UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WATER-SUPPLY PAPER 1658
PLATE 1

EXPLANATION

QUATERNARY

Pleistocene and Recent

Qds — Dune-sand deposits
Fine to medium sand and minor amounts of clay and silt. Forms mobile sand dunes. Not recharge from precipitation. Merged only with alluvium for hydrologic purposes. Yields small quantities of water locally to domestic and stock wells

Qsw — Slope-wash deposits
Poorly sorted clay, silt, sand, and gravel. Yield small to moderate quantities of water to domestic and stock wells and to a few irrigation wells

Qal — Alluvium
Interbedded clay, silt, sand, and gravel. Contains some cobbles and boulders. Includes some slope wash along edges of Badie Draw and Box Elder Creek valley. In area east of Derby includes deposits above and older than those of Kersey terrace. Qal, Qt1, and Qt2 undifferentiated in Brighton area. Unconsolidated and some interbedded, altered volcanic ash. Yields moderate to large quantities of water to irrigation, municipal, industrial, domestic, and stock wells

Valley-fill deposits

Qt1 — Deposits of the Kiner terrace
Interbedded clay, silt, sand, and gravel. Contains some coarse gravel. Yield large quantities of water to irrigation, municipal, industrial, domestic, and stock wells

Qt2 — Deposits of the Kersey terrace
Interbedded clay, silt, sand, and gravel. The lower part consists of cobbles and boulders. Yields large quantities of water to irrigation, municipal, industrial, domestic, and stock wells

CRETACEOUS AND TERTIARY

Upper Cretaceous and Paleocene

TKd — Denver formation
Light-gray, bluish-gray, and brown clay, soft shale, and siltstone containing much carbonaceous material, interbedded with lenticular beds of sandstone and conglomerate. Sandstone is gritty, calcareous, and conglomeratic. Lower sandstones and conglomerates especially contain much andesitic material. Yields small quantities of water to domestic and stock wells

Ka — Arapahoe formation
Upper pile (not exposed in area) predominantly blue or gray sandy shale and clay and a few lenticular sandstones which supply small to moderate quantities of water to wells.
Lower pile (not exposed in area) of white to yellow arkosic sand, gravel, and conglomerate, variously indurated, and minor amounts of shale and clay. Yields moderate quantities of water to public-supply, industrial, domestic, and stock wells

Upper Cretaceous

Kl — Laramie formation
Upper 400 feet consists of olive-gray silty shale, contains lenticular beds of sandstone and numerous carbonaceous beds and thin coal beds. Lower 400 feet consists of olive-gray to gray silty shale, several relatively thin beds of sandstone, and fairly thick beds of subbituminous coal. At the base is a sandstone member, commonly about 100 feet or less thick, that contains beds that locally are conglomeratic. Some of the upper beds of sandstone and the basal beds of sandstone yield small to moderate supplies of water to industrial, public-supply, domestic, and stock wells

Kfh — Fox Hills sandstone
Uniformly bedded buff to pale-yellow friable medium-grained sandstone and interbedded gray to black silty shale and silty sandstone. Contains a few thin beds of coarse sandstone at top. Yields small to moderate quantities of water to public-supply, industrial, domestic, and stock wells

TKu — Denver, Dawson, Arapahoe and Laramie formations undifferentiated (see text)

Contact
Dashed where approximately located; dotted where inferred or covered by surficial material; queried where doubtful

Geologic sections found on plates 2 and 3

Base from U. S. Geological Survey topographic quadrangles

MAP OF THE SOUTH PLATTE RIVER BASIN IN WESTERN ADAMS AND SOUTHWESTERN WELD COUNTIES, COLORADO SHOWING AREAL GEOLOGY AND LOCATION OF GEOLOGIC SECTIONS

SCALE 1:63,360
CONTOUR INTERVAL 50 FEET
DATUM IS MEAN SEA LEVEL

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—63007

Geology compiled primarily from aerial photographs but modified in part from geologic maps by Emmons, Cross and Eldridge (1896) and Hunt