Generalized Geologic Section, Macon-Gordon Kaolin District, Georgia

Era	Period	Epoch and Age	Formation and Members	Thickness	Description
Cenozoic	Quaternary	Holocene and Pleistocene	Residuum	0-15 ft (0-4.5 m)	Sand, silt, and earthy material, massive, fine- to coarse grained, containing gravel-size corroded quartz pebbles, poorly sorted; dark reddish-brown partially indurated owing to the presence of iron oxide; irregular thin bands (approximately 0.8 in (2 cm) thick) of gray gley present locally.
			Younger alluvium	0-30 ft (0-9.2 m)	Muck, clayey sand, sand, and gravel, poorly sorted; locally contains a few chert pebbles.
		Pleistocene and Pliocene (?)	Older alluvium	0-20 ft (0-6 m)	Clayey sand, sand, and gravel, brownish-red and reddish-brown, poorly sorted, crossbedding common; contains a few small kaolin balls; angular chert cobbles rare.
	?	Miocene	Hawthorn Formation	0-200 ft (0-61 m)	Sandy clay and clayey sand in lenticular units, very poorly sorted, locally contains stringers of gravel and thin beds of sorted medium-grained sand; mostly greenish gray in unweathered exposures.
	Tertiary	Eocene, late, Jacksonian	Tobacco Road Sand	0-25 ft (0-7.6 m)	Sand, medium- to coarse grained, commonly poorly sorted, crossbedded, locally bioturbated, small grains of dark heavy minerals moderately abundant; contains a few small mollusk and oyster fossils in some areas; a zone of rounded and flattened quartz pebbles or silica-cemented sand is commonly present; in down dip areas, upper part is commonly a massive fine-grained sand.
		Eocene, early, Barnwell Formation	Irwinton Sand Member 1/	0-50 ft (0-15 m)	Sand, fine- to medium grained, well sorted, contains a few heavy minerals, laminae of pale-green to gray clay common in upper part, small-scale intertidal-type crossbedding common; it both interfingers with and overlies the Twiggs Clay Member.
			Twiggs Clay Member 1/	0-150 ft (0-46 m)	Clay, pale-green to gray, laminae of fine-grained sand abundant, upper part commonly fissile, contains lithographic limestone as much as 1 ft (0.3 m) thick, Bryozoa common in lowest part, locally lenticular, contains lenses of Irwinton Sand Member.
			Tivola Limestone 1/	0-15 ft (0-4.5 m)	Limestone, mostly light-gray, sandy, has distinctive knobby appearance, diverse marine fauna, Bryozoa very abundant in upper part at several places, echinoids common.
			Clinchfield Sand	0-15 ft (0-4.5 m)	Sand, white to yellow where fresh, fine- to medium-grained, massive, crossbedded, well-sorted, heavy minerals moderately abundant, locally calcite-cemented, poorly preserved echinoid remains rare. Lower part locally is fine- to coarse grained, poorly sorted, locally contains white nodules of sandy limestone, bioturbated; contains small pectin, pelecypod, oyster, and gastropod fossils.
		Eocene, late, Jacksonian; Eocene, early and middle; Paleocene ?	Huber Formation	0-94 ft (0-28.6 m)	Sand, white, mostly medium grained to very coarse grained, abundant channel fill deposits and crossbedding, fine-grained heavy minerals abundant along bedding planes; contains scattered small lignitic and carbonaceous clay deposits bearing middle Eocene pollen, dwarfed marine fauna present locally; kaolin balls and rounded masses of pisolitic clay and bauxite occur locally; contains abundant large commercial white kaolin deposits. Formation is mainly of Claibornian Age but lignitic clays containing Paleocene pollen and brown kaolin lenses rich in organic material are present locally in lower part.
Mesozoic	Cretaceous	Late	Cretaceous beds, undivided	0-1100 ft (0-335 m)	Sand, white, medium grained to very coarse grained, dark heavy minerals rare to moderately abundant, contains balls and thin layers of white kaolin as well as large commercial deposits; lignitic clay at one locality contains pollen of Late Cretaceous age.
Paleozoic			Paleozoic(?) crystalline rocks		Sericite schist, granite gneiss, and intrusive granitic rocks.

K - Kaolin Lignitic clay deposit

1/ Stratigraphic term as used by the Georgia Geological Survey

EXPLANATION

Pleistocene and Holocene	Qal — Younger alluvium	QTr — Residuum	Quaternary
Pliocene and Pleistocene	TQal — Older alluvium		
Miocene	Tha — Hawthorn Formation		
Eocene	Tr — Tobacco Road Sand		Tertiary
	Tj — Lower Jacksonian beds undivided. Includes: Clinchfield Sand, Tivola Limestone, and Barnwell Formation		
Paleocene and Eocene	Th — Huber Formation		
	Ku — Cretaceous beds undivided		Cretaceous
	Pc — Paleozoic crystalline rocks		Paleozoic(?)

