APPENDIX A

Study Area Maps

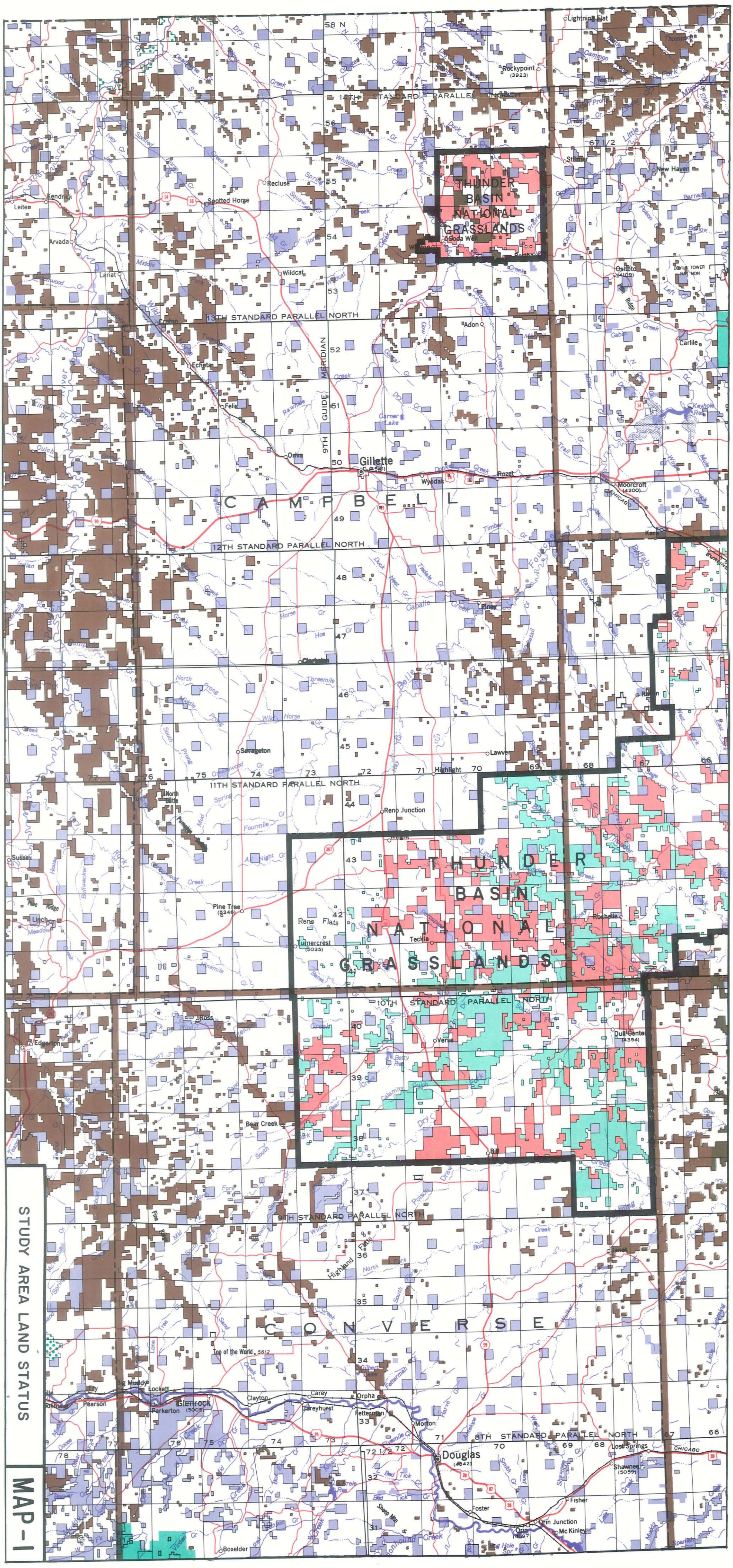
LEGEND

- Private Lands
- State Lands
- National Resource Lands
- Bureau of Reclamation Withdrawals
- National Forests
- Bankhead - Jones L.U. Lands
- Thunder Basin National Grasslands
- County Boundaries

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

N



STUDY AREA LAND STATUS

MAP - I

LEGEND

All Federal Mineral Ownerships

Partial Federal Mineral Ownerships

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

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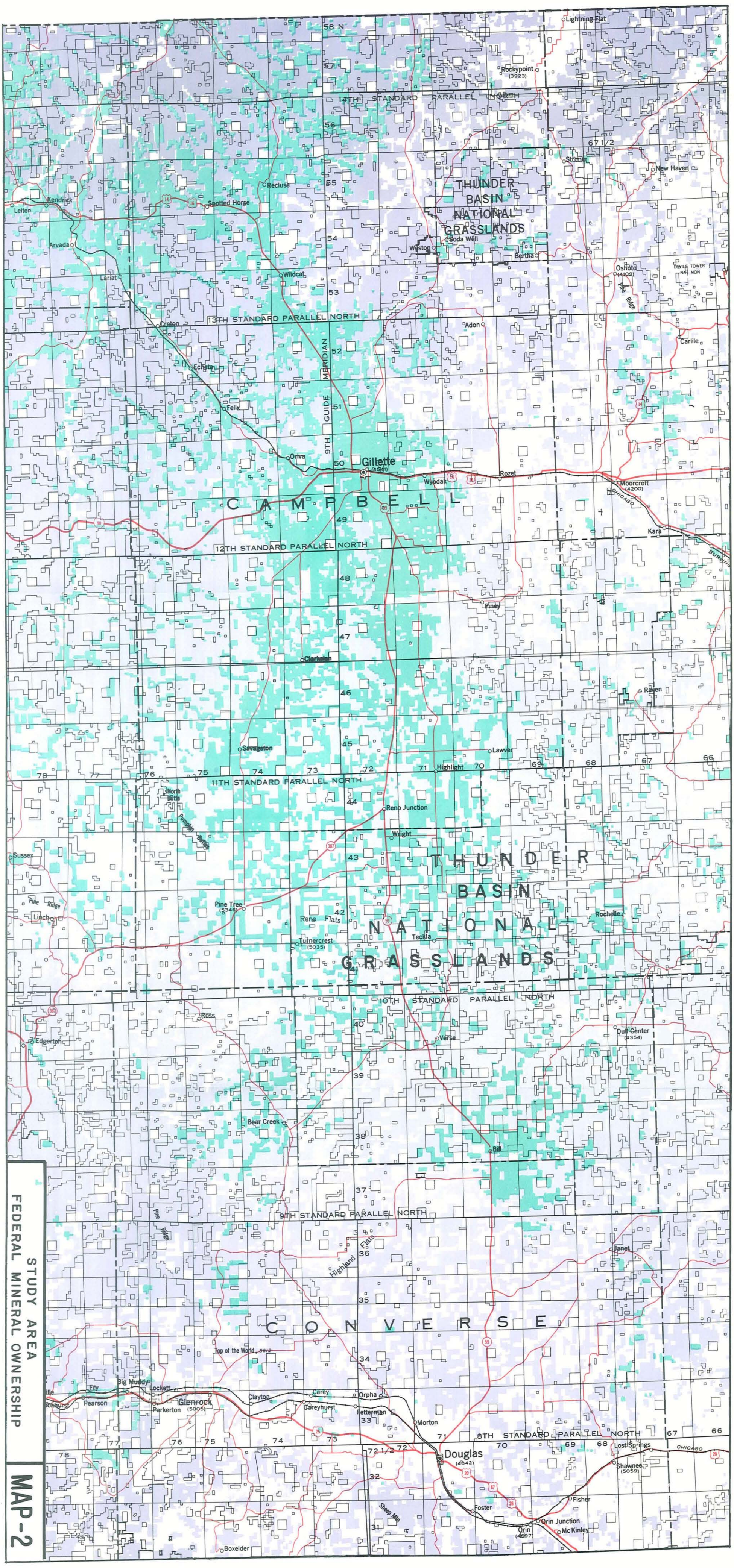

