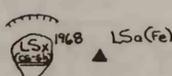


Preliminary report on the engineering geology of the Eldorado Springs  
quadrangle, Boulder and Jefferson Counties, Colorado

MAP EXPLANATION

Surficial deposits (Engineering soils)		Sedimentary bedrock		Igneous and metamorphic bedrock	
Fv	Sanitary landfill	<u>cs-ms</u>	Highly swelling claystone and siltstone	gt	Granite
Fe	Earthwork	<u>cs-sh</u>	Moderately swelling claystone and shale	pa	Pegmatite and aplite
FR	Rubble fill	<u>ms-sh</u>	Slightly swelling siltstone and shale	rc	Cemented crushed rock
Rss	Sandstone rubble	cs-ms	Nonswelling claystone and siltstone	q	Quartzite
Rq	Quartzite rubble	ms-cs-ls	Siltstone, claystone and limestone	qs	Schist
GS	Cobble, gravel and sand	ms	Red siltstone	bg	Biotite gneiss
Smb Gmb	Silty bouldery sand and gravel	ss-ms	Sandstone and siltstone	hg	Hornblende gneiss
Smo	Organic silty sand and gravel	<u>ss-ms-cs</u>	Hard sandstone, siltstone, and claystone	db	Diabase
Gcb	Bouldery gravel and clay	<u>ss</u>	Hard sandstone	fr	Thoroughly fractured rock
SCb	Bouldery sand, silt, and clay	cgl-ms	Conglomerate and siltstone		
Cpb	Pebbly bouldery clay	ls	Limestone		



Known



Inferred



Possible

Landslide deposits showing headscarps

Map symbols enclosed in parentheses (Cpb) indicate soil texture or rock lithology of the landslide deposit. Two or more symbols enclosed in parentheses (Cpb, cs-sh) indicate composite of map units in landslide mass

Known landslide deposits.--Areas where slopes of earth, rock, or manmade fill were observed to have failed during the time of field study (June 1968 to January 1969), or where recent failure can be demonstrated from aerial photographs, other maps, and written reports and records. Includes areas where: landslide deposits have been removed by excavation--LSx; where stabilized artificially by redistribution of material--LSs; where continued activity probable--LSa. Locations accurately shown. Areas indicated by blackened triangles generally less than 200 feet wide

Inferred landslide deposits.--Areas where slope failures in earth or rock masses were not demonstrable when mapped, but where landsliding is inferred, from geologic or topographic evidence, to have occurred at some time in the past. Boundaries are approximately located

Possible landslide deposits.--Areas where slope failures in earth or rock masses were neither known nor inferred when the area was mapped, but where geologic or topographic features suggest the possibility that landsliding may have occurred at some time in the past. Boundaries indefinite

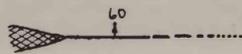


Wet areas including springs

Areas of wet-weather seeps, of leakage from canals and reservoirs, and of seasonal fluctuation of the ground-water table to within about 5 ft of the ground surface

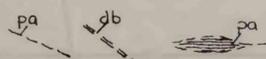
Contact

Dashed where approximately located; short dashed where gradational or inferred; dotted where concealed. Map symbols enclosed in parentheses indicate bedrock materials concealed by surficial deposits



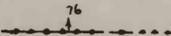
Fault, showing dip

A fracture, or fractured zone, in rock along which past movement parallel to the fracture can be demonstrated. In most places, faults contain breccia (crushed, angular rock), gouge (clay and finely divided rock fragments), or cemented breccia and gouge. Water found in fracture near faults in western part of area. In granite, biotite gneiss and hard sandstone faults commonly grade into shear zones of thoroughly fractured rock (fr). Symbols dashed where approximately located; short dashed where inferred; dotted where concealed



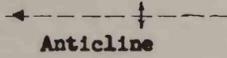
Dikes

Tabular bodies of igneous rocks. Dikes composed of granitic to dioritic rock are not differentiated separately from "Granite (gt)"; other rocks indicated as follows: pegmatite and aplite--pa; diabase--db

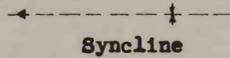


Vein, showing dip

Mineralized deposits forming tabular bodies in altered or fractured rock. Vein and host rock exposed in places in long, narrow prospect pits. Symbol dashed where approximately located

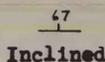


Anticline

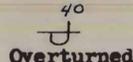


Syncline

An anticline is an elongated fold in which beds are inclined away from the fold axis as shown by small arrows; a syncline is an elongated fold in which beds are inclined toward the fold axis as shown by small arrows. Large arrows indicate plunge of folds. Lines show approximate position of fold axes; short-dashed where inferred



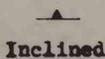
Inclined



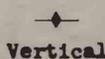
Overturned

Strike and dip of bedding in sedimentary rocks

Strike is the compass direction of a line formed by the intersection of a bedding plane with the horizontal. Dip is the angle, perpendicular to the strike, between a bedding plane and the horizontal measured in the direction of inclination



Inclined



Vertical

Strike and dip of foliation in metamorphic rocks

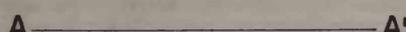
Foliation is the layering, banding, or lamination of metamorphic rocks. Strike and dip measurements are measured in the same manner as those of bedding described above



Shaft



Adit or tunnel



Line of geologic section