

**AUSTRALIA**

# **Nigeria Mining Report Webinar**

26 October 2021



Australian Government

Australian Trade and Investment Commission

# **Mining in Nigeria & opportunities for Australian companies**

**naijalink**

*Presentation of the research  
report*

26 October 2021

# Nigeria: the Giant of Africa

- 1 in every 37 people is Nigerian
- **\$448bn** GDP & population of **200m**
- Lagos alone: **>20** million people
  - + an economy bigger than Ghana and Kenya *combined*
- Young and **dynamic** population
- **Diversified** economy
- Economic **growth** despite covid
- **Import** dependent
- Relatively **wealthy** companies
- Limited international **competition**





# The Nigerian mining industry

- Modern, organized mining in Nigeria dates back to 1903
- Most mining is however carried out by artisanal and small-scale miners
- There are **1,759** artisanal and small-scale mining sites, **1003** registered quarry sites and **720** registered mining companies spread across Nigeria –many are dormant
- Midstream processing and beneficiation almost entirely absent
- Downstream (marketing & transportation) is underdeveloped

## Modest in size but growing:

- Mining contributed **\$1.4bn** to Nigerian GDP in 2018
- Production hit **55.85m tonnes** in the same year
- The sector **grew 22%** in the production of solid minerals in 2018.
- A total of 47 companies exported ores, concentrates and metal ingots worth **USD 144.38m** in 2018.
- Despite abundance of natural resources, Nigeria imports more minerals than it exports

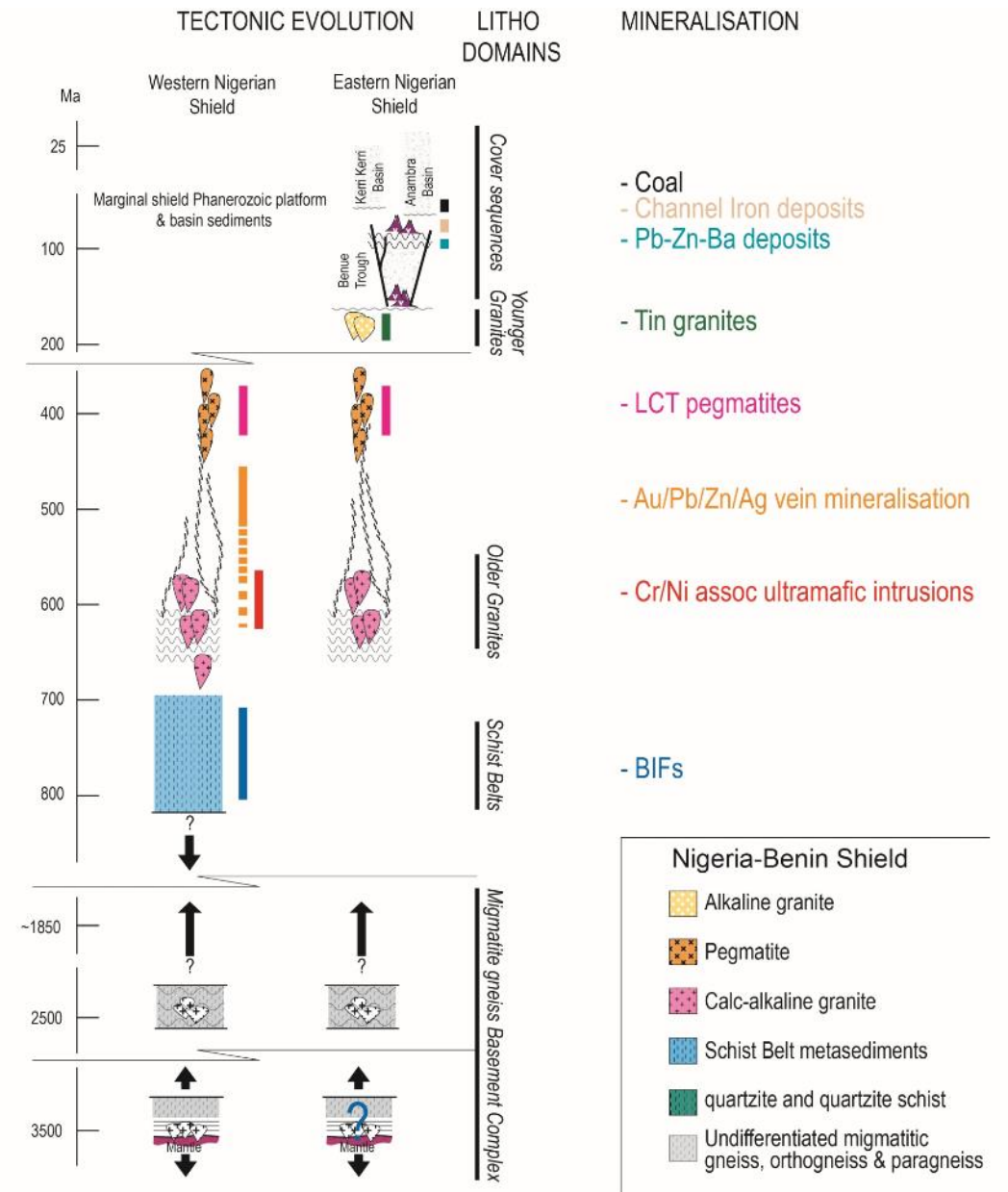
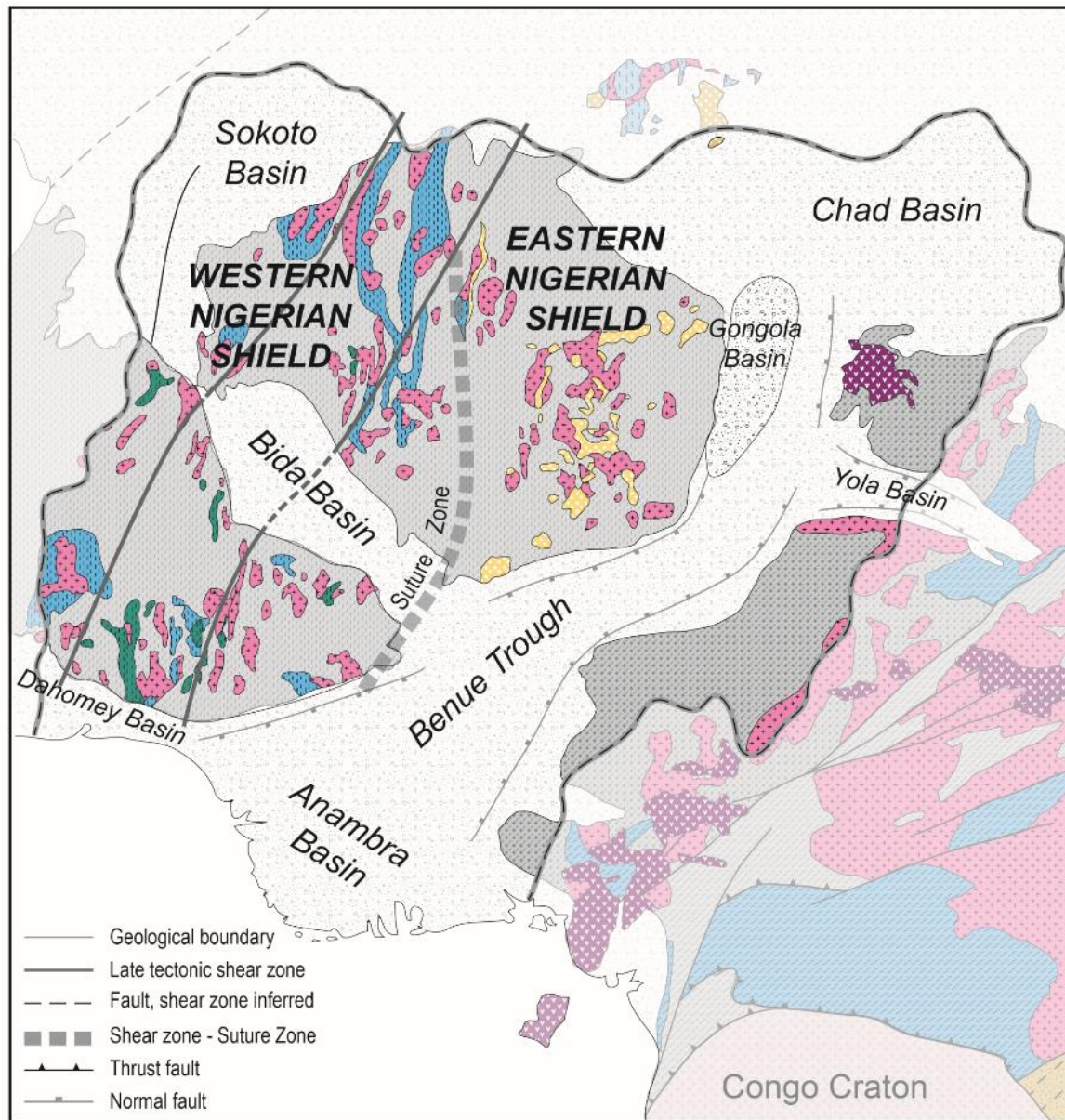


