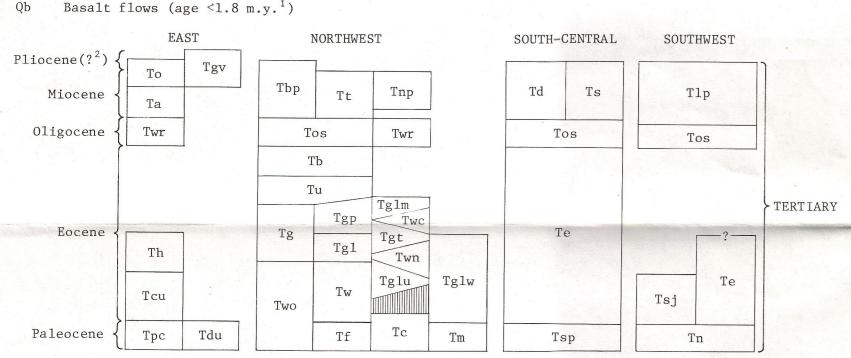
Bridgetimber, and Bayfield Gravels in south-Qe Eolian deposits--Includes dune sand and silt and

Peorian Loess Qeo Older eolian deposits--Includes Loveland Loess Qd Glacial drift of Pinedale and Bull Lake Glaciations--Includes some unclassified glacial

Qdo Older glacial drift (pre-Bull Lake age) Ql Landslide deposits--Locally includes talus, rock-glacier, and thick colluvial deposits



SEDIMENTARY ROCKS OF TERTIARY AGE

To Ogallala Formation--Loose to well-cemented sand Two and gravel Tgv Bouldery gravel on old erosion surfaces in Front Range and Never Summer Mountains Ta Arikaree Formation--Sandstone; contains abundant volcanically derived material

Twr White River Formation or Group--Ashy claystone and sandstone. Includes Castle Rock Conglomerate in region southeast of Denver Th Huerfano Formation--Shale and sandstone. Includes Farisita Conglomerate in northwestern Huerfano County

Tcu Cuchara Formation--Sandstone and shale Tpc Poison Canyon Formation--Arkosic conglomerate, sandstone, and shale Tdu Upper part of Dawson Arkose--Arkosic sandstone,

conglomerate, and shale. Includes Green Mountain Conglomerate

Tbp Browns Park Formation--Sandstone and siltstone; Td Dry Union Formation--Siltstone, sandstone, and west of Park Range Tt Troublesome Formation--Sandstone and siltstone; in Middle Park Tnp North Park Formation--Sandstone, siltstone, and conglomerate; in North Park and Laramie

Tos Oligocene sedimentary rocks--Includes Duchesne River Formation (sandstone and shale) and Bishop Conglomerate near Utah border Twr White River Formation--Ashy claystone and sandstone; in North Park Tb Bridger Formation--Claystone and mudstone; in

Sand Wash basin Tu Uinta Formation--Sandstone and siltstone; in Piceance basin. Formerly Evacuation Creek Member of Green River Formation Green River Formation--Marlstone, sandstone,

and oil shale Parachute Creek Member--Oil shale, marlstone, and siltstone; in Piceance basin Lower part--Shale, sandstone, marlstone, and limestone in Anvil Points, Garden Gulch, and Douglas Creek Members; in Piceance basin Laney Member -- Claystone, oil shale, and

sandstone; in Sand Wash basin Tipton Tongue--Claystone and oil shale; in Sand Wash basin. In extreme northwest includes rocks of Wilkins Peak Member

Miocene

Eocene

Tbb Basalt flows and associated tuff, breccia, and

Tbbi Basaltic intrusive rocks related to basalt flows

Tbr Rhyolitic intrusive rocks and flows of late-

Tbrt Ash-flow tuff of late-volcanic bimodal suite

Taf Ash-flow tuff of main volcanic sequence (age

and many other occurrences

(Tbb)--In dikes and plugs

volcanic bimodal suite

Eocene

Upper

TKda Denver and Arapahoe Formations--Sandstone,

Tdv Basaltic flows in Denver Formation near

TKdl Denver Formation or lower part of Dawson

Golden (age 62-64 m.y.)

