DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE ECONOMIC DEVELOPMENT ADMINISTRATION
OF THE COMMONWEALTH OF PUERTO RICO
(COAMO)

MISCELLANEOUS GEOLOGIC INVESTIGATIONS
MAP I-337

EXPLANATION

SURFICIAL DEPOSITS

Qc — Coral reefs
Organic reefs primarily composed of coralline rock; those near shore in the western part of the quadrangle have probably stopped growing

Qf — Alluvial fan deposit
Unconsolidated gravel and sand near the mouth of the Río Jueyes

Qs / Qsp — Swamp deposits
Qs, *unconsolidated clay, silt, organic matter, commonly covered by mangrove growth.*
Qsp, *swamp deposits containing considerable peat*

Qa — Alluvium on stream flood plains and low-level terraces
Unconsolidated alluvial gravel and sand, commonly containing cobbles and boulders and generally minor silt and clay

Qat — Terraced alluvial deposits
Unconsolidated alluvial gravel and sand, commonly containing cobbles and boulders and generally little silt and clay. Terraces above present flood level, includes some streambed alluvium

Qb — Beach deposits
Unconsolidated sand, gravel, and cobbles, derived from volcanic rocks, and shell fragments; locally contains as much as 40 percent magnetite by weight according to Guillou and Glass (1957)

Qp / Qps — Piedmont alluvial plain deposits
Qp, *unconsolidated sand, silt, clay, and gravel.*
Qps, *areas with moderate salt accumulation, adapted from Roberts and others (1942)*

QUATERNARY

UNCONFORMITY

STRATIFIED ROCKS

Tc — Cuevas limestone
Pale-pink to white marine limestone; composed of calcareous algal fragments averaging 5 mm in diameter in matrix ranging from nearly pure to slightly sandy limestone; some thin beds of greenish-gray or dusky red sandstone composed mostly of andesitic detritus and about 5 percent quartz sand; about 450 meters of limestone is indicated on map because of limestone rubble cover on south slope of ridge; true thickness may be as little as 30 meters

TERTIARY(?)

UNCONFORMITY ?

Kco — Coamo formation (upper part)
Andesitic sandstone and siltstone including minor massive cobble conglomerate; thin-bedded, contains minor detrital quartz, and is calcareous in most places; olive when fresh, weathers to very pale orange and brownish gray; about 250 meters of Coamo formation crops out in this quadrangle but about 1,500 meters occurs to the north in the adjoining Coamo quadrangle; lower part of Coamo formation in Coamo quadrangle contains Campanian and (or) Maastrichtian (Late Cretaceous) fossils , upper part could be Tertiary

UNCONFORMITY

Krs / Krl — Robles formation
Krs, *sandstone and siltstone, marine, thin-bedded, cherty, olive-gray; includes some massive breccia.*
Krl, *Lapa lava member, albitized basalt; pillowed, with 2 to 5 mm phenocrysts of plagioclase and fewer, somewhat smaller phenocrysts of pyrozene in a fine-grained, dark-gray matrix; phenocrysts of plagioclase are zoned and characteristically crossed and clustered; about 700 meters of Robles formation crops out in this quadrangle; the formation has a maximum thickness of about 1,000 meters in the Coamo quadrangle; lower part of formation contains Albian? to Cenomanian fossils[1] in Cayey quadrangle to northeast*

CRETACEOUS

INTRUSIVE IGNEOUS ROCKS

TKp — Pyroxene-rich mafic dike
Large pyrozene phenocrysts in an altered groundmass composed of chlorite (?), antigorite (?), and calcite; outcrops generally deeply weathered

TKh — Porphyritic hornblende diorite
Hornblende phenocrysts 2 to 5 mm long in a fine-grained groundmass of andesine (?)

CRETACEOUS OR TERTIARY

Contact
Long dashed where approximately located, short dashed where indefinite, dotted where concealed

Fault
Dashed where approximately located, dotted where concealed, queried where doubtful. U, *upthrown side;* D, *downthrown side*

75 — Strike and dip of beds

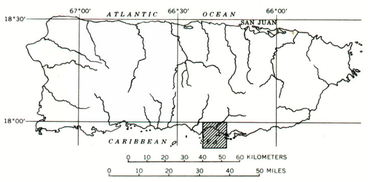
Generalized strike and direction of dip of crumpled bedding

Strike of vertical shearing

REFERENCES CITED

Guillou, R. B., and Glass, J. J., 1957, A reconnaissance survey of the beach sands of Puerto Rico: U. S. Geol. Survey Bull. 1042-I, p. 273-305.
Roberts, R. C., and others, 1942, Soil survey of Puerto Rico: U. S. Bur. Plant Industry, ser. 1936, no. 8, map.

[1] Norman F. Sohl, U. S. Geological Survey (written communication, July 1959)



INDEX MAP OF PUERTO RICO SHOWING AREA OF THIS REPORT

Base map by Topographic Division
U. S. Geological Survey, 1952

APPROXIMATE MEAN DECLINATION, 1961

Geology by Lynn Glover III, 1958

SECTION ALONG LINE A–A'

PRELIMINARY GEOLOGIC MAP OF THE SALINAS QUADRANGLE, PUERTO RICO

By
Lynn Glover III

SCALE 1:20 000

1 ½ 0 1 2 KILOMETERS

1 ½ 0 1 MILE

CONTOUR INTERVAL 10 METERS
1 METER CONTOURS IN DASHED LINES
DATUM IS MEAN SEA LEVEL

1961

MISCELLANEOUS GEOLOGIC INVESTIGATIONS
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INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C. 61024

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