# Solid minerals of interest

- Nigeria has over **44 natural resources** occurring in about 500 locations spread across the country - most of which are found in commercial quantities
- **Limestone** (55%), **granite** (24%), laterite, sand, shale and clay together constitute over 96% of production by tonnage and 88% of total value.
- Quarrying may be #1, but the country produced 14 tonnes of **gold**, 100 tonnes of **iron** ore, 2,400 tonnes of **tin** and 51,000 tonnes of **coal** in 2018.
- The **strategic minerals** listed by the government are barite, bitumen, coal, gold, iron ore, lead/zinc and limestone.









# Government policy & direction

- Policy framework in place – especially for the upstream sector – and regularly revised/updated
- Mining pivotal in the government's wish **to diversify** the economy away from oil
- **Beneficiation** (processing and value addition) of gold has started. Bitumen and iron priorities.
- Roadmap for Growth and Development of the Nigerian Mining Industry is heavy on **capacity building** both within the ministry and in the industry
- Refining the fiscal participation framework and improving the financing and **business climate** are priorities.
- Post COVID-19 palliative measure: FG builds 6 regional mining plants



# Recent developments

- Renewed government focus on mining
- Reviving beneficiation facilities
- Increased international participation
- Digitisation of the industry
- Emphasis on gold development
- Bitumen blocks to be auctioned now





# Challenges

- Infrastructure deficit and outdated **technologies**
- Poor monitoring and lack of (safety) standards
- Inadequate funding
- Insufficient (geological) **data** to fuel investment: need for increased sub-surface exploration
- Need for a consistent legal framework – states and federal government can contradict each other
- **Upskilling**/ formally including the 80-85% artisanal miners
- Illegal mining & community challenges: **\$3-9bn** loss
- And generally: security & the **FX** situation



# Opportunities for Australian companies...

- Exploration technology
- Mine development
- Mineral Processing and Beneficiation
- Capacity building programs
- Equipment supply
- Safety solutions

....are everywhere





# Get ready to do business in/with Nigeria

**Prepare** for a challenging business environment

Nigeria has a '**relationship economy**' and it is important to deal with the **highest** level in a company

Deals often take a long time to be concluded

Contingency planning and **flexibility** are key traits required

Keep "Penny shy, Pound foolish" in mind when selecting vendors and service providers such as lawyers, logistics companies etc.

The biggest gains fall on those who truly **commit** to doing business in Nigeria