STUDY AREA
FEDERAL MINERAL OWNERSHIP

MAP-2

Specific Applications
Proposed Future Actions
Possible Future Actions

Existing Railroad Line
Slurry Pipeline
Railroad Line
Gasification Pipeline
Powerline
Gasification Reservoir

N

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

MONTANA
WYOMING

R.78W. R.77W. R.76W. R.75W. R.74W. R.73W. R.72W. R.71W. R.70W. R.69W. R.68W. R.67W. R.66W.

T. 57 N.
T. 56 N.
T. 55 N.
T. 54 N.
T. 53 N.
T. 52 N.
T. 51 N.
T. 50 N.
T. 49 N.
T. 48 N.
T. 47 N.
T. 46 N.
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T. 44 N.
T. 43 N.
T. 42 N.
T. 41 N.
T. 40 N.
T. 39 N.
T. 38 N.
T. 37 N.
T. 36 N.
T. 35 N.
T. 34 N.
T. 33 N.
T. 32 N.
T. 31 N.

North Rawhide Coal Mine
Belle Ayr North Coal Mine
Wyodak Coal Mine Expansion
Gillette
Belle Ayr South Coal Mine Expansion
Belle Fourche Coal Mine
Jacobs Ranch Coal Mine
Black Thunder Coal Mine
Rochelle Coal Mine
Bill
PROPOSED GASIFICATION RESERVOIR
Douglas

SPECIFIC APPLICATIONS, PROPOSED AND POSSIBLE FUTURE ACTIONS

MAP-3

LEGEND

PETROLEUM AND NATURAL GAS

AGE OF PRODUCING FORMATION

OIL		GAS
	TERTIARY	
	UPPER CRETACEOUS	
	LOWER CRETACEOUS	
	JURASSIC TRIASSIC	
	PERMIAN PENNSYLVANIAN	
	MISSISSIPPIAN ORDOVICIAN CAMBRIAN	

REFINERY

GAS PROCESSING PLANT

PIPELINES
(Showing owner, size, flow direction)

PLATTE 20" — OIL

KANSAS-NEBRASKA 10" — GAS

WYCO 8" — PRODUCTS

FIELD DESIGNATION

(A) Abandoned field
(W) Waterflood project
(G) Gas injection project
(D) Water disposal project
(S) Gas or LPG storage
(H) Steam injection project

OIL SHALE

OIL SHALE BEARING STRATA

U.S. Bureau of Mines core test

COAL

LIGNITE AREA

SUBBITUMINOUS COAL

BITUMINOUS COAL

Major coal-bearing areas annotated with U.S.G.S. name and estimated original resources (short tons) with less than 3000 feet of overburden.

KNOWN STRIPPABLE COAL
(U. S. B. M.'s seam name and remaining strippable resources in short tons)

T/K

GEOLOGIC CONTACT BETWEEN TERTIARY AND CRETACEOUS ROCKS

Active — Abandoned or Inactive (A)

UNDERGROUND COAL MINES
(Mine name and coal seam)

Active — Abandoned or Inactive (A)

SURFACE COAL MINES
(Mine name and coal seam)

URANIUM

BAGGS — URANIUM MINING DISTRICT

URANIUM MILL (Mill operator, mill capacity in tons per day)

Active — Abandoned or Inactive (A)

UNDERGROUND URANIUM MINES
(Operator)

Active — Abandoned or Inactive (A)

SURFACE URANIUM MINES
(Operator)

