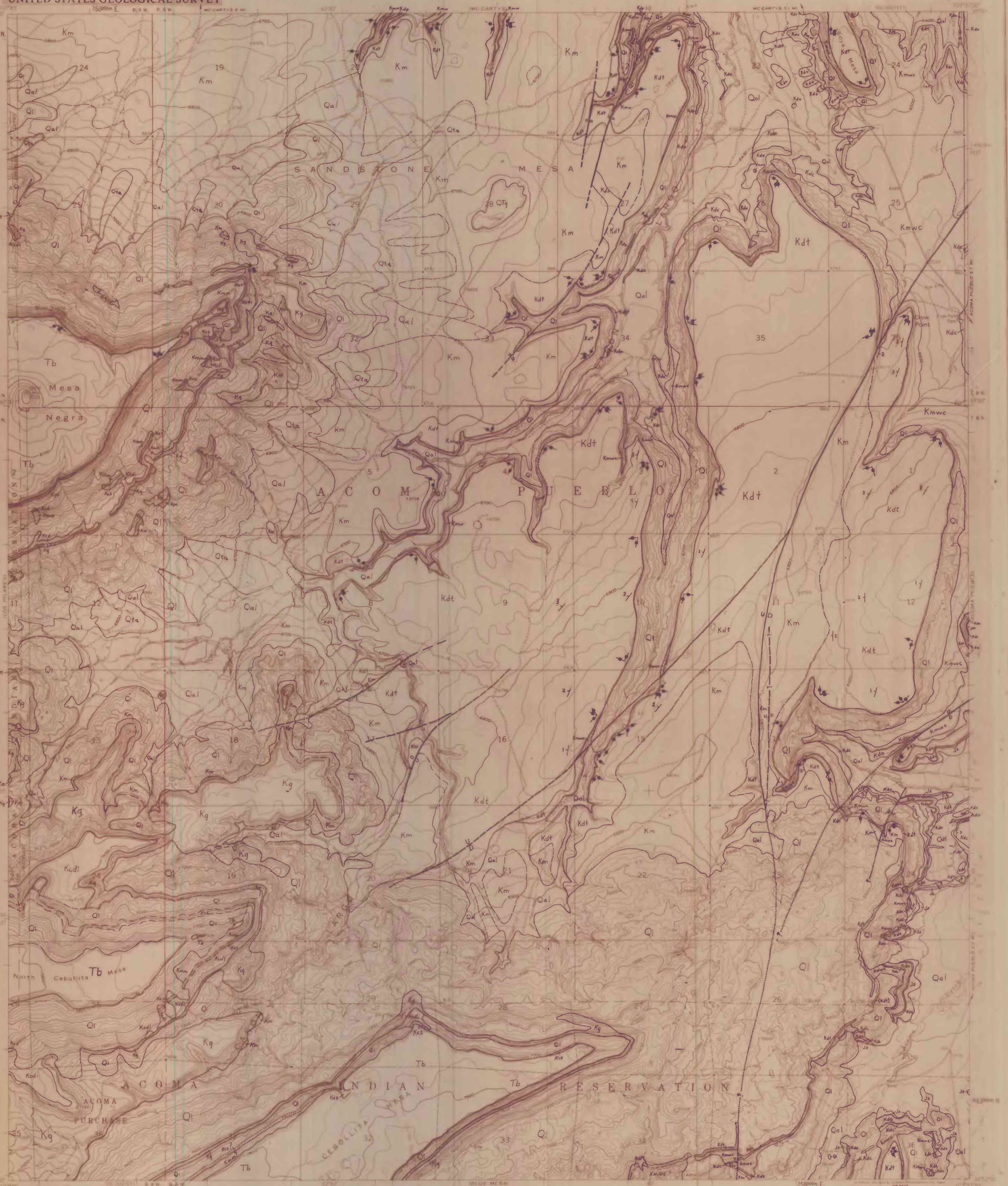
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY



Base from U.S. Geological Survey, 1961.

Geology mapped in 1972-73.

U.S. Geological Survey
OPEN FILE REPORT
This map is preliminary and has not been edited or reviewed for conformity with Geological Survey standards or nomenclature.

