

## GEOLOGIC COLUMN AND UNIT DESCRIPTIONS

AGE	ROCK UNIT	LITHOLOGY; THICKNESS WHERE KNOWN	UNIT DESCRIPTION	
QUATERNARY	Recent	Alluvium 	Sand, gravel, silt and clay; thickness less than 20 meters	Alluvium, consisting of sand, gravel, silt and clay, is distributed in the river flats and playas of semi-desert districts. The thickness is less than 20 meters.
	Pleistocene	Diluvium 	Qds, aeolian sand, silt and gravel; thickness 10 - 20 m	The aeolian facies of diluvium (Qds) consists chiefly of dune sand and silt with some gravel, and is widely distributed in the plateau region of Chahar. The thickness is 10 to 20 m.
			Qdl, sandy loess and silt; thickness about 20 m	Diluvium (Qdl) consists chiefly of interstratified sandy loess and silt and is not more than 20 m thick.
UNCONFORMITY				
TERTIARY	Neogene	Neogene basalt 	Augite basalt, tuff and sand; thickness more than 200 m	The basalt occurs chiefly as flows and sheets of augite basalt, with some tuff and sand beds. The total thickness is more than 200 m. According to S. MONDEN the basalt of the map area forms the west margin of the basalt plateau extending over the Ta-hsing-an-ling range in the T'u-ch'uan sheet (NL 51-7) adjacent on the east. The rock has a glassy groundmass with some phenocrysts of augite, and shows a fluidal structure. The age of the basalt effusion is probably Pliocene. Small mounds composed of reddish volcanic bombs of vesicular basalt associated with tuff, were reported by F. UEDA on the hill north of Ga-hiru-sumu.
			Rhyolite, tuff and tuffaceous agglomerate; thickness about 1,000 m	The rhyolite consists of flows and sheets of rhyolitic lava, accompanied by tuff and tuffaceous agglomerate, with a thickness of at least 1,000 m. It forms the main body of the Ta-hsing-an-ling range that occupies the eastern half of the map area, and corresponds to the "Cretaceous volcanics" of Jehol. The rhyolitic lava can be roughly classified by texture into fluidal, platy and brecciated types.
UNCONFORMITY				
MESOZOIC	Cretaceous	Granite 	Granite porphyry	The granite, consisting chiefly of granite porphyry, is genetically related to the rhyolite described above, and is generally known as the "Mongolian batholith".
			Tuff and tuffaceous sandstone; thickness several hundred meters	The Upper Mesozoic formation consists chiefly of tuff and tuffaceous sandstone, and is several hundred meters thick. According to MONDEN, exposures around the divide of the Ta-hsing-an-ling range are covered by rhyolite (rh) and basalt (b2).
	Jurassic	Andesite 	Andesite, porphyrite, tuff and breccia; thickness more than 500 m	The andesite consists of flows and sheets of andesite and porphyrite associated with tuff and breccia; the thickness is more than 500 m. It is often covered by rhyolite (rh) and is intruded by granite (g3). Petrographically, it resembles the andesite of the Lower and Middle Jehol formations.
			Slate, graywacke, sandstone and limestone; thickness more than 1,000 m	The Upper Paleozoic formation is a marine formation consisting of siliceous slate and graywacke, tuffaceous sandstone, and limestone, and is much thicker than 1,000 m. The formation generally strikes N 50° - 60° W and dips 30° - 50° NE. In places the formation was affected by contact metamorphism and became mica schist. Fossils including <i>Productus</i> sp. nov. A, <i>Productus</i> sp. nov. B, <i>Siphrifer moosakhailensis</i> Davidson, <i>Scheloinea</i> sp. nov., crinoid stems, and Bryophyta have been reported from the limestone at the type locality of the formation at Hsi-wu-chu-mu-chin [西烏珠穆沁] to the west (out of the map area). F. UEDA assigned the age of the formation to either Upper Carboniferous or Lower Permian.
UNCONFORMITY				
PALEOZOIC	Pervo-Carboniferous	Upper Paleozoic formation 	Slate, graywacke, sandstone and limestone; thickness more than 1,000 m	The Upper Paleozoic formation is a marine formation consisting of siliceous slate and graywacke, tuffaceous sandstone, and limestone, and is much thicker than 1,000 m. The formation generally strikes N 50° - 60° W and dips 30° - 50° NE. In places the formation was affected by contact metamorphism and became mica schist. Fossils including <i>Productus</i> sp. nov. A, <i>Productus</i> sp. nov. B, <i>Siphrifer moosakhailensis</i> Davidson, <i>Scheloinea</i> sp. nov., crinoid stems, and Bryophyta have been reported from the limestone at the type locality of the formation at Hsi-wu-chu-mu-chin [西烏珠穆沁] to the west (out of the map area). F. UEDA assigned the age of the formation to either Upper Carboniferous or Lower Permian.
			(Column not drawn to scale)	

### REFERENCES

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