Contact
Dashed where inferred

Kaolin plant

Dry hole

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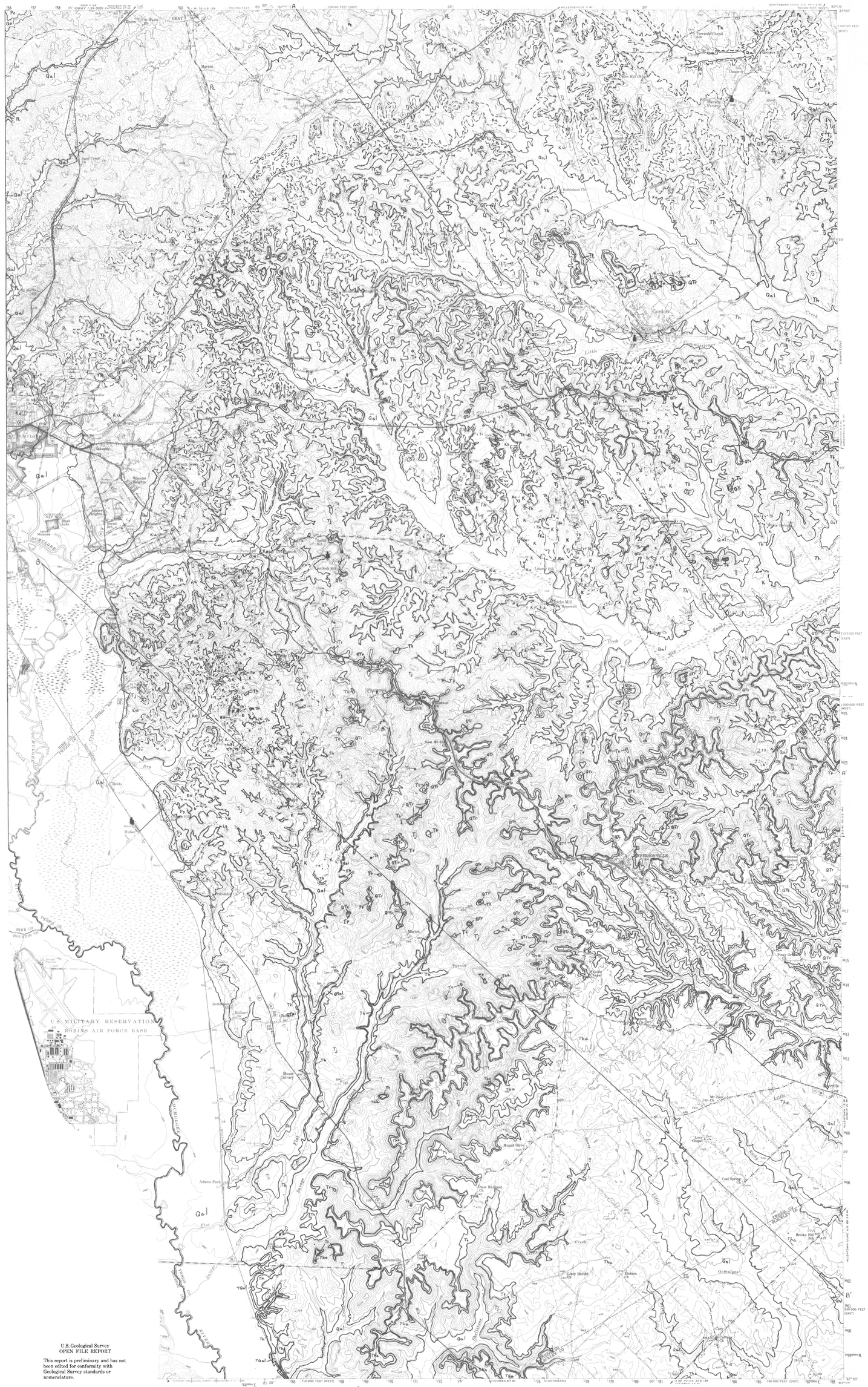
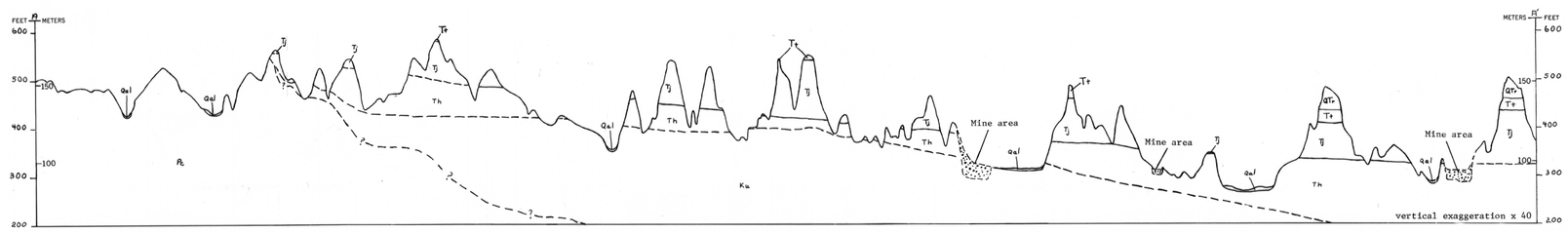
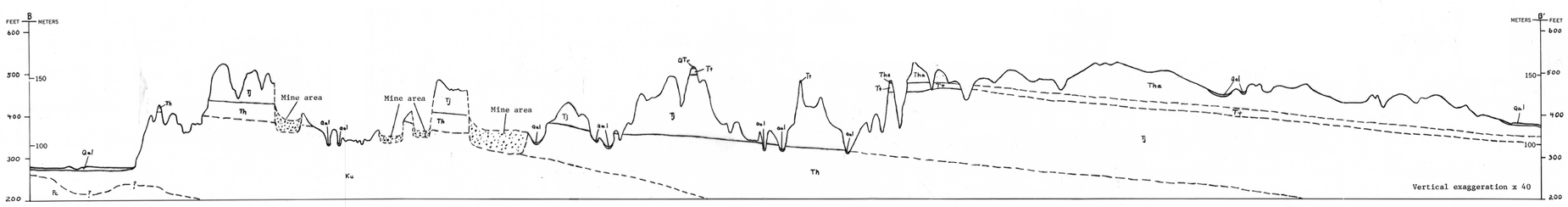
OPEN FILE REPORT

This report is preliminary and has not been edited for conformity with Geological Survey standards or nomenclature.







GEOLOGY AND INDUSTRIAL MINERAL RESOURCES OF THE MACON-GORDON KAOLIN DISTRICT, GEORGIA

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