materials

in Raton Basin

Cretaceous \L

mudstone, claystone, and conglomerate;

Arkose--Arkosic sandstone, shale, mud-

TKr Raton Formation--Arkosic sandstone, siltstone,

stone, conglomerate, and local coal beds

and shale; contains major coal deposits

Denver is characterized by andesitic

(age 22-23 m.y.)

conglomerate of late-volcanic bimodal

suite (age 3.5-26 m.y.)--Includes basalts

in San Juan Mountains 26-30 m.y.; in South

Park 29-32 m.y.) -- Includes many named units

Servilleta Formation in San Luis Valley,

of Hinsdale Formation in San Juan Mountains,

Oligocene {

Tbbi Tbr

. TKda Tdv TKdl TKr TKa

¹Million years.

SEDIMENTARY AND IGNEOUS ROCKS OF EARLY TERTIARY

AND LATE CRETACEOUS AGE

Age of upper parts of uppermost Tertiary

units is problematic. These parts have his-

Successive reductions in radiometric age of

the base of the Pliocene in Europe to 7 m.y.

places a Pliocene age in question, though top

(Lambert, 1971) or 5 m.y. (Berggren, 1972)

beds of the formations have not been dated.

torically been assigned to the Pliocene.

IGNEOUS ROCKS OF TERTIARY AGE

Taf | Tial | Tiql

Twm

Tglu Luman Tongue--Carbonaceous shale and mar1stone; in Sand Wash basin Tglw Lower part of Green River Formation and Wasatch Formation--Shale and sandstone Wasatch Formation--Claystone, shale, and

sandstone

-- Includes Slocum, Verdos, Rocky Flats, and not all be of the same age Nussbaum Alluviums in east, and Florida,

in San Luis Valley

QTsa

QTa

Alamosa Formation (gravel, sand, and silt)

UNCONSOLIDATED DEPOSITS OF

QUATERNARY AND LATE TERTIARY AGE

QTsa Unclassified surficial deposits and underlying

QTa Ancient alluvium--In isolated patches that may

TERTIARY

Holocene

Pleistocene

Pliocene

Northwest (Continued) Cathedral Bluffs Tongue--Claystone, mudstone, and sandstone; in Sand Wash basin Niland Tongue--Mudstone, sandstone, and carbonaceous shale; in Sand Wash basin Two Wasatch Formation (including Fort Union equivalent at base) and Ohio Creek Formation--

glomerate Fort Union Formation--Shale, sandstone, and local coal beds Coalmont Formation--Arkosic sandstone, con-

South-central

Santa Fe Formation--Siltstone, sandstone, and

tion (Miocene) in South Park

Tos Oligocene sedimentary rocks--Includes Floris-

Tsp South Park Formation--Arkosic sandstone and

Tlp Los Pinos Formation--Volcaniclastic conglom-

Tos Oligocene sedimentary rocks--Includes Creede

Tsj San Jose Formation--Siltstone, shale, and

Tn Nacimiento Formation--Shale and sandstone

east of Gunnison

and conglomerate)

Tial Intra-ash-flow andesitic lavas

Tiql Intra-ash-flow quartz latitic lavas

Tpl Pre-ash-flow andesitic lavas, breccias, tuffs,

--Includes several named units

Tui Upper Tertiary intrusive rocks (age <20 m.y.)

Twm Wall Mountain Tuff (older than tuffs of San

and conglomerates (general age 30-35 m.y.)

