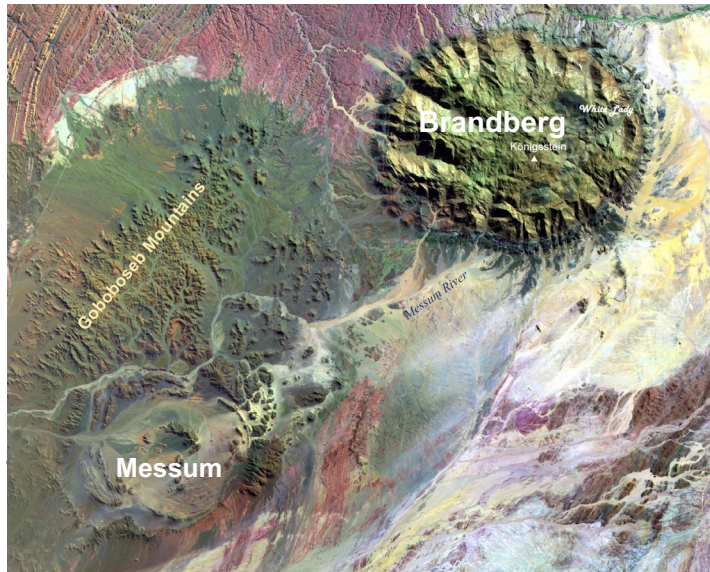


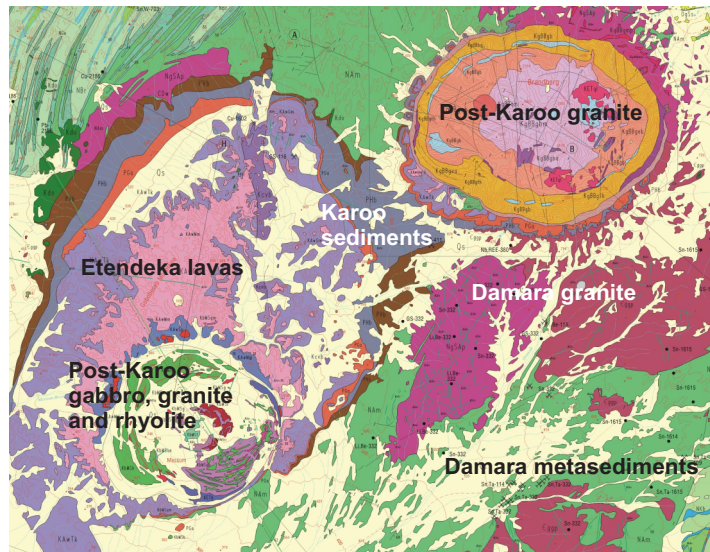


Source: *Roadside Geology of Namibia*

Brandberg and nearby Messum belong to several Cretaceous intrusive complexes which - together with the volcanic events that created the Etendeka Plateau and Goboboseb Mountains - heralded the break-up of the Gondwana Supercontinent and the opening of the South Atlantic Ocean some 130 million years ago. The near circular topographic features are easily recognisable from the air and on satellite images, but while the silica-poor gabbros of the Messum Complex are deeply weathered, Brandberg is an impressive granite massif, soaring more than 2000 m out of the surrounding Namib Plains; standing 2573 m above sea level its central peak, Königstein, is the highest elevation in Namibia. But apart from being an iconic landmark, Brandberg is also of considerable archaeological interest, with more than thousand rock paintings recorded from its widespread network of gorges, of which the "White Lady" of the Tsisab Gorge is indisputably the most famous.

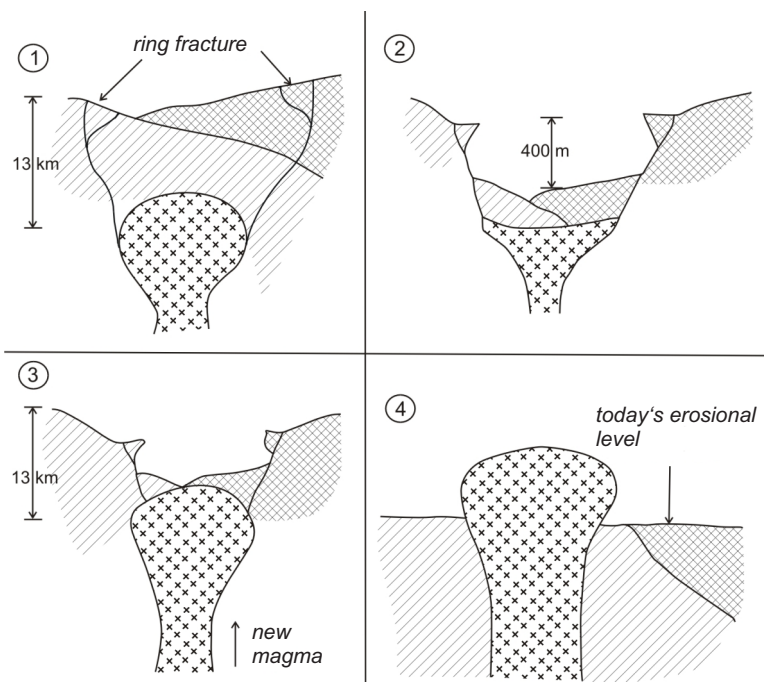


Satellite image (above) and geological map (below) of Brandberg and Messum

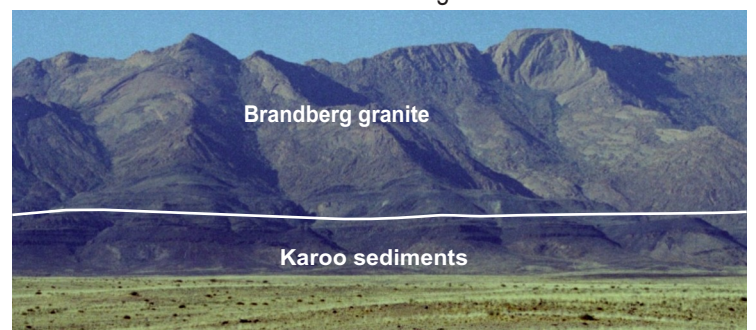


In contrast to Brandberg, Messum comprises both intrusive and extrusive rocks, which can be divided into an outer rim of gabbro and granite and an inner core of syenites and rhyolitic breccia. Two distinct ridges of gabbro within the rim represent the earliest phase of intrusion, while the volcanic breccias and rhyolite lava domes forming the central hills, are remains of the late subaerial volcanic super-structure. Messum is entirely surrounded by the basalts and quartz latites of the Goboboseb Mountains, which represent a southern extension of the Etendeka volcanics.

Brandberg, meaning "fire mountain", got its name from the reddish, weathered colour of the granite which makes up the main intrusion. The complex formed during several successive intrusive phases; the last of these is represented by a rare arfvedsonite granite exposed in the Amis Gorge at the southwestern edge of the mountain. The Brandberg pluton penetrated Karoo sediments by displacement of a block bounded by a ring fracture; remnants of ca. 220 million years old Karoo siltstones, shales and mudstones are preserved in a collar around the western and southern margins. An 800 m wide marginal breccia of sedimentary clasts within the granite indicates considerable vertical movement on this fault zone within the earth's crust (~400 m). Younger leucocratic dykes cut both the Brandberg Granite and the surrounding sediments.



Formation of the Brandberg Massif



Brandberg and its fringe of Karoo sediments