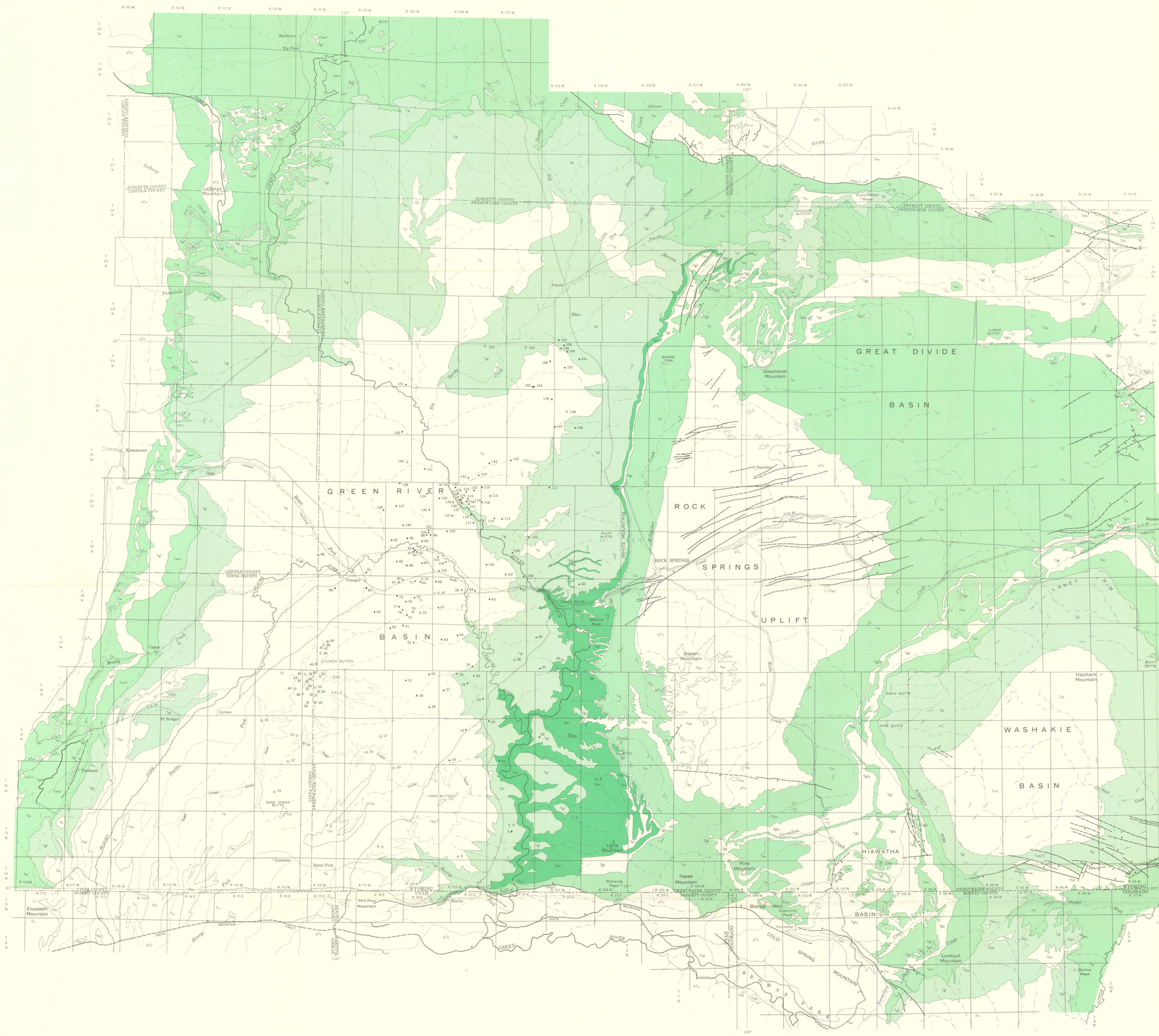
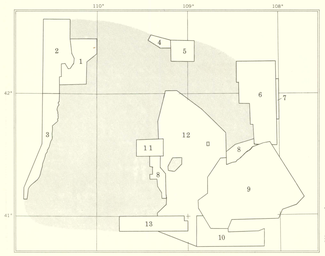




