

Alanya Massif

YT AREA

August 2020

***POLYTECTONIC
POLYMETAMORPHIC
POLYMETALLIC***

***From Precambrian to Cenozoic
&
From Mantle to Crust***

Base Metal - Precious Metal – Minor Metal



www.aexmetal.com

Alanya Massif

YT Area #F3

Polymetallic Ore

Base Metal

Nickel(Ni)
Cobalt(Co)
Copper(Cu)
Lead(Pb)
Zinc(Zn)

Precious Metal

Gold(Au)
Silver(Ag)
Palladium(Pd)
Platinum(Pt)

Minor Metal

Lithium(Li)
Gallium(Ga)
Rubidium(Rb)
Titanium(Ti)

Rare Earth Metal

Scandium(Sc)
Neodymium(Nd)
Praseodymium(Pr)
Dysprosium(Dy)

AEX YT AREA #F3 FM / WM & TOTAL METALS CONTENT

<u>METAL</u> Ferro Magnetic Fraction	<u>BVM-ACME</u> Analysis Average Grade	<u>~200Mt (10%)</u> FM Resources Metals Content (mt-oz)	<u>METAL</u> Weakly Magnetic Fraction	<u>BVM-ACME</u> Analysis Average Grade	<u>~1.800Mt (90%)</u> WM Resources Metals Content (mt-oz)	<u>TOTAL METALS</u> ~2bn/mt Total Resources
Ni	1400g/t	280.000mt	Ni	196g/t	353.000mt	Ni 633.000mt
Co	400g/t	80.000mt	Co	109g/t	196.000mt	Co 276.000mt
Cu	800g/t	160.000mt	Cu	343g/t	617.400mt	Cu 777.400mt
Ag	10g/t	64.500.000 oz	Ag	2.3g/t	133.500.000 oz	Ag 198.000.000 oz
Au	0.040g/t	258.000 oz	Au	0.009g/t	522.600 oz	Au 780.600 oz
Pd	0.020g/t	129.000 oz	Pd	0.014g/t	813.000 oz	Pd 942.000 oz
Zn	500g/t	100.000mt	Li	67g/t	120.600mt	Fe 296.000.000mt
Pb	400g/t	80.000mt	REE-3	90g/t (Nd-Pr-Dy)	162.000mt	S 50.000.000mt
Fe	400kg/t	80.000.000mt	TiO2	12kg/t (1.2%)	21.600.000mt	Ti 21.600.000mt
S	250kg/t	50.000.000mt	Fe	120kg/t (12%)	216.000.000mt	Li 120.600mt
			Sc2O3	29g/t	52.200mt	REE-3 162.000mt
			Rb	85g/t	INVESTIGATION	Sc 52.200mt



ÖZET BİLGİ

• Alanya Masifi'nde 8.340 hektar alanı kapsayan 5 Ruhsat sahamızda, Haziran 2016'dan itibaren kesintisiz sürdürülen arama çalışmalarımız neticesinde, AEX Proje'nin başlangıcındaki öngörümüz gerçekleştirilmiş ve Ekonomik Polimetallik Cevherleşme keşfi yapılmıştır.

Bu keşif, önemli büyüklükteki arama sahalarımızda en yüksek anomalileri tesbit ettiğimiz ve detay aramaları yoğunlaştırdığımız YT Bölgesi'nde gerçekleştirilmiştir.

• Bu bölgedeki ilk keşifler, #F1 Cu,Au,Ag ve #F2 Fe,Cu,Au,Ag zonlarında yapılmıştır.

• 2020 Ocak-Haziran döneminde, 4kmX1km'lik alanda ~200mt derinlikte açılan 5 adet RAB Sondajından elde edilen ~300 Ton'luk Kayaç kırıntısı malzemeleri ile, çok sayıda Ağır Mineral Separasyonu (HLS), Manyetik Separasyon ve Kimyasal analizler yapılarak #F3 Polimetallik Cevherleşme Zon'u (Base Metal, Precious Metal, Minor Metal) keşfi gerçekleştirilmiştir.

