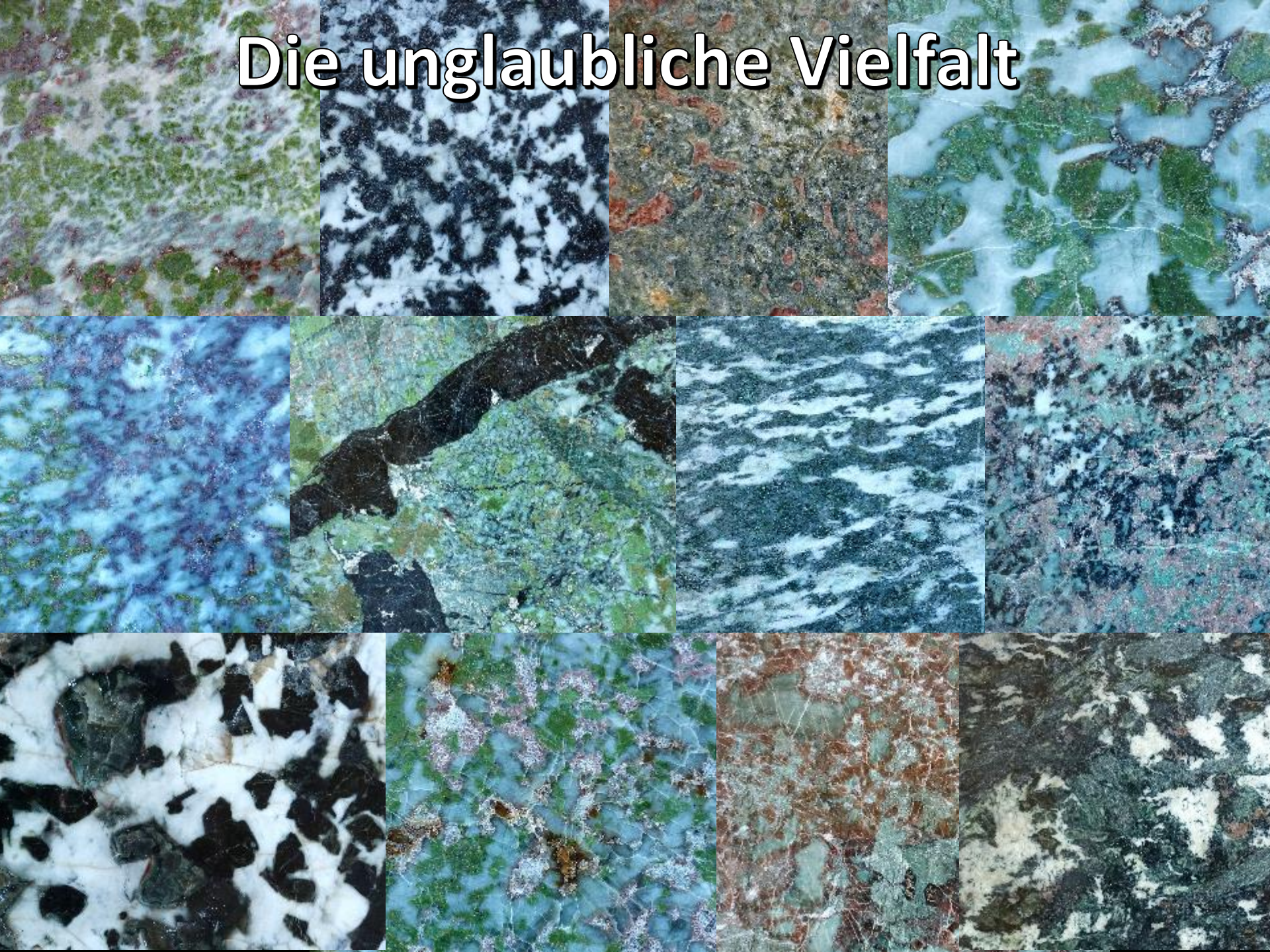






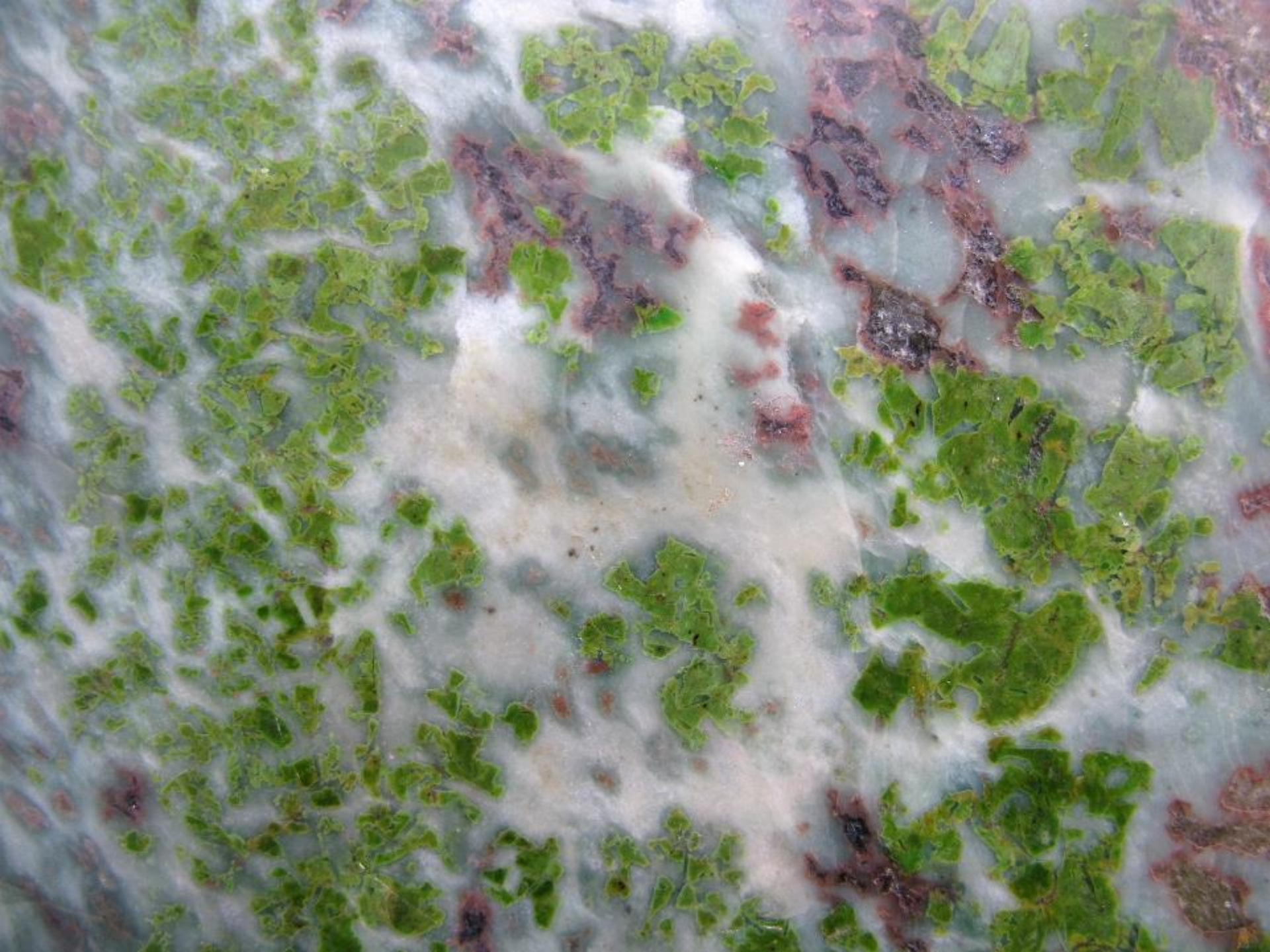


# Die unglaubliche Vielfalt



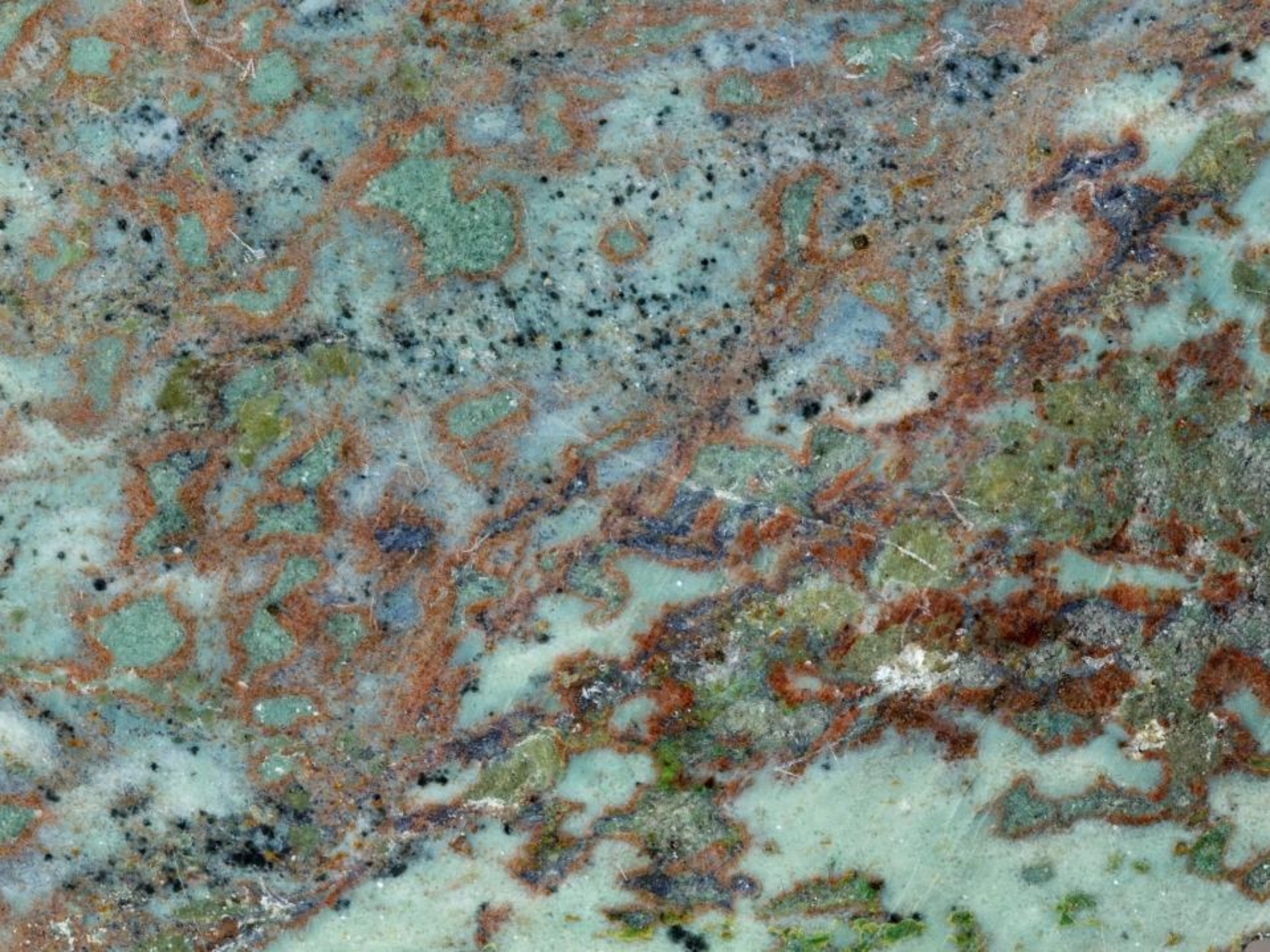
# Sammlung Jürg Meyer

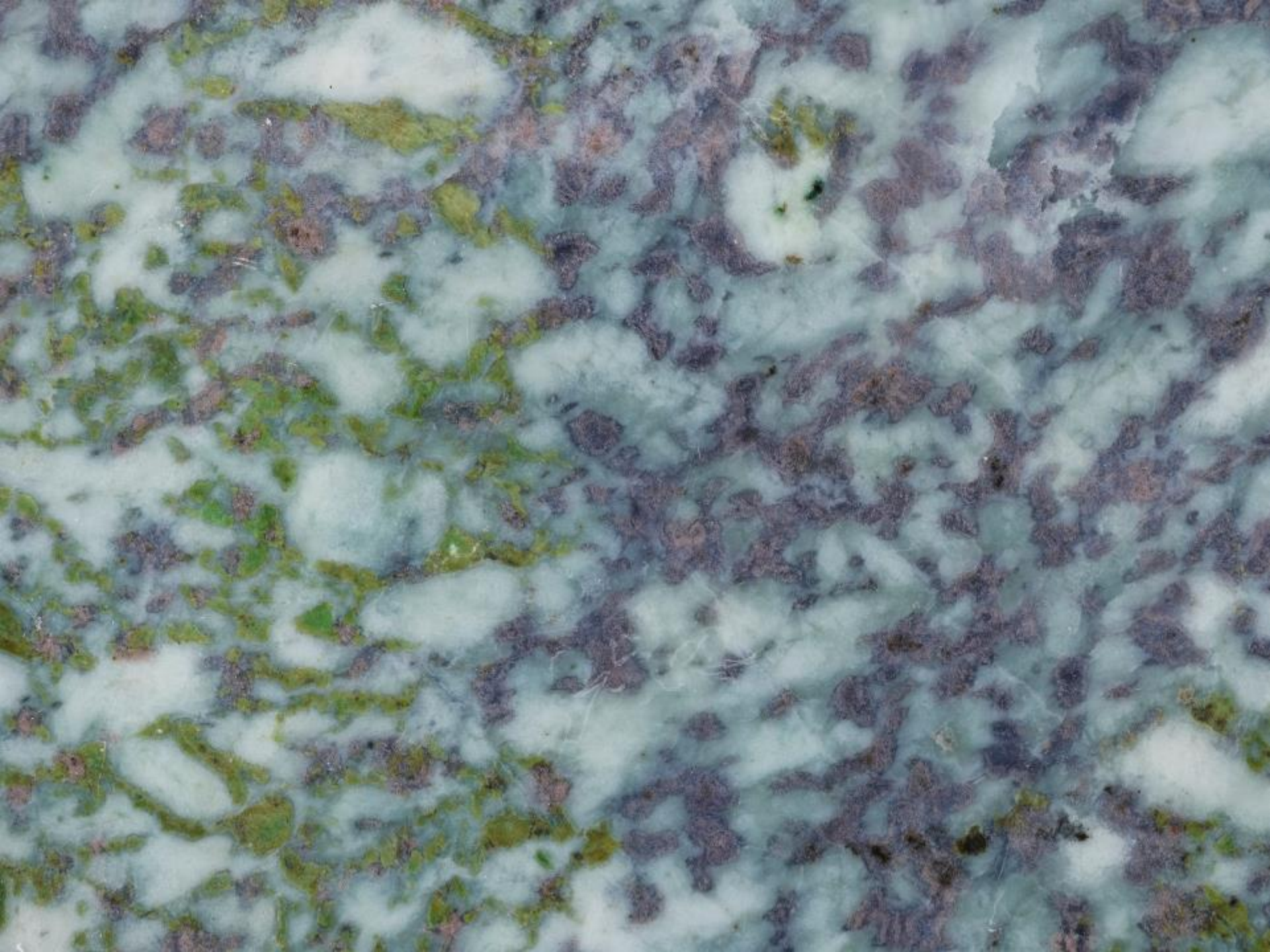


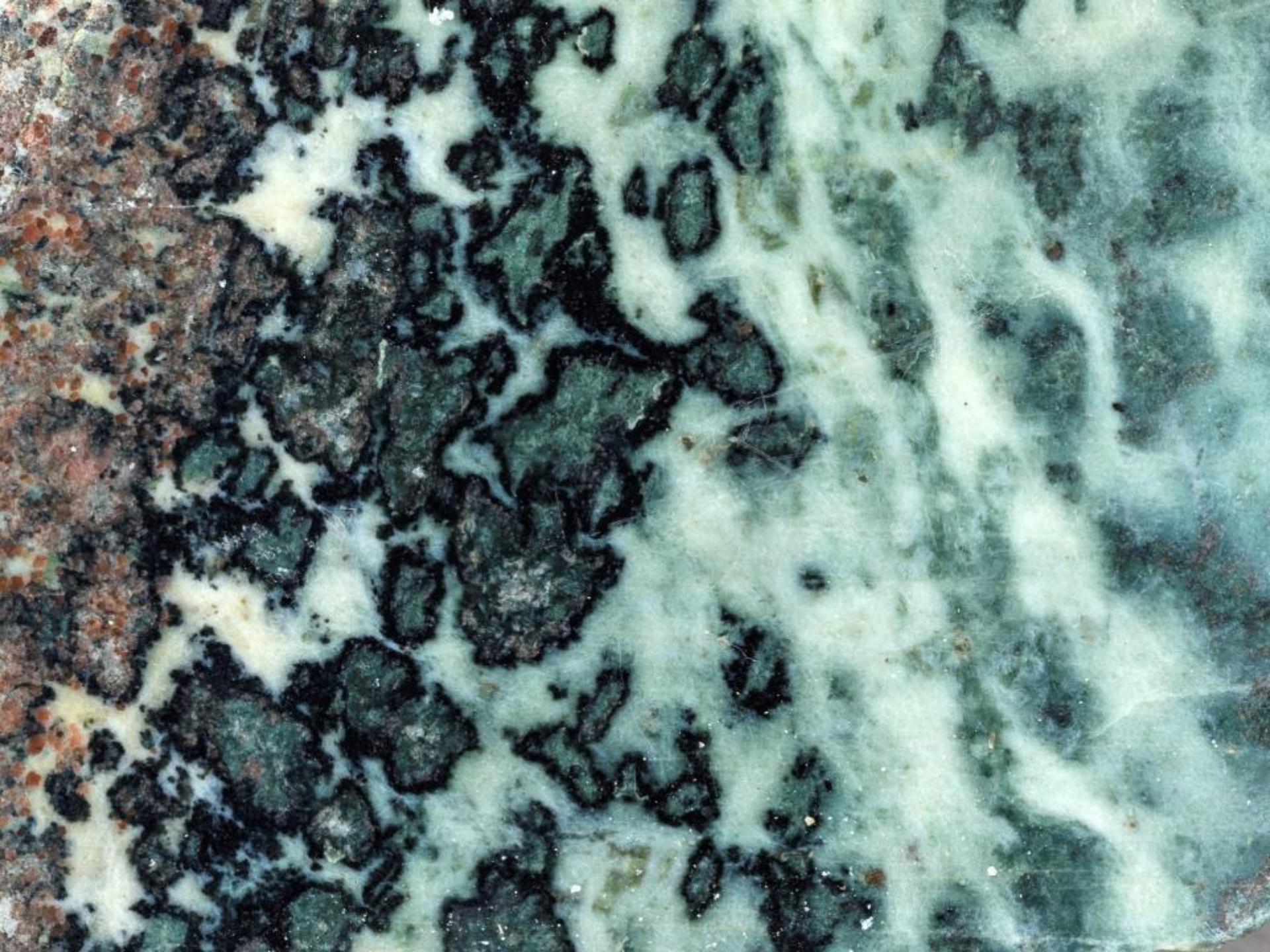
