Juan provenance; age 35-36 m.y.)--Early

Volcanic rocks in northwestern Colorado (age

Intermediate to felsic compositions

CRETACEOUS

and conglomerate; contains abundant vol-

iclastic McDermott Member at base

TKec Telluride Conglomerate of Eocene prevolcanic

TKi Laramide intrusive rocks (age 40-72? m.y.)--

some mafic

canic materials; Upper Cretaceous volcan-

sedimentary rocks (Te) and Cimarron Ridge

m.y.)--In northwestern San Juan Mountains

Mainly intermediate to felsic compositions;

Formation (Upper Cretaceous, volcanic

breccia and conglomerate, age about 66

TKa Animas Formation--Arkosic sandstone, shale,

Middle Tertiary intrusive rocks (age 20-40

ash-flow tuff of Sawatch Range provenance

<7-33 m.y.)--Mainly of intermediate compo-

m.y.)--Intermediate to felsic compositions

sandstone

andesite flows and breccia

conglomerate. Includes Wagontongue Forma-

sant Lake Beds (tuffaceous shale and tuff)

and Antero Formation (limestone, tuff,

tuffaceous sandstone, and conglomerate)

sand and bouldery gravel of Echo Park

shale, volcaniclastic conglomerate, and

erate interbedded with basalt flows of

Hinsdale Formation (Tbb) on east flank

into Santa Fe Formation of San Luis Valley

Formation (tuffaceous siltstone, sandstone,

and conglomerate) and gravels interbedded

with volcanic rocks northeast and south-

Eocene prevolcanic sedimentary rocks--Includes

Telluride Conglomerate and Blanco Basin

Formation (arkosic mudstone, sandstone,

of San Juan Mountains. Grades laterally

Eocene prevolcanic sedimentary rocks--Arkosic

Divide

conglomerate

Alluvium

glomerate, and shale; coal in lower part: in North Park Middle Park Formation exclusive of Windy Gap Member--Arkosic sandstone and conglomerate containing abundant volcanic materials. Arbitrary line between Middle Park and Coalmont Formations is at Continental

Claystone, mudstone, sandstone, and con-

Kmv Mesaverde Formation, undivided--Major coal beds in lower part; Rollins Sandstone Member at base in Delta, Gunnison, and Pitkin Counties Mesaverde Group or Formation Kmvu Upper part--In Moffat and Rio Blanco Counties, sandstone, shale, and coal beds above Sego Sandstone. Along Grand Hogback south of Colorado River, sandstone and shale above coal-bearing sequence Kmvl Lower part--Sandstone, shale, and major coal

thin but persistent unit distinguished only locally Kdb Dakota Sandstone and Burro Canyon Formation--Sandstone, shale, and conglomerate CRETACEOUS KJdm KJdj KJdw KJdr KJde KJds

SEDIMENTARY ROCKS OF CRETACEOUS AND JURASSIC AGES

See under headings immediately above and below for

NORTHWEST AND WEST-CENTRAL

Kmv1 ... Kmgs

Kmfm

SEDIMENTARY ROCKS OF CRETACEOUS AGE

K1f

Kp1

Kvt

Kf

Kn

Kcg

Kdp

Klf Laramie Formation and Fox Hills Sandstone

Kvt Vermejo Formation (shale, sandstone, and

reesidei and B. scotti

Kn Niobrara Formation--Calcareous shale and

Kcg Carlile Shale, Greenhorn Limestone, and

Kc Colorado Group--Consists of Niobrara Formation

Kpg Pierre Shale (Kp), Niobrara (Kn), and Carlile,

Kdp Dakota Sandstone and Purgatoire Formation--

Northwest and west-central

Kmw Windy Gap Member (Upper Cretaceous?) of Middle

Kl Lance Formation--Shale, sandstone, and minor

Sandstone and shale

Kd Dakota Sandstone or Group

glomerate

Kls Lewis Shale

and major coal beds

Pierre Shale, undivided

limestone

Graneros Shale

Kl Laramie Formation--Shale, claystone, sandstone,

major coal beds) and Trinidad Sandstone

Middle unit--In Boulder-Fort Collins area,

Terry, and Hygiene Sandstone Members;

Lower unit -- Sharon Springs Member (organic-

(Kn) and either Benton Shale or Carlile,

Greenhorn and Graneros Formations (Kcg)

