



EXPLANATION

Recent

- Artificial fill**
Fill at coal mines and along roadways not mapped. Outlined only at larger damsites.
- Post-Piney Creek alluvium**
Reworked gravel (shown by pattern) locally overlain by 1 to 3 feet of noncalcareous sand and silt, which, along South Boulder Creek, is divisible into two units. Mapped only in flood plain of main streams.
- Piney Creek alluvium**
Light to dark gray, slightly calcareous clay, silt, sand, and gravel prominent in upland valleys, along Coal Creek, and on fans at mouths of small valleys tributary to South Boulder Creek. Commonly more than 10 feet thick, even in small valleys.
- Colluvium**
Ranges from stony to clayey, depending upon source material immediately upslope. Rarely more than 3 feet thick on gentle slopes.

Wisconsin

- Gravel fill**
Cobble and pebble gravel containing scattered boulders. Chiefly confined to main valleys. Well rounded and granitic along South Boulder Creek; poorly rounded and quartzitic elsewhere. Brown and clayey horizon at top grades downward into moderately calcareous zone.
- Alluvial fill**
Stratified clay, silt, and sand with gravel lenses. As much as 7 feet thick east of Base Line Reservoir. Brown clayey prismatic layer at top grades downward into a grayish-buff loamy calcareous layer.
- Eolian silt and sand**
Largely structureless. Thickness exceeds 10 feet in northeast part of quadrangle. Distinctive soil profile developed on this deposit is correlated with the mid-Wisconsin soil of Nebraska and Kansas.

Pleistocene

- Cobble gravel**
Coarse gravel along and partly under flood plain of South Boulder Creek. Rich in red sandstone from nearby foothills. Extruded and partly cemented by calcium carbonate below at depth of 12 to 18 inches.
- Undifferentiated upland deposits**
Strongly weathered alluvial, colluvial, and eolian deposits residual upon valley walls and lower interfluvies. Gravelly areas shown by pattern. Impregnated with calcium carbonate below a red-brown clayey layer which is only locally preserved.

Pliocene or lower Pleistocene

- Terrace gravel**
Strongly weathered gravel on terraces 150 feet or more above valley bottoms and related to present integrated drainage. The deposit reaches a maximum of 10 feet in thickness and locally contains much sand and silt. Calcium carbonate-impregnated layer is usually at the surface but is locally buried by residuum (re).
- Upland gravel**
Strongly weathered gravel on Davidson Mesa, Lake Mesa, and pediment remnants (probably correlative) below Rocky Flats. Southern part reworked from older surficial deposits; northern part chiefly derived from source rocks in the mountains. Low-lime-content facies (shown by pattern) grades down-slope into calcic facies.
- Gravel on Rocky Flats**
Pediment gravel; boulders and cobbles near mountain front, and cobbles and pebbles with sand lenses at eastern margin. Strongly weathered. Ranges in thickness from less than 1 foot to about 50 feet on dissected, steeply dipping bedrock; average thickness is about 10 feet. Low-lime-content facies (shown by pattern) grades down-slope into calcic facies.
- Old gravel**
Boulder and cobble gravel on bedrock knob standing 40 feet above Rocky Flats. May once have been continuous with gravel on bench about 100 feet above Rocky Flats, 1 1/2 miles to the NNW. (In Eldorado Springs quadrangle).

Upper Cretaceous and Paleocene

- Undifferentiated bedrock**
Cretaceous Pierre shale, Fox Hills sandstone, Laramie and Anapoebe formations, and probably lower part of Denver formation on east border of quadrangle at the boundary of Boulder and Jefferson Counties. Paleocene strata may be present under Rocky Flats east of the Capitol mine.

TERTIARY OR QUATERNARY

TERTIARY AND CRETACEOUS

— Contact located within 100 feet
- - - Contact located within 300 feet
... Contact obscure

TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1950

SURFICIAL GEOLOGIC MAP OF LOUISVILLE QUADRANGLE, COLORADO

