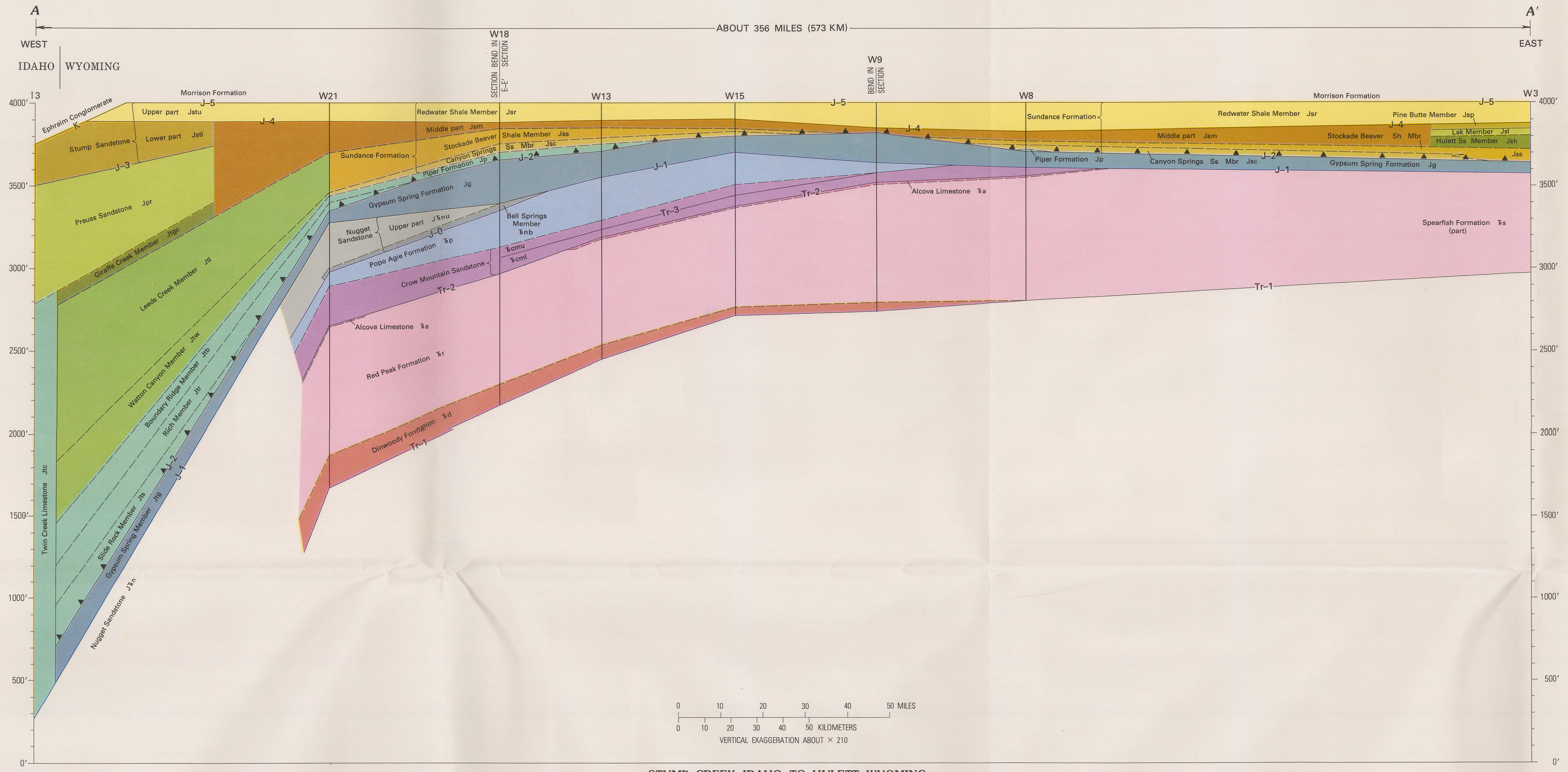
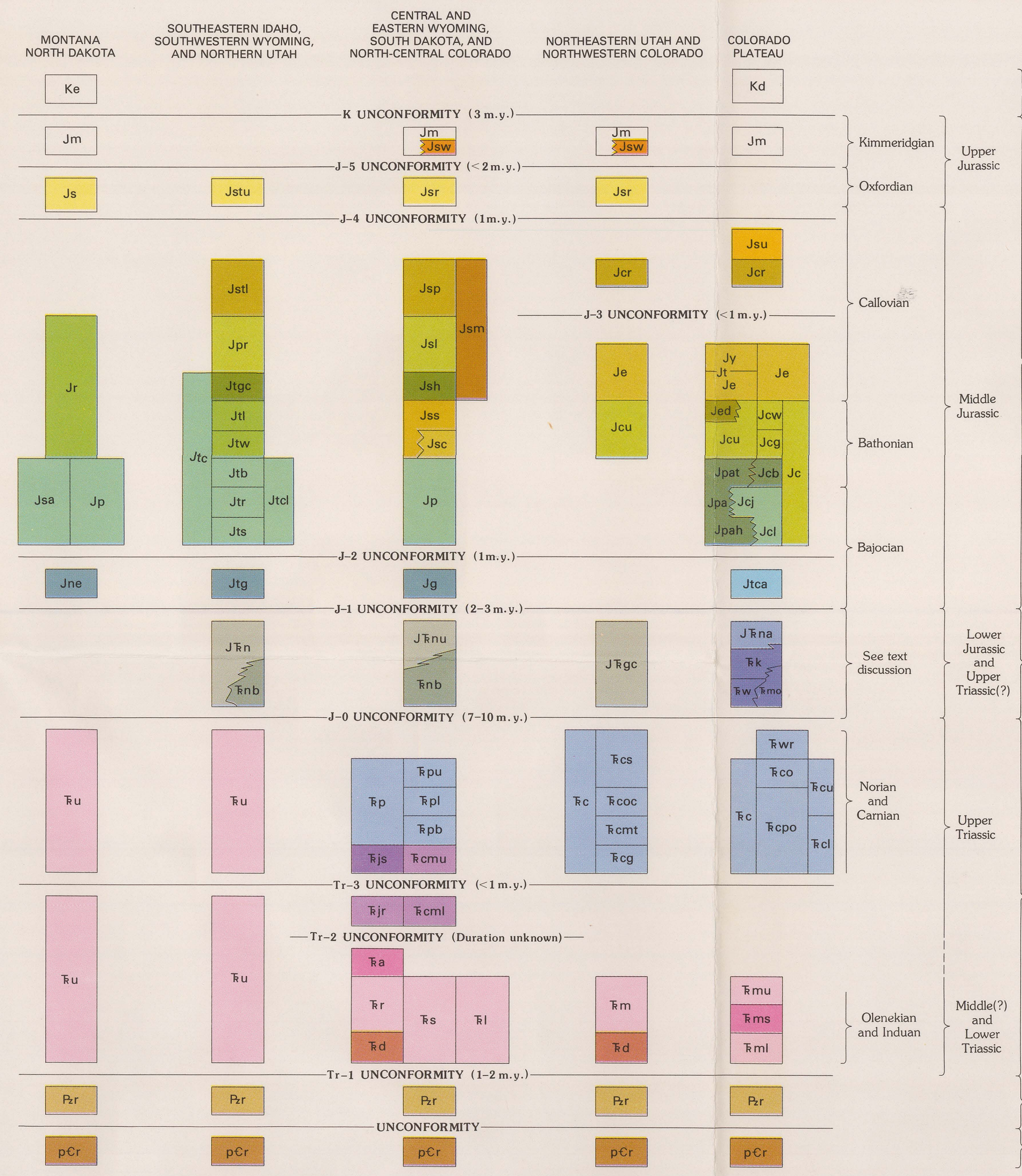
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