ELECTRICITY

115 KV — ELECTRICAL TRANSMISSION LINE WITH 115 KILOVOLT OR MORE CAPACITY (Kilovoltage)

GLENDO (24.0 MW) — HYDROELECTRIC GENERATING PLANT

CHEYENNE (12.75 MW) — COAL-FIRED ELECTRIC GENERATING PLANT

Capacity in megawatts

GEOLOGY

UNDIFFERENTIATED PRECAMBRIAN ROCKS EXPOSED AT SURFACE

AXIS OF BASIN SYNCLINE

COMPILED BY DONALD W. LANE, FORREST K. ROOT, AND GARY B. GLASS

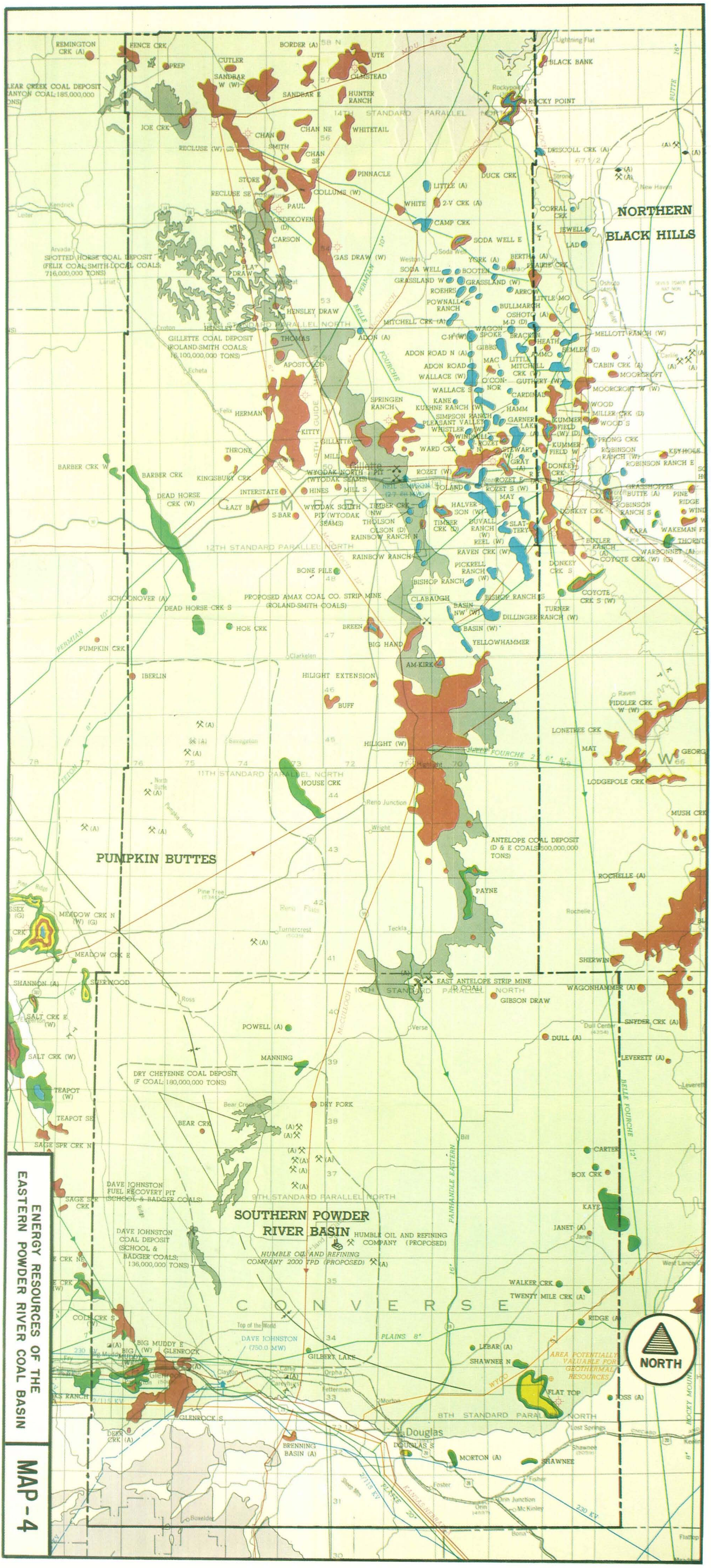
1972
THE GEOLOGICAL SURVEY OF WYOMING

SCALE 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40 Miles

10 0 10 20 30 40 50 Kilometers

For detailed information regarding mines and minerals shown on this map see—"Mineral Resources of Wyoming", Bulletin 50 (1966). The Geological Survey of Wyoming, Laramie; and the latest "Wyoming Minerals Yearbook", Department of Economic Planning and Development, Cheyenne. For similar information on petroleum and natural gas contact the State Oil and Gas Supervisor, Casper.