Greenhorn, and Graneros (Kcg) Formations,

coal beds; Fox Hills equivalent at base

Park Formation--Andesitic breccia and con-

contains Richard, Larimer, Rocky Ridge,

elsewhere, shale between zones of Baculites

rich shale and numerous bentonite beds) in

Upper

Cretaceous

Cretaceous

Kf Fox Hills Sandstone

SOUTHWEST

Kpc1

Kdb

Northwest and west-central (continued)

Ki Iles Formation--Sandstone and shale. Trout

Ksc Sego Sandstone, Buck Tongue of Mancos Shale,

Kh Hunter Canyon Formation--Sandstone and shale

Kmgs Mount Garfield Formation and Sego Sandstone--

lower part of Mount Garfield

Km Mancos Shale--Intertongues complexly with units

and Castlegate Sandstone

intervening shale zone

erate and shale)

Kfd Frontier Sandstone and Mowry Shale Members of

Kdb Dakota Sandstone and Burro Canyon Formation--

Southwest

Kkf Kirtland Shale and Fruitland Formation--Shale,

Kmp Menefee Formation (sandstone, shale, and coal)

Kmv Mesaverde Group, undivided--Sandstone and shale

Juana Lopez Member--Calcareous sandstone; a

Km Mancos Shale--Lower part contains Juana Lopez

sandstone, and major coal beds

Kpcl Pictured Cliffs Sandstone and Lewis Shale

and Point Lookout Sandstone

Sandstone, shale, and conglomerate

Dakota Sandstone

Kch Cliff House Sandstone

Member (Kmj)

major coal beds

in upper half

Williams Fork Formation--Sandstone, shale, and

Creek Sandstone Member at top; coal beds

Sandstone and shale; major coal beds in

of overlying Mesaverde Group or Formation;

lower part consists of a calcareous Niobrara

equivalent and Frontier Sandstone and Mowry

Shale Members; in areas where the Frontier

and Mowry Members (Kmfm), or these and the

Frontier Sandstone and Mowry Shale Members and

Mancos Shale and Dakota Sandstone--Locally

(shale and sandstone) or, in western Moffat

County, Cedar Mountain Formation (conglom-

includes, at base, Burro Canyon Formation

map unit (Km) consists of shale above Fron-

Dakota Sandstone (Kfd) are distinguished,

- CRETACEOUS

KJdm Dakota and Morrison Formations KJdj Dakota, Burro Canyon, Morrison, and Junction Creek Formations--Burro Canyon is locally KJdw Dakota, Burro Canyon, Morrison, and Wanakah

Formations KJdr Dakota Group and Morrison and Ralston Creek Formations at mountain front between Boulder and Colorado Springs Dakota, Purgatoire, Morrison, and Ralston Creek Formations in Canon City area

compositions and age designations of formations KJde Dakota, Purgatoire, Morrison, Ralston Creek, and Entrada Formations in southeast Dakota, Morrison, and Entrada Formations in central mountains Dakota, Burro Canyon, Morrison, Wanakah, and Entrada Formations in Gunnison River area Dakota, Morrison, Curtis, and Entrada Formations in northwest KJds Dakota, Morrison, and Sundance Formations

EXPLANATION

Triassic

Triassic

Upper Permian

Lower

Permian

FP1 Lykins Formation--Red siltstone, shale, and

RPs State Bridge Formation--Red and orange silt-

TPjs Jelm, Lykins, Lyons, and Satanka Formations

TPcs Chinle and State Bridge Formations--Red

PPcp Chinle, Moenkopi, and Park City Formations

siltstone and sandstone

--Red siltstone, shale and sandstone

--Red and gray siltstone, shale and

SEDIMENTARY ROCKS OF PERMIAN AGE

Upper Permian rocks, undivided--Siltstone,

dolomite, and sandstone; in southeast

Pp Park City Formation--Calcareous siltstone

Pc Cutler Formation--Arkosic sandstone, silt-

Upper and }

PPf Fountain Formation--Arkosic sandstone and

of Fountain Formation

Pennsylvanian

Pennsylvanian

Lower

Pennsylvanian

Middle

Prcf Casper Formation (sandstone) and lower part

Prif Ingleside Formation (limestone and calcareous

Pm Minturn Formation in west-central and south-

(1952) in Elk Mountains

SOUTHERN FRONT RANGE

AND WET MOUNTAINS

Southern Front Range and Wet Mountains

MC Leadville Limestone (Mississippian), Williams

Quartzite (Cambrian)