STUMP CREEK, IDAHO, TO HULETT, WYOMING

CORRELATION OF UNITS

[Durations of unconformities shown in parentheses, of years; estimates are based on time scale defined by the Geological Society of London (1964, p. 261) and Van Hinte (1976)]

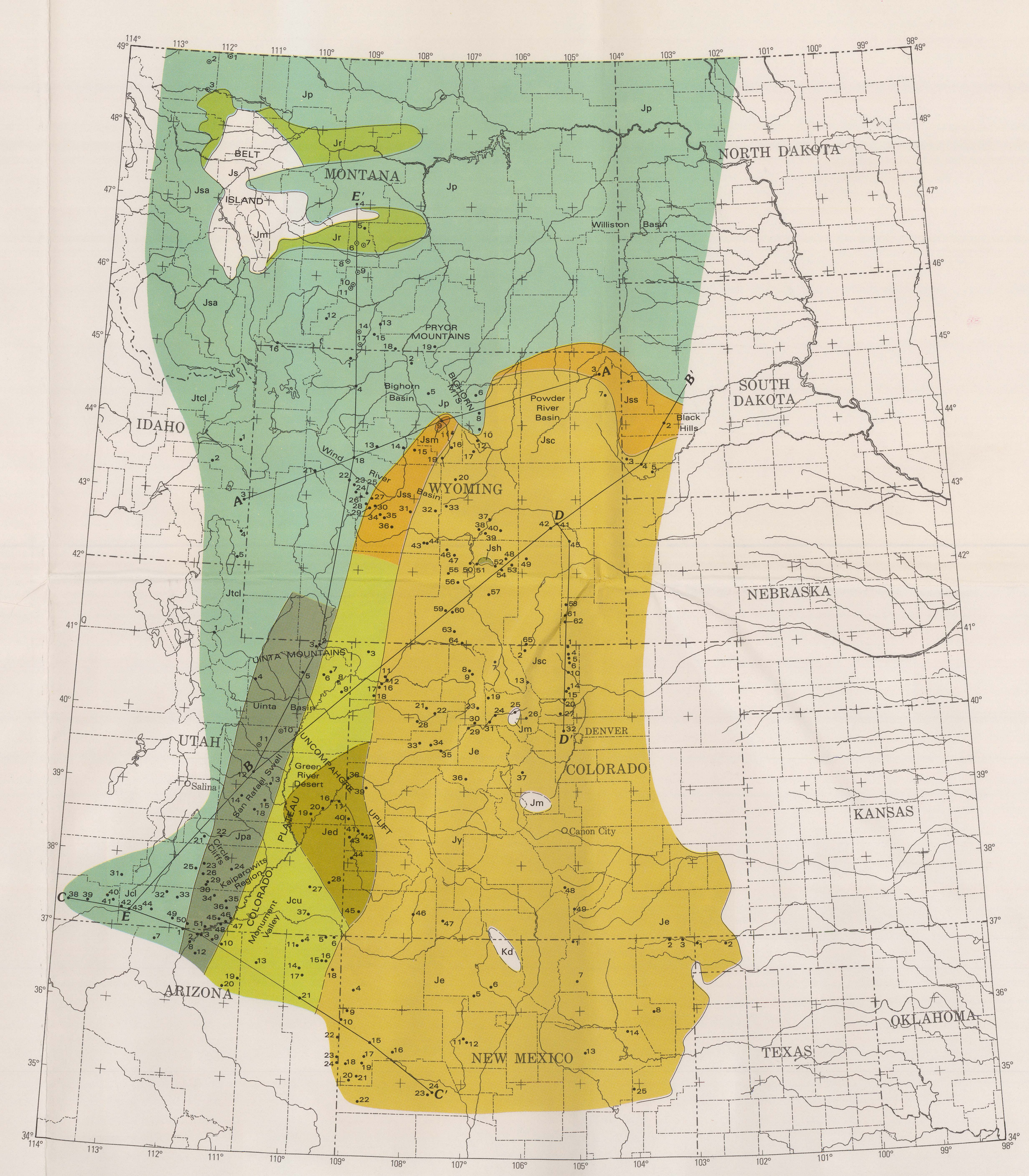


LIST OF UNITS

[Lithologic units are described in table 2 in text]