ENERGY RESOURCES OF THE EASTERN POWDER RIVER COAL BASIN

MAP - 4

LEGEND

Federal Lease

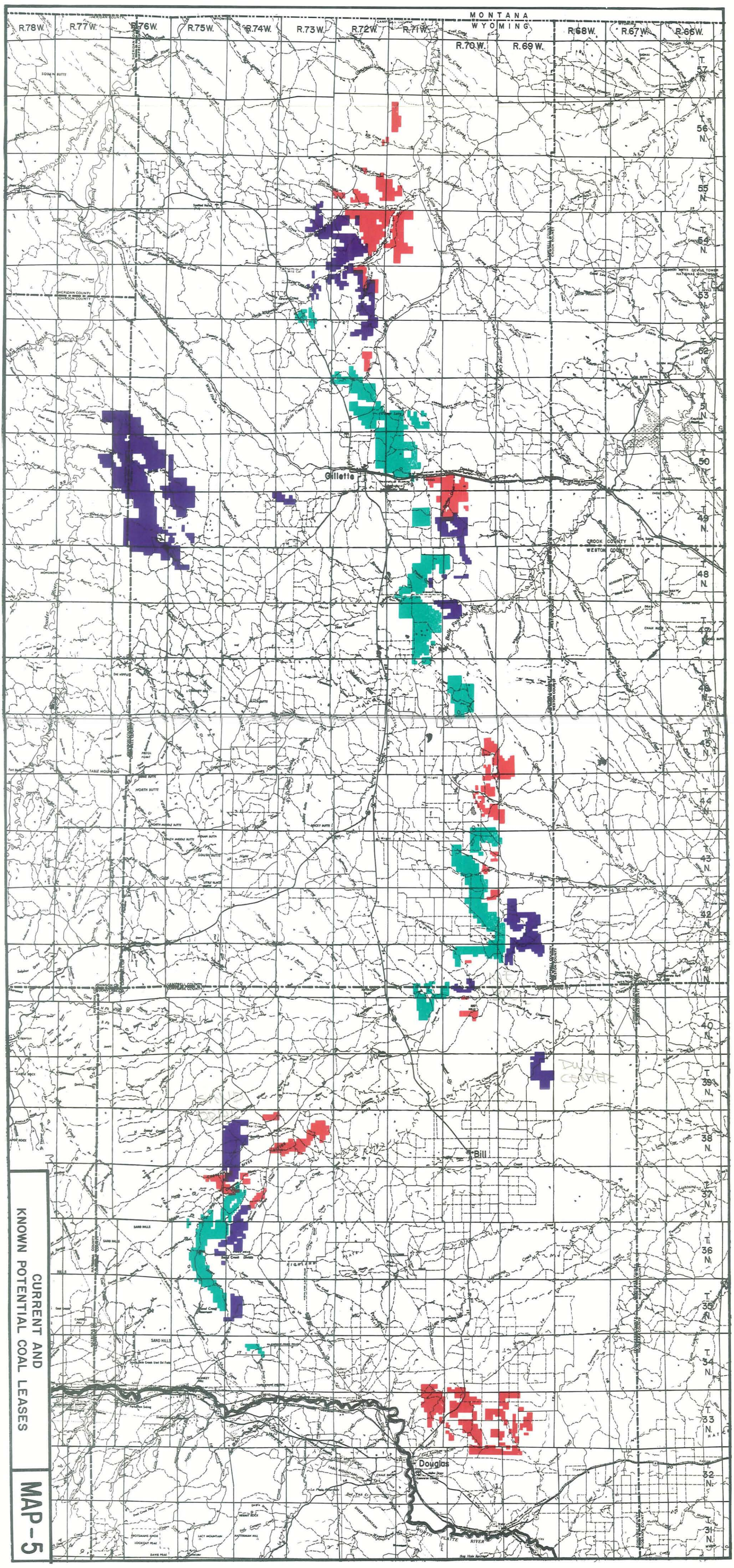
Federal Prospecting Permit

Pending Preference Right Leases

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

N



CURRENT AND
KNOWN POTENTIAL COAL LEASES

MAP-5

LEGEND

1000 Permanent Employees

2500 Construction Employees

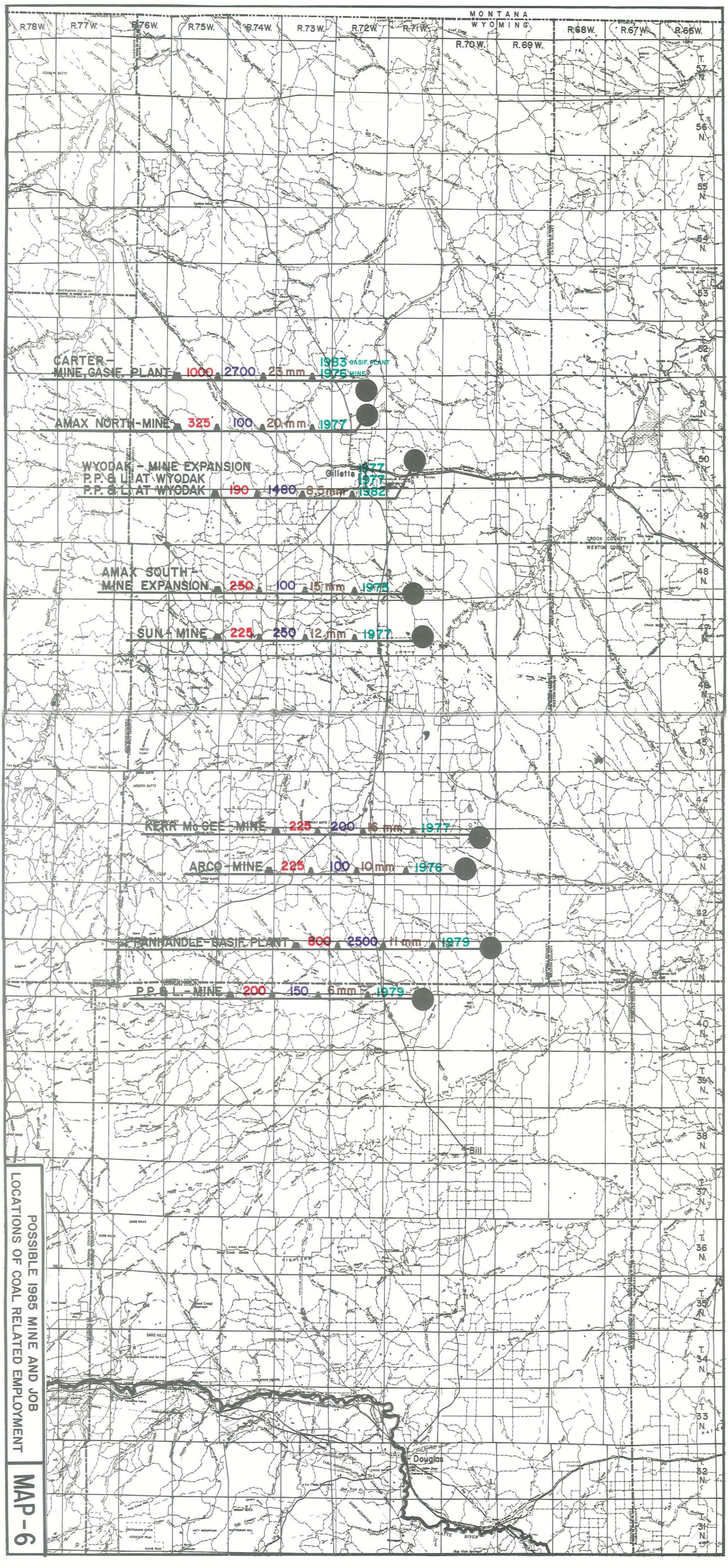
16 mm Maximum Projected Output or Consumption in Million Tons