Manitou Limestone

Limestone

and shale)

(Cambrian)

and Sawatch Quartzite

O€ Manitou Limestone and Sawatch Quartzite

Or One or more Ordovician formations--Fremont

O€ One or more Ordovician formations (Fremont

Yu

YXu

Canyon Limestone (Devonian), Manitou

Limestone (Ordovician), and Sawatch

and one or more Ordovician formations:

Fremont Limestone, Harding Sandstone, and

Limestone, Harding Sandstone, and Manitou

Sandstone (Mississippian or Devonian),

Dyer Dolomite (Mississippian? and Devonian),

and Parting Formation (Devonian, quartzite

Limestone, Harding Sandstone, and Manitou

SEDIMENTARY ROCKS

METAMORPHIC ROCKS

Xb Xfh Xq

Sedimentary rocks

Quartzite, conglomerate, and shale

granites of 1,700-m.y. age group)--

Metamorphic rocks

Age 1,700-1,800 m.y.

of 1,400-m.y. age group and younger than

Locally contains minor hornblende gneiss,

calc-silicate rock, quartzite, and marble.

Derived principally from sedimentary rocks

rate or interlayered--Includes metabasalt,

Yu Uinta Mountain Group (age 950-1,400 m.y.)--

YXu Uncompangre Formation (older than granites

Quartzite, slate, and phyllite

Xb Biotitic gneiss, schist, and migmatite--

Dolomite), Dotsero Formation (Cambrian,

dolomite; in White River Plateau only),

Peerless Formation (Cambrian, sandstone

and dolomite), and Sawatch Quartzite

MDO Leadville Limestone, Williams Canyon Limestone,

DOC Williams Canyon Limestone, Manitou Limestone,

West-central and south-central

south-central

local gypsum

Devonian

Cambrian |

Pmb Minturn and Belden Formations

Pb Belden Formation--Shale, limestone, and sand-

central and other units of Middle Penn-

sylvanian age--Arkosic sandstone, con-

of Chronic (1958) in Sangre de Cristo

stone. Includes Kerber Formation in

Eagle Valley Formation--Siltstone, shale, and

Evaporitic facies--Gypsum, siltstone, and

shale; salt present in deep borings.

Intertongues with Minturn and lower Maroon

Formations. Diapiric structure in many

Madera Formation and Sharpsdale Formation

Range and Gothic Formation of Langenheim

sandstone) and Fountain Formation

stone, and conglomerate

stone and sandstone

sandstone

Permian | Pp

and sandstone

conglomerate

Lower

Permian L

TP11 Lykins Formation and Lyons Sandstone

Upper and

Middle

Pennsylvanian

Lower

SEDIMENTARY ROCKS OF JURASSIC AGE Jms Morrison Formation and Sundance Formation

stone, sandstone, and local beds of lime-Jmj Morrison Formation and Junction Creek Sandstone -- In Gunnison River area east of wedgeout of all units of Wanakah Formation (Jmw) except the Junction Creek Member Jmc Morrison Formation and Curtis Formation (glauconitic sandstone and limestone)

Jmw Morrison Formation and Wanakah Formation (sandstone, shale, limestone, and local gypsum; Junction Creek Sandstone Member at or near top; Pony Express Limestone Member at base) Jmr Morrison Formation and Ralston Creek Formation

gypsum)