- Kd — Dakota Sandstone (Upper, Lower?, and Lower Cretaceous)
- Ke — Ephraim Conglomerate (Lower Cretaceous)
- Jm — Morrison Formation (Upper Jurassic)
- Jsw — Sundance Formation, part (Upper Jurassic) Windy Hill Sandstone Member
- Js — Swift Formation (Upper and Middle Jurassic)
- Jstu — Stump Sandstone, part (Upper Jurassic) Upper part
- Jsr — Sundance Formation, part (Upper Jurassic) Redwater Shale Member
- Jr — Rierdon Formation (Middle Jurassic)
- Jsa — Sawtooth Formation (Middle Jurassic)
- Jp — Piper Formation (Middle Jurassic)
- Jstl — Stump Sandstone, part (Middle Jurassic) Lower part
- Jpr — Preuss Sandstone (Middle Jurassic)
- Jtc — Twin Creek Limestone, part (Middle Jurassic)
- Jtgc — Giraffe Creek Member
- Jtl — Leeds Creek Member
- Jtw — Watton Canyon Member
- Jtb — Boundary Ridge Member
- Jtr — Rich Member
- Jts — Sliderock Member
- Jtcl — Lower part—Boundary Ridge, Rich, and Sliderock Members
- Jsp — Sundance Formation, part (Middle Jurassic) Pine Butte Member
- Jsl — Lak Member
- Jsh — Hulett Sandstone Member
- Jsm — Middle part—Pine Butte, Lak, and Hulett Members
- Jss — Stockade Beaver Shale Member
- Jsc — Canyon Springs Sandstone Member
- Jsu — Summerville Formation (Middle Jurassic)
- Jcr — Curtis Formation (Middle Jurassic)
- Jy — Younger Middle Jurassic rocks—In Arizona and New Mexico, includes the Summerville Formation and Bluff and Cow Springs Sandstones; in Colorado, includes the Wanakah Formation, and Junction Creek Sandstone
- Jt — Todilto Limestone (Middle Jurassic)
- Je — Entrada Sandstone (Middle Jurassic)
- Jed — Dewey Bridge Member
- Jc — Carmel Formation (Middle Jurassic)
- Jcw — Winsor Member
- Jcg — Gypsiferous member
- Jcu — Upper part
- Jcb — Banded member
- Jcj — Judd Hollow Tongue
- Jcl — Lower part
- Jpa — Page Sandstone (Middle Jurassic)
- Jpat — Thousand Pockets Tongue
- Jpah — Harris Wash Tongue
- Jne — Nesson Formation of Nordquist, 1955 (Middle Jurassic)
- Jtg — Twin Creek Limestone, part (Middle Jurassic) Gypsum Spring Member
- Jg — Gypsum Spring Formation (Middle Jurassic)
- Jtca — Temple Cap Sandstone (Middle Jurassic)
- JꞦn — Nugget Sandstone (Jurassic? and Triassic?)
- JꞦnu — Upper part
- Ꞧnb — Bell Springs Member (Upper Triassic?)
- JꞦgc — Glen Canyon Sandstone (Jurassic and Triassic)—Includes equivalents of Navajo Sandstone, Kayenta Formation, and Wingate Sandstone
- JꞦna — Navajo Sandstone (Jurassic and Triassic?)
- Ꞧk — Kayenta Formation (Upper Triassic?)
- Ꞧw — Wingate Sandstone, part (Upper Triassic)
- Ꞧmo — Moenave Formation (Upper Triassic?)
- Ꞧu — Ankareh Formation, part (Upper Triassic)
- Ꞧp — Popo Agie Formation (Upper Triassic)
- Ꞧpu — Upper member
- Ꞧpl — Lyons Valley Member
- Ꞧpb — Brynt Draw Member
- Ꞧjs — Jelm Formation, part (Upper Triassic) Sips Creek Member
- Ꞧcmu — Crow Mountain Sandstone, part (Upper Triassic) Upper part
- Ꞧwr — Wingate Sandstone, part (Upper Triassic) Rock Point Member
- Ꞧc — Chinle Formation (Upper Triassic)
- Ꞧcs — Siltstone member
- Ꞧcoc — Ochre siltstone member
- Ꞧcmt — Mottled member
- Ꞧcg — Gartra Member
- Ꞧco — Owl Rock Member
- Ꞧcpo — Petrified Forest, Monitor Butte, and Shinarump Members and equivalent rocks
- Ꞧcu — Upper part of the Petrified Forest Member and younger parts of the formation
- Ꞧcl — Lower part of the Petrified Forest Member and older parts of the formation
- Ꞧu — Ankareh Formation, part (Upper and Lower Triassic) and Thaynes, Woodside, Red Peak, and Dinwoody Formations (Lower Triassic)
- Ꞧjr — Jelm Formation, part (Upper Triassic) Red Draw Member
- Ꞧcml — Crow Mountain Sandstone, part (Upper Triassic) Lower part
- Ꞧa — Alcova Limestone (Triassic)
- Ꞧr — Red Peak Formation (Lower Triassic)
- Ꞧd — Dinwoody Formation (Lower Triassic)
- Ꞧs — Spearfish Formation, part (Triassic)
- Ꞧl — Lykins Formation, part (Triassic)
- Ꞧm — Moenkopi Formation (Middle?* and Lower Triassic)
- Ꞧmu — Upper part
- Ꞧms — Sinbad Limestone Member
- Ꞧml — Lower part
- Pzr — Paleozoic rocks
- p€r — Precambrian rocks

