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DEPARTMENT OF NATURAL RESOURCES
COLORADO GEOLOGICAL SURVEY
JOHN W. ROLD, DIRECTOR

COLORADO GEOLOGICAL SURVEY
MAP SERIES 1 PRICE $5.00
ROUTT COUNTY, COLORADO
SHEET 1: GEOLOGY
SHEET 2: ENERGY & MINERAL RESOURCES

STATE OF WYOMING

EXPLANATION

QUATERNARY

- Qal — ALLUVIUM. Stream and flood plain deposits.
- Qt — TUFA. Hot springs deposits near Steamboat Springs.
- Qg — ALL OTHER SURFICIAL DEPOSITS. Unconsolidated colluvium; includes talus, tills, gravels, landslides, etc.

TERTIARY

- Tei — IGNEOUS ROCKS. Intrusive dikes, plugs and stills of andesite, dacite and latite. Extrusive basalt flows and breccias, andesite cinder cones and scorias.
- Tbp — BROWNS PARK FORMATION. Sandstone and conglomerate up to 2000' thick, generally about 200' to 500' thick.
- WASATCH FORMATION. Gritty sandstone interbedded with clay-shale and estimated to be about 1000' thick.
- Tfu — FORT UNION FORMATION. Interbedded sandstone shale and coal beds, approximately 1400' thick.

CRETACEOUS

- Kla — LANCE FORMATION. Mostly shale with occasional sandstone and coal beds, 1000' to 1500' thick.
- Kle — LEWIS FORMATION. Chiefly shale, 1500' to 1900' thick.
- Kwt / Kwl — WILLIAMS FORK FORMATION. Interbedded sandstone, shale and coal, 1100' to 2000' thick. Kwt-Twentymile sandstone member near middle of formation.
- Kit / Kl — ILES FORMATION. Sandstone and shale, coal in upper part, 1500' thick. Kit-Trout Creek sandstone member at top of formation.
- Km — MANCOS FORMATION. Mostly shale, 4900' thick, includes Benton, Niobrara and Frontier Formations.
- Kd — DAKOTA FORMATION. Largely sandstone, some shale and a basal conglomerate, 200' to 400' thick.

JURASSIC

- Ju — JURASSIC ROCKS UNDIVIDED. Shales and sandstone from 100' to 600' thick.
  - Southern Routt County: Morrison Formation; Curtis Formation; Entrada Formation
  - Northern Routt County: Morrison Formation; Sundance Formation

PERMO-TRIASSIC

- TrPu — TRIASSIC AND PERMIAN ROCKS UNDIVIDED. Siltstones, shales and sandstone, with minor thin limestones, 700' to 1000' thick.
  - Southern Routt County: Chinle Formation; State Bridge Formation including Moenkopi and Park City Formations
  - Northern Routt County: Chinle Formation; Chugwater Group

PENNSYLVANIAN

- Cp — PENNSYLVANIAN ROCKS UNDIVIDED. Shales, sandstones and arkosic sandstones, may be up to 1000' thick in South Routt County. Includes Maroon Formation, Minturn Formation and Belden shale.

MISSISSIPPIAN

- Mm — MISSISSIPPIAN ROCKS UNDIVIDED. Sandstone and limestone up to 150' thick, includes Leadville (Madison) limestone and Gilman sandstone member.

CAMBRIAN

- Cs — SAWATCH QUARTZITE. Quartzite with pebble conglomerate, up to 270' thick.

PRE-CAMBRIAN

- pC — BASEMENT COMPLEX. Granite, schist and gneiss with metasediments, pegmatites and amphibolite.