(claystone, sandstone, limestone, and

Jm Morrison Formation--Variegated claystone, mud- Jme Morrison Formation and Entrada Sandstone (sandstone, shale, claystone, and limestone) Jmse Morrison Formation, Summerville Formation (shale and siltstone), and Entrada Sandstone Jmce Morrison, Curtis, and Entrada Formations--In extreme southwestern Moffat County, includes thin wedge of Carmel Formation (red siltstone and sandstone) beneath Entrada Jmre Morrison, Ralston Creek, and Entrada (or Exeter)

Formations Jmwe Morrison, Wanakah, and Entrada Formations MD Leadville Limestone (Mississippian), Gilman

Jurassic JURASSIC JRg Jurassic > TRIASSIC SEDIMENTARY ROCKS OF JURASSIC AND TRIASSIC AGE

JRg Glen Canyon Sandstone--In northwest Jamg Morrison, Curtis, Entrada, and Glen Canvon Jægc Glen Canyon Group and Chinle Formation--In Formations--Curtis is absent along Grand southwest. Glen Canyon Group consists Hogback of Navajo Sandstone, Kayenta Formation JRmc Morrison, Entrada, and Chinle Formations--(red siltstone, shale, and sandstone), Along southern Grand Hogback, Chinle is and Wingate Sandstone; Chinle is red represented only by basal Gartra Sandsiltstone stone Member

Triassic TRIASSIC Lower Im Rch Triassic SEDIMENTARY ROCKS OF TRIASSIC AGE Rcc Chinle and Chugwater Formations

Tkc Kayenta Formation (red siltstone, shale, and sandstone), Wingate Sandstone, and Chinle Formation (red siltstone and sandstone Two Wingate Sandstone and Chinle Formation Rm Moenkopi Formation--Red siltstone, mudstone, sandstone, and local gypsum Rch Chugwater Formation--Red sandstone, siltstone, shale, and local limestone and gypsum

SYMBOLS ---- Contact Fault--Dotted where concealed. Bar and ball on downthrown side Low-angle thrust fault--Dotted where concealed.

deposits--Bar and ball on downthrown side ~~~~ Precambrian shear zone Fold lines--General locations of major folds shown where space allows. Dotted where concealed → ‡ Anticline - * Syncline Overturned syncline

(w) Water body--Lake or reservoir

Sawteeth on upper plate

-- Inferred fault in and beneath valley-fill

 ∇olcanic cinder cone or crater (age <1.8 m.y.)
</p> -- In Costilla and Eagle Counties * Volcanic neck (age 7-10 m.y.)--In southern Routt County Diatreme (pre-Upper Devonian, post-Middle

Silurian) -- In northern Larimer County

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Rc Chinle Formation--Red siltstone, sandstone.

Ted Dolores Formation--Red siltstone, shale,

local limestone

p. 543-574.

Rdg Dockum Group--Red sandstone, siltstone, and

and limestone-pellet conglomerate

sandstone, and limestone-pellet conglom-

central Colorado, in Rocky Mtn. Assoc. Geologists, Symposium on Pennsylvanian rocks of Colorado and adjacent areas, p. 59-63. Lambert, R. S. J., 1971, The pre-Pleistocene Phanerozoic time-scale--A review, in Part I of the Phanerozoic time-scale--A supplement: Geol. Soc. London Spec. Pub. no. 5, p. 9-34. Langenheim, R. L., Jr., 1952, Pennsylvanian and Permian stratigraphy in Crested Butte quadrangle, Gunnison County, Colorado: Am. Assoc.

metatuff, and interbedded metagraywacke; Petroleum Geologists Bull., v. 36, no. 4,

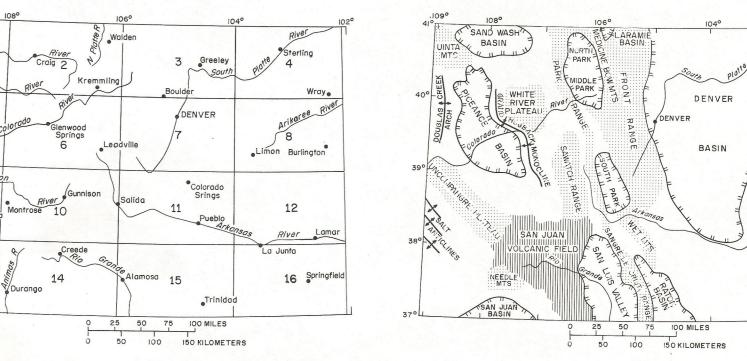
locally contains interlayered biotite gneiss. Derived principally from volcanic Xq Quartzite, conglomerate, and interlayered mica Age probably >2,500 m.y.