PRELIMINARY GEOLOGIC MAP OF THE CROW POINT QUADRANGLE, VALENCIA COUNTY, NEW MEXICO

By
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OPEN-FILE REPORT
77-323
CROW POINT QUAD., NEW MEXICO

CORRELATION OF MAP UNITS

Qal, Qta, Ql, QTg	Holocene and Pleistocene	QUATERNARY
Tb		TERTIARY
Kpl, Keg, Ked, Kmn, Kes, Kedl, Kg, Km, Kdt	Upper Cretaceous	CRETACEOUS
Kmwc: Kmw, Kdp, Kmn		
Kde	Upper and Lower Cretaceous	
Kds	Lower Cretaceous	
Jm, Jz	Upper Jurassic	JURASSIC

DESCRIPTION OF MAP UNITS

Qal ALLUVIUM (HOLOCENE AND PLEISTOCENE)--Composed largely of clayey silt and fine-grained sand, locally few coarse sand grains or pebbles; as much as 15 m exposed in recent gullies. Includes recent eolian deposits and some colluvial deposits

Qta OLD ALLUVIUM, FANS AND GRAVEL (HOLOCENE AND PLEISTOCENE)--Perched debris cones and aprons composed of a sand and silt matrix with small lenses and capping deposits of basalt and sandstone fragments

Ql LANDSLIDE DEPOSITS (HOLOCENE AND PLEISTOCENE)--Mostly tertiary block slides of basalt, Gallup and Dakota Sandstones and Mancos Shale. Includes some rock and mud-flow slides, talus, fan accumulations and alluvium, some of which are derived from outcrops and some from landslide debris. The slides are generally older than the alluvium

QTg TERRACE GRAVELS (HOLOCENE AND PLEISTOCENE)--Composed largely of pebbles and cobbles of Precambrian and Paleozoic rocks in a matrix of fine to coarse gravel and sand, partly cemented by caliche

Tb BASALT FLOWS (TERTIARY)--Cap high mesas, generally aphanitic and vesicular olivine basalts and associated scoria

Kpl POINT LOOKOUT SANDSTONE (UPPER CRETACEOUS)--Yellowish-gray, fine-grained, thin to massive, even-bedded sandstone, local areas of channeling and cross stratification

Keg CREVASSE CANYON FORMATION (UPPER CRETACEOUS)
Gibson Coal Member--Largely covered by landslide debris, thin-bedded sandstone, siltstone, and shale with numerous thin interbeds of highly carbonaceous shale and coal

Ked Dalton Sandstone Member--Light-gray and yellowish-gray, fine- and medium-grained thin- to thick-bedded sandstone

Kes Stray sandstone member--Yellowish-gray, fine- to coarse-grained thin- to medium-bedded sandstone

Kedl Dilco Coal Member--Light yellowish-gray to white thin-bedded sandstone and siltstone and interbedded light- to dark-gray carbonaceous shale and coal beds

Kg GALLUP SANDSTONE (UPPER CRETACEOUS)--Three sandstone tongues separated by two interbedded Mancos shale tongues shown on map as one unit. The sandstone is light brown and light gray fine to medium grained, thin to massive bedded with local areas of cross stratification and local areas of cross stratification and local lenses of dark-brown weathering sandy limestone

MANCOS SHALE (UPPER CRETACEOUS)

Kmm Mulatto Tongue--Fissile olive-gray shale, pale yellowish-brown and yellowish-gray siltstone and fine-grained silty sandstone

Km Main body--Light- to dark-gray friable shale and silty shale with local lenses of calcareous, siliceous, and sandy siltstone and fine-grained sandstone in the upper part. The shale tongues mapped with the Gallup Sandstone are light yellowish-gray and light-gray friable silty shale with thin interbeds of tan laminated silty sandstone