*In Colorado Plateau area only.

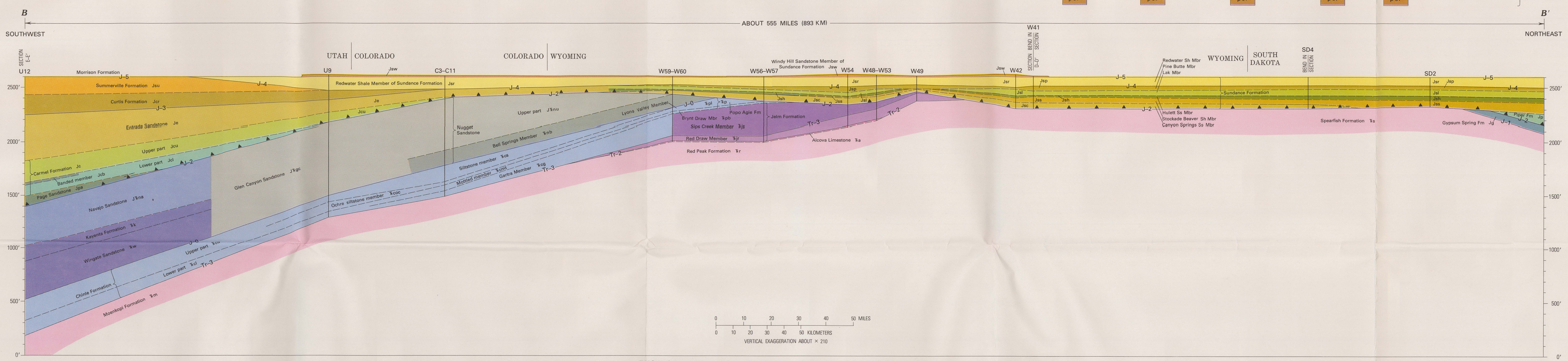


Base from U.S. Geological Survey United States, 1:5,000,000

SCALE 1:5 000 000
100 0 100 200 MILES
100 0 100 200 KILOMETERS

Compiled from many sources, most of which are listed in table 1 in text. Distribution of geologic units in Montana are derived from Cobban (1945), Imlay, Gardner, Rogers, and Hadley (1948), Nordquist (1955), Rayl (1956), Peterson (1957), Francis (1957), and Sandberg (1959).