Xfh Felsic and hornblendic gneisses, either sepa-

Wr Red Creek Quartzite--Metaquartzite, amphibolite, and mica schist. Present only in small area at Utah border in Uinta Mountains

GL03200-ZofZ

UNIVERSITY OF UTAH RESEARCH INSTITUTE EARTH SCIENCE LAB. MISCELLANEOUS FIELD STUDIES MAP MF-788 SHEET 2 OF 2 COLORADO



INDEX MAP OF COLORADO SHOWING PRINCIPAL SOURCES OF GEOLOGIC DATA

PRINCIPAL SOURCES OF GEOLOGIC DATA

TRIASSIC

PENNSYLVANIAN

RP1f | PERMIAN

shale, and sandstone. Includes various

combinations of Nugget, Jelm, Popo Agie,

Formation (Lower Permian) -- Red siltstone,

Formation (Lower Permian) -- Red siltstone

siltstone, sandstone, and conglomerate

Jurassic, and Triassic formations

in Mesozoic unit (Mz) plus Permian

stone, conglomerate, and local limestone

> MESOZOIC

PALEOZOIC

Chugwater, Red Peak, Forelle, Satanka,

and Goose Egg Formations near Wyoming

TPdc Dolores Formation (Upper Triassic) and Cutler

PPmc Moenkopi Formation (Lower Triassic) and Cutler

R Plf Lykins, Lyons, and Fountain Formations--Red

MzPz ·

SEDIMENTARY ROCKS BROADLY CLASSIFIED

Shown in small areas of complex structure

Mz Mesozoic rocks--Mainly Lower Cretaceous.

MzPz Mesozoic and Paleozoic rocks--Mainly as

PPwm } PENNSYLVANIAN

PPs Sangre de Cristo Formation--Arkosic conglom-

PPm Maroon Formation--Arkosic sandstone, silt-

Pmbe Evaporitic facies of Minturn and Belden For-

Gypsum, siltstone, and shale

anticlines near Utah border

Prh Rico and Hermosa Formations--Arkosic sand-

Pmr Morgan Formation (limestone, sandstone, and

mations in South Park and southward--

erate, shale, and limestone: gypsum and

salt in Paradox Member present in salt

stone, conglomerate, shale, and limestone.

Includes at base in some areas siltstone

and shale of Molas Formation, or Larsen

shale) and Round Valley Limestone--In

West-central and south-central (continued)

Harding, Manitou, Dotsero, Peerless, and

M€ Leadville, Gilman, Dyer, Parting, Fremont,

MDE Leadville, Gilman, Dyer, Parting, and Sawatch

Harding, and Manitou Formations

Uinta Mountains

pian Doughnut and Humbug Formations

(shale, limestone, and sandstone)

Far southwest

Limestone (Devonian), Elbert Formation

(Devonian, shale and sandstone), and

MDC Leadville Limestone (Mississippian), Ouray

Ignacio Quartzite (Cambrian)

PRECAMBRIAN Y

> PRECAMBRIAN X

PRECAMBRIAN W

Igneous rocks

group) -- Includes Pikes Peak, Mount Rosa,

1,350-1,480 m.y.)--Includes Silver Plume,

Sherman, Cripple Creek, St. Kevin, Vernal

or Quartz Monzonites; also, San Isabel

1,650-1,730 m.y.) -- Includes Boulder Creek.

