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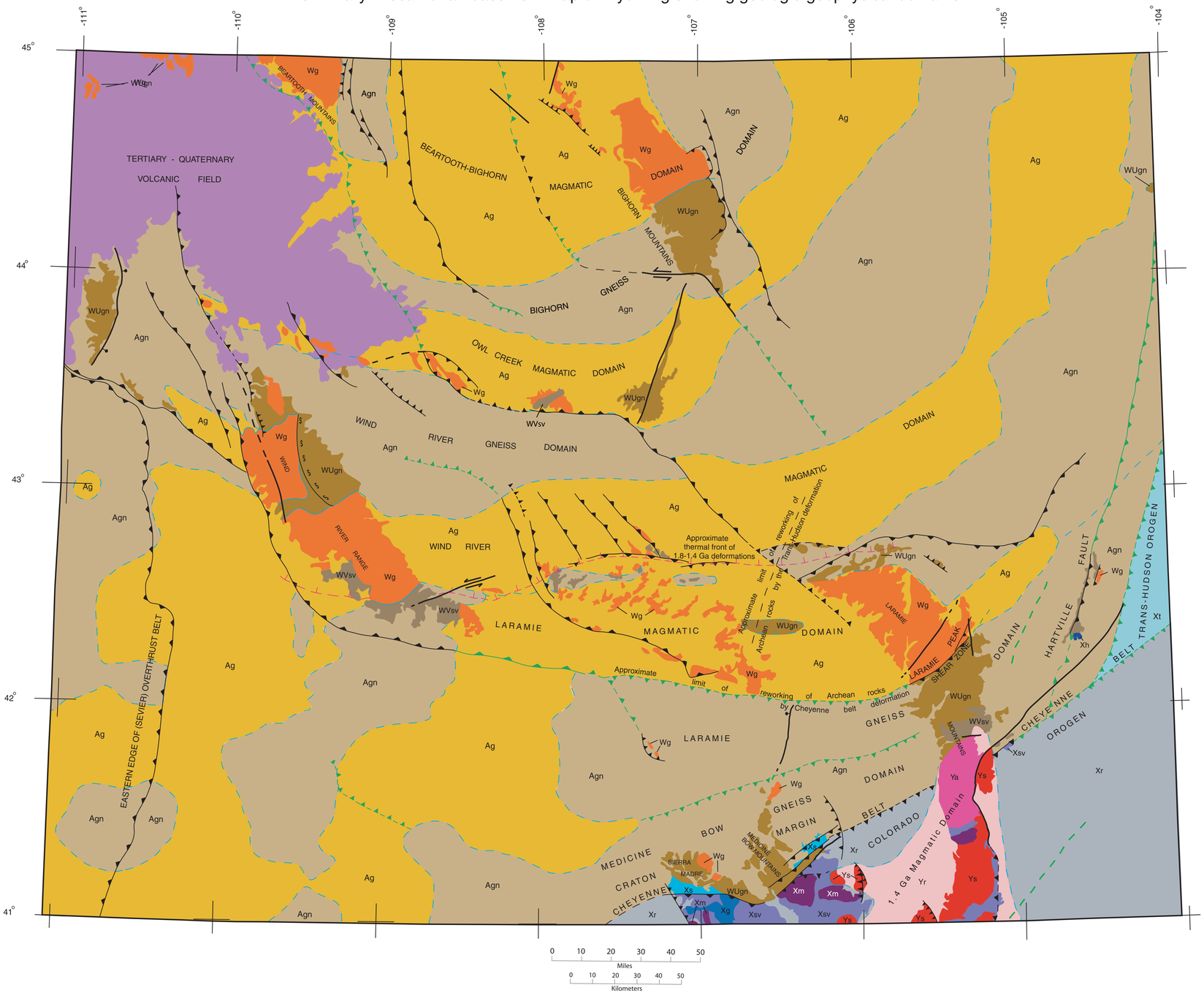
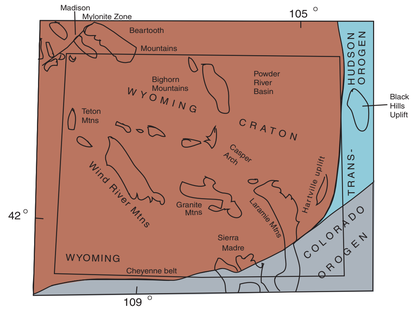
# Preliminary Precambrian basement map of Wyoming showing geologic-geophysical domains