Thessa Brongers Bagu  
thessa@naijalink.eu

# Thank you

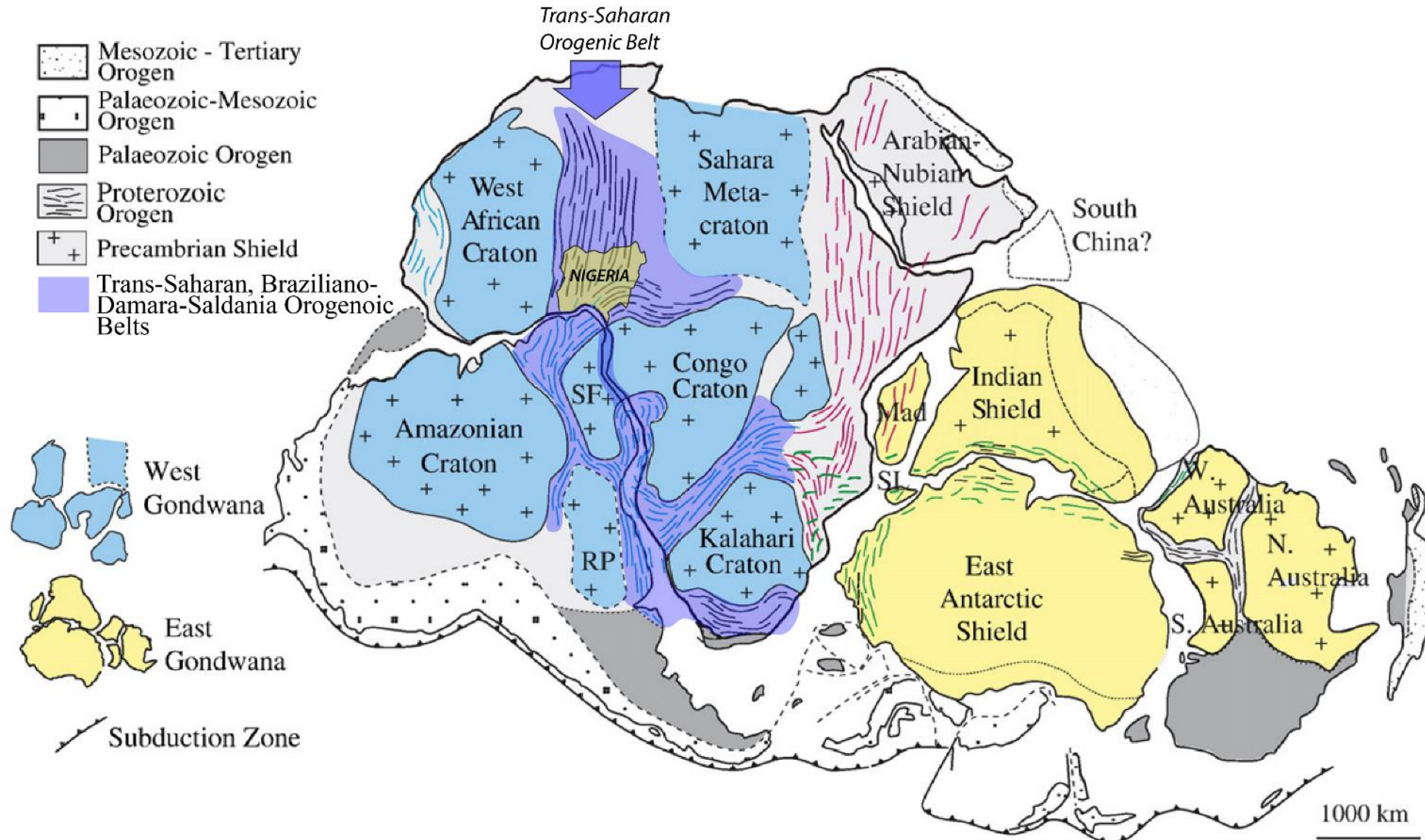


# **Nigeria's promise as a new mining destination**

Warwick Crowe



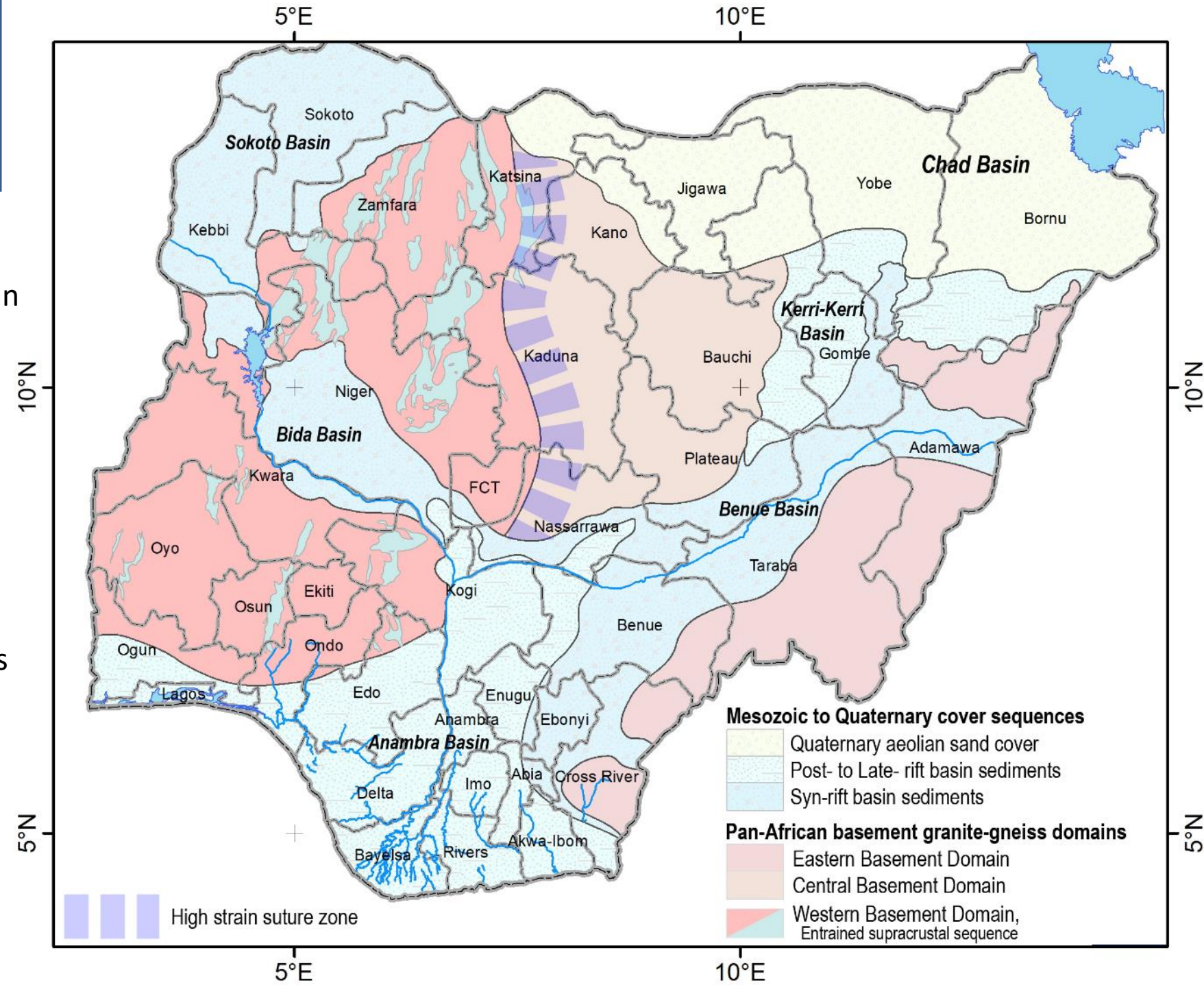
# The Neoproterozoic



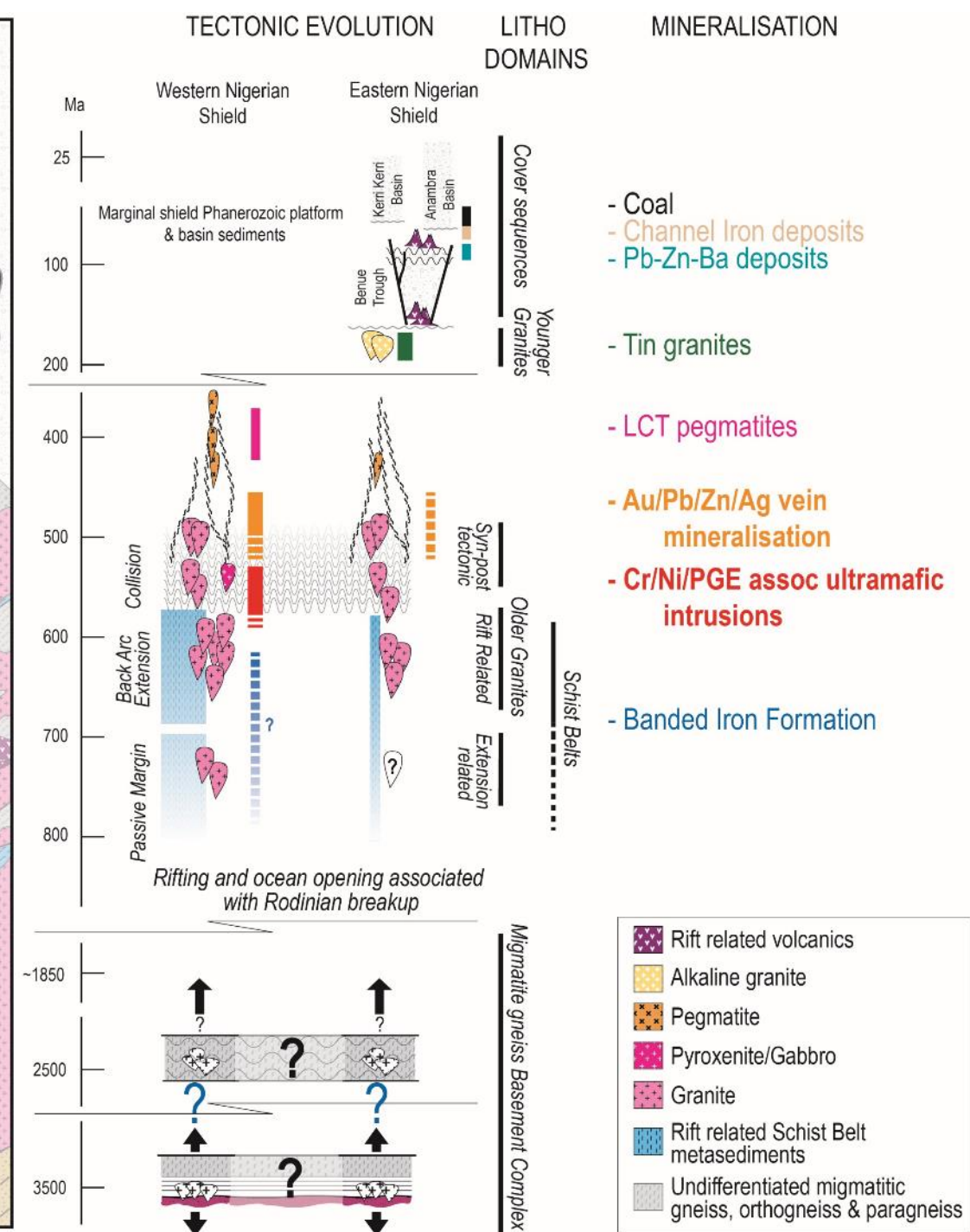
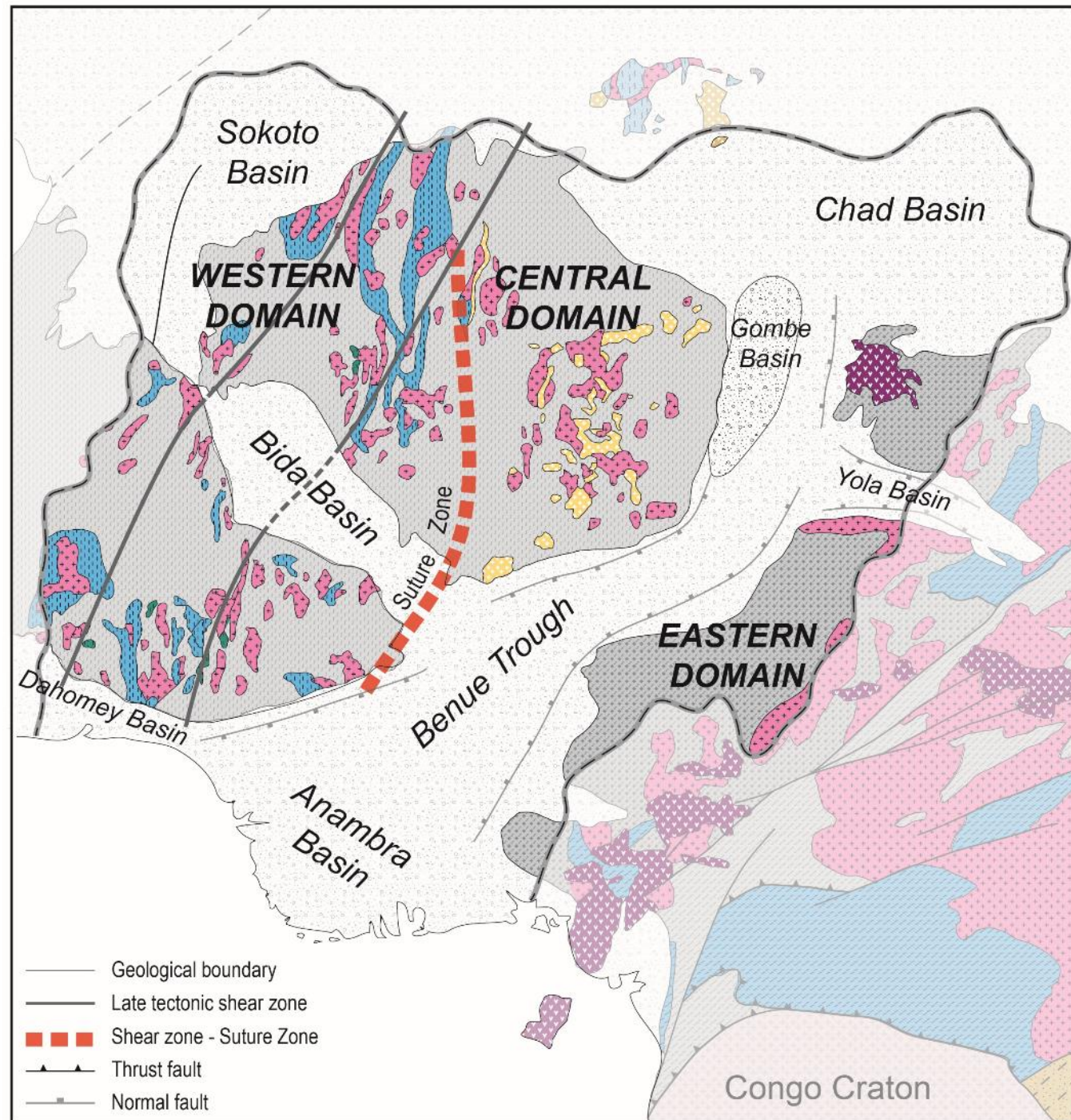