1979 Initial Year of Commencement

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

N



POSSIBLE 1985 MINE AND JOB LOCATIONS OF COAL RELATED EMPLOYMENT

MAP-6

LEGEND

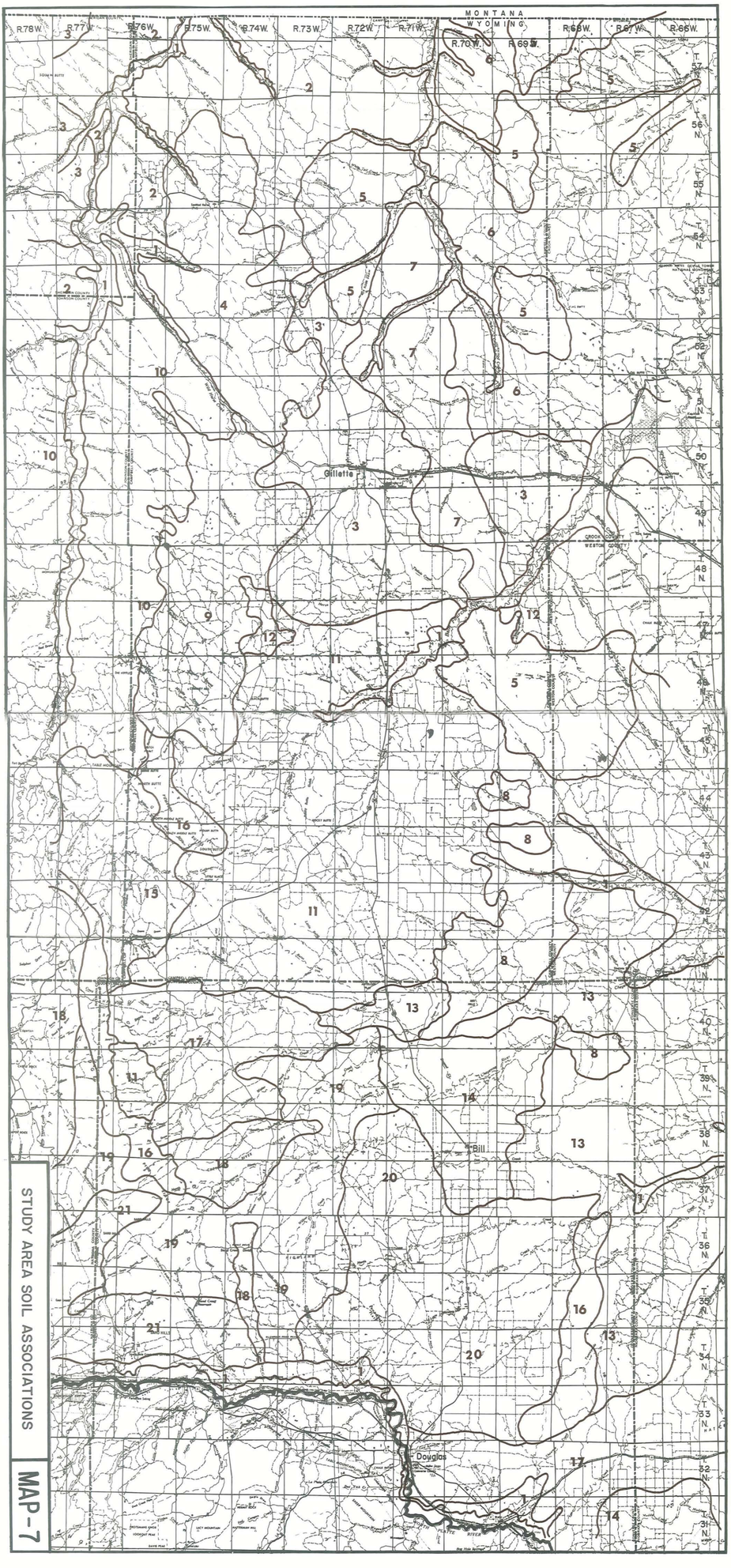
1 Bankard-Haverson-Kim-Riverwash Association
2 Razor-Shingle Association
3 Renohill-Maysdorf-Ulm Association
4 Unnamed Association
5 Renohill-Terry-Shingle Association
6 Renohill-Wyarno-Cushman Association
7 Wibaux Association
8 Renohill-Wibaux-Tassel-Shingle-Rockland Association
9 Renohill-Cushman Association
10 Renohill-Shinle-Terry Association
11 Renohill-Briggsdale-Ulm Association
12 Terry Association
13 Shingle-Kim-Shale-Rock Outcrop Association
14 Arvada-Bone-Briggsdale-Maysdorf-Ulm Association
15 Renohill-Pugsley-Briggsdale-Ulm Association
16 Renohill-Briggsdale-Ulm-Tassel-Rockland Association
17 Shingle-Tassel-Dwyer-Mitchell-Trelona Association
18 Dwyer-Tassel-Terry Association
19 Rauzi-Recluse-Arvada Association
20 Tassle-Shingle-Otero-Terry-Olney-Kim Association
21 Valent-Dwyer-Duneland Association

Source: U.S.D.A., SCS, General Soil Maps of Converse and Campbell Counties, Wyo.

N

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40



STUDY AREA SOIL ASSOCIATIONS

MAP-7

LEGEND

1 - Dry grassland (Agsm-Dist)

1a - Playa grassland (Agsm)

1b - Scoria grassland (Agsp)

1c - Sandhills grassland (Cavi)

2 - Wet meadow (Carex)

4 - Big sagebrush (Artr)

4a - Silver sagebrush (Arca)

5 - Greasewood (Save)

5a - Saltbush (Atga)

6 - Ponderosa pine forest (Pipo)