INDEX MAP SHOWING SOURCES OF GEOLOGIC MAPPING

SOURCE LIST

Shaded areas are from published and unpublished maps by W. H. Bradley

1. Oriel, S. S., U.S. Geol. Survey unpublished data
2. Schultz (1914)
3. Veatch (1906)
4. McGrew and Berman (1955)
5. Hummel, J. M., Master of Arts thesis, Wyoming Univ., 1957
6. Pipiringos (1962)
7. Mansuriy (1962)
8. Love, J. D., U.S. Geol. Survey unpublished mapping on 1:250 000 Army Map Service topographic base
9. Hackman, R. J., U.S. Geol. Survey unpublished photogeology based on boundaries selected in the field by W. H. Bradley, Dwight Taylor, and J. D. Love
10. Schultz, A. R.
11. Hackman, R. J., U.S. Geol. Survey unpublished field and photogeologic mapping
12. Schultz (1920)
13. Hansen and Bonilla (1954)

EXPLANATION

Pliocene

Ti

Wyomingite lava flows and plugs
*Potassium-argon age determinations indicate an age of 1.35 million years or less**

Miocene(?)

Tbp

Browns Park Formation
White or light-gray tuff, tuffaceous sandstone, sandy mudstone, and locally quartzitic, massive to thin bedded; eolian-type crossbedding common; basal conglomerate extensive in some areas but elsewhere includes only basal conglomerate; maximum measured thickness 1,000 feet but may be much thicker

Tbc

Bishop Conglomerate
Well-rounded boulders and cobbles of quartzite, limestone, and schist from the Uinta Mountains. Maximum thickness at least 300 feet. May prove to be of Oligocene age

Oligocene and Miocene(?)

Tbo

Browns Park Formation and underlying Oligocene rock undivided
Lithology of the Oligocene beds closely similar to that of the Browns Park though generally somewhat finer grained. Thickness unknown, probably more than 1,000 feet

Upper Eocene and Oligocene

Tub

Uinta (upper Eocene) and Bridger Formations
Gray, pink, and greenish tuffaceous mudstone and tuffaceous and muddy, lenticular sandstone beds that weather into badlands. Restricted to the Washakie Basin

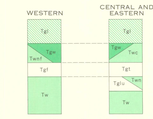
Middle and upper(?) Eocene

Tb

Bridger Formation
Gray, drab, greenish, and pink mudstone and tuffaceous mudstone and sandstone; white tuff layers and white to buff cherty limestone layers. The outcrop of the Sage Creek white layer (maristone) in the southern part of the Green River Basin is shown by dotted line. Formation southern into badlands. Maximum thickness nearly 3,500 feet