# Geology of Nigeria

- Neoproterozoic crystalline metamorphic basement of Archaean to Paleoproterozoic protolith
- Intercalated volcanosedimentary sequences in the Western Domain
- Three Phases of Neoproterozoic granitoid emplacement
- Mesozoic to Cenozoic basin cover
- Basement comprises three domains
  - *Western Domain*
  - *Central Domain*
  - *Eastern Domain*

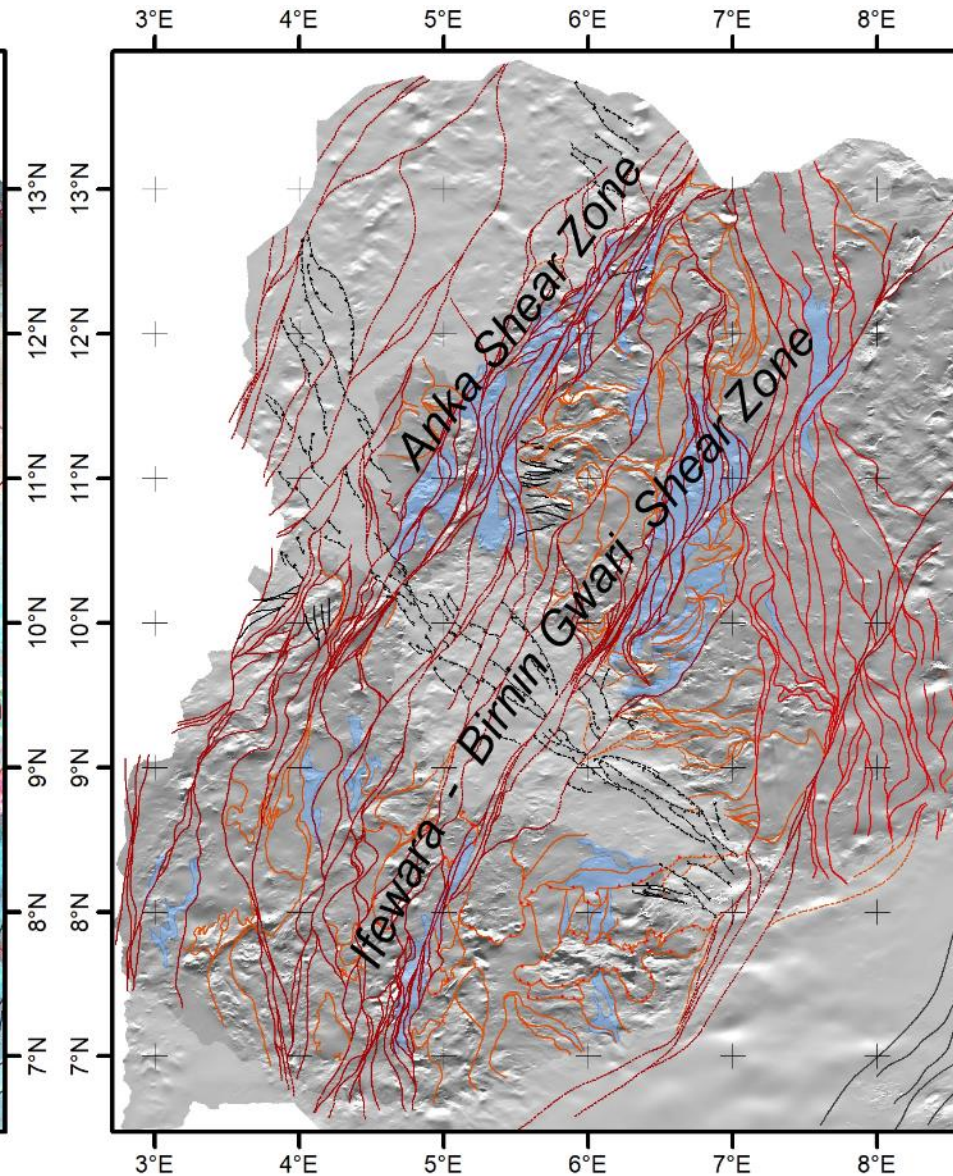
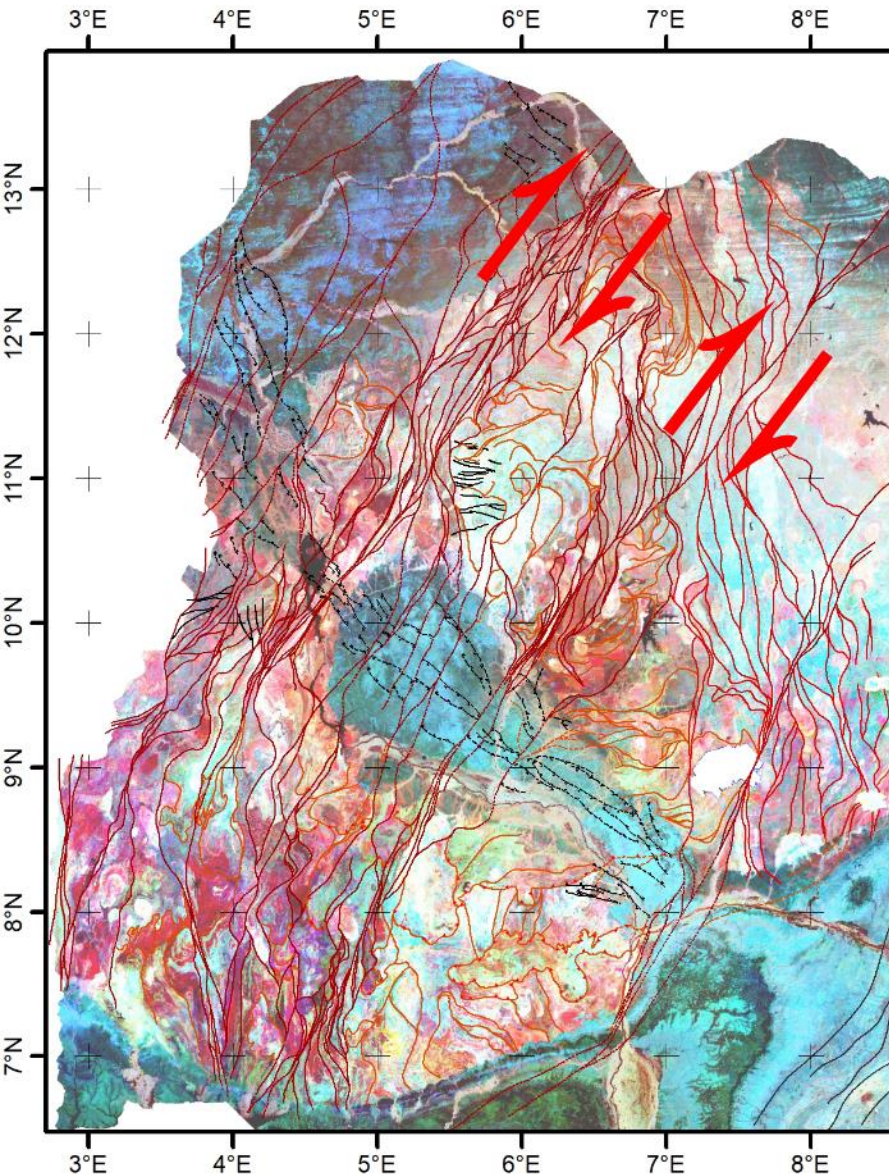