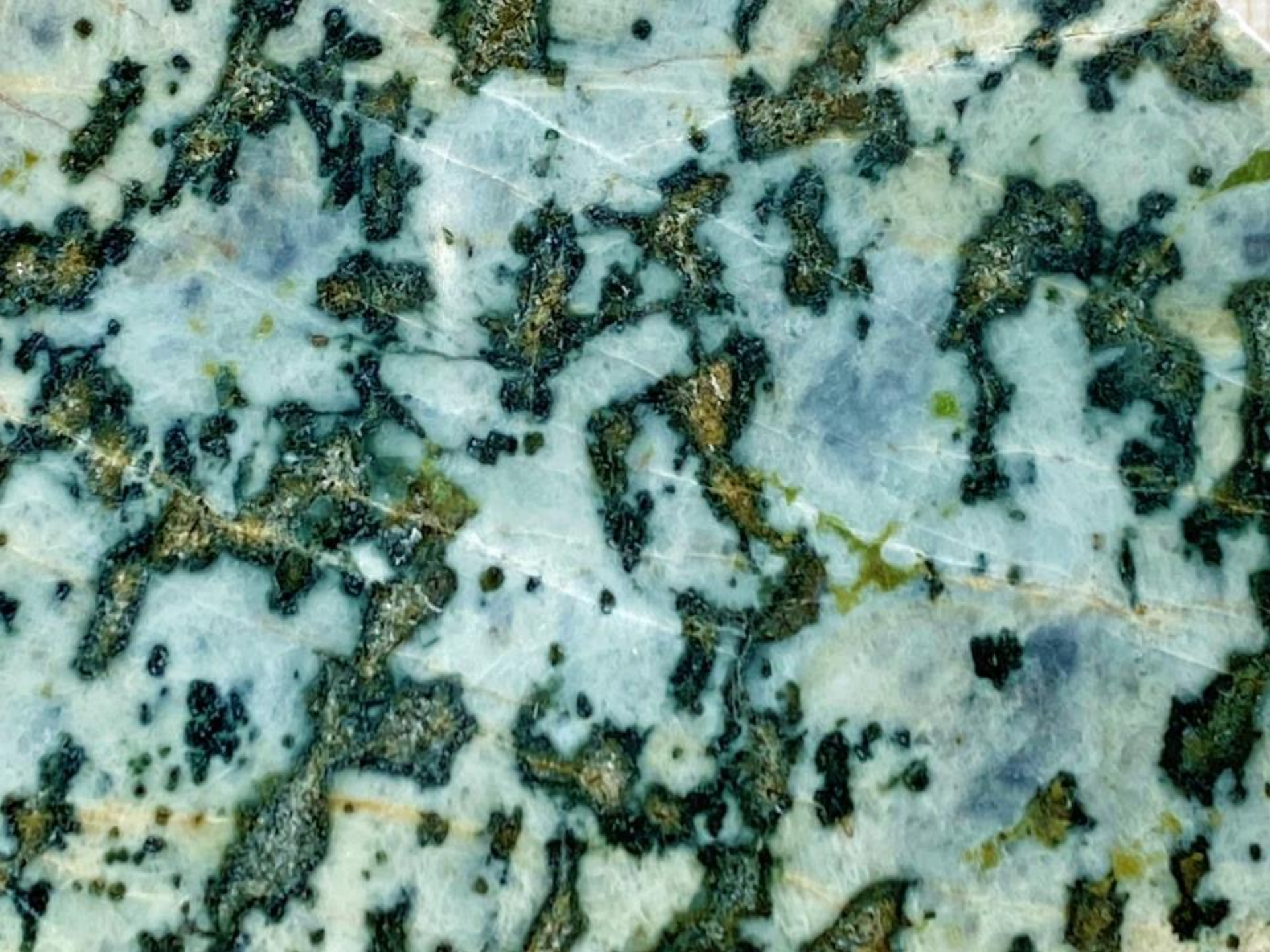








**Sammlung  
Peter Thomet**

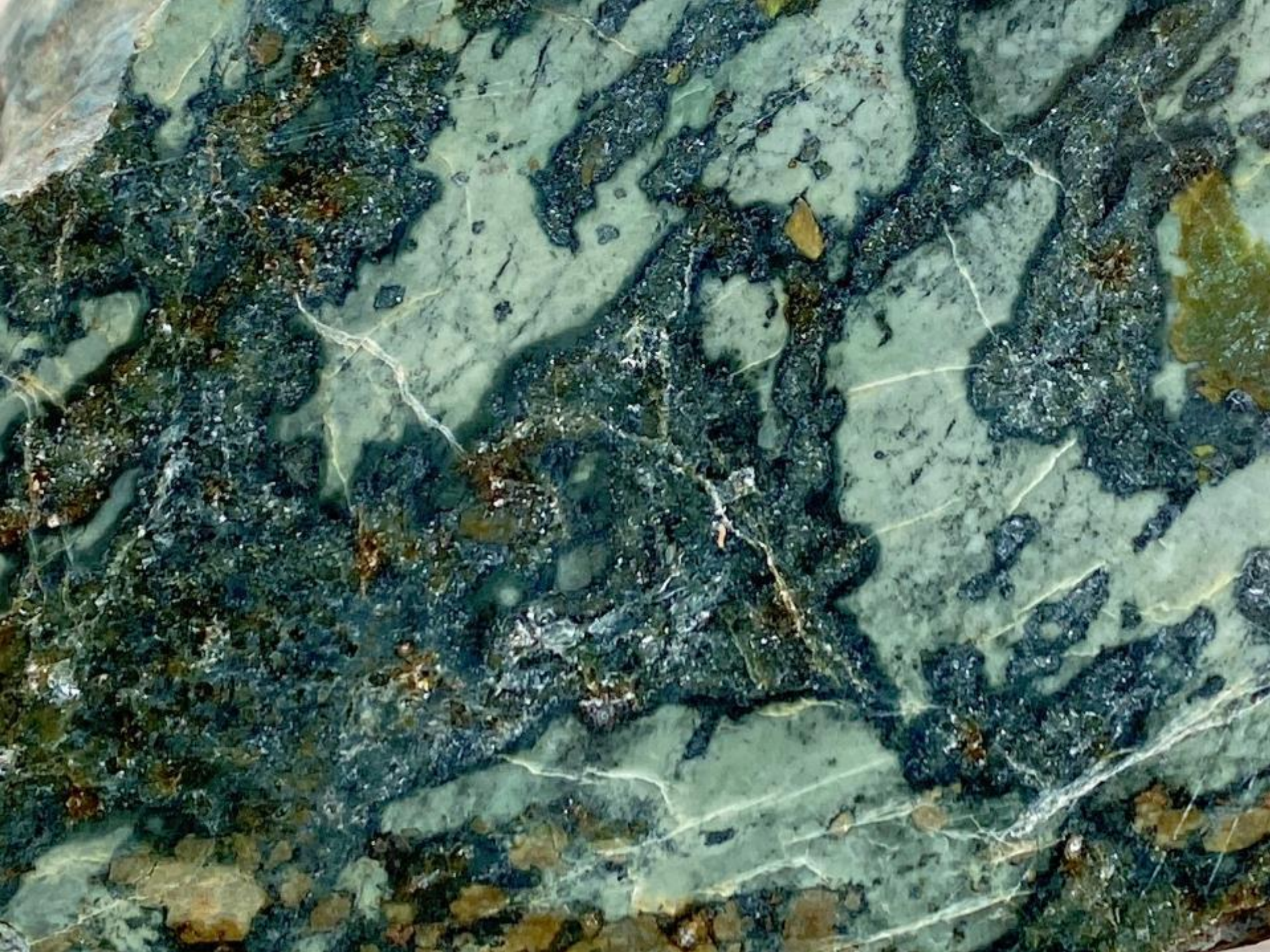






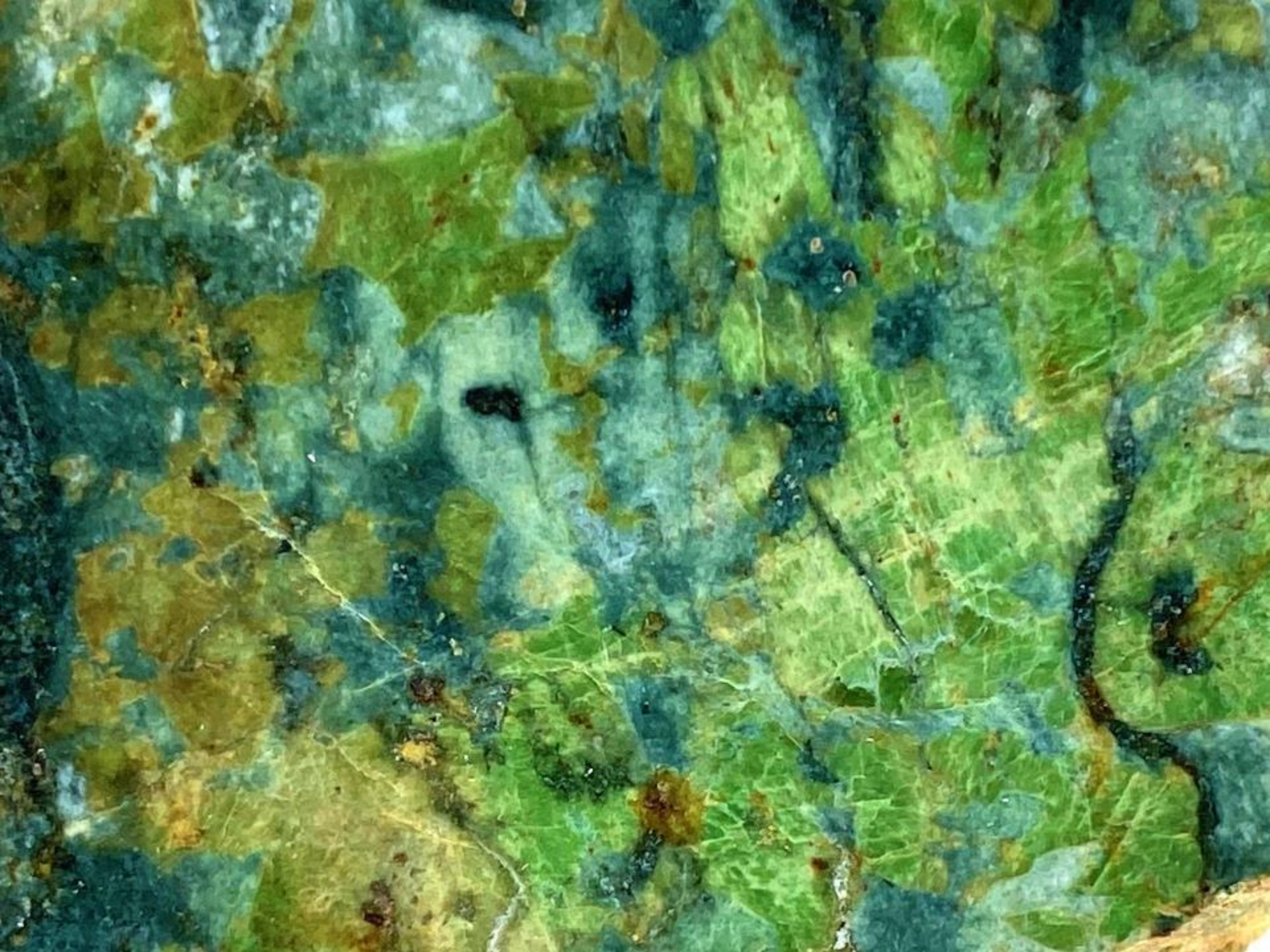




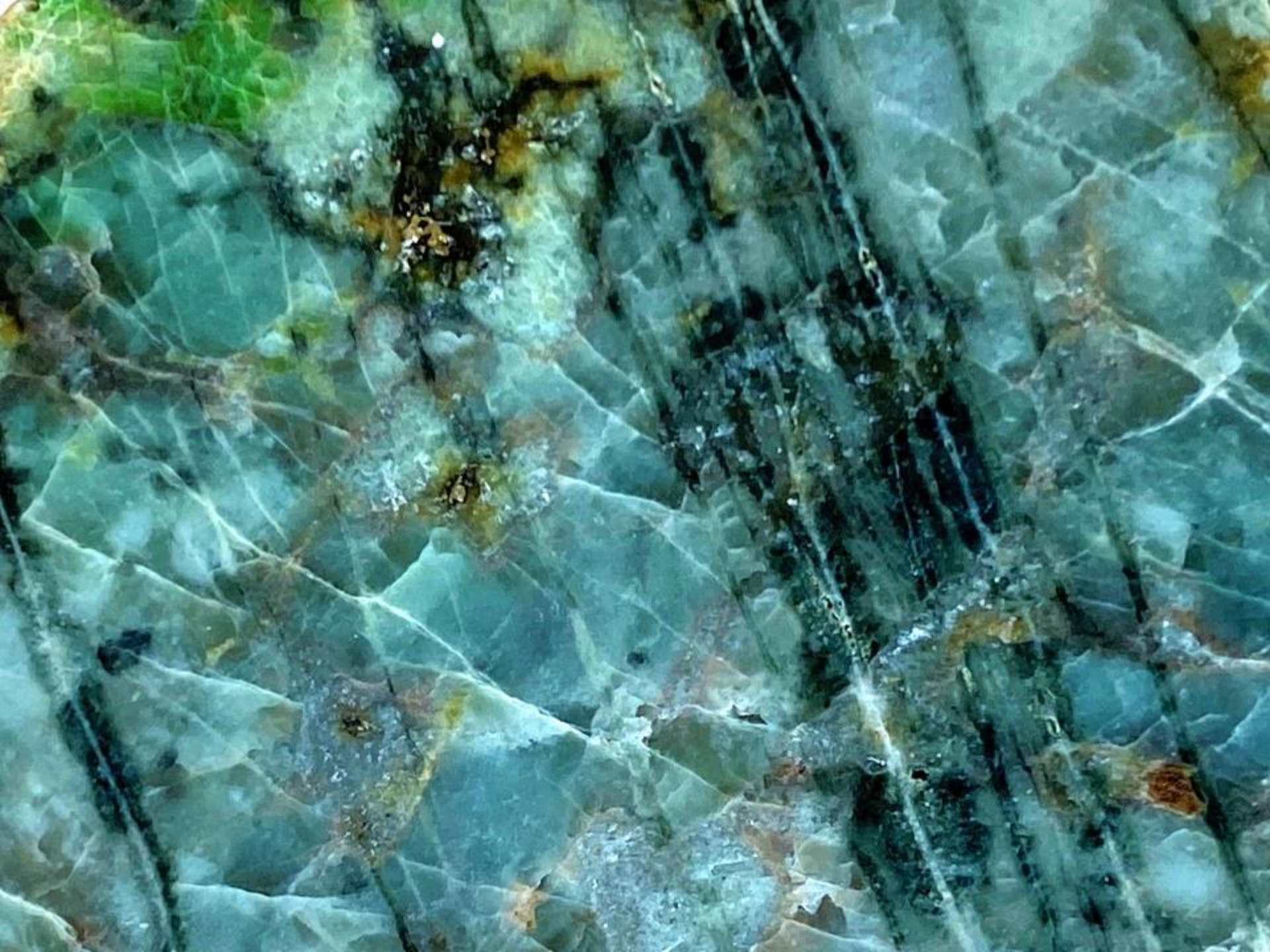


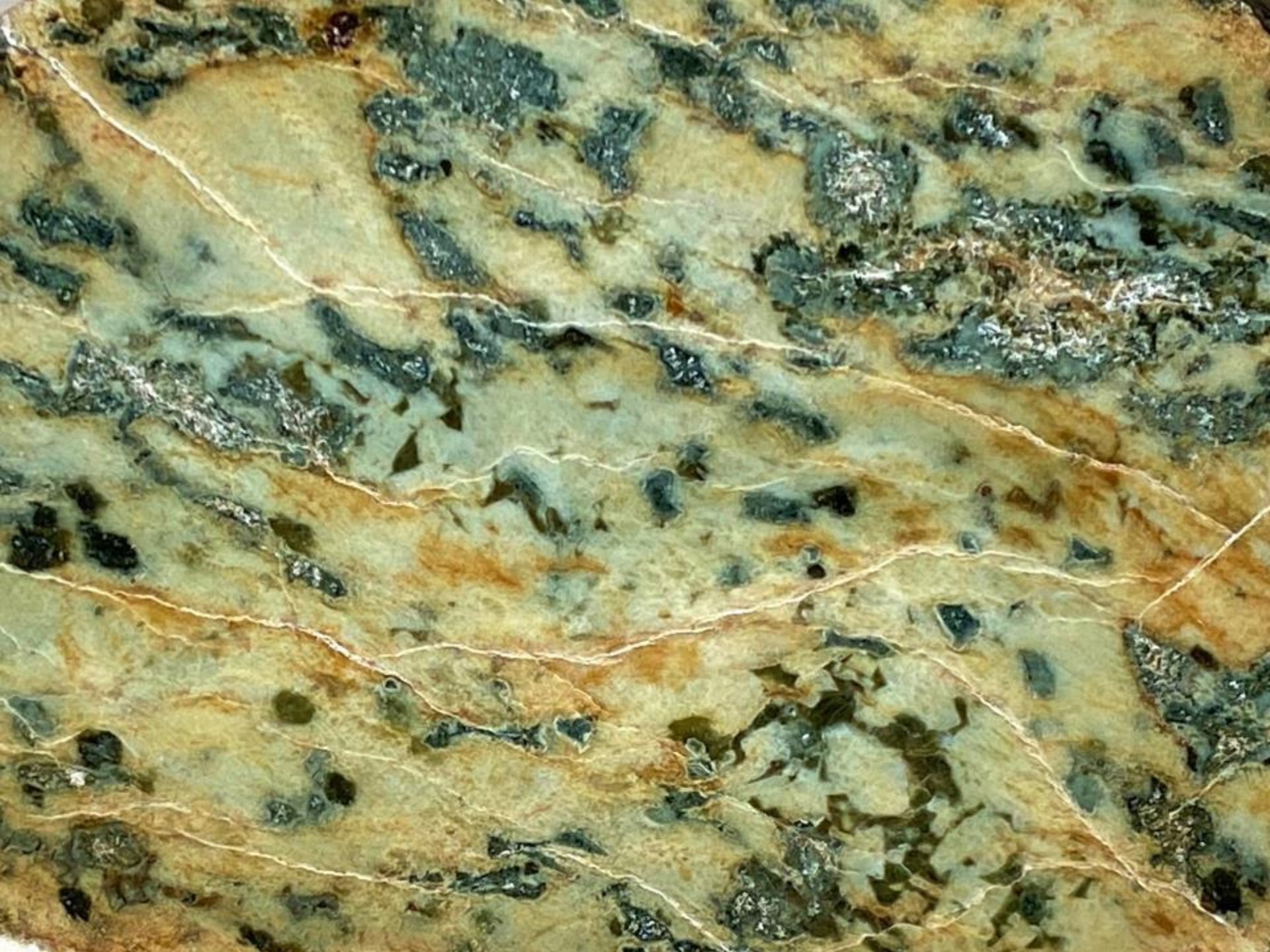


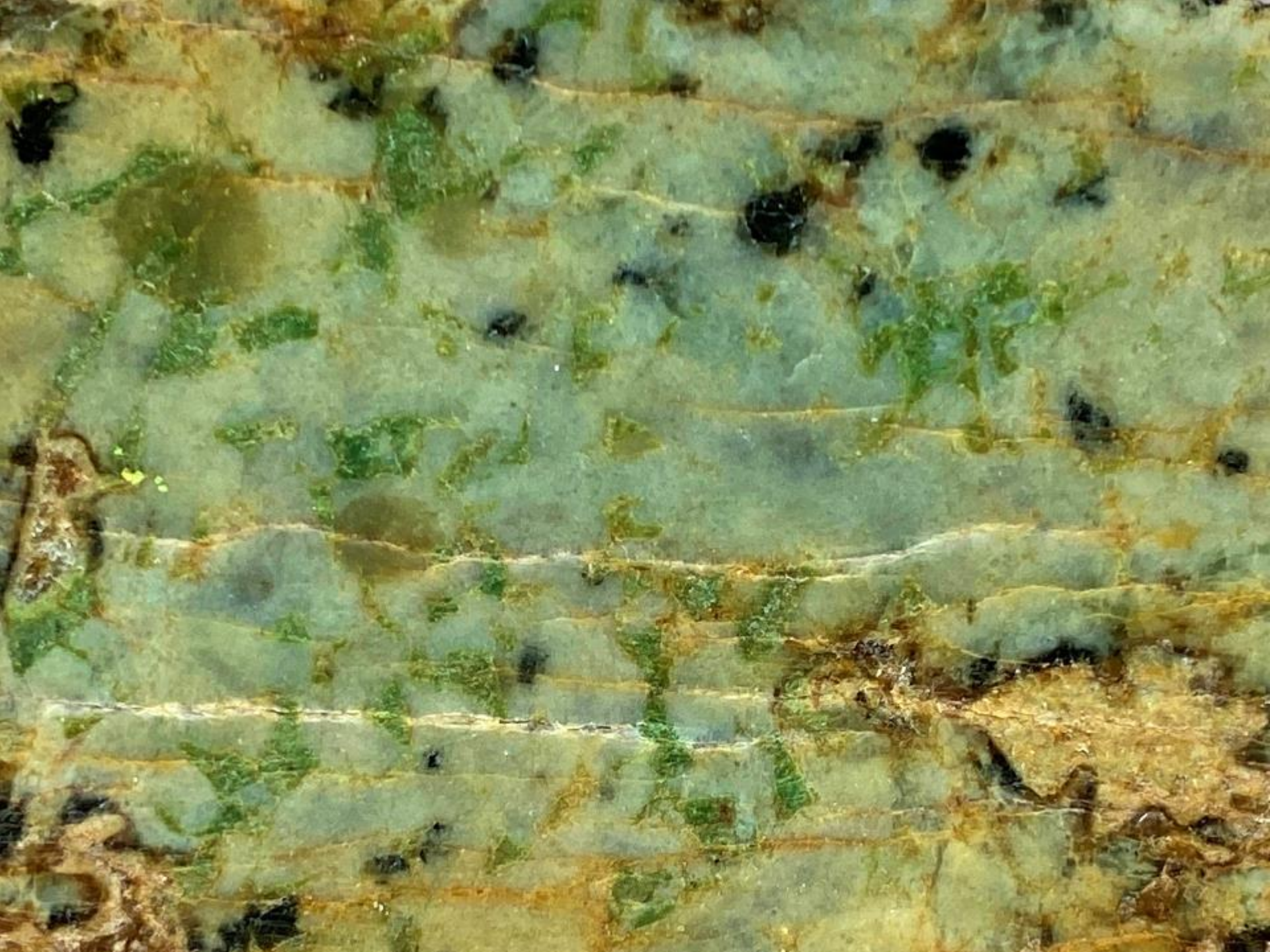




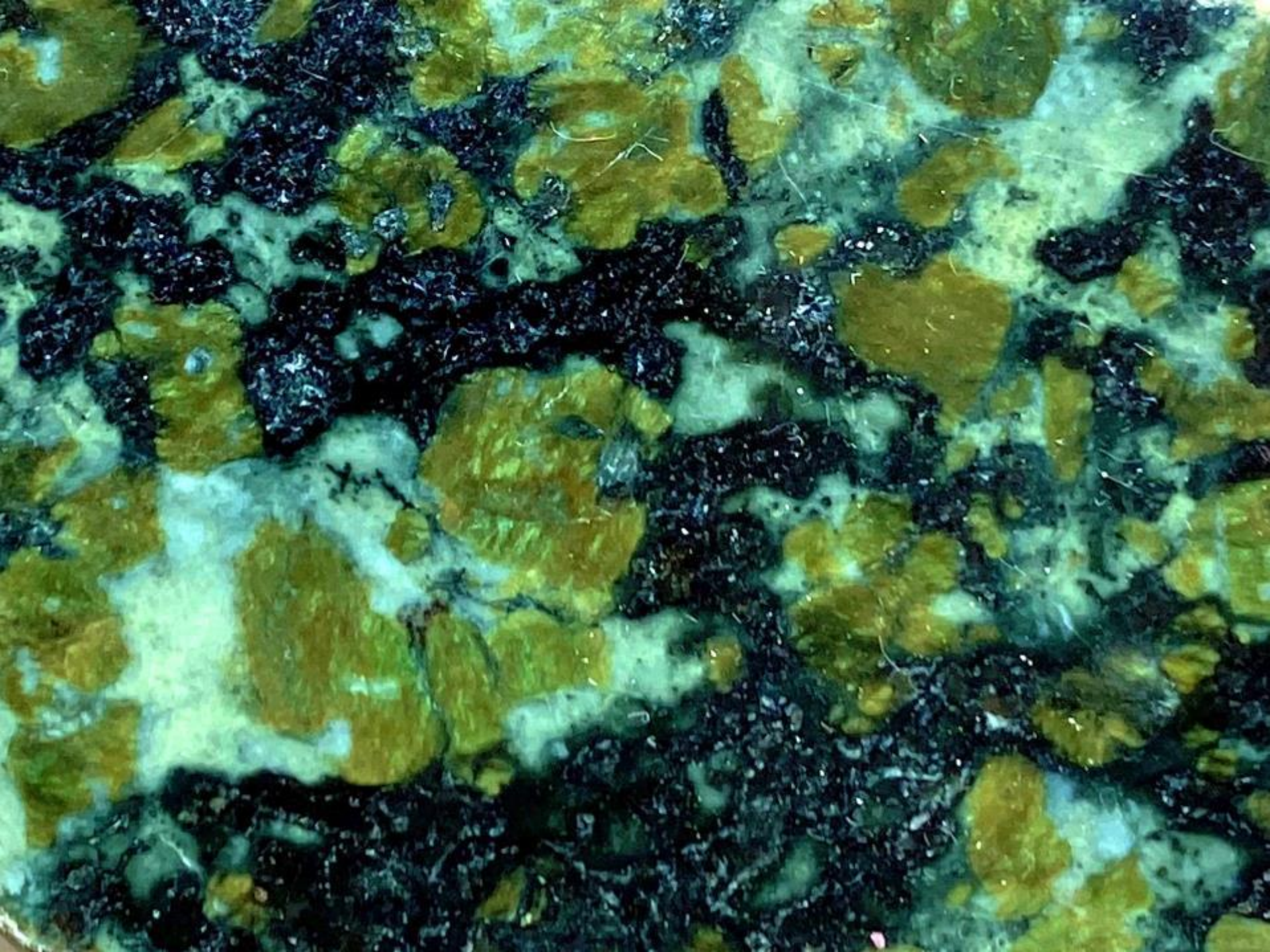


