THE GEOLOGICAL SURVEY OF WYOMING

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PRELIMINARY MAP OF KNOWN SURFICIAL STRUCTURAL FEATURES FOR THE CHEYENNE 1° x 2° QUADRANGLE

compiled by

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Laramie, Wyoming
1987

This report has not been reviewed for conformity with the editorial standards of the Geological Survey of Wyoming.

This listing of sources of information and index map were prepared to accompany the preliminary map of known surficial structural features for the Cheyenne 1°x 2° Quadrangle.

Sources of geologic data

General

(These references are the sources of geologic data where more detailed, specific maps were not available).

Blackstone, D.L., Jr., 1983, Laramide compressional tectonics, southeastern Wyoming: University of Wyoming Contributions to Geology, v. 22, no. 1, p. 1-38, figures at various scales.

Case, J.C., 1986, Earthquakes and related geologic hazards in Wyoming: Geological Survey of Wyoming Public Information Circular 26, 22 p., sheet 1, scale 1:1,000,000.

Love, J.D., and Christiansen, A.C., 1985, Geologic map of Wyoming: U.S. Geological Survey, scale 1:500,000.

Specific - published

1. **Beckwith, R.H.**, 1938, Structure of the southwest margin of the Laramie Basin, Wyoming: Geological Society of America Bulletin, v. 49, no. 10, p. 1515-1544, map scale approximately 1:63,360.

2. **Beckwith, R.H.**, 1942, Structure of the Upper Laramie River Valley, Colorado-Wyoming: Geological Society of America Bulletin, v. 52, no. 10, p. 1491-1532, map scale approximately 1:63,360.

3. **Blackstone, D.L., Jr.**, 1973, Structural geology of the eastern half of the Morgan Quadrangle, the Strouss Hill Quadrangle, and the James Lake Quadrangle, Albany and Carbon Counties, Wyoming: Geological Survey of Wyoming Preliminary Report 13, 45 p., map scale 1:24,000.

4. **Darton, N.H.**, Blackwelder, Eliot, and Siebenthal, C.E., 1910, Description of the Laramie and Sherman Quadrangles [Wyoming]: U.S. Geological Survey Geologic Atlas Folio 173, scale 1:125,000.

5. **Graff, P.J.**, Sears, J.W., Holden, G.S., and Hausel, W.D., 1982, Geology of the Elmers Rock greenstone belt, Laramie Range, Wyoming: Geological Survey of Wyoming Report of Investigations 14, 23 p., plate 2, scale 1:50,000 (Precambrian only).

6. **Hausel, W.D.**, Glahn, P.R., and Woodzick, T.L., 1981, Geological and geophysical investigations of kimberlite in the Laramie Range of southeastern Wyoming: Geological Survey of Wyoming Preliminary Report 18, 13 p., plates 1 and 2, scale 1:24,000.

7. **Hyden, H.J.**, 1965, Geologic map of the Rock River Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-472, scale 1:24,000.

8. **Klein, T.L.**, 1974, Geology and mineral deposits of the Silver Crown mining district, Laramie County, Wyoming: Geological Survey of Wyoming Preliminary Report 14, 27 p., plate 1, scale 1:12,424.

9. **Klugman, M.A.**, 1966, Resume of the geology of the Laramie anorthosite mass: Mountain Geologist, v. 3, no. 2, p. 75-84, map scale approximately 1:110,000.

10. **Love, J.D.**, and Weitz, J.L., 1953, Geologic map of Albany County: Geological Survey of Wyoming miscellaneous map, scale 1:158,000.

11. **Lowry, M.E.**, and Crist, M.A., 1967, Geology and ground-water resources of Laramie County, Wyoming, *with a section on* Chemical quality of ground water and of surface water *by* J.R. Tilstra: U.S. Geological Survey Water Supply Paper 1834, 71 p., plate 1, scale 1:125,000.

12. **McAndrews, H.**, 1964, Geologic map of the Big Judson Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-390, scale 1:24,000.

13. **McAndrews, H.**, 1964, Geologic map of the Cooper Lake South Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-391, scale 1:24,000.

14. **McAndrews, H.**, 1965, Geologic map of the Cooper Lake North Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-430, scale 1:24,000.

15. **McAndrews, H.**, 1965, Geologic map of the Bosler Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-509, scale 1:24,000.

16. **McAndrews, H.**, 1966, Geologic map of the Lake Ione Quadrangle, Albany County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-508, scale 1:24,000.

17. **McGrew, L.W.**, 1967, Geologic map of the Bordeaux Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-620, scale 1:24,000.

18. **McGrew, L.W.**, 1967, Geologic map of the Ferguson Corner Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-622, scale 1:24,000.

19. **McGrew, L.W.**, 1967, Geologic map of the Natwick SW Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-623, scale 1:24,000.

20. **McGrew, L.W.**, 1967, Geologic map of the Natwick Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-624, scale 1:24,000.

21. **McGrew, L.W.**, 1967, Geologic map of the Richeau Hills Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-625, scale 1:24,000.

