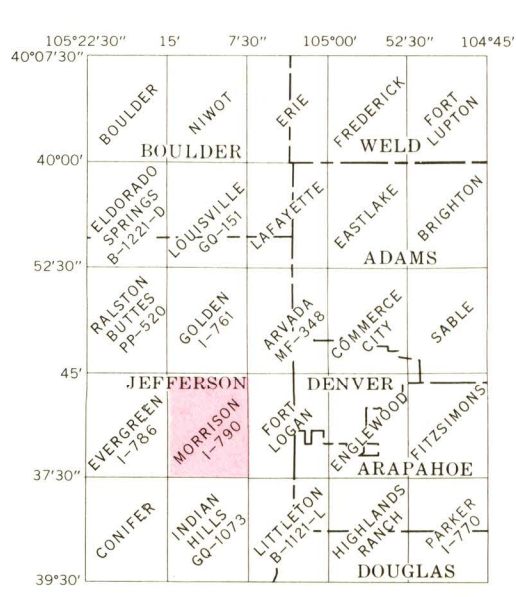


INFERRED RELATIVE PERMEABILITY
Permeability of geologic materials express the rate of movement of liquids into and through the materials. Quantitative permeability was not tested, but the formations are divided into three approximate categories, relative to each other, based on texture. Geologic materials shown on the geologic map of the Morrison quadrangle (1-790-A) are listed for each category, and a large range of permeability is possible within each category. This map is prepared as a guide for planning and should not be used for design without testing the permeability of the geologic materials.

- HIGH PERMEABILITY**
 - Nussbaum(?) Alluvium¹
 - Rocky Flats Alluvium¹
 - Verdon Alluvium¹
 - Slocum Alluvium¹
 - Louviers Alluvium
 - Broadway Alluvium
 - Piney Creek Alluvium (part)
 - Colluvium (part)
 - Landslide (part)
 - Post-Piney Creek alluvium - Water table is shallow in this unit
 - Eolian sand
 - Artificial fill
 - Talus
- MEDIUM PERMEABILITY**
 - Piney Creek Alluvium (part)
 - Colluvium (part)
 - Rock slide
 - Saprotic weathered zone
 - Green Mountain Conglomerate - Claystone beds have low permeability
 - Ataphoe Formation - Upper shaly part has low permeability
 - Laramie Formation - Clay beds have low permeability
 - Fox Hills Sandstone - Upper shaly part has low permeability
 - Dakota Group - Clay beds have low permeability
 - Lyons Sandstone
 - Fountain Formation
- LOW PERMEABILITY**
 - Pierre Shale
 - Landslide (part)
 - Colluvium (part)
 - Denver Formation
 - Niobrara Formation
 - Graneros Shale
 - Greenhorn Limestone
 - Carlile Shale
 - Morrison Formation
 - Kalston Creek Formation
 - Lykins Formation
 - Crystalline rocks - In the mountains and on South Table Mountain and Green Mountain these rocks have low permeability except along fractures where there is high permeability. Thin highly permeable surficial deposits overlying crystalline rocks can contribute to the potential intermixing of liquids in water wells and septic systems in the mountains

¹Clayey soil in upper part of unit has lower permeability than gravel in lower part.



INDEX SHOWING LOCATION OF MORRISON QUADRANGLE

Base from U.S. Geological Survey, 1965
Photorevised in 1971
10,000-foot grid based on Colorado coordinate system, central zone
1000-meter Universal Transverse Mercator grid, zone 13.

SCALE 1:24,000

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

COLORED QUADRANGLE LOCATION

Contacts from geologic map of Morrison quadrangle (1-790-A)

**MAP SHOWING INFERRED RELATIVE PERMEABILITY OF GEOLOGIC MATERIALS
IN THE MORRISON QUADRANGLE, JEFFERSON COUNTY, COLORADO**

By
Glenn R. Scott
1972