# Western Domain



Gold mineralisation associated with regional shear zones

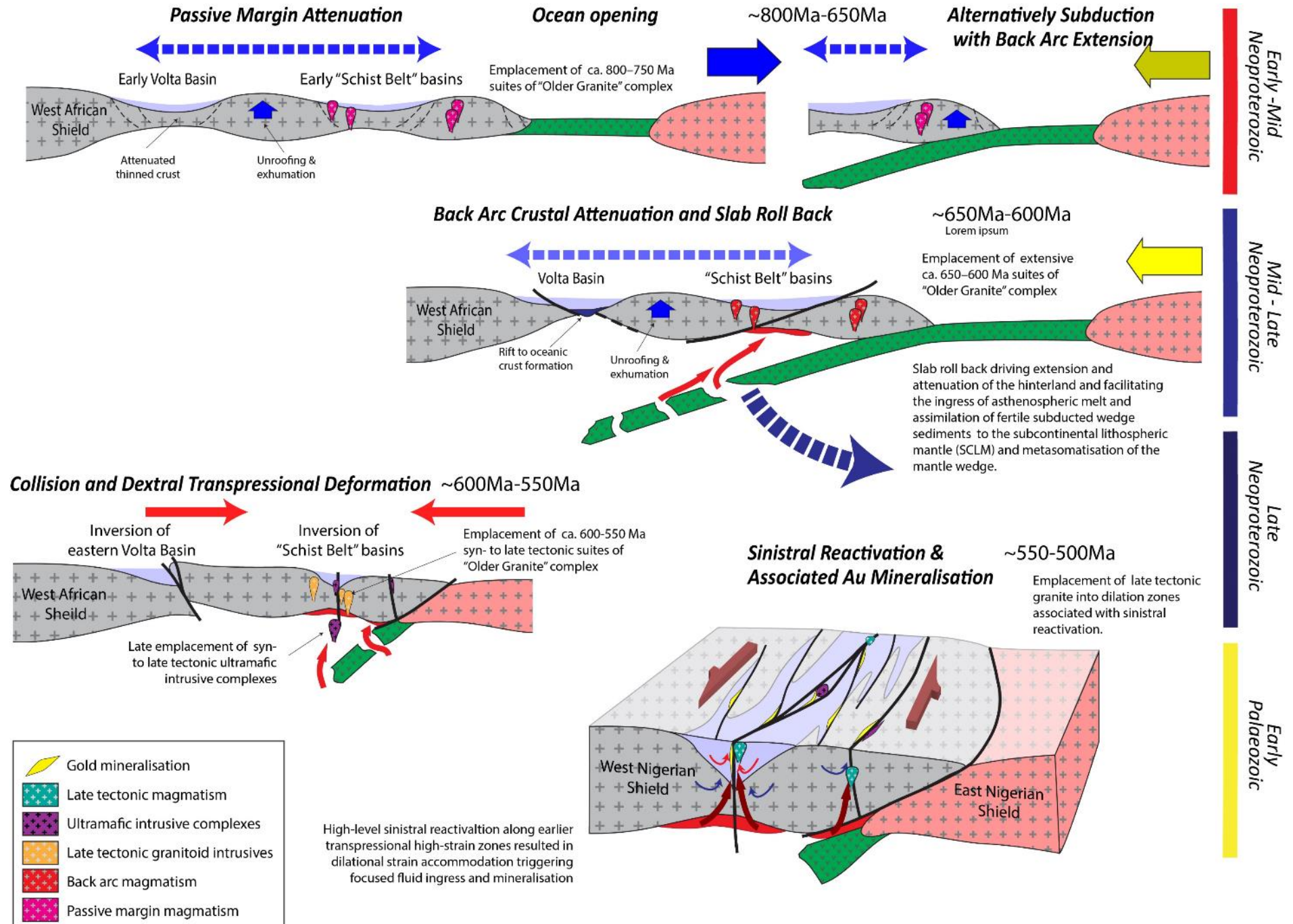
Mineralised veins are emplaced within the main shear zone systems and along subsidiary structures

Associated with a late tectonic reactivation

- Fault
- Fault-post rift
- Fault-early rift
- Shear zone-late
- Shear zone-early: Terrane boundary zone
- Shear zone-early
- Shear zone-low angle thrust
- Mezozoic-Cenozoic Cover
- Neoproterozoic greenstone belts