• Keşfi yapılan ~2 Milyar Ton'luk Porfiri Polimetallik Cevherleşmenin ~10%'si Ferro Magnetic olup, Pyrrhotite-Pentlandite-Chalcopyrite ve diğer Fe,Ni,Co,Cu,Ag,Au,Pd Minerallerini ihtiva etmektedir.

• Cevherleşmenin ~90%'nı oluşturan Weakly Magnetic fraksiyonda, ayrıntılı çalışmalar devam etmektedir.



#F3

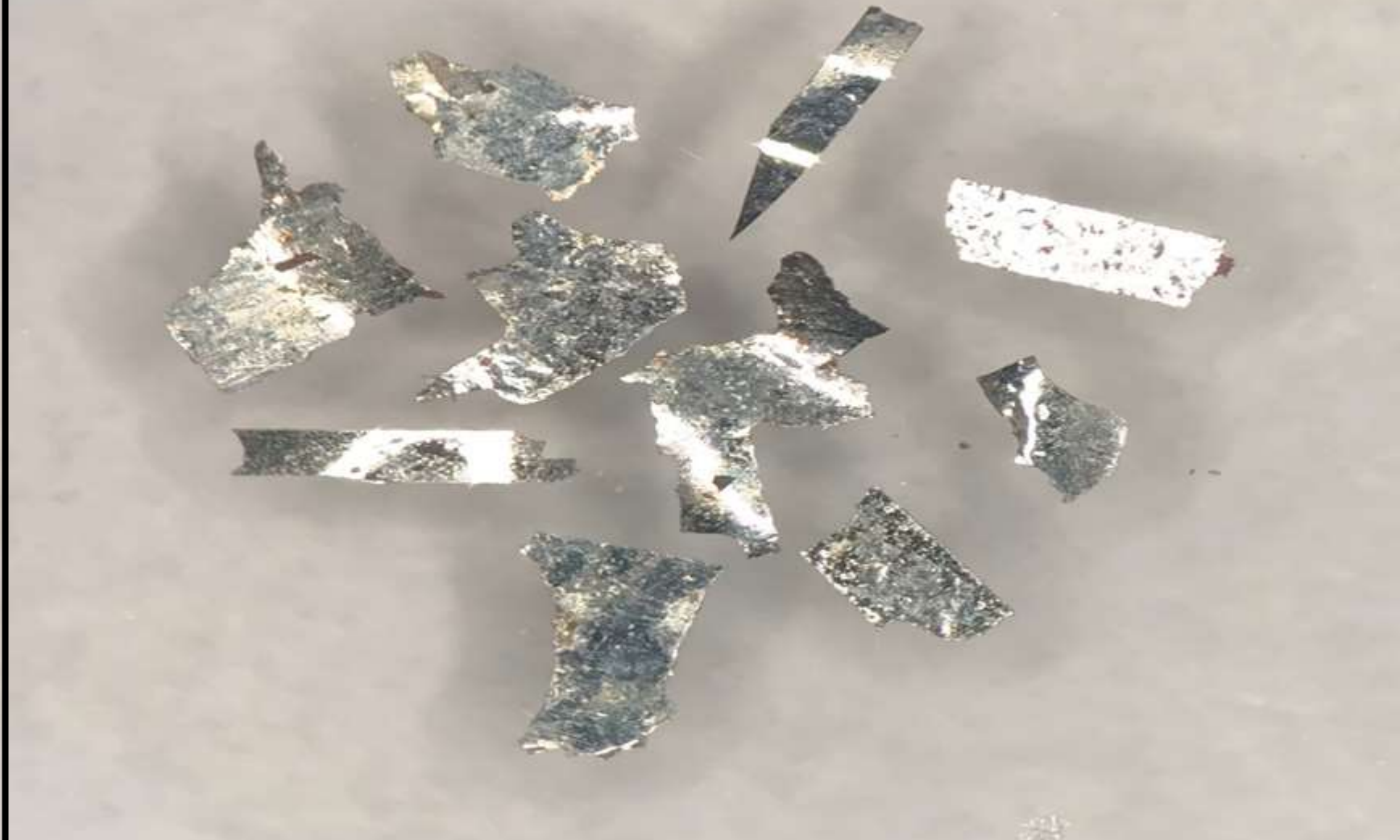
Polymetallic Ore

(Base Metal - Precious Metal – Minor Metal -Rare Earth Metal)

- **Systematic Sample** : ~300ton Rock Chip , Homogen , Grain size D50 ~2mm,
(Ø 20cm – 200mt.depth Total 5 Rotary Air Blast RAB Drilling)
- **Major Minerals** : Chlorite, Mica (Muscovite), White Quartzite, Feldspar (Albit),
Phyrrhotite, Chalcopyrite, Pentlandite, Pyrite
- **Magnetic Seperation** : (FM) Ferro Magnetic (Major Phyrrhotite & Fe,Ni,Co,Cu,Zn,Pb,Ag).....~10%
Bulk Sample / -100µ (WM1) Weakly Magnetic-High (Minor Metals & HREE).....~10%
(WM2) Weakly Magnetic-Low +NM (Investigation).....~80%
- **Minerals Liberation** : +90% = 500 mesh / 25µ
- **Deposit Type** : Magmatic Sulfide Deposit , Porphyry
(Potential :Tectonics based high grade mineralization)



100% pure native Metallic Nickel found for the first time in the World



**#F3 Quartzite, Calc-Silicate, Albite
&
Metals**





**#F3 Chlorite, Quartzite, Calc-Silicate
&
Metals**

#F1 Mineralized Zone



#F1
Ultra High Grade Grab Sample
 Acme/Bureau Veritas Lab. Canada May 29, 2019

Copper.....	15.60 %
Gold.....	33 gr/ton
Silver.....	>1000 gr/ton

#F2 Mineralized Zone

**BIF (Precambrian)
Banded Iron Formation
&
Cu,Au,Ag,Pd,Pt**

**YT AREA #F2 ZONE
Average of 8 Grab & Chip Samples**

- Cu 3.42%
- Au 0.24ppm
- Ag 4.4ppm
- Pd 0.020ppm
- Pt 0.23ppm

GENERAL VIEW

Cebel-i Reis Mountain
Crystallized Limestone, Marble,
Dolomitic Limestone, Dolomite.