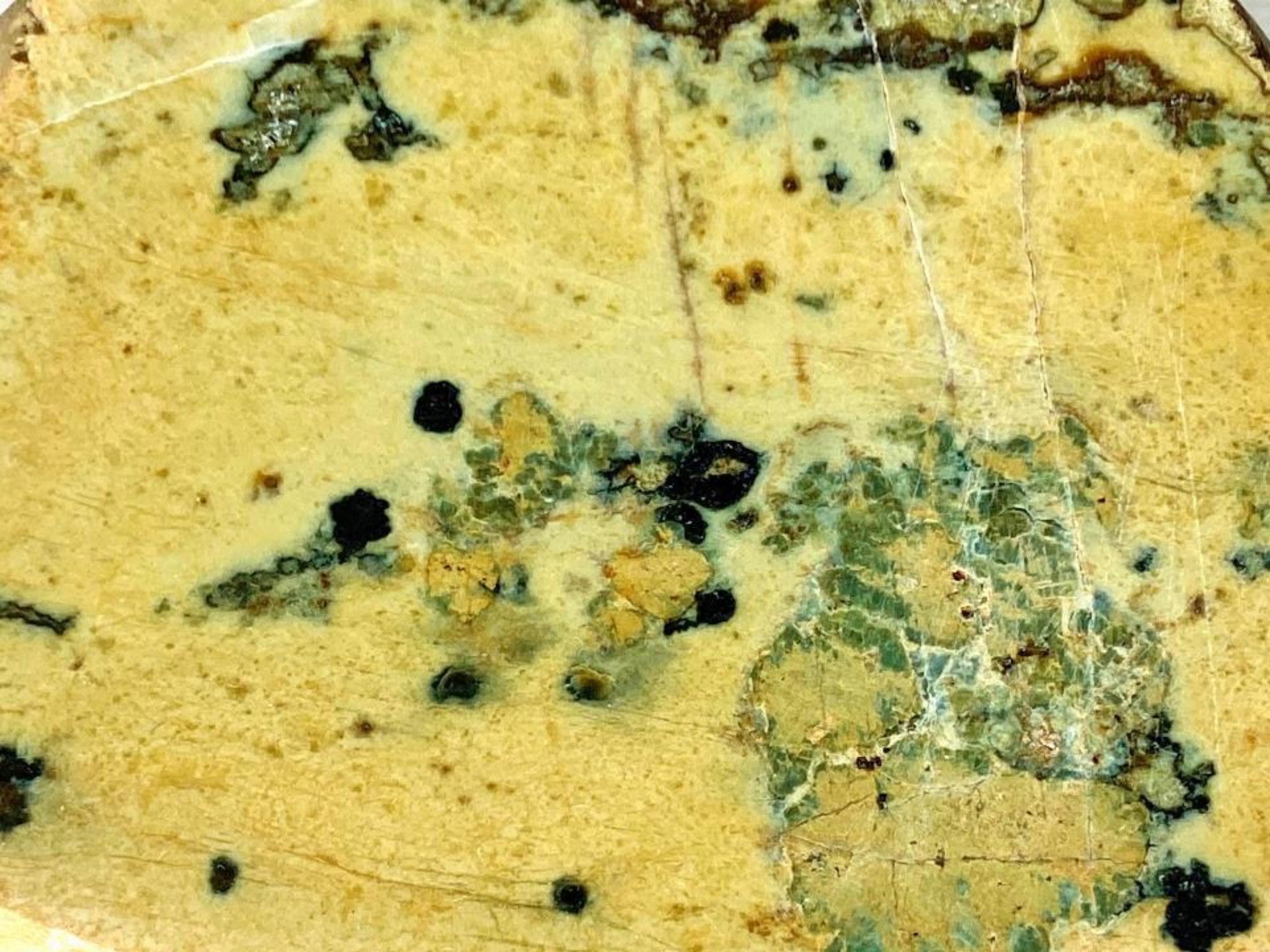


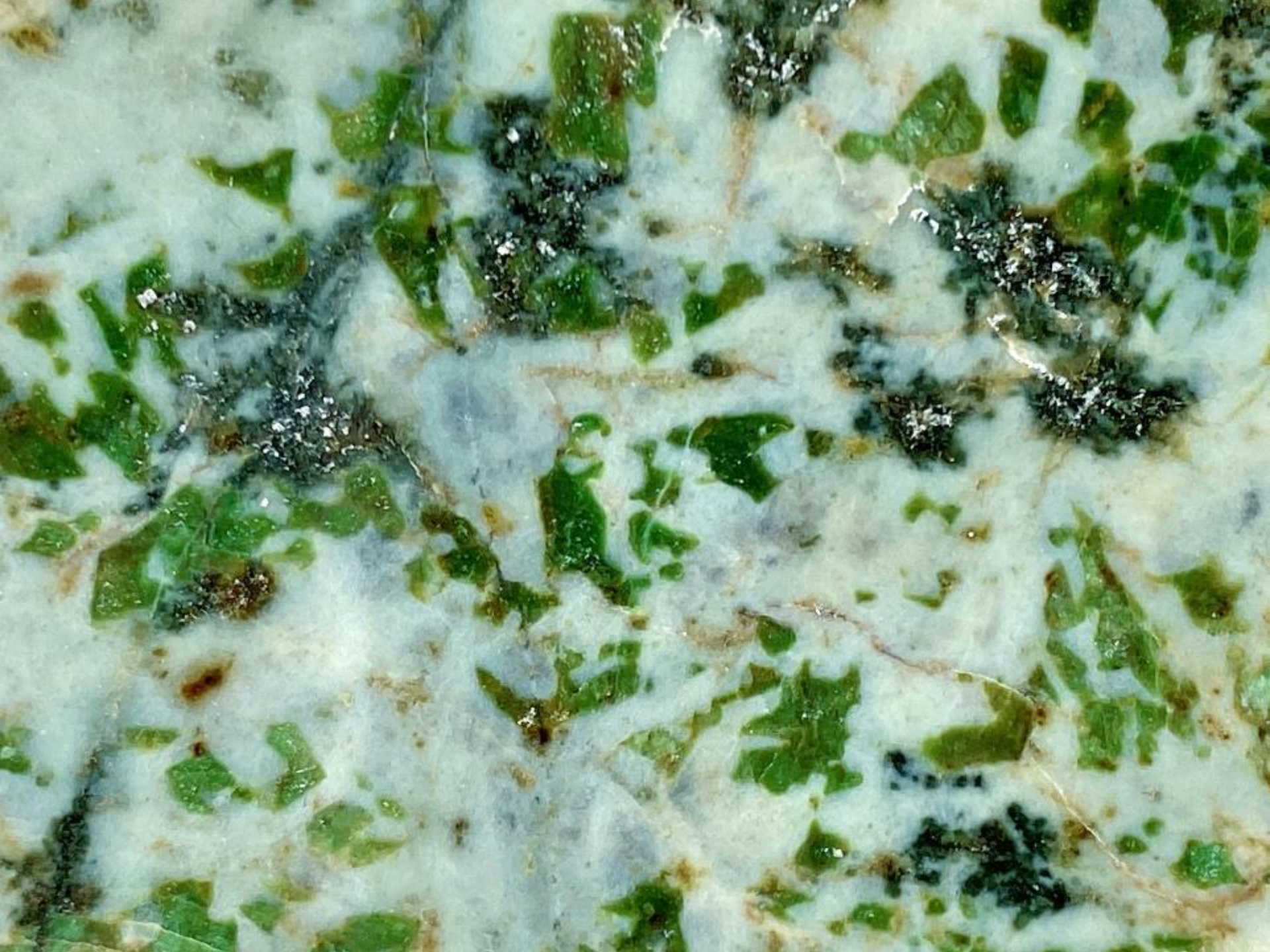




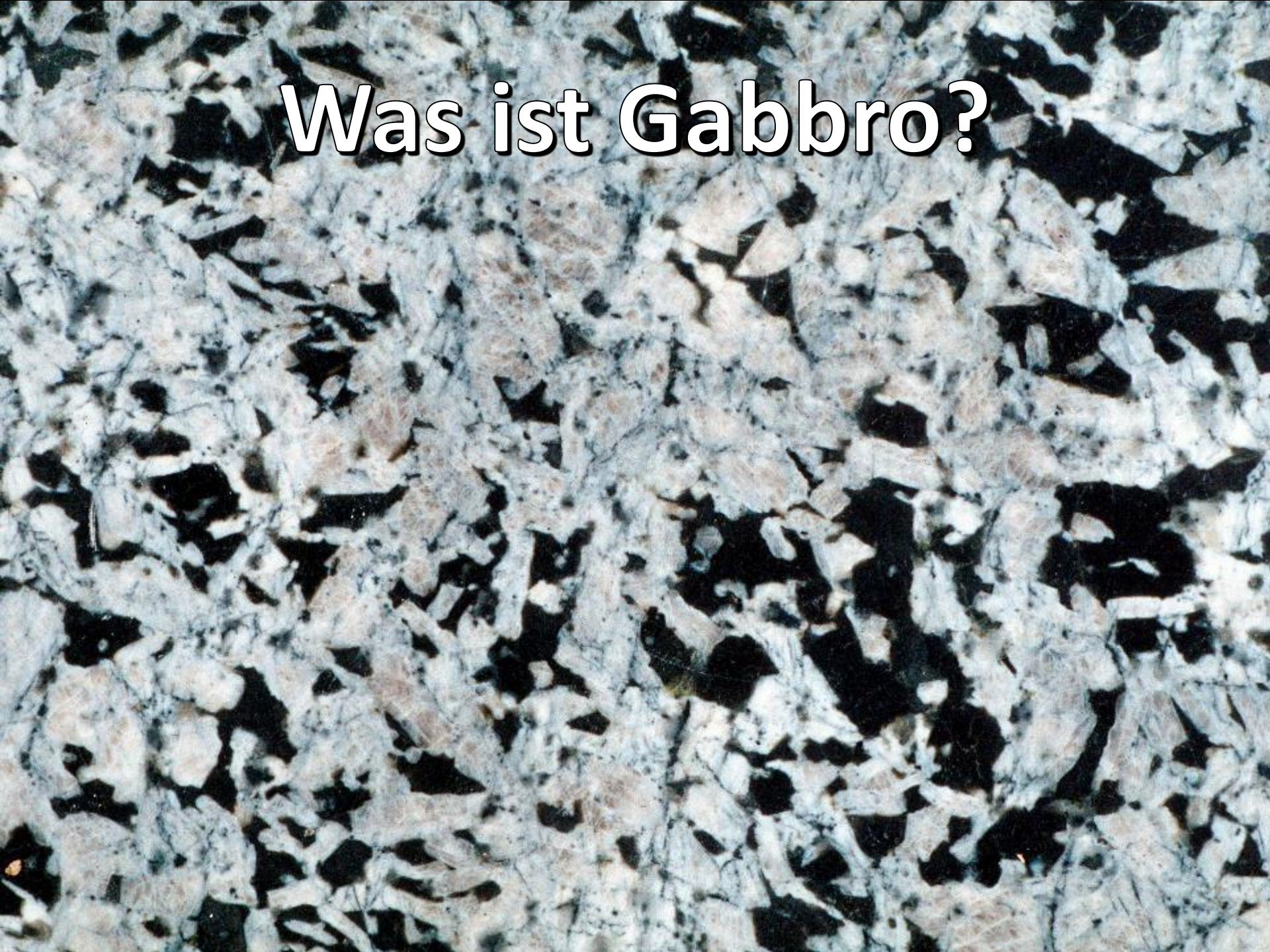








**Was ist Gabbro?**





**Feldspat**

A microscopic view of a granite sample. The image shows a complex texture of interlocking mineral grains. Three labels with orange callout boxes point to specific features: 'Feldspat' points to a large, light-colored, angular grain; 'Quarz' points to a smaller, clear, angular grain; and 'Glimmer' points to a small, dark, flake-like grain. The overall appearance is a typical granitic texture with a variety of mineral colors and shapes.