22. **McGrew, L.W.**, 1967, Geologic map of the Squaw Rock Quadrangle, Platte County, Wyoming: U.S. Geological Survey Geologic Quadrangle Map GQ-626, scale 1:24,000.

23. **Morris, D.A.**, and Babcock, H.M., 1960 [1961], Geology and ground-water resources of the Platte County, Wyoming, *with a section on* Chemical quality of water *by* R.H. Langford: U.S. Geological Survey Water Supply Paper 1490, 195 p., plate 1, scale 1:125,000.

24. **Newhouse, W.H.**, and Hagner, A.F., 1957, Geologic map of anorthosite areas, southern part of Laramie Range, Wyoming: U.S. Geological Survey Miscellaneous Field Studies Map MF-119, scale 1:63,360.

25. **Rapp, J.R.**, Visher, F.N., and Littleton, R.T., 1957, Geology and ground-water resources of Goshen County, Wyoming, *with a section on* Chemical Quality of the ground water *by* W.H. Durum: U.S. Geological Survey Water Supply Paper 1377, 145 p., plate 1, scale 1:96,000.

26. **Snyder, G.L.**, 1984, Preliminary geologic maps of the central Laramie Mountains, Albany and Platte Counties, Wyoming: U.S. Geological Survey Open File Report 84-358, 13 plates, scale 1:24,000.

Specific - theses (see separate index map)

1. **Blackstone, R.E.**, 1976, Contact relationships of Laramie anorthosite and associated rocks, Poe Mountain area, Albany County, Wyoming: M.S. thesis University of Wyoming, Laramie, Wyoming, map scale 1:8,000.

2. **Brady, R.T.**, 1949, Geology of the east flank of the Laramie Range in the vicinity of Federal and Hecla, Laramie County, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale approximately 1:25,000.

3. **Brooks, B.G.**, 1957, The geology of the Wheatland Reservoir area, Albany County, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, 42 p., plate 1, scale approximately 1:31,680.

4. **Cassiliano, M.L.**, 1976, Stratigraphy and paleontology of the Horse Creek-Trail Creek area, Laramie County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, plates 8 and 9, scale 1:24,000.

5. **Copland, J.R.**, 1984, Laramide, structural deformation at the interface between the Laramie Range and the Denver-Julesburg Basin, southeastern Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:24,000.

6. **Eaton, G.M.**, 1960, Geology of the central portion of Como Bluff anticline, Albany County, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, 58 p., plate 1, scale approximately 1:25,335.

7. **Eggler, D.H.**, 1967, Structure and petrology of the Virginia Dale ring-dike complex, Colorado-Wyoming Front Range: Ph.D. dissertation, University of Colorado, Boulder, Colorado, 154 p., map scale 1:62,500.

8. **Fields, E.D.**, 1963, Precambrian rocks of the Halleck Canyon area, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:12,000.

9. **Gray, L.O., Jr.**, 1947, Geology of the east flank of the Laramie Range in the vicinity of Horse Creek, Laramie County, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale approximately 1:16,000.

10. **Hammond, C.R.**, 1949, Geology of the east flank of the Laramie Range in the vicinity of Iron Mountain, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:21,120.

11. **Haun, J.D.**, 1949, Geology of a portion of the east flank of the Laramie Range, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale approximately 1:24,000.

12. **Hodge, D.S.**, 1966, Petrology and structural geometry of Precambrian rocks in the Bluegrass area, Albany County, Wyoming: Ph.D. dissertation, University of Wyoming, Laramie, Wyoming, map scale approximately 1:20,000.

13. **Houlette, K.N.**, 1947, Geology of McGill anticline, Albany County, Wyoming: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale approximately 1:25,000.

14. **Lundy, D.A.**, 1978, Hydrology and geochemistry of the Casper aquifer in the vicinity of Laramie, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:24,000.

15. **McGookey, D.P.**, 1952, Pennsylvanian and early Permian stratigraphy of the southeast portion of the east flank of the Laramie Range, Wyoming and Colorado: M.A. thesis, University of Wyoming, Laramie, Wyoming, map scale approximately 1:30,000.

16. **Mueller, R.E.**, 1982, The Cheyenne Belt, southeastern Wyoming -- Part 1 descriptive geology and petrography: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:6,000.

17. **Murray, T.J., Jr.**, 1961, The anorthosite, ilmenite-magnetite, and associated rocks of a portion of the Laramie anorthosite, Albany County, Wyoming: M.S. thesis, Colorado School of Mines, Golden, Colorado, 79 p., 2 plates, scale 1:12,000.

18. **Nelson, M.T.**, 1965, Geology of a part of the Laramie anorthosite, Albany County, Wyoming: M.S. thesis, Colorado School of Mines, Golden, Colorado, 67 p., map scale 1:12,000.

19. **Nicoll, G.A.**, 1963, Geology of the Hutton Lake anticline area, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, 80 p., plate 1, scale 1:35,200.