Cross Creek, Denny Creek, Kroenke, Browns

Monzonites, or Granodiorites; also, unnamed

Pass, Powderhorn, Pitts Meadow, Bakers

Bridge, and Tenmile Granites, Quartz

Mesa, Curecanti, Eolus, and Trimble Granites

Granite of Boyer (1962) and unnamed granitic

Windy Point, and Redskin Granites and

Yp Rocks of Pikes Peak batholith (1,000-m.y. age

Yg Granitic rocks of 1,400-m.y. age group (age

Yam Alkalic and mafic rocks in small plutons,

and diabase and gabbro dikes

Granitic rocks of 1,700-m.y. age group (age

Xm Mafic rocks of 1,700-m.y. age group--Gabbro and

mafic diorite and monzonite

YXg Granitic rocks of 1,400- and 1,700-m.y. age

unnamed rocks

granitic rocks

groups, undivided

MD Leadville, Ouray, and Elbert Formations

-Cl Lodore Formation (Cambrian) -- Sandstone, shale,

includes equivalents of Upper Mississip-

MDO Leadville, Gilman, Dyer, Parting, Fremont,

€s Sawatch Quartzite--Locally includes Peerless

Mm Madison Limestone (Mississippian) -- Upper part

DO Parting, Fremont, and Harding Formations

Sawatch Formations

and conglomerate

Mcml Madison Limestone and Lodore Formation

Formations

MISSISSIPPIAN

DEVONIAN

> ORDOVICIAN

CAMBRIAN

PRwm Weber Sandstone and Maroon Formation

PPw Weber Sandstone

erate, sandstone, and siltstone

and Pennsylvanian formations

sandstone, and conglomerate

and sandstone

FPdc

TPr Triassic and Permian rocks--Red siltstone,

SEDIMENTARY ROCKS OF TRIASSIC, PERMIAN, AND PENNSYLVANIAN AGES

SEDIMENTARY ROCKS OF PERMIAN AND PENNSYLVANIAN AGE

SEDIMENTARY ROCKS OF PENNSYLVANIAN AGE

SEDIMENTARY ROCKS OF PRE-PENNSYLVANIAN PALEOZOIC AGE

CAMBRIAN CAMBRIAN

plutons, and diabase dikes (age 510-

Yg

SEDIMENTARY, METAMORPHIC, AND IGNEOUS ROCKS OF PRECAMBRIAN AGE

Xg Xm

IGNEOUS ROCKS

IGNEOUS ROCKS OF CAMBRIAN AGE

€am Alkalic and mafic intrusive rocks in small

570 m.y.)

glomerate, shale, and limestone. Includes Ph Hermosa Formation--Arkosic sandstone, conglom-

Geologic data for the Colorado map were derived principally from compilations of 1°x2° quadrangles, references to which are given below. The individual 1°x2° quadrangle maps in turn incorporate many other maps, references to which may be found on the 1°x2° quadrangle maps. All quadrangle maps have been generalized as necessary to fit requirements of scale, and some have been modified or amplified from sources indicated under the quadrangle headings.

Vernal quadrangle Tweto, Ogden, 1975, Preliminary geologic map of east half of Vernal 1°x2° quadrangle, Colorado: U.S. Geol. Survey Open-file Rept. 75-588. Supplementary data from:

Rowley, P. D., and Hansen, W. R., U.S. Geological Survey unpub. maps of parts of quadrangle. 2. Craig quadrangle Tweto, Ogden, 1976, Geologic map of the Craig 1°x2° quadrangle, northwestern Colorado: U.S. Geol. Survey Misc. Inv. Series Map I-

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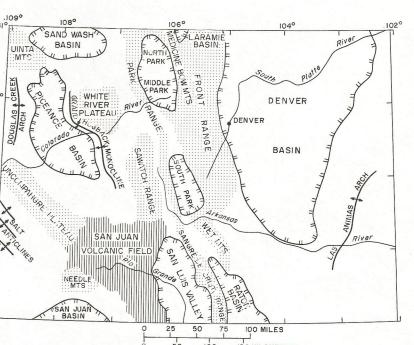
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