**Quarz**

**Glimmer**



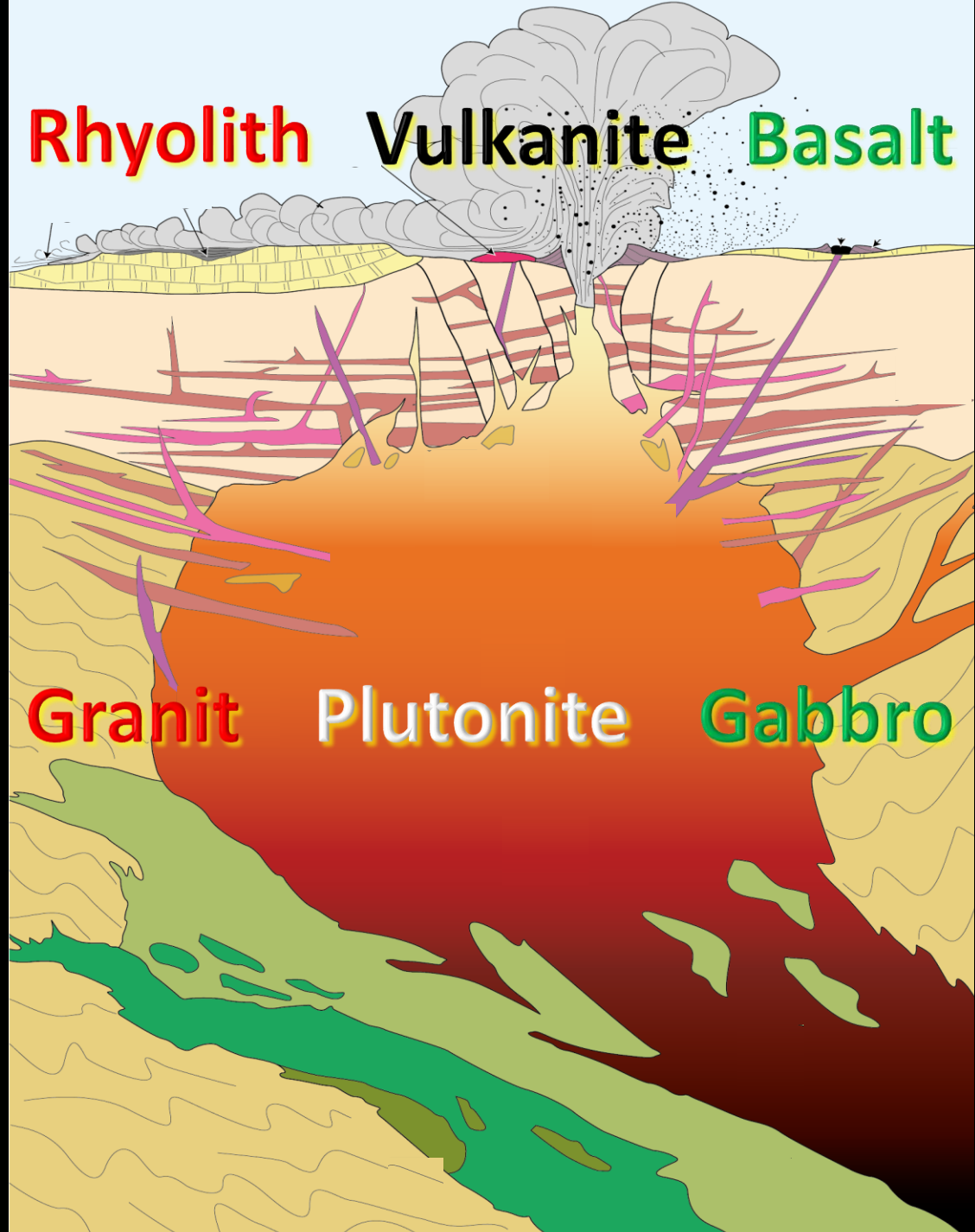
**Feldspat (Ca)**

A microscopic view of a rock sample showing a complex texture of minerals. The image is dominated by three main components: white, irregularly shaped grains of calcium feldspar; dark, angular grains of pyroxene (specifically augite); and dark, rounded grains of olivine. The minerals are set against a lighter, possibly glassy or fine-grained matrix. Three orange callout boxes with white text and orange borders are overlaid on the left side of the image, each with a thin orange line pointing to a specific mineral grain. The top box points to a white feldspar grain, the middle box points to a dark pyroxene grain, and the bottom box points to a dark olivine grain.