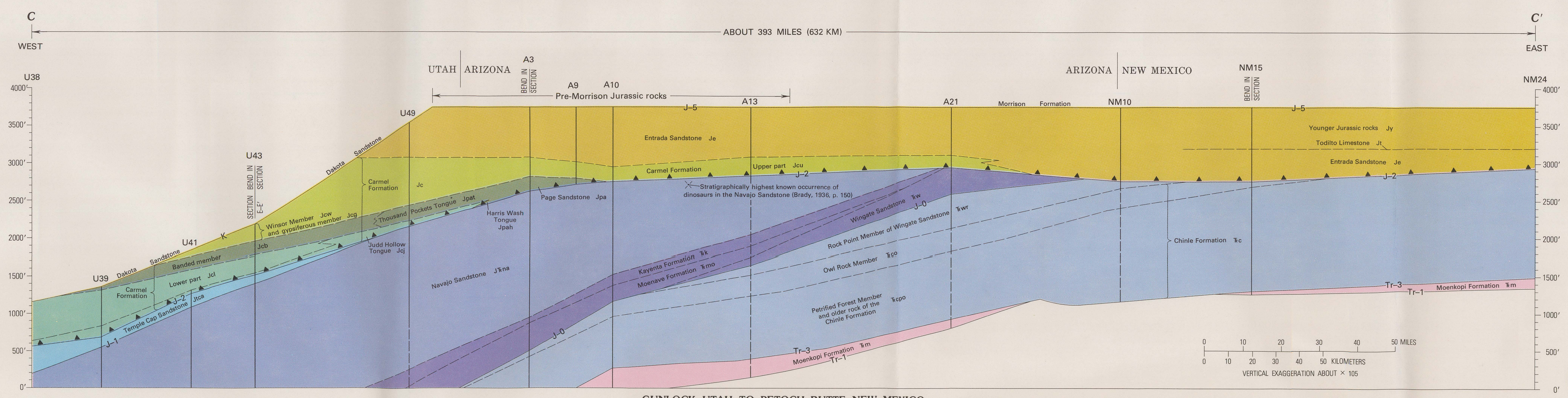
A—ROCKS DIRECTLY OVER THE J–2 UNCONFORMITY



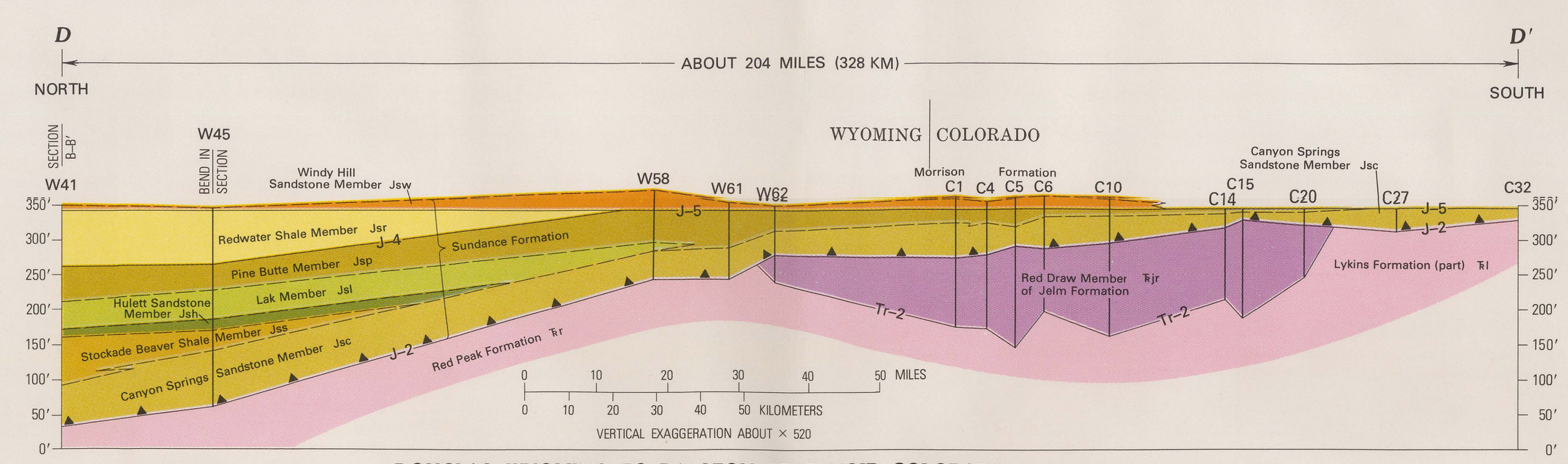
BUCKHORN WASH, UTAH, TO VICINITY OF BLACK HILLS, SOUTH DAKOTA