Kmwc Equivalents of Whitewater Arroyo and Clay Mesa Tongues of Mancos Shale--Shale, dark gray, weathers light gray and grayish tan; uppermost part is light-gray silty shale and siltstone which is transitional into overlying unit. Lower 15 m contains 3 thin light greenish-gray bentonite beds and numerous brown weathering dark-gray bentonite beds and numerous brown weathering dark-gray limestone concretions 10 to 20 cm thick and as much as 1 m in diameter. Cone-in-cone and septarian concretions common. Light-gray and grayish-tan siltstone and silty shale zone at top of lower third of unit is probably the lateral equivalent of the Paguate Tongue of the Dakota Formation. The Mancos Shale weathers to steep soft slopes almost entirely covered by colluvium, talus derived from overlying sandstone, or by landslides

Kmw Whitewater Arroyo Tongue of Mancos Shale

Kmc Clay Mesa Tongue of Mancos Shale

DAKOTA FORMATION

Kdt Twowells Tongue (Upper Cretaceous)--Sandstone, fine to very fine grained, silty, local thin lenses medium to coarse grained; light gray weathers to grayish orange, light brown and tan; thin to medium bedded. Local thicker lenses have foreset type crossbeds, resistant slabby beds at top grading downward to silty sandstone with thin interbeds of siltstone in lower part, contains many imprints, burrows, trails, and disturbed bedding. Uppermost part contains "*Cryphaea*" *newberryi* Stanton (Landes and others, 1973, p. J9)

Kdp Paguate Sandstone Tongue (Upper Cretaceous)--Light brown and tan, fine to very fine grained; local lenses in northern part are medium to coarse grained, thin to medium bedded. Pinches out in north central part of map area.

Kde Cubero Sandstone Tongue (Upper Cretaceous)--Light grayish-tan, weathering yellowish-gray, very fine grained sandstone and siltstone. Carbonaceous plant fragments, tracks, trails, and borings are abundant, especially near top. Brown-weathering limestone concretions, locally very fossiliferous, occur in upper part of unit; lower part contains thin to very thin interbeds of very fine grained sandstone, siltstone, limestone, and shale, locally very fossiliferous

Kds Oak Canyon Member (Upper and Lower Cretaceous)--Sandstone and siltstone, light gray and grayish tan, locally calcareous or carbonaceous; sandstone is very fine grained and thin bedded, siltstone is generally shaly with abundant finely comminuted carbonaceous material; numerous thin-bedded light-gray, brown weathering, fossiliferous limestone lenses and concretions and limestone or aragonite cone-in-cone concretions

Basal sandstone units of the Oak Canyon Member (Lower Cretaceous)--Comprising two distinct and easily separated facies, a lower fluvial-tile conglomerate and sandstone and an upper paralic sandstone. They are shown as one map unit because of space limitations. Upper unit: sandstone, light gray to white, thin bedded, fine to medium grained, angular to well-rounded grains predominantly of quartz, with sparse feldspar, chert, and quartzite grains; siliceous cement. Generally smooth, even-bedded, locally disturbed by trails and burrows. Present only along southeastern edge of quadrangle. Lower unit: sandstone and conglomerate, light gray to white, medium to coarse grained, poorly sorted, rounded to angular grains; festoon crossbedding. Lenses and layers of conglomerate, especially at base of unit, have prominent scour and fill structures

Jm MORRISON FORMATION, BRUSHY BASIN MEMBER (UPPER JURASSIC)--Green and grayish-green claystone, siltstone, and sandstone. Present only on eastern edge of map, is truncated by basal Dakota sandstone a few hundred meters south of outcrop

Jz ZUNI SANDSTONE (UPPER JURASSIC)--Sandstone, variable in color, generally yellowish gray or tan, locally chalk white or grayish green, fine to medium grained, well-rounded grains largely of quartz, very well sorted, large-scale eolian crossbeds

——— CONTACT--Dashed where approximately located of inferred from aerial photographs, dotted where concealed

U/D ---?--- FAULT--Dashed where approximately located, dotted where concealed, queried where uncertain. U, upthrown side; D, downthrown side

STRIKE AND DIP OF BEDS

STRIKE OF VERTICAL JOINT SETS

REFERENCE

Landis, E. R., Dane, C. H., and Cobban, W. A., 1973, Stratigraphic terminology of the Dakota Sandstone and Mancos Shale, west-central New Mexico: U.S. Geol. Survey, Bull. 1372-J.