**Pyroxen → Augit**

**Olivin**

**Rhyolith** **Vulkanite** **Basalt**



**Granit** **Plutonite** **Gabbro**

oben  
Dampf-  
kochtopf

unten  
Ofen-  
feuer

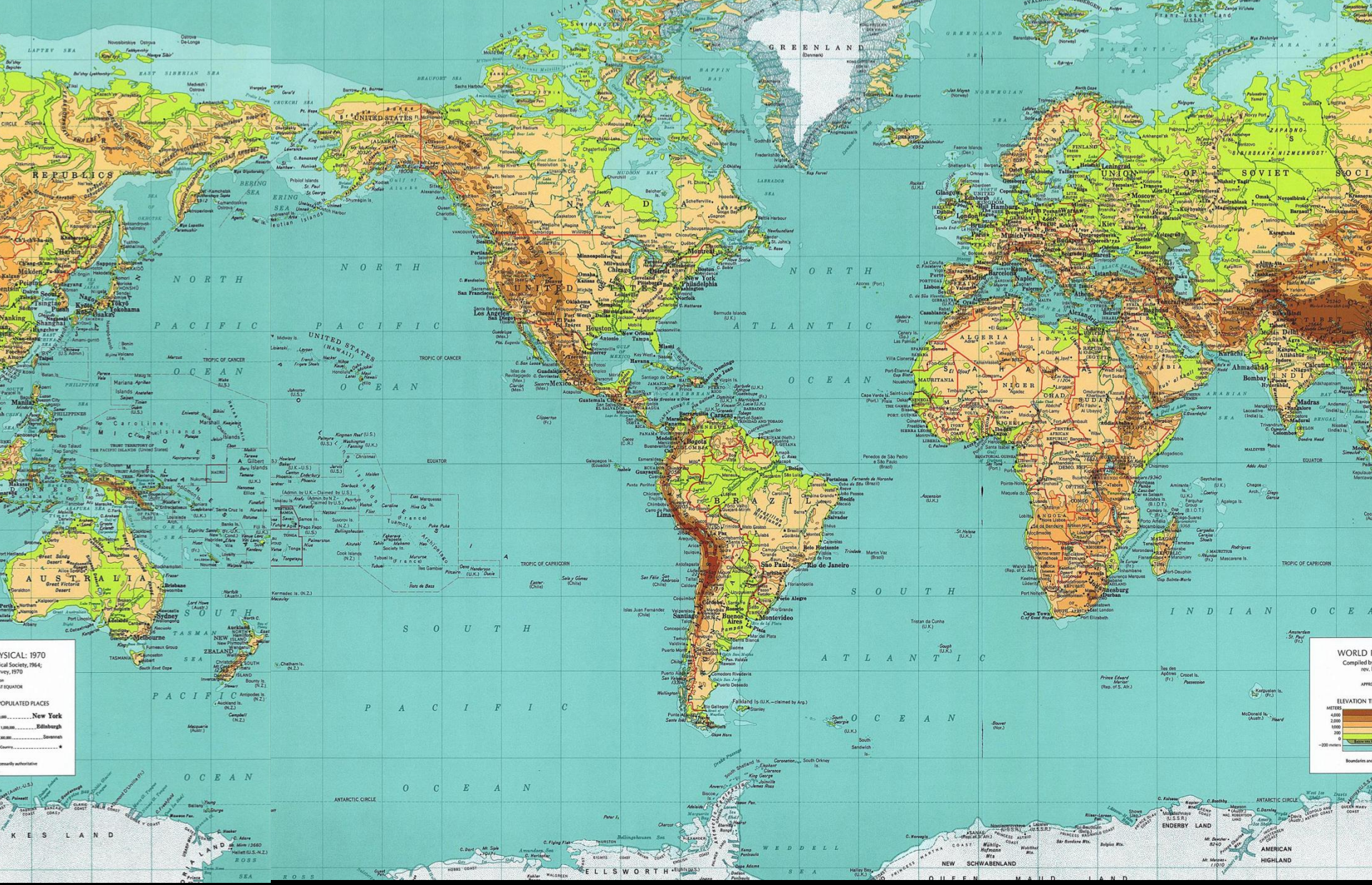
Gabbro



Basalt



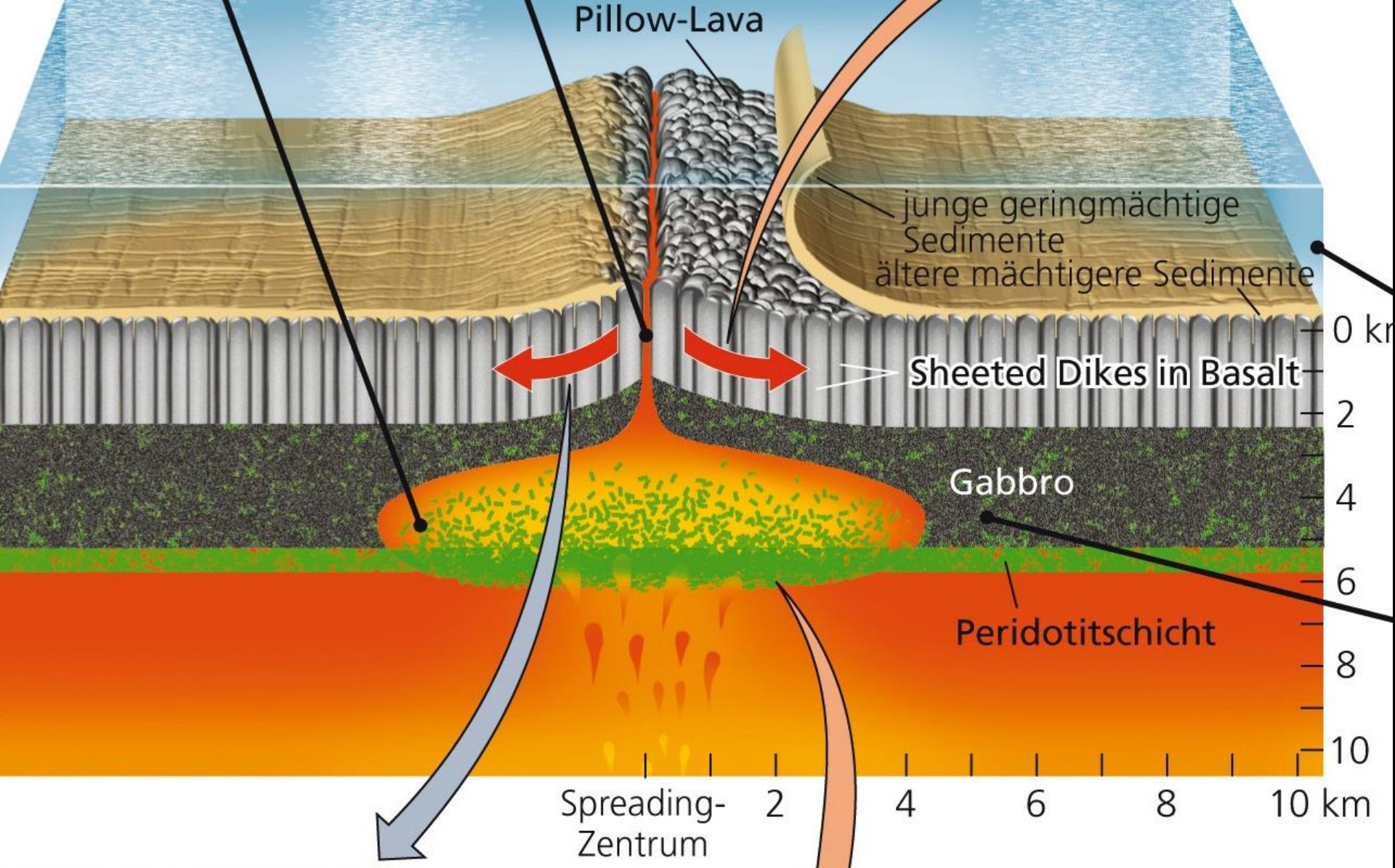




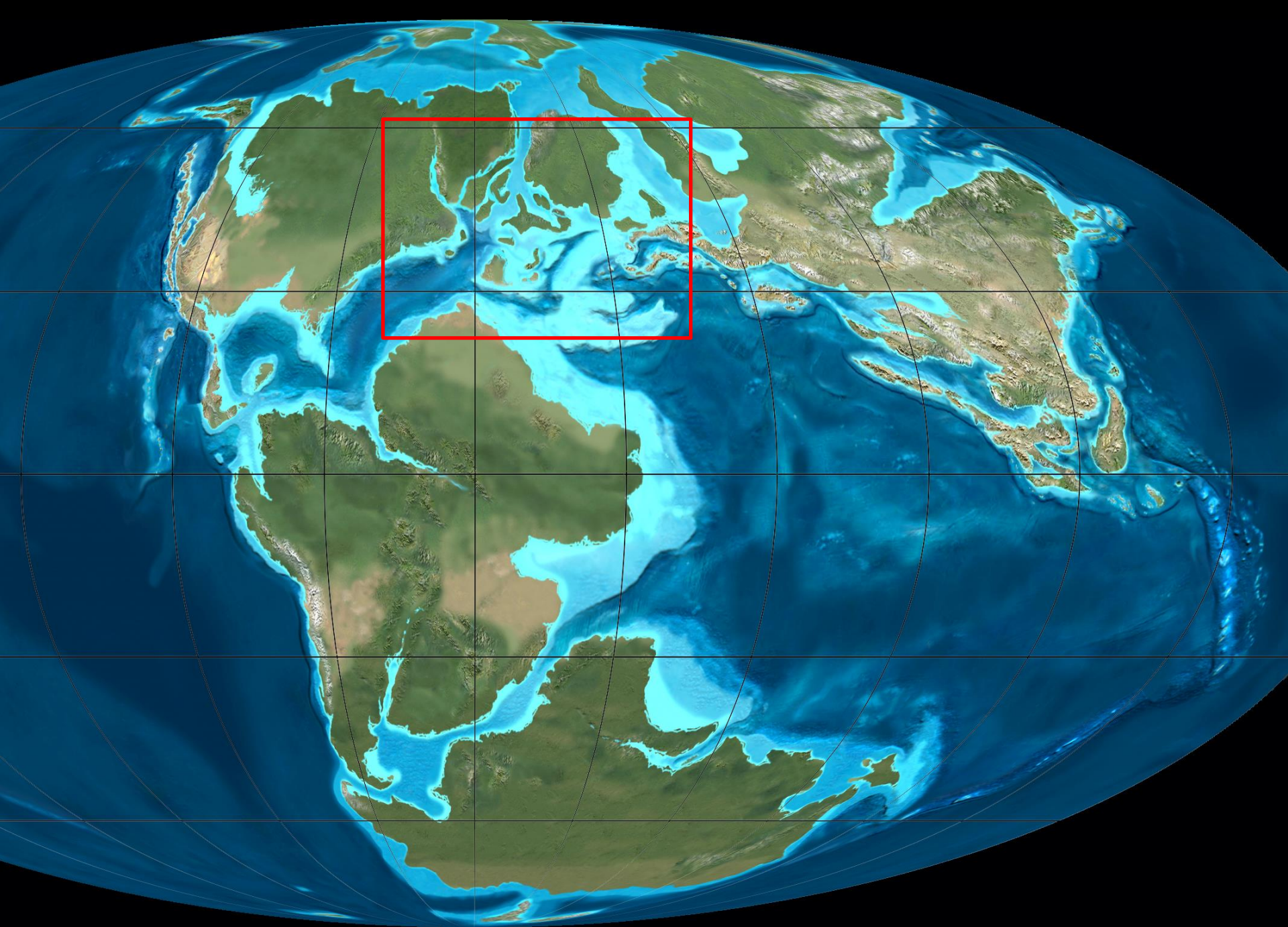
**PHYSICAL: 1970**  
 Political Society, 1964;  
 New, 1970

**POPULATED PLACES**  
 New York  
 Edinburgh  
 Stockholm  
 Copenhagen











Late Jurassic  
(150 Ma)

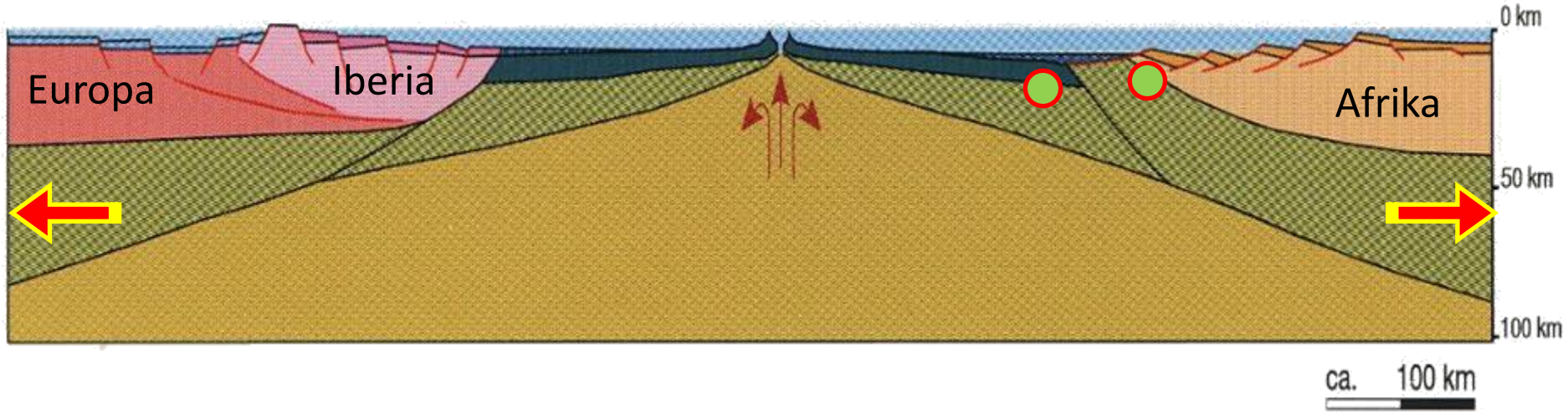
0 400 km  
0 400 mi

NW

SE

Jura-Unterkreidezeit 180 – 100 Mio.J.

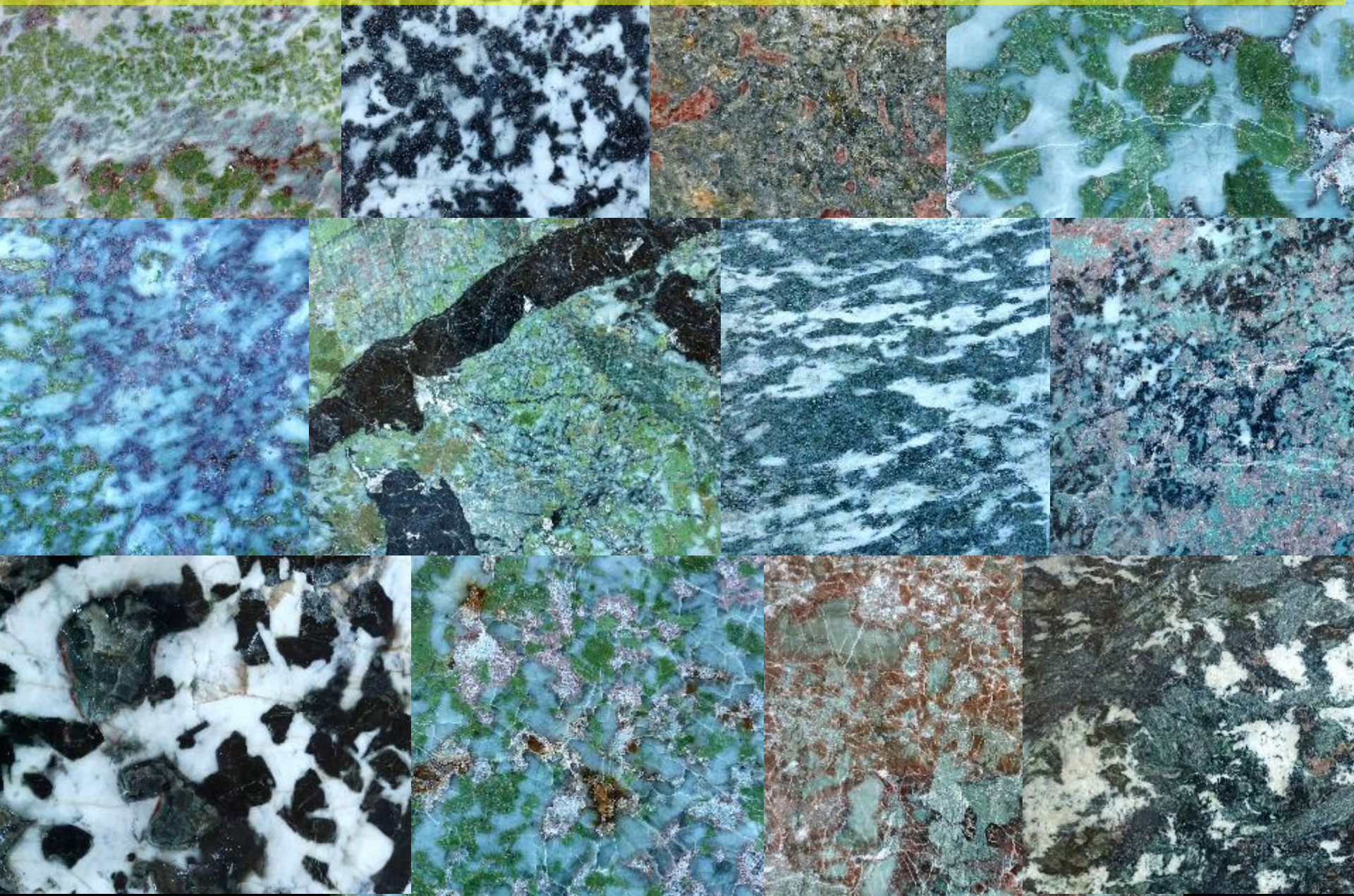
Piemont- Ozean



Öffnung des alpinen Tethysmeeres

Der Allalingsabbro AG wird gebildet

# Warum diese Vielfalt?





**Feldspat (Ca)**

A microscopic view of a rock sample showing a complex texture of minerals. The image is dominated by three main components: white, irregularly shaped grains of calcium feldspar; dark, angular grains of pyroxene that have partially transformed into augite; and dark, rounded grains of olivine. The minerals are set against a lighter, possibly glassy or fine-grained matrix. Three orange callout boxes with white text and orange borders are overlaid on the left side of the image, each with a thin orange line pointing to a specific mineral grain. The top box points to a white feldspar grain, the middle box points to a dark pyroxene grain, and the bottom box points to a dark olivine grain.

