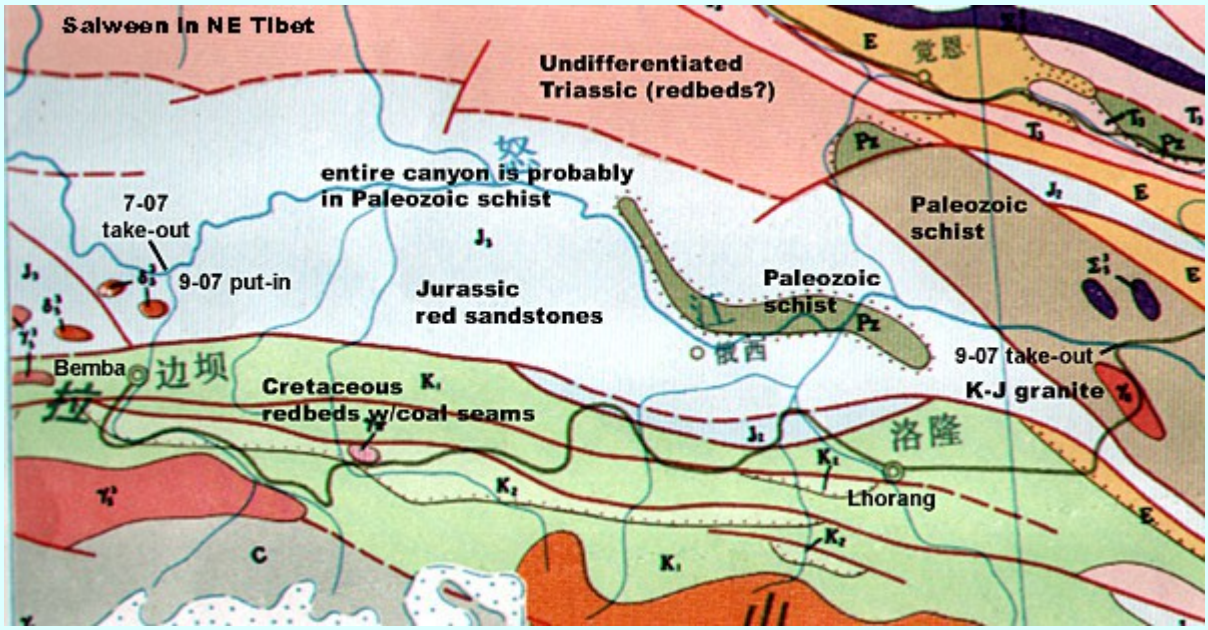
Geology and Geography of the Salween Headwaters Area

Geologic Map of the Salween from Sadeng to Marri/Lhorong area



Map produced by the Chinese Ministry of Geology and Mineral Resources
Original scale 1:1,000,000

This section of the headwaters of the Salween is located in the east central part of the Eocene block of Tibet, near the NW extension of the Ailao Shan Fault. Like the section from Biru to Bemba, the area is characterized by folded and faulted Mesozoic sedimentary rocks unconformably overlying unmapped Paleozoic high grade metamorphic rocks (migmatites, acid intrusives and schists). Faults generally trend E-W or NW. The average elevation is about 16,000 feet, typical of the Tibetan Plateau.

The Triassic, Jurassic and Cretaceous sediments are typically red clastic rocks. Together, they are well over 2000 feet thick. These sediments were deposited on and near a coastal plain prior to the collision of India and China.

Mesozoic redbeds in fault contact with limestone south of Marri. Photo by Tony Griessbach.

The underlying crystalline rocks are exposed from the river to increasing elevations as one progresses further downstream and eventually represent most of the gorge that is visible from river level (2,000 - 3,000'). They probably represent a Paleozoic continental collision.

Paleozoic metamorphics form the canyon east of Sadeng. Photo by Brock Disante.

In general, the river bed has been scoured of glacial gravels so rapids are due to constriction caused by landslides. In places the river follows deeply entrenched meanders, suggesting that in its early history it flowed through a basin filled with unconsolidated sediments, probably its own sediments as it found its way off the rising Tibetan Plateau. It's path does not appear to be fault controlled in this area.