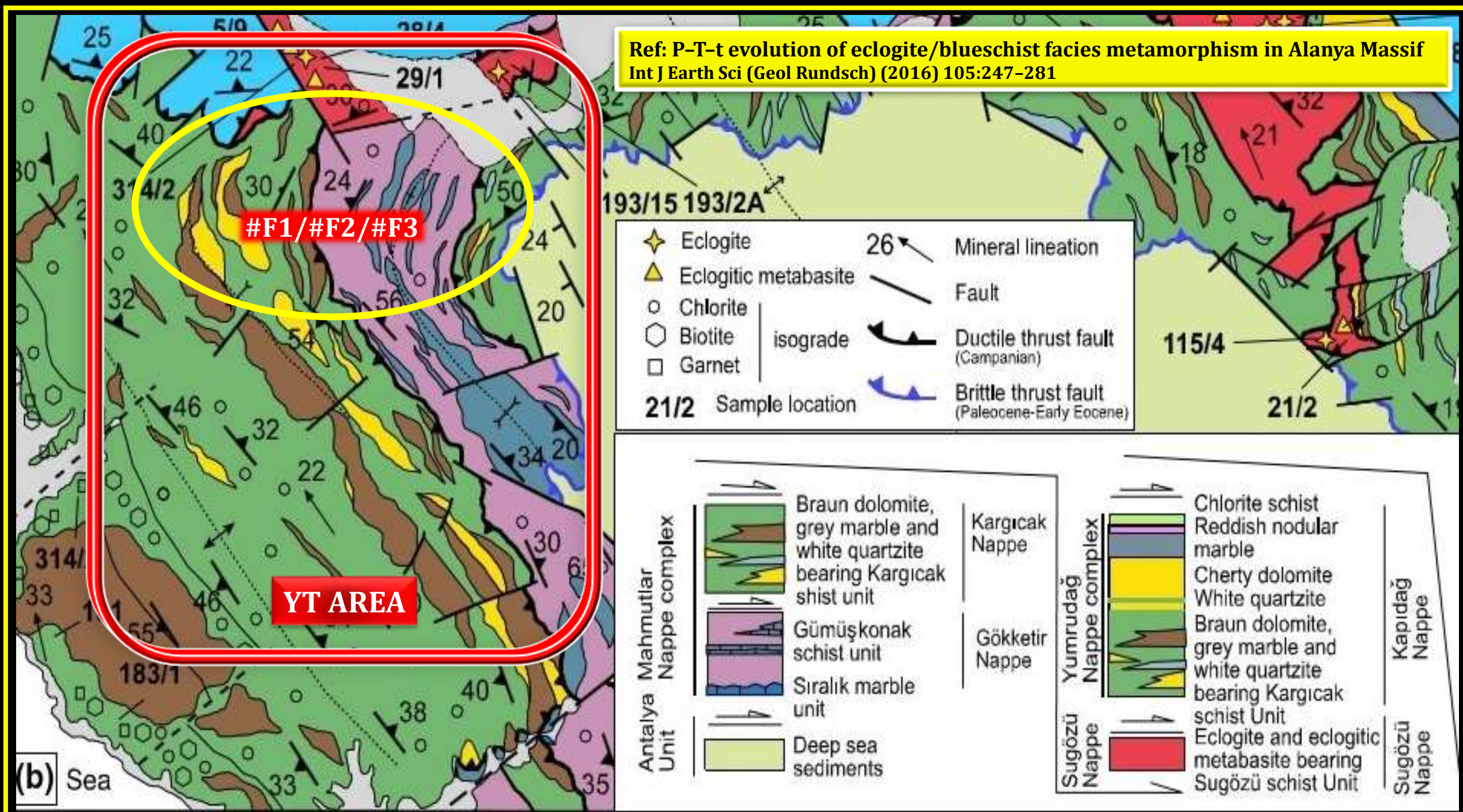
- Eclogite
- Blueschist
- Greenschist

Kuzyaka
Eclogite 28/4
Eclogite 314/2
Eclogite 193/15
Eclogite 193/2A

RAB Drilling-1 200mt* #F3
RAB Drilling-5
RAB Drilling-4 #F1
#F2
RAB Drilling-6 200mt*
RAB Drilling-3 150mt*
Gözüküçüklü köy yolu
Gözüküçüklü
Alaşehir Sarıvermeçleri
1.000mt
4.000mt

**Polymetallic (Ni,Co,Cu,Pb,Zn,Fe & Ag,Au,PGM)
Porphyry Resources Area (High Potential)**
4000mt x 1000mt x 200mt = 800.000.000 m3
800.000.000m3 x 2,5gr/cm3 = 2.000.000.000 Ton

Ref: P-T-t evolution of eclogite/blueschist facies metamorphism in Alanya Massif
 Int J Earth Sci (Geol Rundsch) (2016) 105:247-281



The most comprehensive geological study in Alanya Massif ; including YT AREA & #F3 Region



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**P–T–t evolution of eclogite/blueschist facies metamorphism in Alanya Massif:
time and space relations with HP event in Bitlis Massif, Turkey**

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Abstract :

The Alanya Massif, which is located to the south of central Taurides in Turkey, presents a typical nappe pile consisting of thrust sheets with contrasting metamorphic histories.