**Pyroxen → Augit**

**Olivin**



# Plagioklas (Calcium-Feldspat)

*Anorthosit*

*Gabbro*

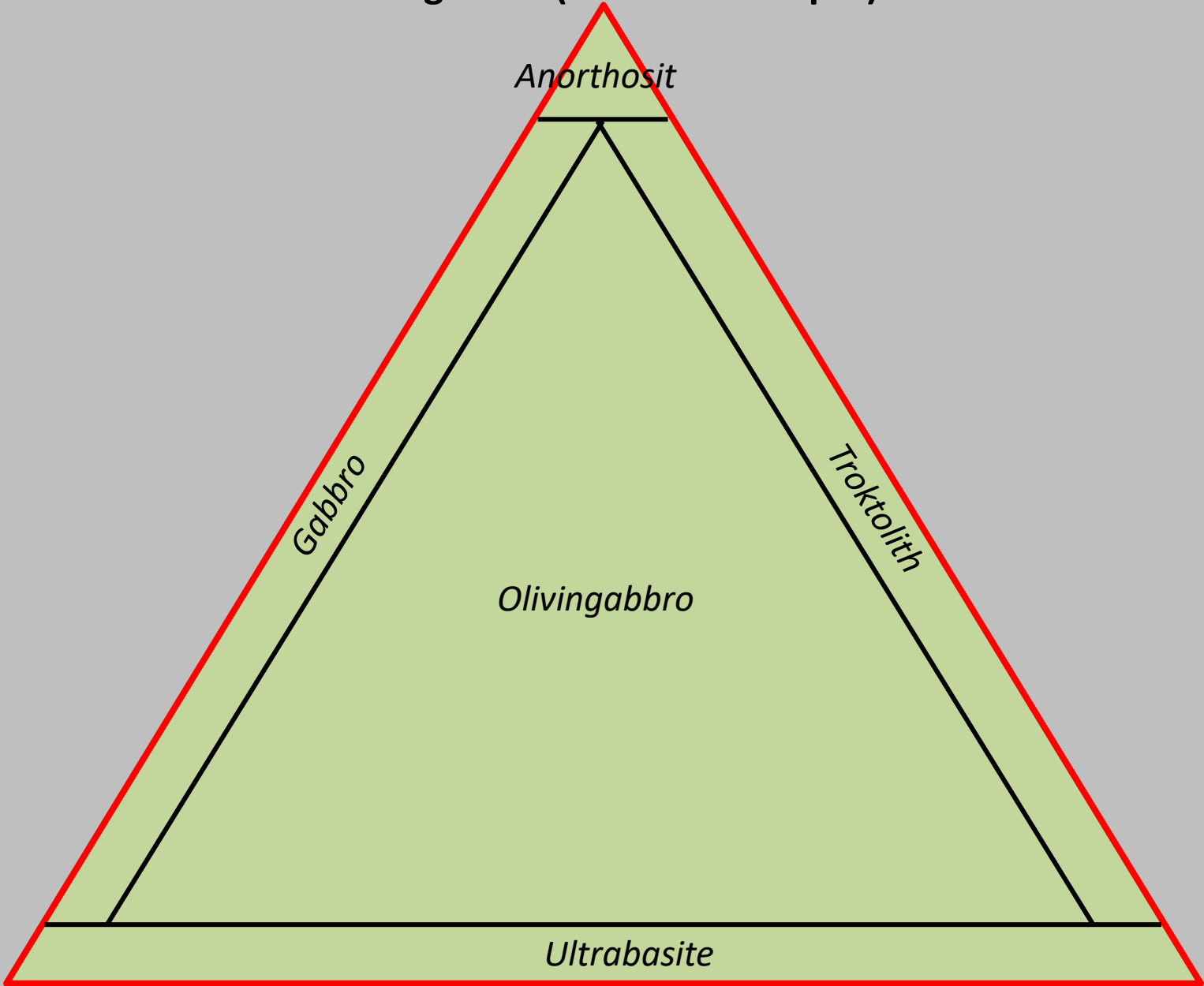
*Troktolith*

*Olivingabbro*

*Ultrabasite*

**Augit**

**Olivin**









Was der Allalingsabbro bei  
der Alpenbildung erlebte



Tiefe

Zeit



165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km



7

# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km

60 Mio.J.

Beginn  
Subduktion





# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

## Übergang

9. Jadeit
10. Quarz
11. Granat 1
12. Orthopyroxen
13. Chlorit 1

165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km



60 Mio.J.

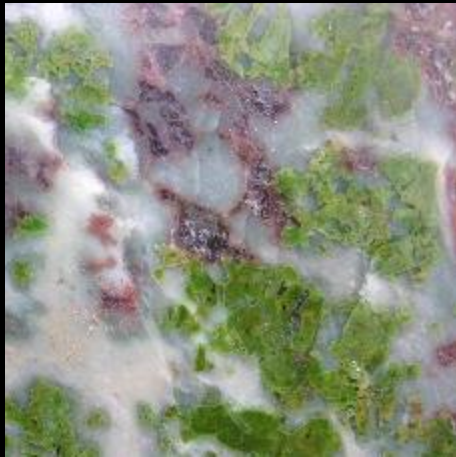
Beginn  
Subduktion

Subduktion

45 Mio.J.

Hochdruck-  
Metamorphose

650 °C / -100 km



# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

## Eklogit-Metamorph.

13. Cr-Omphacit
14. Omphacit
15. Granat 2
16. Talk
17. Disthen
18. Mg-Chloritoid
19. Zoisit
20. Rutil

## Übergang

9. Jadeit
10. Quarz
11. Granat 1
12. Orthopyroxen
13. Chlorit 1

165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km



60 Mio.J.

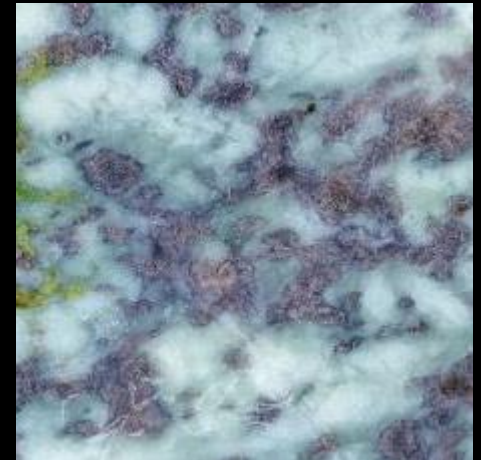
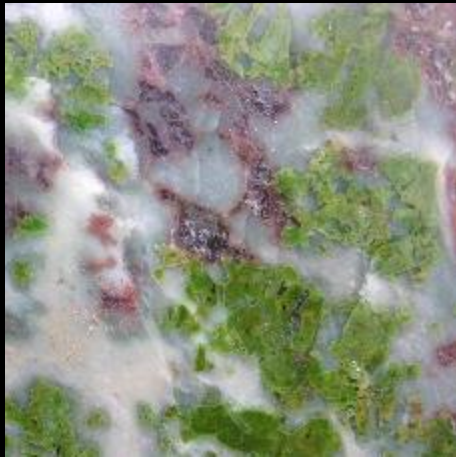
Beginn  
Subduktion

Subduktion

45 Mio.J.

Hochdruck-  
Metamorphose

650 °C / -100 km



# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

## Eklogit-Metamorph.

13. Cr-Omphacit
14. Omphacit
15. Granat 2
16. Talk
17. Disthen
18. Mg-Chloritoid
19. Zoisit
20. Rutil

## Übergang

9. Jadeit
10. Quarz
11. Granat 1
12. Orthopyroxen
13. Chlorit 1

## Blauschiefer-Met

21. Glaukophan
22. Barroisit
23. Paragonit
24. Phengit
25. Chlorit 2
26. Herzynit
27. Korund

165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km



60 Mio.J.

Beginn  
Subduktion

Subduktion

35 Mio.J.

Grünschiefer  
Metamorphose

500 °C / -15 km

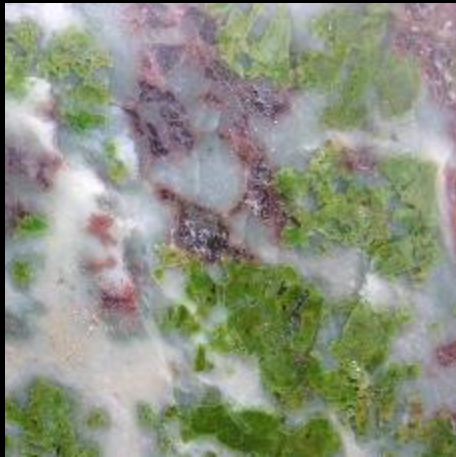


Hebung

45 Mio.J.

Hochdruck-  
Metamorphose

650 °C / -100 km



# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

## Übergang

9. Jadeit
10. Quarz
11. Granat 1
12. Orthopyroxen
13. Chlorit 1

## Eklogit-Metamorph.

13. Cr-Omphacit
14. Omphacit
15. Granat 2
16. Talk
17. Disthen
18. Mg-Chloritoid
19. Zoisit
20. Rutil

## Blauschiefer-Met

21. Glaukophan
22. Barroisit
23. Paragonit
24. Phengit
25. Chlorit 2
26. Herzynit
27. Korund

## Grünschiefer-Met

28. Klinozoisit
29. Epidot
30. Albit
31. Chlorit 3
32. Aktinolith
33. Paragonit
34. Margarit
35. Preiswerkit
36. Titanit

165 Mio.J.

Entstehung in  
der Kruste

1200 °C / -25 km



60 Mio.J.

Beginn  
Subduktion

Subduktion

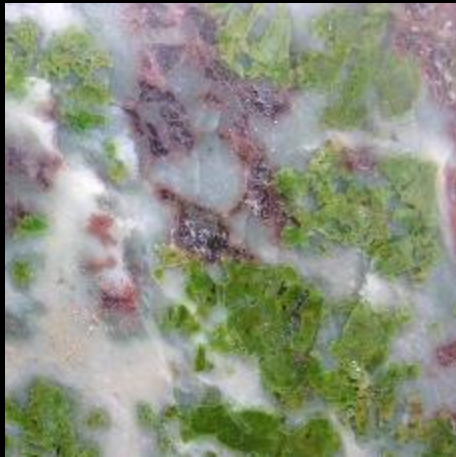
35 Mio.J.  
Grünschiefer  
Metamorphose  
500 °C / -15 km



45 Mio.J.

Hochdruck-  
Metamorphose

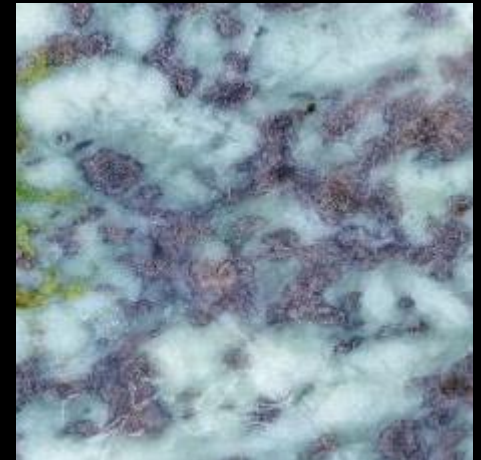
650 °C / -100 km



Hebung

0 Mio.J.  
Oberfläche

0 °C / +4 km





# Mineralien im Allalingabbro

## Magmatisch

1. Plagioklas
2. Augit
3. Olivin
4. Cromspinell
5. Ilmenit
6. Magnetit
7. Zirkon
8. Apatit

## Übergang

9. Jadeit
10. Quarz
11. Granat 1
12. Orthopyroxen

## Eklogit-Metamorph.

13. Cr-Omphacit
14. Omphacit
15. Granat 2
16. Talk
17. Disthen
18. Mg-Chloritoid
19. Zoisit
20. Rutil

## Blauschiefer-Met

21. Glaukophan
22. Barroisit
23. Paragonit
24. Phengit
25. Chlorit 2
26. Herzynit
27. Korund

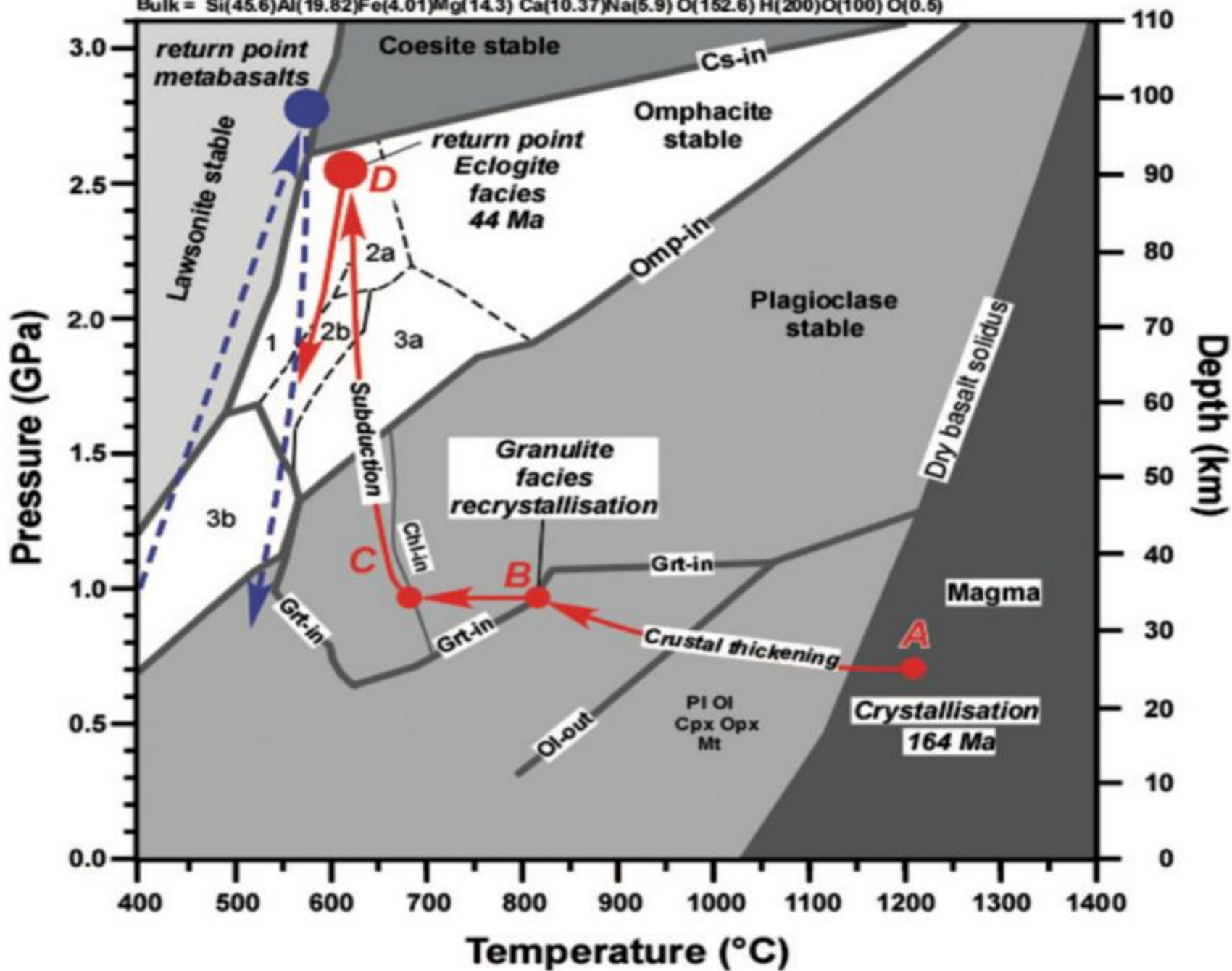
## Grünschiefer-Met

28. Klinozoisit
29. Epidot
30. Albit
31. Chlorit 3
32. Aktinolith
33. Paragonit
34. Margarit
35. Preiswerkit
36. Titanit

## Spätphase / Hebung

37. Prehnit
38. Skapolith
39. Calcit
40. Hämatit

Bulk = Si(45.6)Al(19.82)Fe(4.01)Mg(14.3) Ca(10.37)Na(5.9) O(152.6) H(200)O(100) O(0.5)



ALLALINHORN

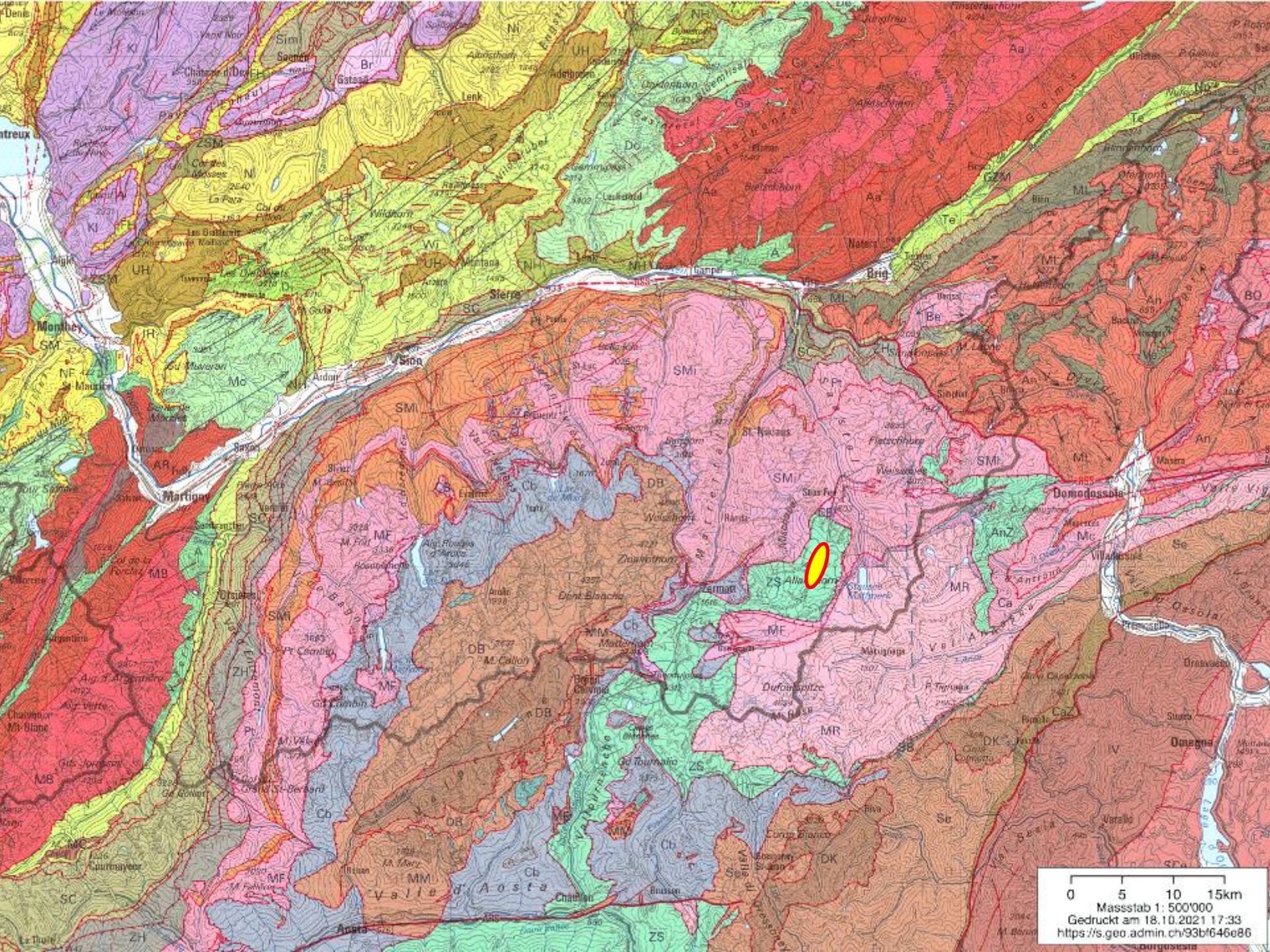






Volumen heute ca  $5 \text{ km}^3$   
Volumen einst?