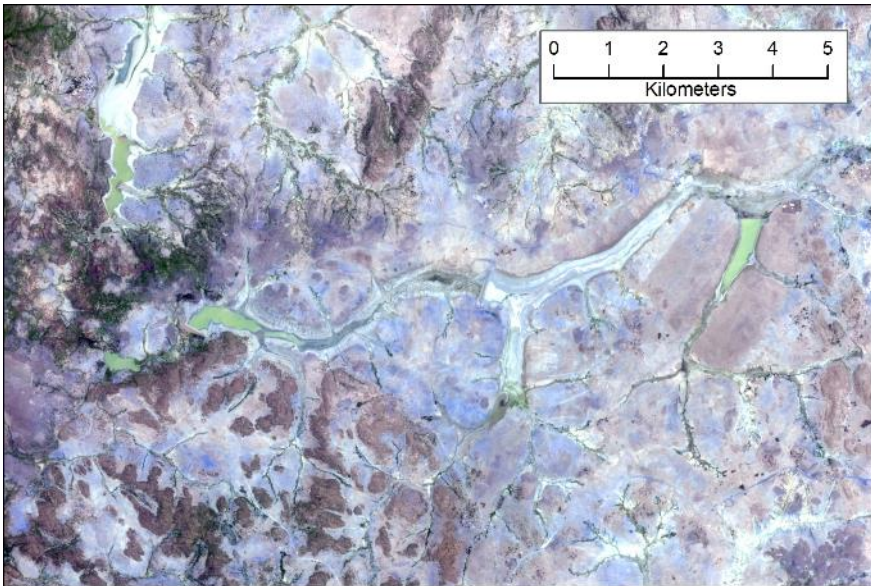
# Tectonic Development



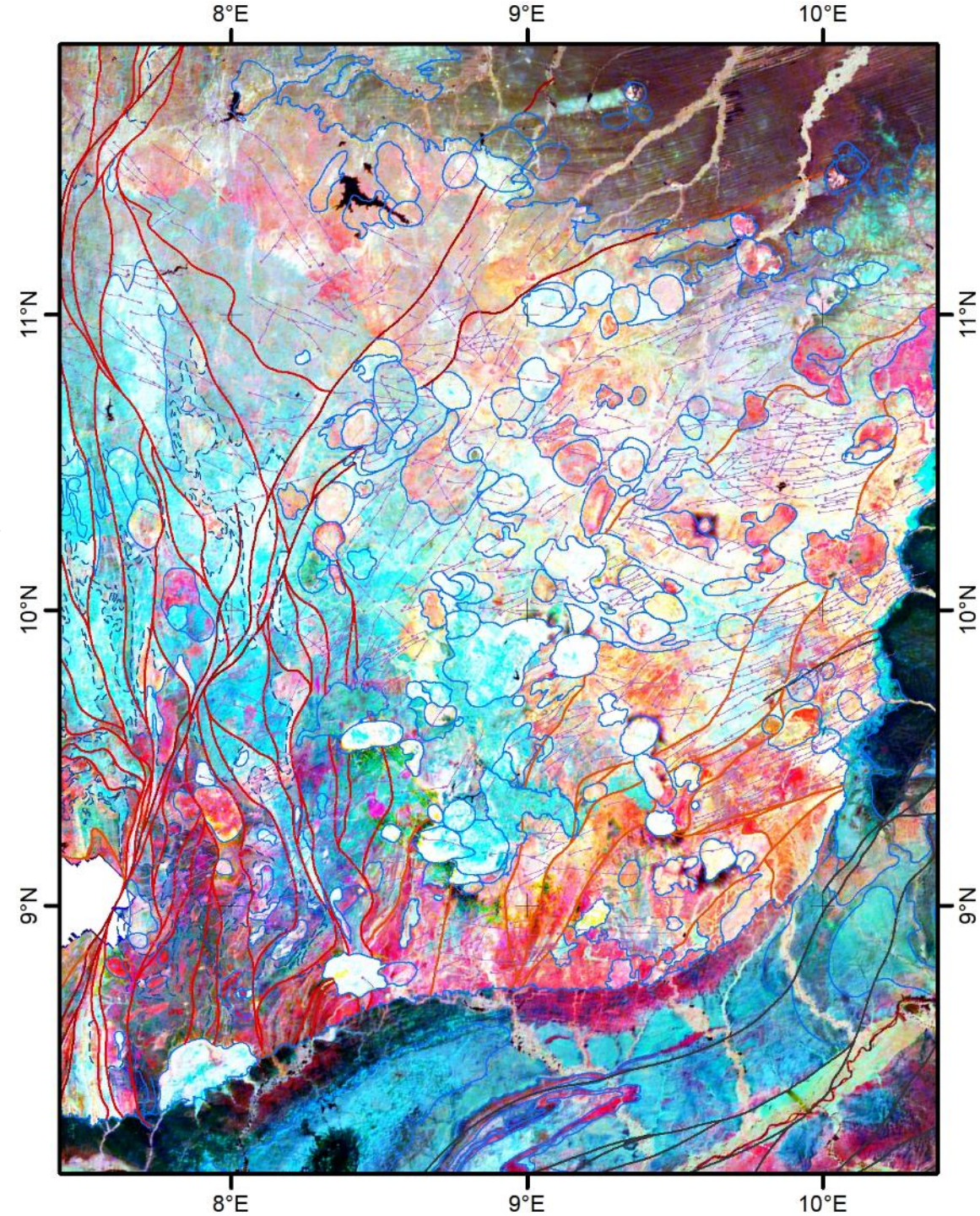


# Central Domain

- Granite - Migmatitic gneiss terrane
- Long history of alluvial tin mining since the early 1900s.
- Primary source for Tin, Niobium and Tantalite are the “Younger Granite’s”.
- Middle Jurassic to earliest Cretaceous.
- Alkaline, peralkaline and metaluminous granites including fayalite granite porphyry, arfvedsonite granite and biotite granite.



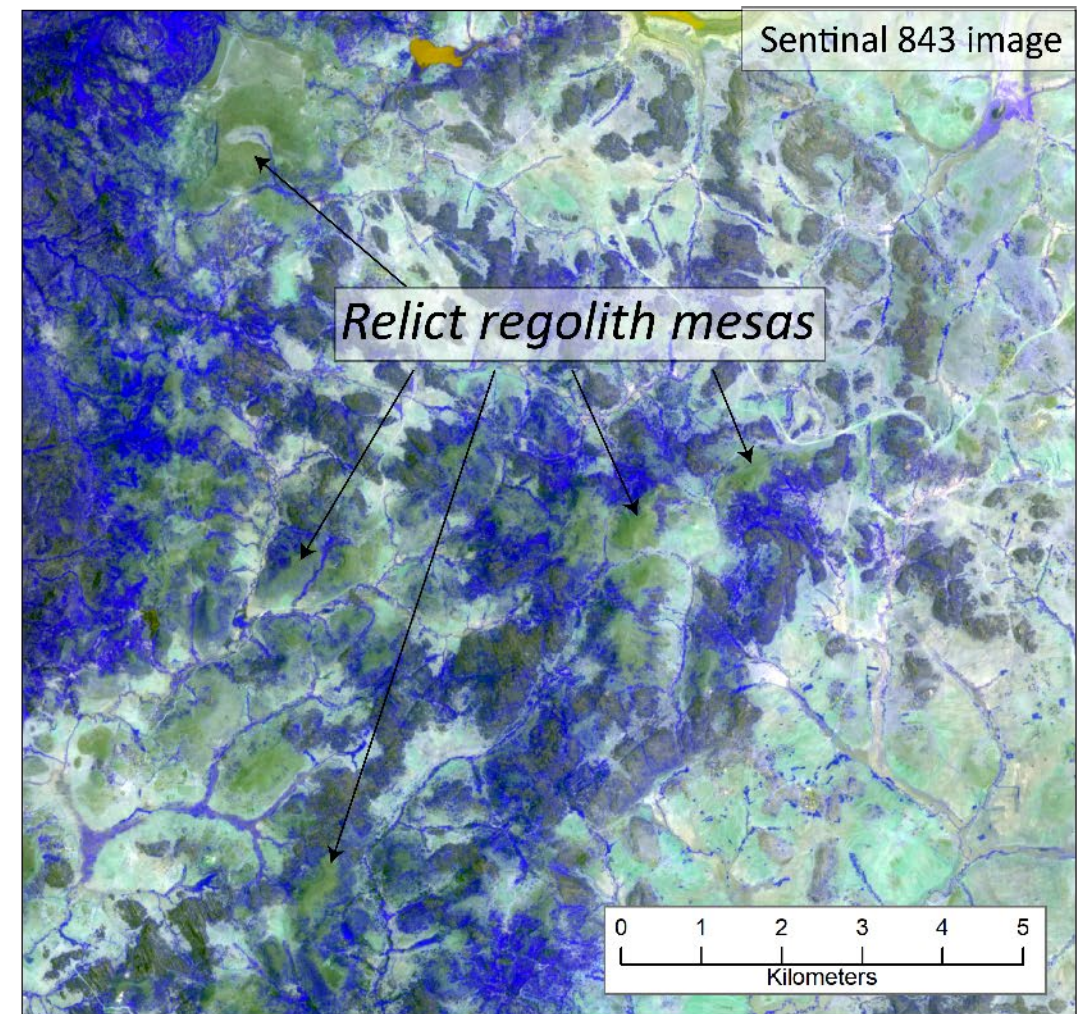
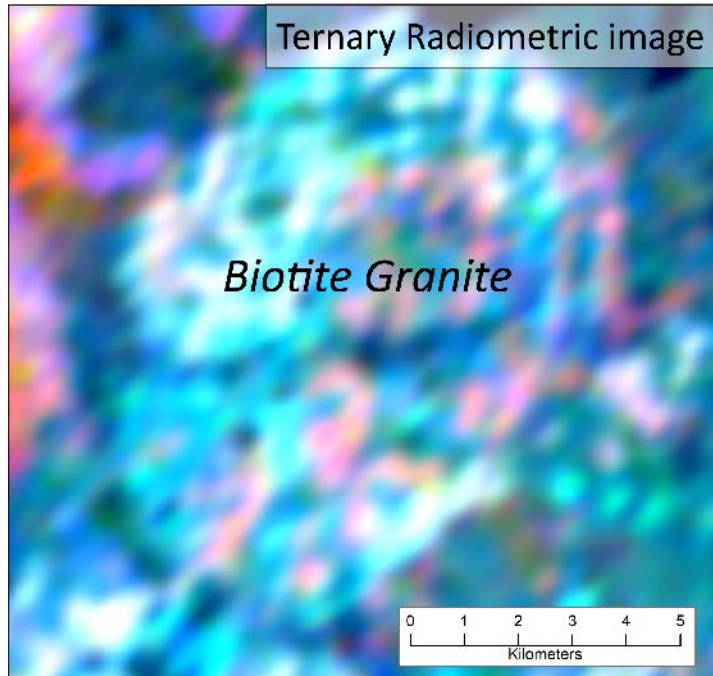
Sentinel Image: Bands 4-3-2