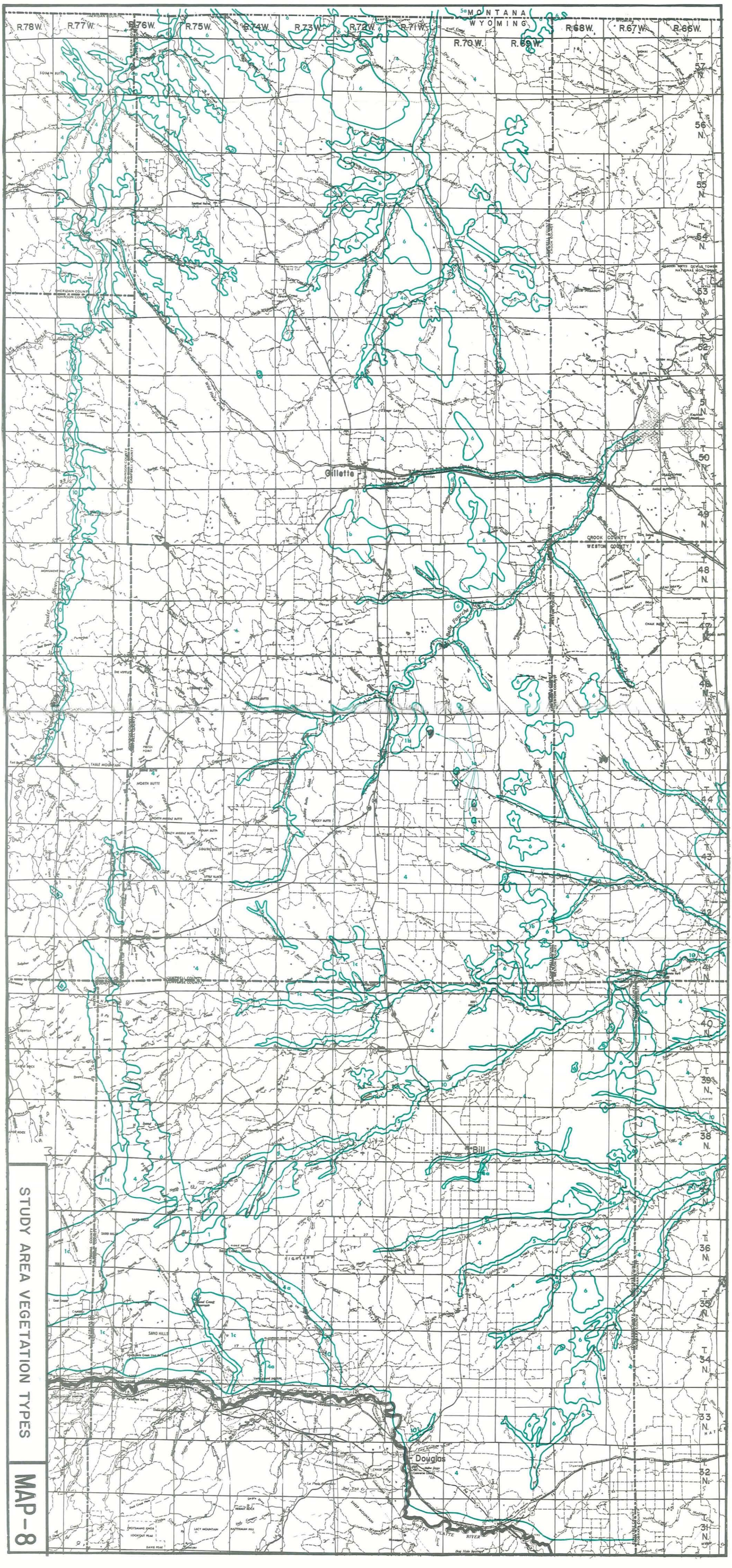
10 - Broadleaf forest (Posa)

Source: Compiled from vegetation data of various federal agencies.

N

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40



STUDY AREA VEGETATION TYPES

MAP-8

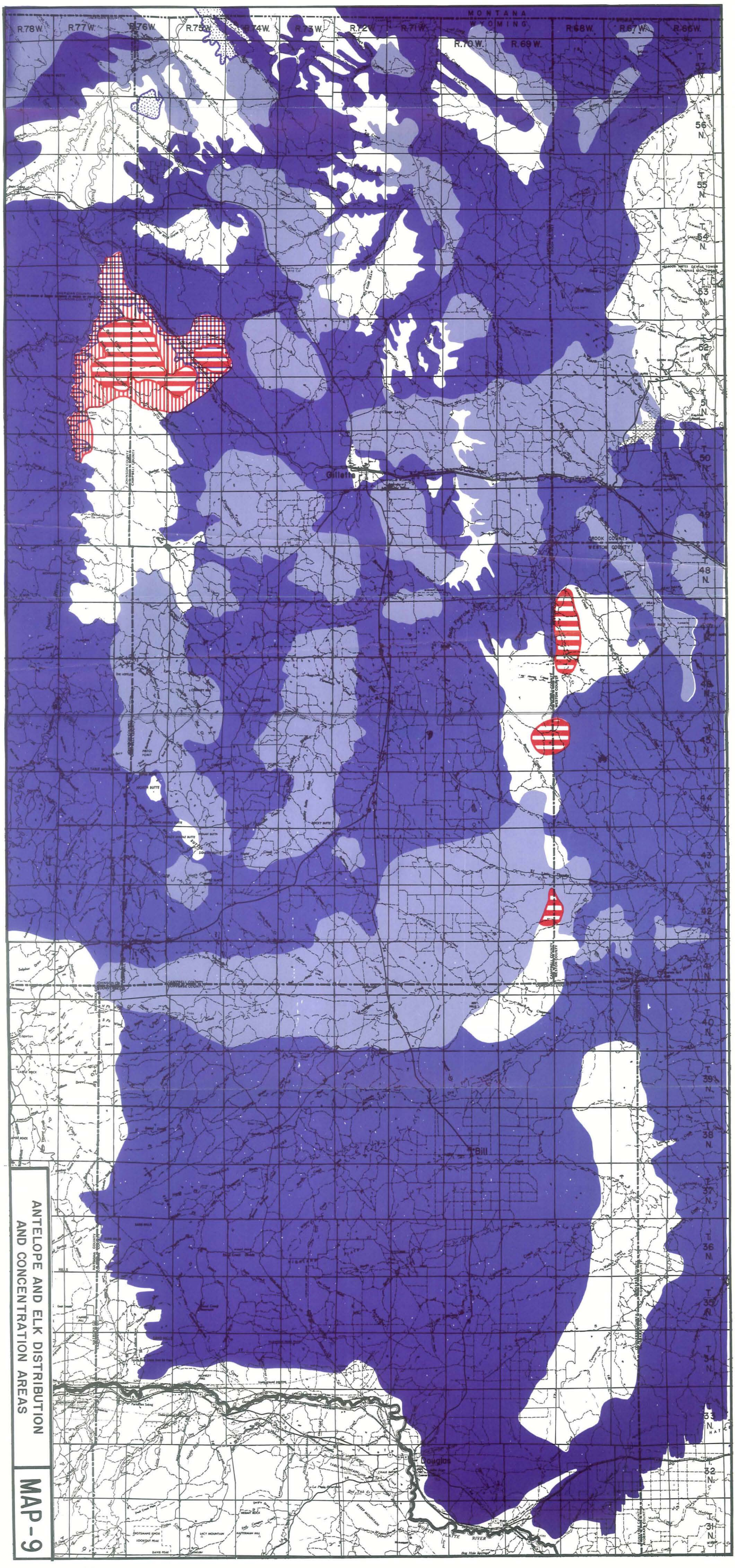
LEGEND

- Antelope Winter Concentration Areas
- Other Important Antelope Range
- Antelope Summer Range
- "Out" Areas (no antelope or very low populations)
- Key Elk Range
- Other Important Elk Range