0 5 10 15km  
Massstab 1: 500'000  
Gedruckt am 18.10.2021 17:33  
<https://s.geo.admin.ch/93bf646e86>









Smaragdit  
Saas-Fee



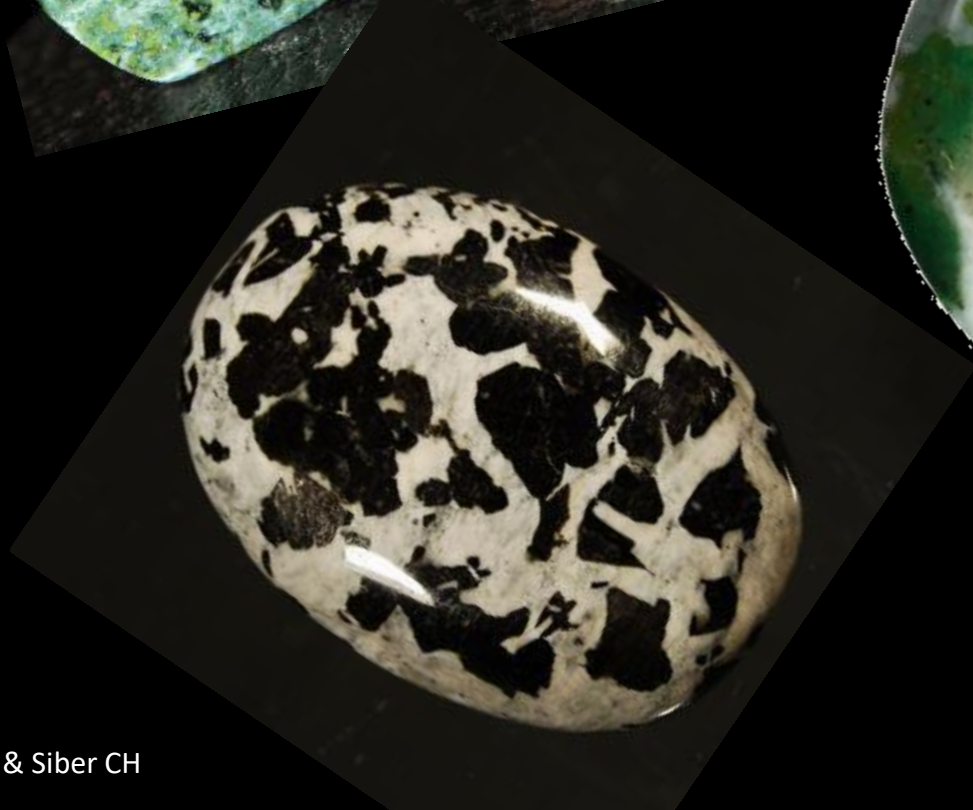
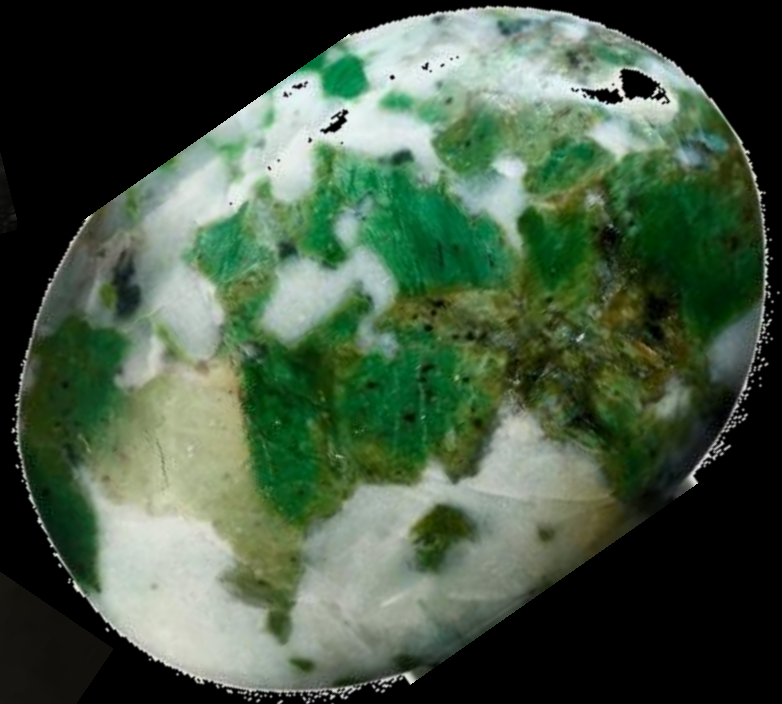


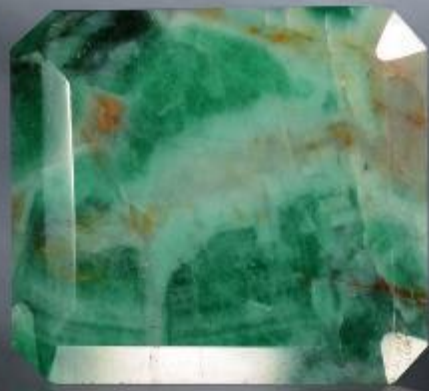
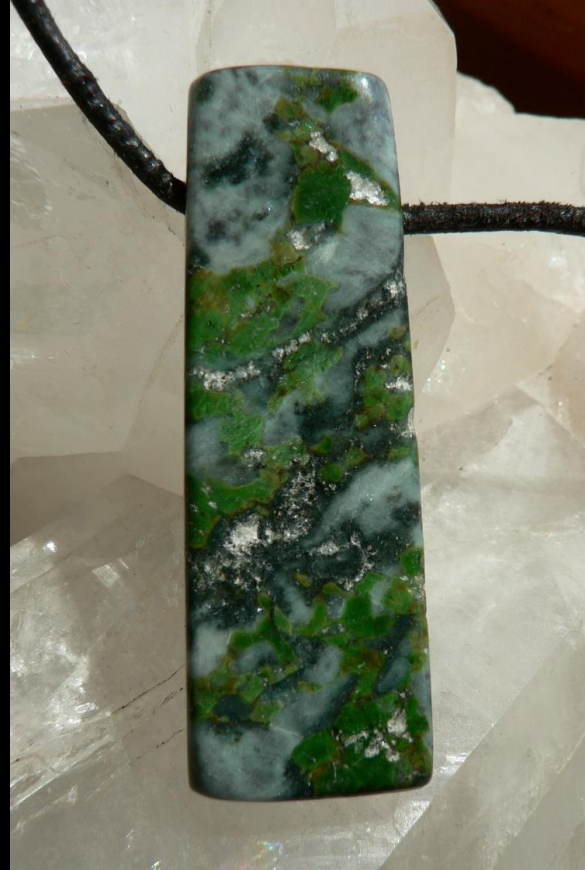
**Saussurit**

The image shows a microscopic view of a rock sample. It features a complex texture with various mineral grains. The Saussurite is represented by light-colored, somewhat fibrous or crystalline structures. The Smaragdite is shown as darker, more irregularly shaped grains. The Gabbro is the matrix material, appearing as a dense, crystalline structure. The overall appearance is that of a metamorphic rock with distinct mineral zones and textures.

**„Smaragdit“**

**Smaragdit – Saussurit - Gabbro**





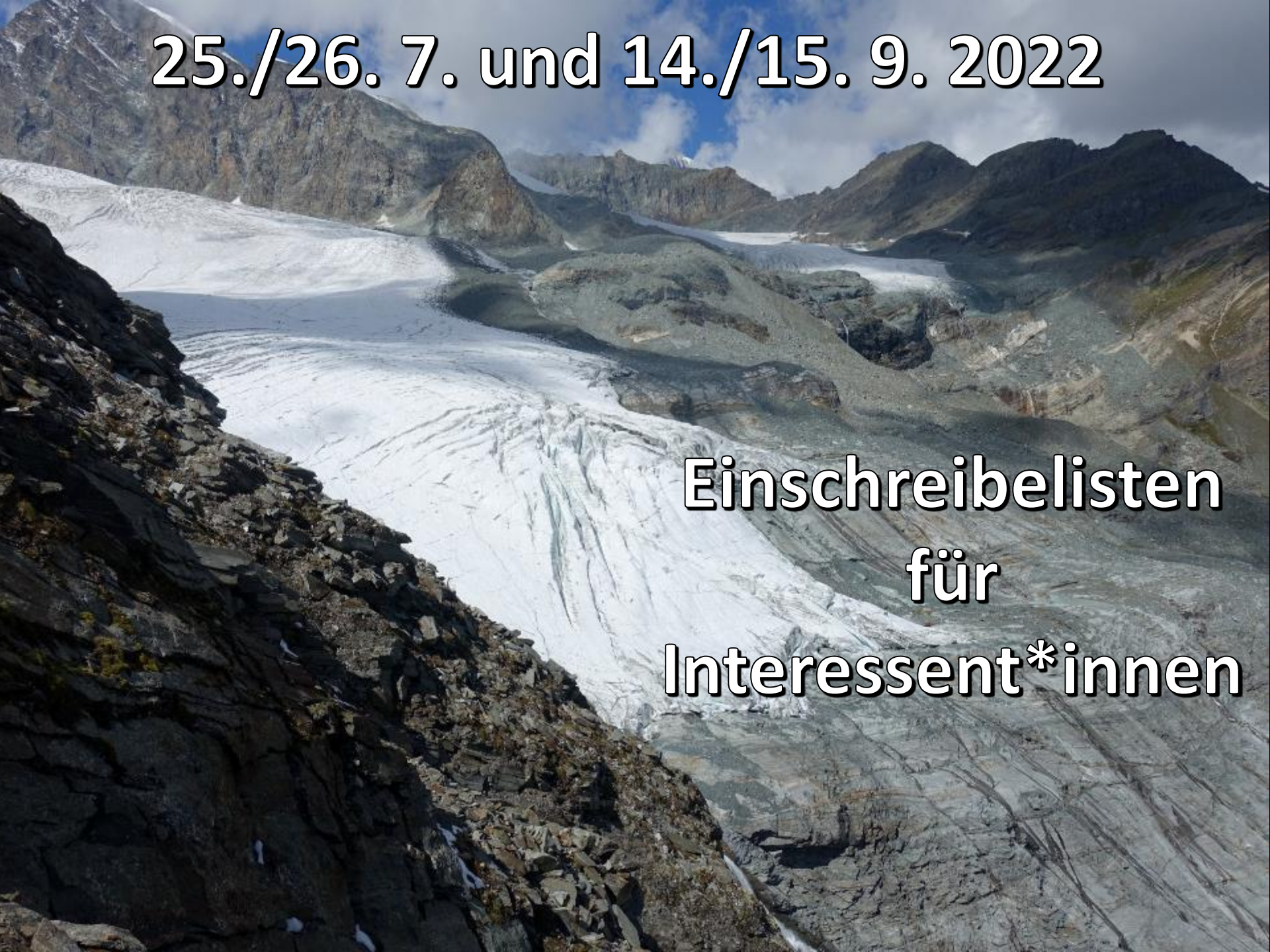






# Exkursionen 2022





**25./26. 7. und 14./15. 9. 2022**

**Einschreibelisten  
für  
Interessent\*innen**



Jürg Meyer

# Gesteine



# der Schweiz

Der Feldführer



Haupt



Jürg Meyer

# Gesteine

einfach



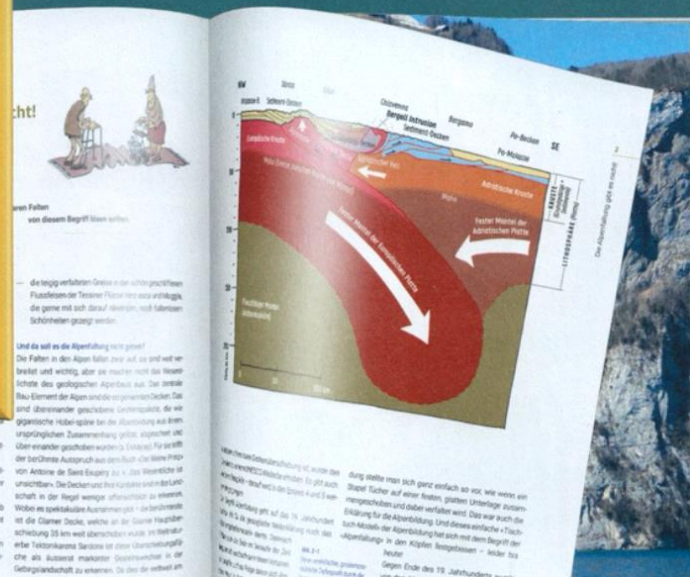
# bestimmen

Der Bestimmungsschlüssel



Haupt

# So macht Geologie Spaß: Die wichtigsten Fakten zur Entstehung der Alpen leicht verständlich erklärt





JÜRIG MEYER  
rundumberge.ch

Einschreibelisten für  
Interessent\*innen am Newsletter





**Der Allalingsabbro**

**Das schönste Gestein...**

**des Wallis...**

**der Schweiz...**

**der Welt?**

**Zuhaut im Seeland!**