In two thrust sheets, Sugözü and Gündoğmus, nappes, HP metamorphism under eclogite (550–567 °C/14–18 kbar) and blueschist facies (435–480 °C/11–13 kbar) conditions have been recognized, respectively.

Whereas the rest of the Massif underwent MP metamorphism under greenschist to amphibolite facies (525–555 °C/6.5–7.5 kbar) conditions.

Eclogite facies metamorphism in Sugözü nappe, which consists of homogeneous garnet–glaucofane–phengite schists with eclogite lenses is dated at 84.8 ± 0.8 , 84.7 ± 1.5 and 82 ± 3 Ma (Santonian–Campanian) by $^{40}\text{Ar}/^{39}\text{Ar}$ phengite, U/Pb zircon and rutile dating methods, respectively.

Petrography and mineral chemistry Alanya region - Sugözü Nappe

This nappe is made up of HP/LT metamorphic rocks such as garnet–glaucofane–phengite schist, eclogite and eclogitic metabasites.

The eclogite facies assemblage omphacite + garnet + rutile is well preserved in the undeformed cores of the eclogitic lenses (Okay 1989).

Elsewhere, the peak assemblage in both eclogites and host rocks was retrogressed into blueschist facies and, finally, greenschist facies assemblages.

The initial eclogite facies assemblage of the host rocks of the eclogites was highly obliterated by the blueschist to greenschist overprint.

The mineral assemblage in garnet–glaucophane–phengite schists is garnet, glaucophane, phengite, sphene, calcite, quartz, albite and opaque oxides.

Syntectonic garnet porphyroblasts, 1–5 mm across, contain inclusions of glaucophane, zoisite, sphene and quartz.

The lineation of the inclusions in the porphyroblasts is parallel to the foliation of the matrix, which is defined by the preferred orientation of glaucophane and phengite.