Contact — inferred or concealed
High angle fault — inferred; concealed (barbell on downside)
Thrust fault — inferred or concealed (teeth on upper plate)
Anticline
Syncline

R 88W R 87W R 86W R 85W R 84W R 83W

T 12 N T 11 N T 10 N T 9 N T 8 N T 7 N T 6 N T 5 N T 4 N T 3 N T 2 N T 1 N T 1 S

ROUTT COUNTY

MOFFAT COUNTY

RIO BLANCO COUNTY

EAGLE COUNTY

GARFIELD COUNTY

ROUTT NATIONAL FOREST

Sources of Information

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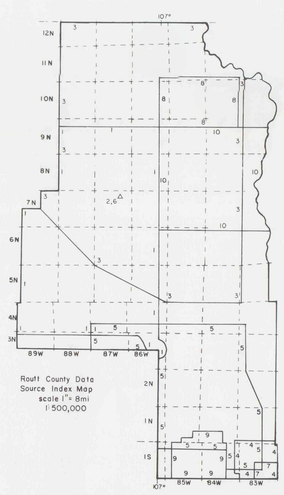

Prepared under the direction of John W. Rold, Director, COLORADO GEOLOGICAL SURVEY

Geology by Allan E. Miller, Consulting geologist, in association with William A. Bowes and Associates.

GEOLOGIC MAP ROUTT COUNTY, COLORADO

N

SCALE 1:126,720
0 1 2 3 4 5 6 MILES
0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

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2. Bowes, W. A., Mining geologist, Steamboat Springs, Colorado.
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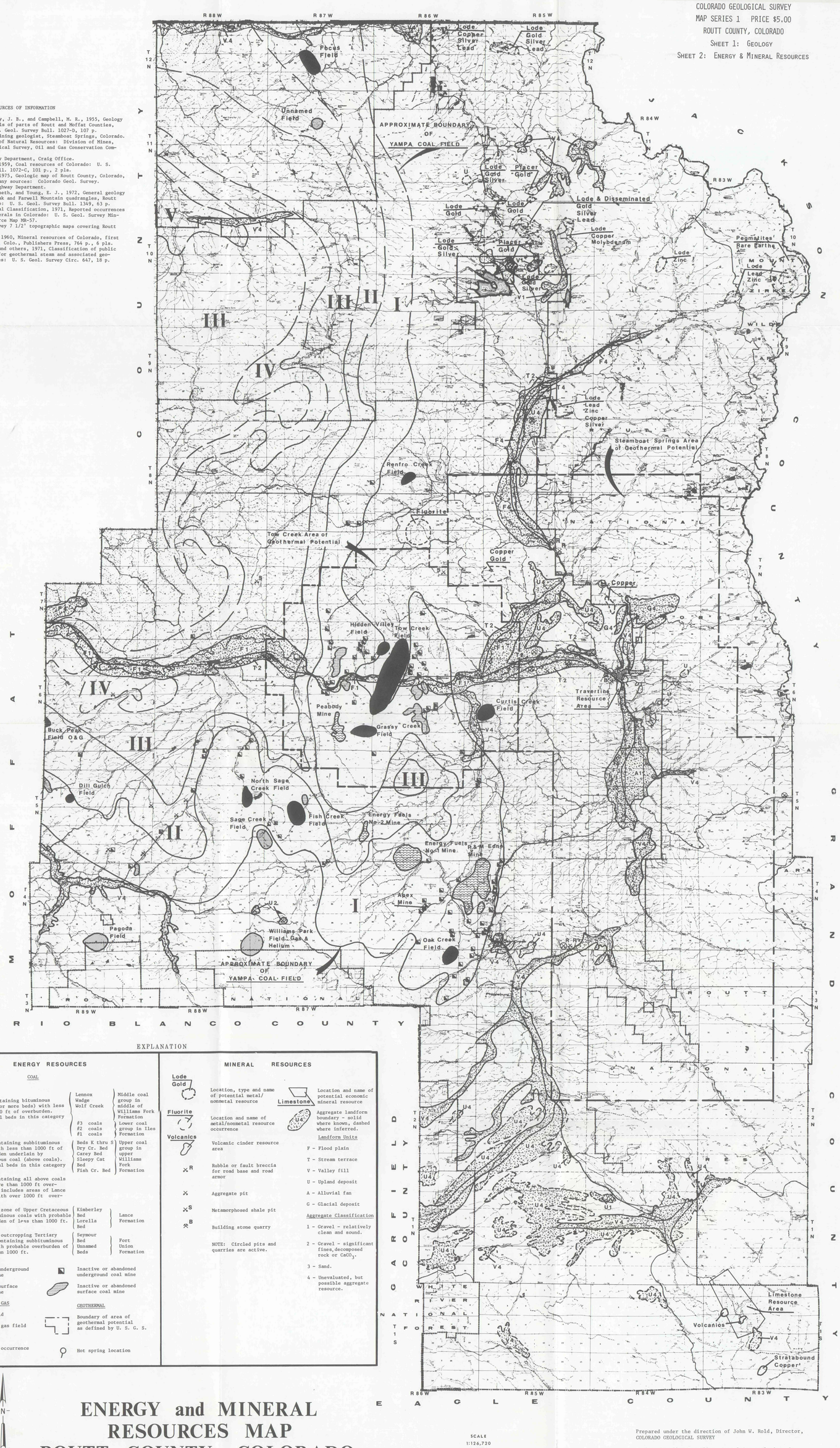