Lower and middle Eocene

WESTERN / CENTRAL AND EASTERN



Green River and Wasatch Formations
Tgl, Laney Shale Member of the Green River Formation; massive to thinly laminated buff, gray, and brown marlstone, shale, and muddy sandstone; white to brown tuff and tuffaceous sandstone; low-grade to rich beds of oil shale and, in shore facies, algal deposits and oölite beds. Ranges from 0 to about 1,000 feet in thickness
Tgw, Wilkins Peak Member of the Green River Formation; thin and regularly bedded greenish-gray, thin to nearly solid dolomitic marlstone, maristone, and shale; white to brown tuff and tuffaceous mudstone; and oil shale; oölite is known in the Rock Springs area. Tgw, gray to greenish-gray sandy mudstone banded with red to maroon layers; contains many lenses and irregular beds of coarse-grained pebbly sandstone; ranges in thickness from 325 to more than 500 feet
Twnt, New York Tongue of the Wasatch Formation; a correlative of the Tgw, Wilkins Peak Member of the Green River Formation in the Green River Basin; gray to greenish-gray sandy mudstone banded with red to maroon layers; contains many lenses and irregular beds of coarse-grained pebbly sandstone; ranges in thickness from 325 to more than 500 feet
Twt, Tipton Tongue and Tipton Shale Member of the Green River Formation; shaft known to half shale and organic maristone in lower half—upper half chippy to flaky, light-brown-gray organic maristone in upper half; algal layers of great lateral extent are characteristic of middle part and shore facies. Tipton Shale Member differs from Tipton Tongue chiefly in containing more, and richer, oil shale in the upper part. The Tipton Tongue ranges from 0 to 350 feet in thickness; the Tipton Shale Member is about 350 feet thick
Tgl, Fontenelle Tongue of the Green River Formation; a correlative of the Tgl, Laney Shale Member of the Green River Formation in the west side of the Green River Basin. Light-gray to buff soft flaky marlstone and shale; generally sandy near base and top; contains some algal layers; ranges from 0 to 350 feet in thickness
Twn, Niland Tongue of the Wasatch Formation; restricted to the vicinity of Washakie Basin; gray mudstone and gray to nearly white lenticular sandstone interbedded with carbonaceous shale and subbituminous coal beds; ranges in thickness from 0 to 1,000 feet
Tgl, Lamar Tongue of the Green River Formation; restricted to the Washakie, Great Divide, and Hiawatha Basins; series of brown, flaky shale, oil shale, marlstone, carbonaceous shale, and limy sandstone beds that locally contain a few thin beds of coal. In the Hiawatha Basin consists chiefly of carbonaceous shale and shell marl; ranges in thickness from about 180 to about 350 feet
Tw, Wasatch Formation; gray mudstone containing lenses and irregular beds of muddy sandstone; locally sandstone contains bands of red and locally the sandstone is red, upper part contains carbonaceous shale and beds of subbituminous coal; near mountain ranges formation contains thick conglomeratic facies; as mapped, contains locally at the base an unknown thickness of the Fort Union Formation (Paleocene); measured sections that may include some Fort Union range from 1,750 to approximately 7,000 feet in thickness

Paleocene(?) and Eocene

Tbs

Battle Spring Formation
Light-gray to brown coarse-grained to pebbly arkosic sandstone with a lesser amount of greenish-gray sandy clay and mudstone; locally contains lenses of conglomerate; interfingers with the Wasatch and Green River Formations; inferred thickness in northeastern part of the area 3,500 feet or more

Tu

Tertiary Formations, undifferentiated
Mostly Bridger, Green River, and Wasatch Formations but locally may include some Fort Union Formation (Paleocene); conglomerate and massive to poorly bedded coarse-grained sandstone containing thin units of finer grained, more regularly bedded rocks that resemble one or another of the Eocene Formations mentioned above; restricted to hill along the north flank of the Uinta Mountains; thickness unknown but probably several thousand feet

PRE-TERTIARY

pTu

Formations older than Tertiary, undifferentiated
Include sedimentary rocks ranging in age from Paleozoic to Precambrian and igneous and metamorphic rocks of unknown ages

Contact
Dashed where approximately located

Scratch boundary
Marks change of formation or rock unit name along the outcrop belt

Fault
Dashed where approximately located; ball on downthrown side

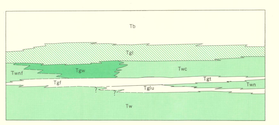
Strike and dip of beds
Strike and direction of dip taken from aerial photographs where no numerical value is given

53
Hole drilled to explore for trona
Listed in table 3 in text

12
Dry hole
Listed in table 3 in text

49
Gas well
Listed in table 3 in text

Mine shaft



SCHEMATIC SECTION TO SHOW STRATIGRAPHIC RELATIONSHIPS OF THE WASATCH, GREEN RIVER, AND BRIDGER FORMATIONS

*The lava specimens were collected by Richard Johnston of the University of Wyoming. Minerals separations were made in the U.S. Geological Survey, and the age determination was made by William A. Bassett at the Brookhaven National Laboratory

Base from Army Map Service 1:250 000 maps, 1953

GEOLOGIC MAP OF A PART OF SOUTHWESTERN WYOMING AND ADJACENT STATES

SCALE 1:250 000

5 0 5 10 15 20 25 MILES

5 0 5 10 15 20 25 KILOMETERS

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—1964—GS3207

Geology mapped by W. H. Bradley and others as shown by the index maps of sources