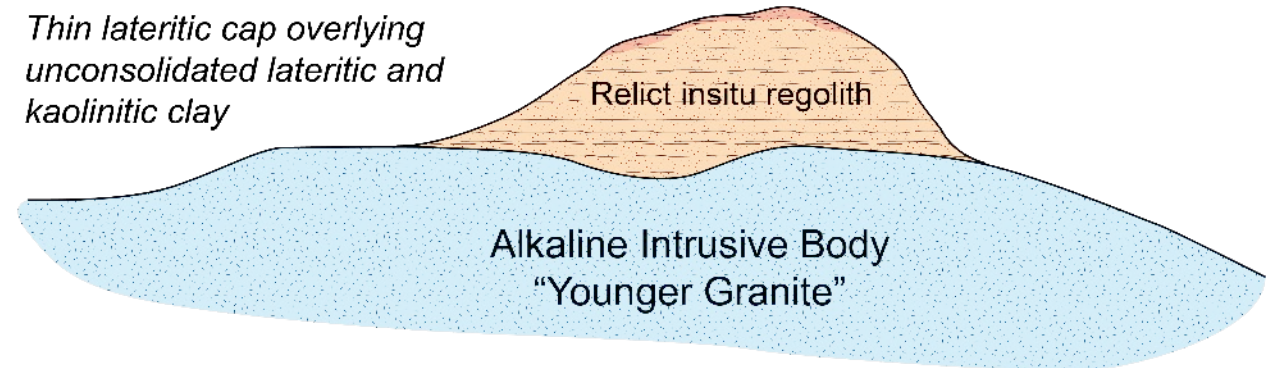


# New Resource Potential

- Potential for REE resources
- Ionic clay- elevated REE and V
- Heavy minerals-elevated Ti, Zr, Sn, Nb, Hf, REE, and V.



*Thin lateritic cap overlying  
unconsolidated lateritic and  
kaolinitic clay*



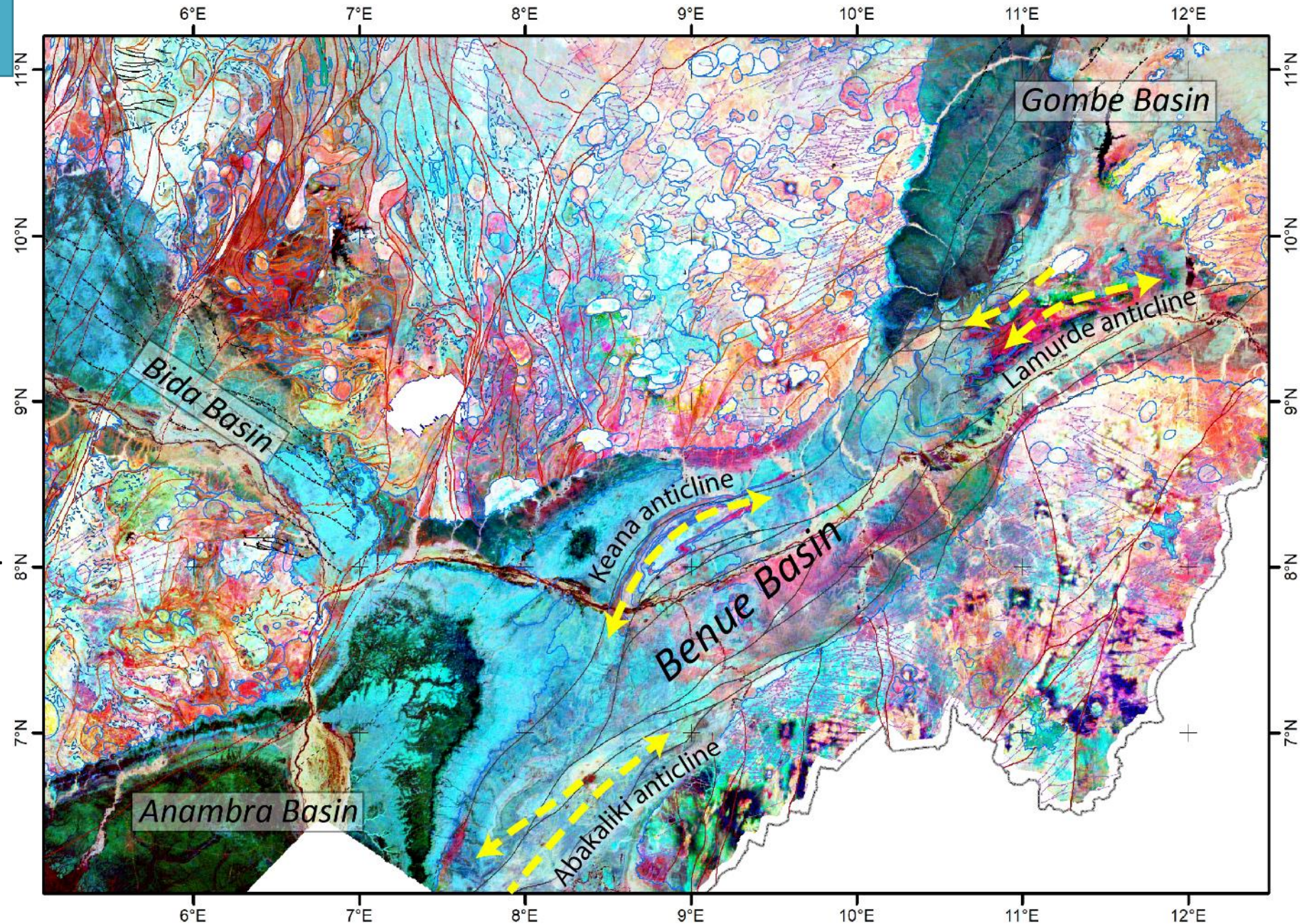


# Benue Basin

Cretaceous sinistral pull  
apart rift basin

Associated with  
Gondwana break up and  
the separation of Africa  
and South America