N

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40



ANTELOPE AND ELK DISTRIBUTION AND CONCENTRATION AREAS

MAP-9

LEGEND

Key Range (yearlong or winter concentration areas)

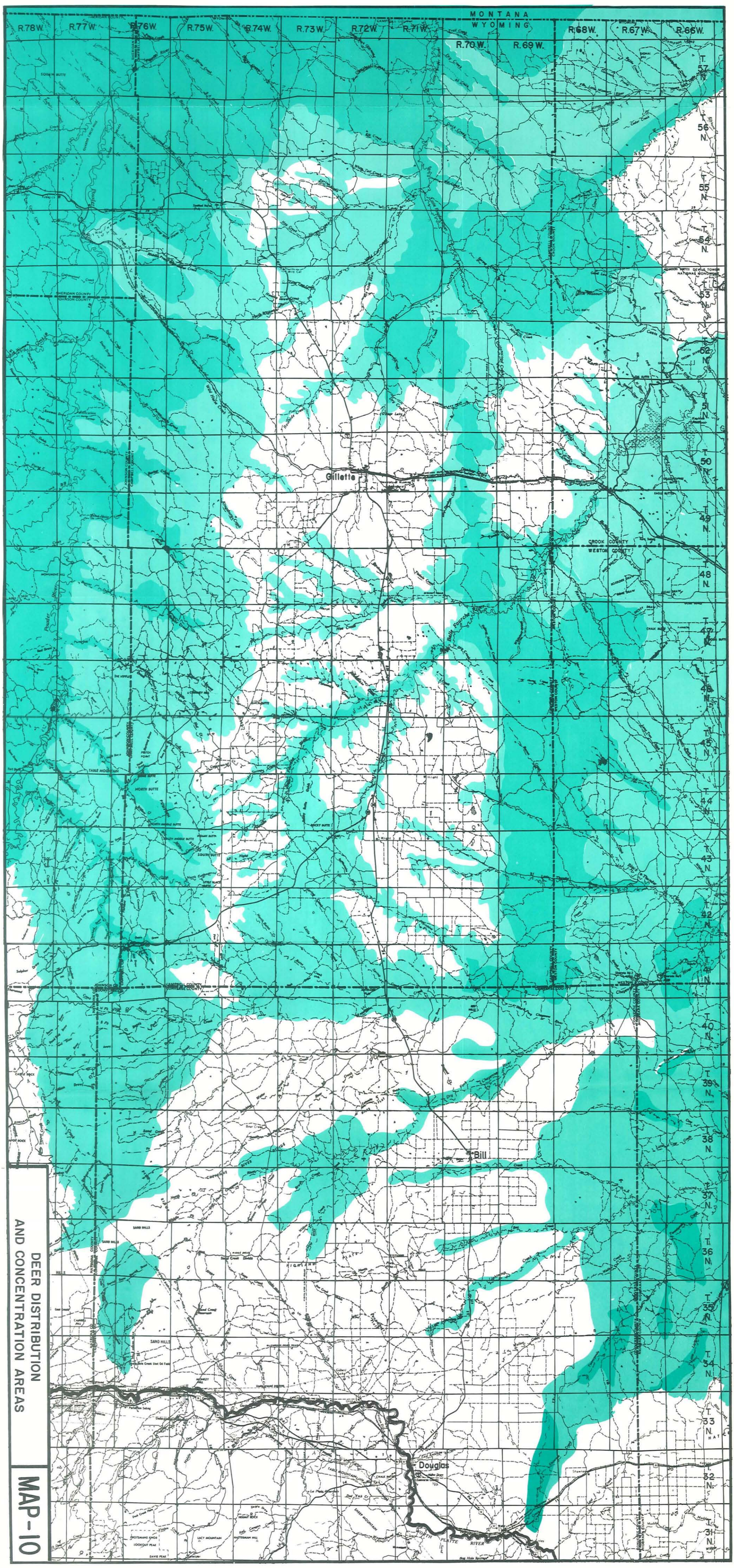
Other Important Deer Range

"Out" Areas (no deer or very low populations)