EXPLANATION

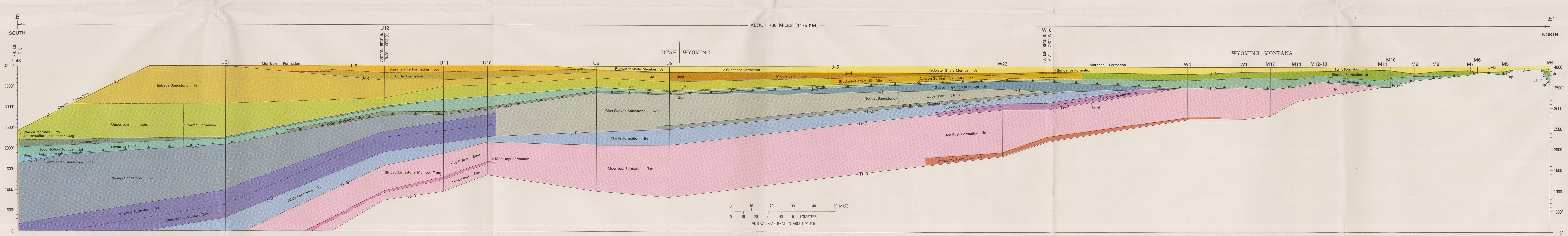
- Control points—listed in table 1 in text by State and number
- ⊙14 Hole drilled for oil or gas
- •4 Locality where chert pebbles were observed or collected, or other miscellaneous surface control point
- A—A′ Line of section
- Unconformity—Sections only
- Conformable contact—Sections only
- ▲ ▲ ▲ Chert pebbles on J–2 unconformity—Sections only