Sandstone Hosted Pb-Zn-  
Cu-Ba mineralisation  
systems

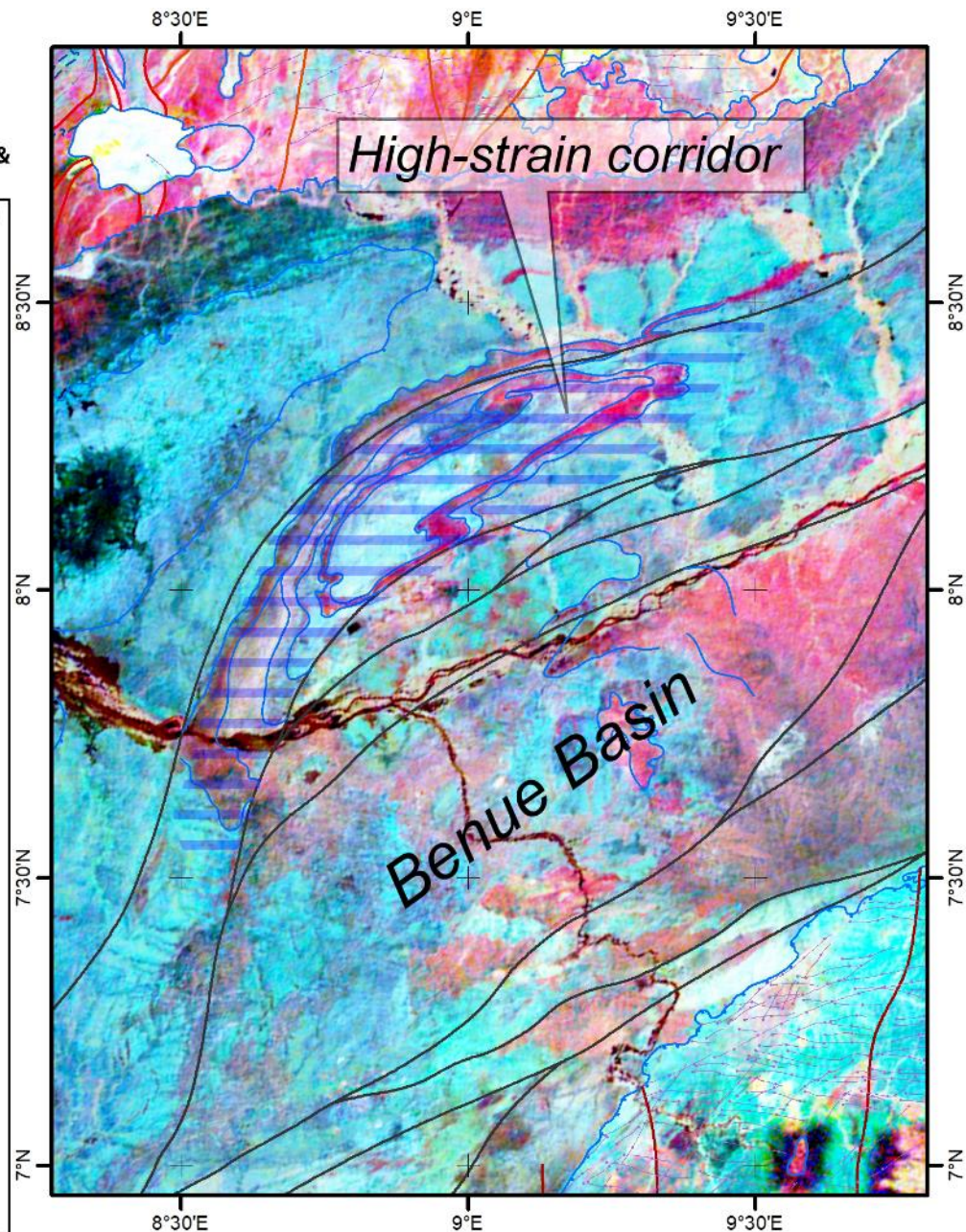
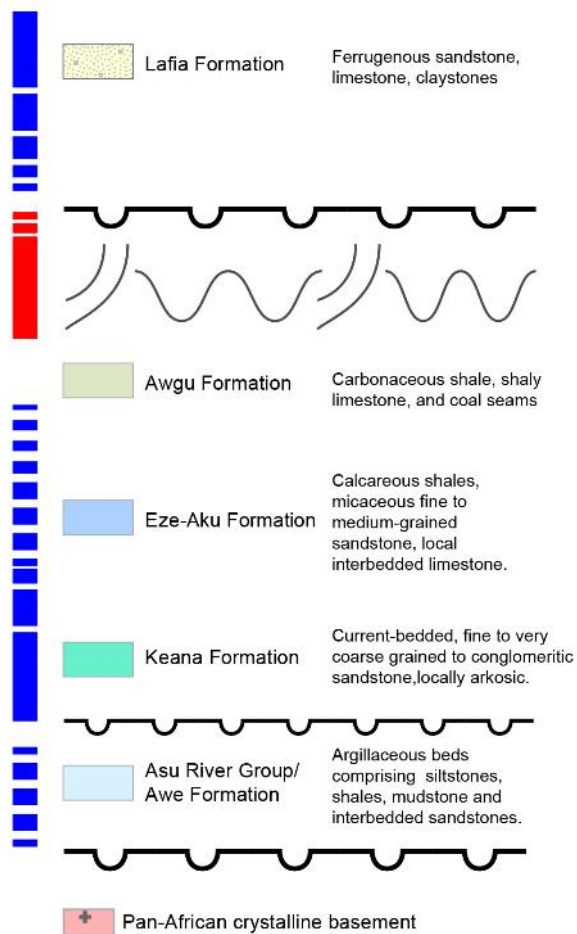




# Structurally Controlled

## Tectonic development of the central Benue Trough

Age	Tectonic Event	Deformation	Tectono-stratigraphy		Mineralisation & Volcanism
Pleistocene-Eocene		Reactivation of basement structures. This was associated with development of an asymmetric pullapart basin in the north (Kerri-kerri Basin).			
Paleocene-Maastrichtian		Fluvio-deltaic sediments associated with post-inversion deposition.			
Campanian-Santonian					
Santonian	Compressional event <i>Sinistral transpressional reactivation</i>	Basin wide axial folding and fault reactivation and inversion along basin axial structures			
Turonian-Cenomanian	Wanning of rifting	Continental to marine transition possibly representing a late to post rifting sag phase			
Cenomanian		Sinistral rifting with horst-graben block faulted segments partitioned between transtensional strike-slip faults.			
Albian-Aptian	Transtensional Rifting	Sinistral rifting with initial distal sedimentation			
Precambrian					





# Closing Points

- Nigeria is an immature mining destination.
- With the improving understanding of the tectonic development of Nigeria, opportunities for the discovery of new mineralisation systems are emerging. Eg. VMS/SEDEX and IOGC etc.
- There is an orogenic gold system through the Western Domain that is under explored and under exploited.
- Tin, Niobium and Tantalum are a well established historically exploited resources within the Central Domain...opportunities for REE.
- Base metal resources in the Benue Basin are widely present and under developed.
- In addition the recent completion of a government funded exploration initiative (NIMEP) has demonstrated the addition potential for PGE-Ni-Cr-Co and lithium pegmatite mineral systems through the Western Domain.

**AUSTRALIA**

**Thank you!**



**Australian Government**

**Australian Trade and Investment Commission**



**AUSTRALIA AFRICA**

**CHAMBER OF COMMERCE**