N

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40



DEER DISTRIBUTION AND CONCENTRATION AREAS

MAP-10

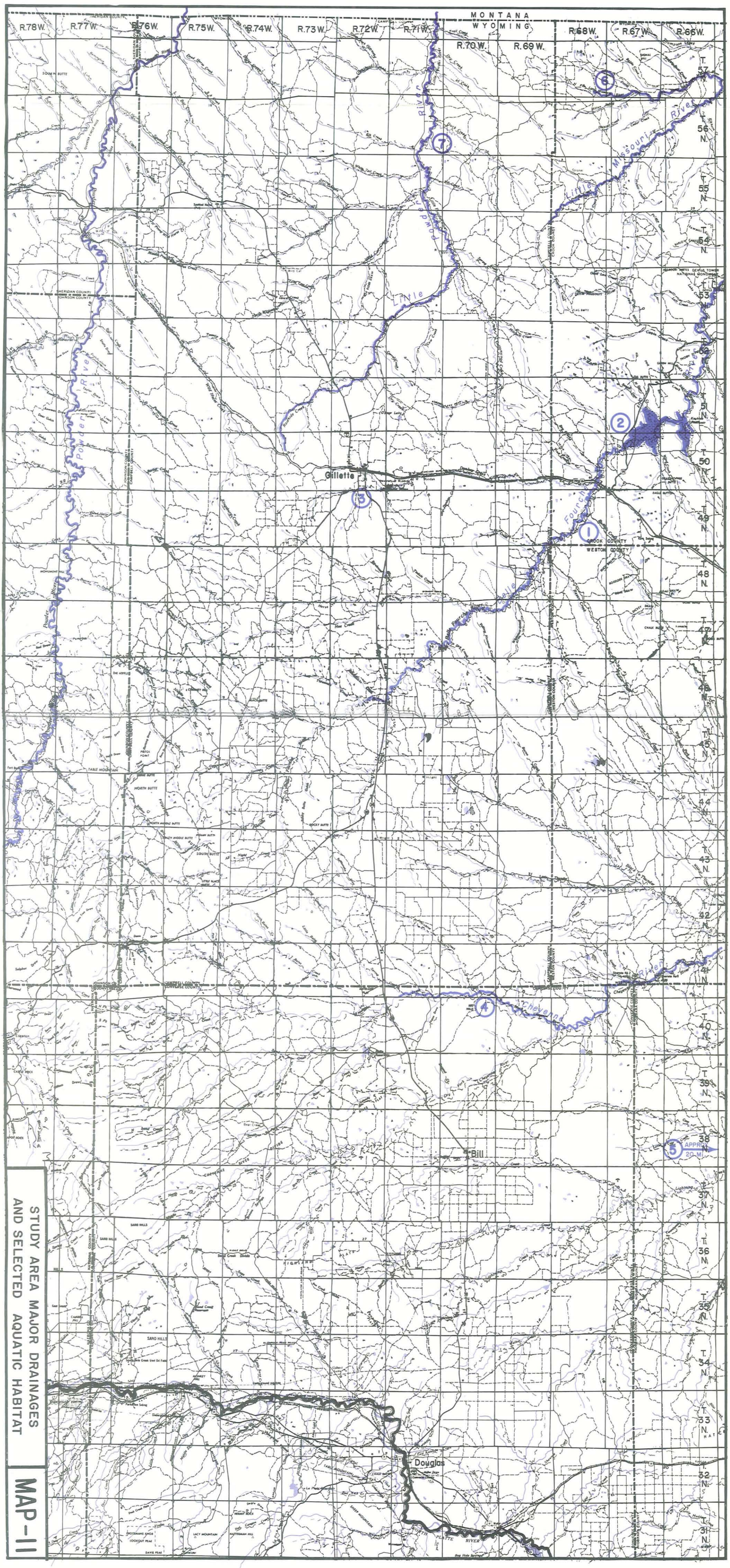
LEGEND

1. Belle Fourche River
2. Keyhole Reservoir
3. Gillette Fishing Lake
4. South Fork Cheyenne River
5. Old Woman Creek
6. North Fork Little Missouri River
7. Little Powder River

Scale 1:500,000
1 inch equals approximately 8 miles

10 0 10 20 30 40

N



STUDY AREA MAJOR DRAINAGES AND SELECTED AQUATIC HABITAT

MAP-II

LEGEND

Existing Railroad Line

Proposed Railroad Location

Eastern Alternate Route A & B

Western Alternate Route

Douglas Corridor

N

Scale 1:500,000
1 inch equals approximately 8 miles

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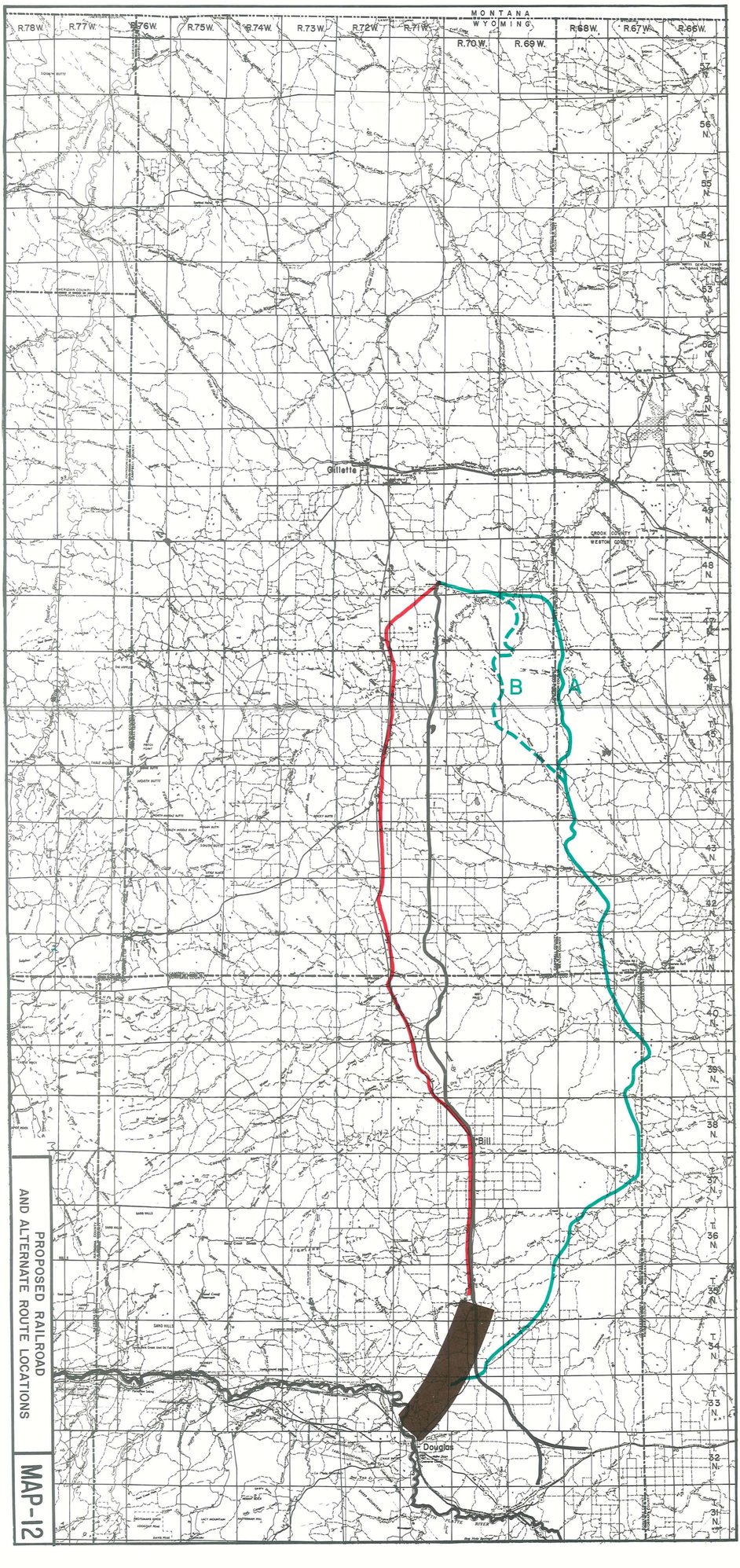

PROPOSED RAILROAD AND ALTERNATE ROUTE LOCATIONS

MAP-12