EXPLANATION

ENERGY RESOURCES

COAL

- I — Area containing bituminous coal (1 or more beds) with less than 1000 ft of overburden. Main coal beds in this category: Lennox, Wadge, Wolf Creek (Middle coal group in middle of Williams Fork Formation); #3 coals, #2 coals, #1 coals (Lower coal group in Iles Formation)
- II — Area containing subbituminous coal with less than 1000 ft of overburden underlain by bituminous coal (above coals). Main coal beds in this category: Beds K thru S, Dry Cr. Bed, Carey Bed, Sleepy Cat Bed, Fish Cr. Bed (Upper coal group in upper Williams Fork Formation)
- III — Area containing all above coals with more than 1000 ft overburden; includes areas of Lance coals with over 1000 ft overburden.
- IV — Outcrop zone of Upper Cretaceous subbituminous coals with probable overburden of less than 1000 ft. Kimberley Bed, Lorella Bed (Lance Formation)
- V — Area of outcropping Tertiary rocks containing subbituminous coal with probable overburden of less than 1000 ft. Seymour Bed, Unnamed Beds (Fort Union Formation)

- Active underground coal mine
- Inactive or abandoned underground coal mine
- Active surface coal mine
- Inactive or abandoned surface coal mine

OIL AND GAS

- Oil field
- Natural gas field

URANIUM

- U — Uranium occurrence area

GEOTHERMAL

- Boundary of area of geothermal potential as defined by U. S. G. S.
- Hot spring location

MINERAL RESOURCES

- Lode Gold — Location, type and name of potential metal/nonmetal resource
- Fluorite — Location and name of metal/nonmetal resource occurrence
- Volcanics — Volcanic cinder resource area
- R — Rubble or fault breccia for road base and road armor
- Aggregate pit
- S — Metamorphosed shale pit
- B — Building stone quarry

NOTE: Circled pits and quarries are active.

- Limestone — Location and name of potential economic mineral resource
- U4 — Aggregate landform boundary - solid where known, dashed where inferred.

Landform Units

F - Flood plain
T - Stream terrace
V - Valley fill
U - Upland deposit
A - Alluvial fan
G - Glacial deposit

Aggregate Classification

1 - Gravel - relatively clean and sound.
2 - Gravel - significant fines, decomposed rock or $CaCO_3$.
3 - Sand.
4 - Unevaluated, but possible aggregate resource.

ENERGY and MINERAL RESOURCES MAP ROUTT COUNTY, COLORADO

1975

SCALE 1:126,720

0 1 2 3 4 5 6 MILES
0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

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