

# **Unveiling the Secrets of Primordial Earth: Micro Plates of India, Plate Tectonics, and Minerals of Southern India**

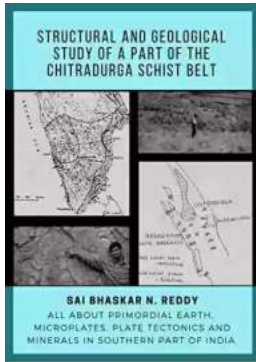
The Earth, our home, has a rich history that stretches back billions of years. It is a fascinating journey of evolution, shaping continents, creating mountains, and nurturing life. One of the most intriguing aspects of Earth's geological past is the existence of micro plates, especially in the Indian subcontinent. These minute fragments of Earth's crust hold invaluable secrets about plate tectonics and the abundant minerals found in Southern India. Join us on a captivating exploration of the primordial Earth as we dive deep into the wonders hidden within these micro plates and their significance.

## **Plate Tectonics and the Indian Subcontinent**

Plate tectonics is the scientific theory that describes the movement and interaction of Earth's lithospheric plates. These plates are gigantic puzzle pieces that float and shift atop a layer of molten rock called the asthenosphere. The Indian subcontinent occupies a unique spot in this puzzle, with two micro plates nestled within its boundaries – the Indian Plate and the Australian-Indian Plate.

The Indian Plate, also known as the Indian Craton, is a stable portion of Earth's crust that encompasses a significant part of the Indian subcontinent. It is believed to have detached from the ancient supercontinent of Gondwana around 150 million years ago. This separation marked the birth of the Indian Ocean and the rapid movement of the Indian Plate towards its collision with the Eurasian Plate.

**Chitradurga Schist Belt: Primordial Earth, Micro-plates of India, Plate Tectonics and Minerals of**



## Southern India by Guillaume Musso(Kindle Edition)

★★★★☆ 4.5 out of 5

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On the other hand, the Australian-Indian Plate is a composite plate formed by the amalgamation of the Indian Plate with the Australian Plate. This complex interaction has shaped the geology of Southern India, creating a diverse and mineral-rich landscape.

### Imprints of the Past: Micro Plates

Micro plates, as the name suggests, are small fragments of Earth's crust that have distinct boundaries and unique geological characteristics. These fragments, often just a few kilometers in size, reveal a wealth of information about the geological history of a region. In the case of India, micro plates have played a crucial role in deciphering the complex tectonic events that unfolded over millions of years.

One prominent micro plate found in Southern India is the Madurai micro plate. This micro plate, located within the Indian subcontinent, offers a glimpse into the collision between the Indian and Eurasian Plates. The subduction zone formed by this collision has given rise to the magnificent Western Ghats, a mountain range known for its rich biodiversity and stunning landscapes.

Another micro plate of significance is the Lohit micro plate, believed to be an early fragment of the Indian Plate. This micro plate is predominantly situated in the northeast region of India and provides valuable insights into the Paleoproterozoic and Neoproterozoic tectonic activities in the region. The Lohit micro plate is associated with the formation of the Eastern Ghats and holds a diverse range of minerals, including bauxite, chromite, and limestone.

These micro plates, with their unique compositions and geological history, shed light on the complex interplay of plate tectonics and the formation of Earth's surface as we know it today.

## **The Minerals of Southern India**

Southern India is a treasure trove of minerals that owe their existence to the geological processes influenced by micro plates and plate tectonics. The rich diversity of mineral resources in this region has fueled economic growth and played a pivotal role in various industries.

Tamil Nadu, a state located in Southern India, is renowned for its vast mineral deposits. The presence of micro plates, such as the Madurai micro plate, has contributed to the formation of valuable minerals like garnet, ilmenite, rutile, and zircon that are widely used in the manufacturing of ceramics, paint, and even jewelry.

Andhra Pradesh, another state in Southern India, is famous for its diverse mineral wealth. The Lohit micro plate has influenced the formation of significant minerals in this region, including limestone, bauxite, and chromite. These minerals serve as crucial ingredients in the production of cement, aluminum, and stainless steel, respectively.

The presence of numerous micro plates and the interplay of plate tectonics have shaped the geology of Southern India, making it a land enriched with valuable minerals and resources.

## **Unlocking the Mysteries of Primordial Earth**

Studying the micro plates of India and their association with plate tectonics and mineral deposition is like unraveling a captivating mystery. These primordial remnants hold the key to understanding the dynamic processes that have shaped our planet for billions of years.

By delving into the geological history and composition of these micro plates, scientists can paint a vivid picture of Earth's past. The peculiarities of the Indian subcontinent, with its unique amalgamation of plates and their subsequent movement and collision, offer a window into the intricate dance of plate tectonics and its impact on the formation of continents, mountains, and minerals.

Exploring the micro plates of India allows us to witness the grand symphony of geological forces that have transformed Earth over unimaginable timescales. It enables us to appreciate the immense power and beauty hidden within the depths of our planet.

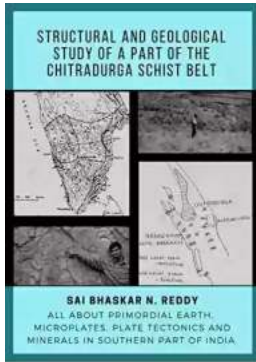
So, let us embark on this incredible journey through time and space, as we uncover the secrets of Primordial Earth and its micro plates, unlocking the enigma of plate tectonics and the abundant minerals of Southern India.

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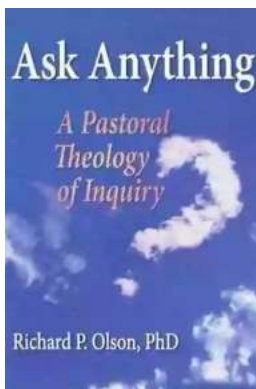
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Indian plate consists of several microplates, in the plate tectonic process they merged and disintegrated. The stable part of India i.e., Southern India, consists of several microplates, including the Eastern Dharwad and Western Dharwad in between lies the Chitradurga Schist belt. It has even the primordial rocks and rich in minerals. It was a pleasure to see the oldest rocks and understand all the structural changes happened in the history. This structural and geological study gives a glimpse into one of the oldest parts on earth. I am thankful to Prof. K. V. Subba Rao, a very well known Geologist of India for introducing me to this field area.



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