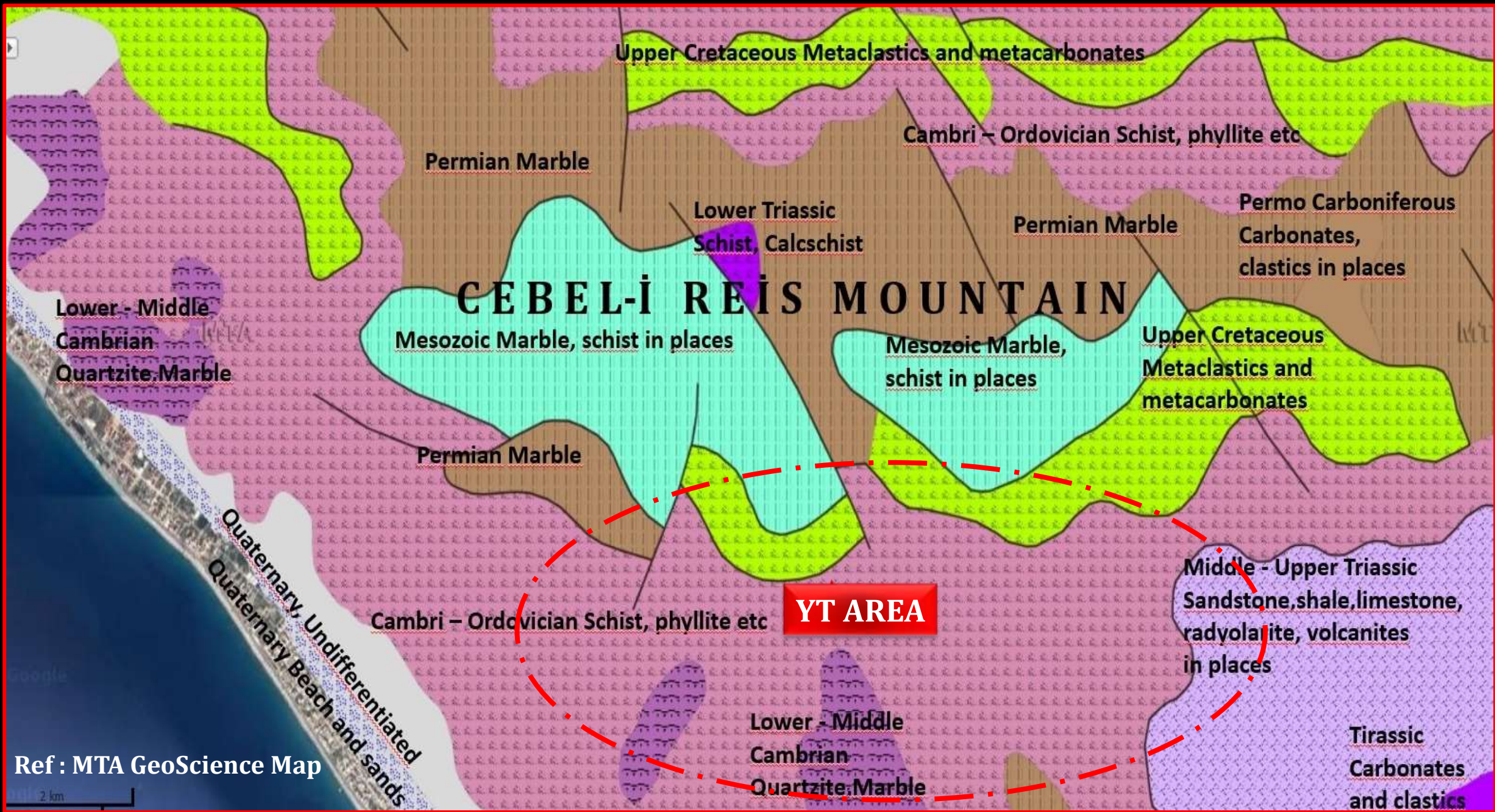
Garnets in the garnet–glaucophane–phengite schists are essentially almandine–grossular–spessartine solid solutions with minor pyrope member (Alm31–62, Grs24–29, Sps7–41, Prp2–6; mol%).

These garnets exhibit minor single-stage growth zoning with a slight increase in Mg and a decrease in Ca and Mn toward the rim.

Na-amphiboles are glaucophane in composition and their XMg (=Mg/(Mg + Fe²⁺)) ratio ranges between 0.56 and 0.68. In well-preserved samples, phengite with 3.42–3.54 Si⁴⁺ p.f.u. (Fig. 7) occurs as 0.1–1 mm grains associated with paragonite. Na content in paragonites varies between 0.48 and 0.56 p.f.u. The maximum K value of paragonite is 0.07 p.f.u.

Greenschist facies overprint during the final stage of retrogression is defined by the replacement of garnet and glaucophane by chlorite and low-Si content (3.10–3.14 Si⁴⁺ p.f.u.) in white mica.

The chlorite of this stage is ripidolite in composition. Anorthite content of the plagioclases are between 0.07 and 0.10 p.f.u. Well-preserved eclogite has a simple mineral assemblage consisting of garnet and omphacite with minor accessory phases of rutile, clinozoisite and opaque oxide. Their texture ranges from granoblastic to porphyroblastic. Garnet porphyroblasts (Alm58–69, Grs19–35, Sps1–10, Prp4–12; mol%) exhibit minor growth zoning with a slight increase in Ca toward the rim. Garnet show pronounced textural zoning, which is marked by a core with albite, epidote, sphene and quartz inclusions and an inclusion poor rim.



Ref : MTA GeoScience Map

2 km

Sugözü Nappe & N-SE FAULTs

Cebel-i Reis Mountain



Ref : MTA GeoScience Map