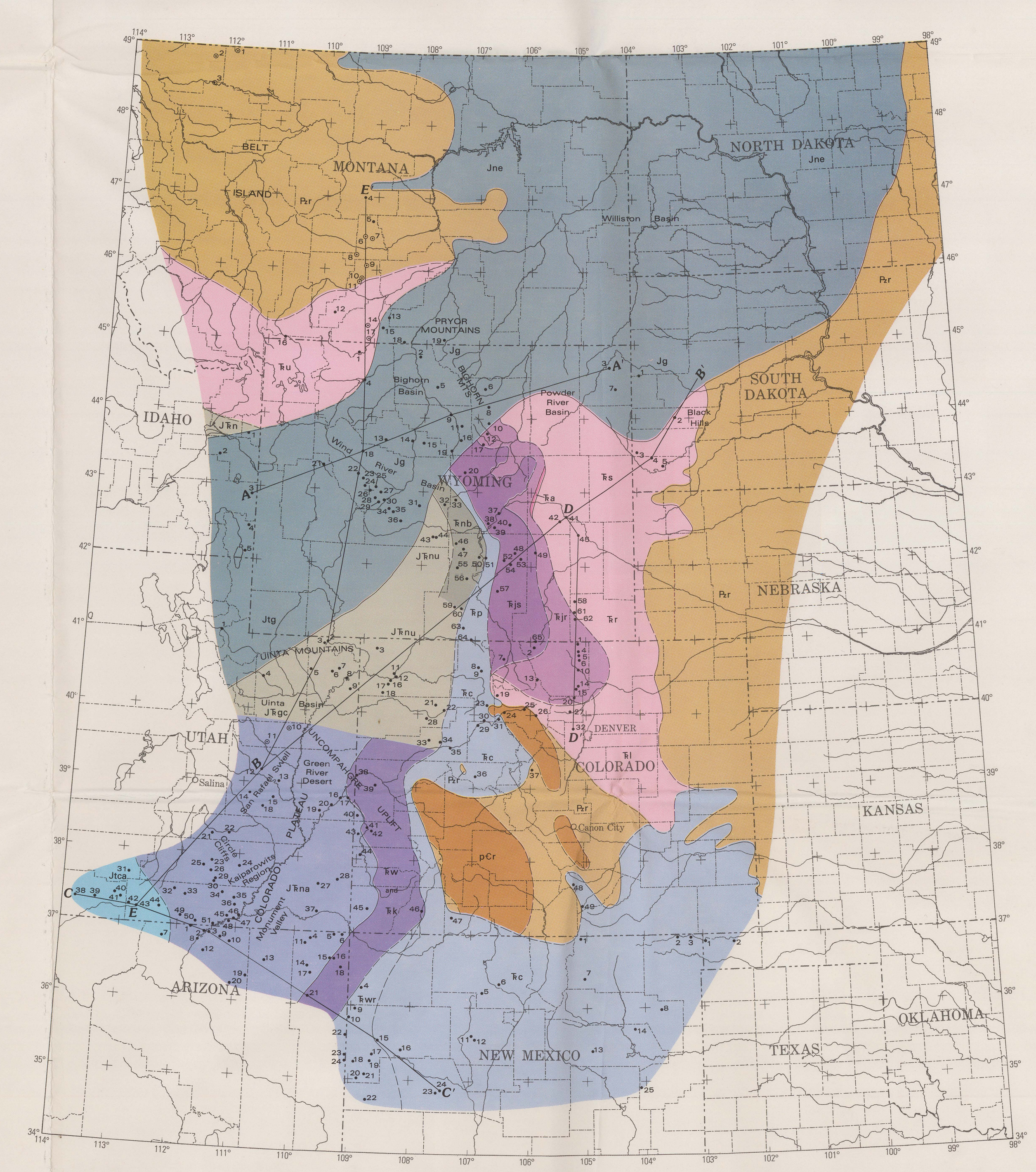
GUNLOCK, UTAH, TO PETOCH BUTTE, NEW MEXICO



DOUGLAS, WYOMING, TO RALSTON RESERVOIR, COLORADO



MOUNT CARMEL JUNCTION, UTAH, TO HEATH, MONTANA



Base from U.S. Geological Survey United States, 1:5,000,000

SCALE 1:5 000 000
100 0 100 200 MILES
100 0 100 200 KILOMETERS

Compiled from many sources, most of which are listed in table 1 in text. Subsurface details in the Powder River Basin are from Curry and Hegna (1970, pl. 2), with little modification. The eastern limits of the Navajo Sandstone in western Colorado are from Cater (1970), Shawe, Simmons, and Archbold (1968), and Fischer (1960).

B—ROCKS DIRECTLY UNDER THE J–2 UNCONFORMITY

RESTORED SECTIONS SHOWING PRINCIPAL UNCONFORMITIES IN TRIASSIC AND JURASSIC ROCKS IN WESTERN INTERIOR UNITED STATES AND PALEOGEOLOGIC MAPS OF THE J–2 UNCONFORMITY

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