INDEX MAP (Modified from Reed, 1993)




## EXPLANATION

Correlation of Map Units

Outcrop Areas / Covered Areas

Wyoming Archean Craton

| | Outcrop Areas | Covered Areas |
|---|---|---|
| Meso-Proterozoic | Ys, Ya | Yr |
| Paleo-Proterozoic | Xh, Xs | |
| Late Archean | Wg, WVsv, WUgn | Ag, Agn |

Trans-Hudson Orogen

| | Outcrop Areas | Covered Areas |
|---|---|---|
| Paleo-Proterozoic | | Xt |

Colorado Orogen

| | Outcrop Areas | Covered Areas |
|---|---|---|
| Meso-Proterozoic | Ys, Ya | Yr |
| Paleo-Proterozoic | Xg, Xm, Xsv | Xr |

- Contact, dashed where approximately located
- High-angle fault - Bar and ball on down-thrown side
- Thrust fault - Sawteeth on upper plate; dashed where inferred
- High-angle fault - Relative movement not known
- Approximate thermal front (1.8-1.4 Ga)
- Ductile shear zone
- All faults: black, where previously known, green, determined by this study.
- Strike-slip fault

Principal sources of data: Blackstone, 1989 (Precambrian basement map of Wyoming); Kucks and Hill, 2000 (Aeromagnetic map of Wyoming); Love and Christiansen, 1985 (Geologic map of Wyoming)

## ARCHEAN CRATON (WYOMING PROVINCE)

MESOPROTEROZOIC

Ys - Sherman Granite (age 1,415 - 1,435 Ma) -- In Laramie and Medicine Bow Mountains
Ya - Laramie Anorthosite Complex (Age 1,435 Ma) -- Includes anorthosite and pyroxene and hornblende syenite. In Laramie Mountains
Yr - Unidentified rocks of units Ys and Ya -- Mapped from aeromagnetic map of Wyoming

PALEOPROTEROZOIC

Xh - Haystack Range Granite (Age 1,720 Ma) -- In Hartville uplift
Xs - Metasedimentary rocks on craton margin -- In Medicine Bow and Sierra Madre Mountains; in covered areas, included in unit Agn

LATE ARCHEAN

Wg - Intrusive igneous rocks, mainly granite-granodiorite (range in age from 2,900 to 2,550 Ma)
WVsv - Metasedimentary and metavolcanic rocks -- Amphibolite, hornblende gneiss, biotite gneiss, quartzite, iron-formation, metaconglomerate, pelite schist, and marble; older than 2,875 Ma in Teton Range; older than 3,200 Ma in Granite Mountains; older than 2,600 Ma in Medicine Bow and Sierra Madre Mountains.
WUgn - Gneiss and migmatite (Age 3,100 to 2,600 Ma)
Ag - Unidentified granitic rocks mapped from aeromagnetic data
Agn - Unidentified gneiss mapped from aeromagnetic data; includes subordinate rocks of unit WVsv

TRANS-HUDSON OROGEN

Xt-Unidentified rocks

## COLORADO OROGEN (COLORADO PROVINCE)

MESOPROTEROZOIC (1,600-900 Ma)

Ys - Sherman Granite -- In Laramie and Medicine Bow Mountains
Ya - Laramie Anorthosite Complex -- In Laramie Mountains
Yr - Unidentified rocks of units Ys and Ya mapped from aeromagnetic data

PALEOPROTEROZOIC (2,500-1,600 Ma)

Xg - Granitic rocks of 1,700 Ma age group -- In Medicine Bow Mountains and Sierra Madre
Xm - Mafic intrusive rocks (Age ~1,760 Ma) -- In Medicine Bow Mountains, Laramie Mountains and Sierra Madre
Xsv - Metasedimentary and metavolcanic rocks -- Formed in a volcanic arc environment (Age 1,800-1,700 Ma)
Xr - Unidentified rocks of units Xg, Xm, and Xsv mapped from aeromagnetic data