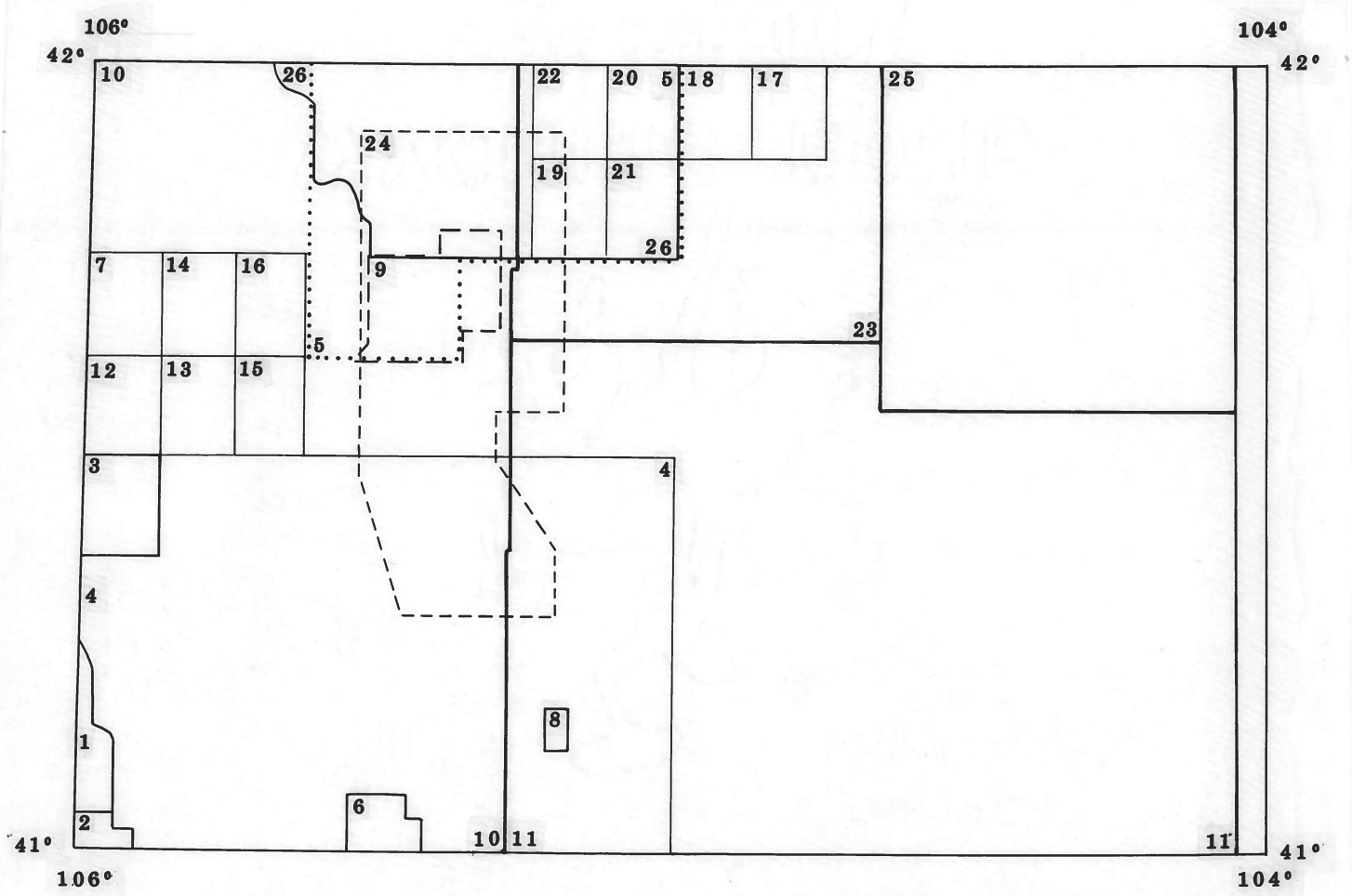
20. **Smith, B.D.**, 1967, Geologic and geophysical investigation of an area of Precambrian rocks, central Laramie Range, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:14,400.

21. **Swenson, A.L.**, 1980, Mechanics of Laramide deformation along the east flank of the Laramie Range, Wyoming and Front Range, Colorado: Ph.D. dissertation, University of Colorado, Boulder, Colorado, 132 p., plate 1, scale 1:24,000 (sketch map).

22. **Toogood, D.J.**, 1967, Repeated folding in the Precambrian basement of the Laramie Mountains, Albany and Platte Counties, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:14,400.

23. **Tudor, M.S.**, 1952, Geology of the west-central flank of the Laramie Range, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, map scale 1:31,680.

24. **Vargas, Rodrigo**, 1974, Photogeologic map of the Jelm Mountain Quadrangle, Albany County, Wyoming: M.S. thesis, University of Wyoming, Laramie, Wyoming, 68 p., plate 1, scale 1:24,000.



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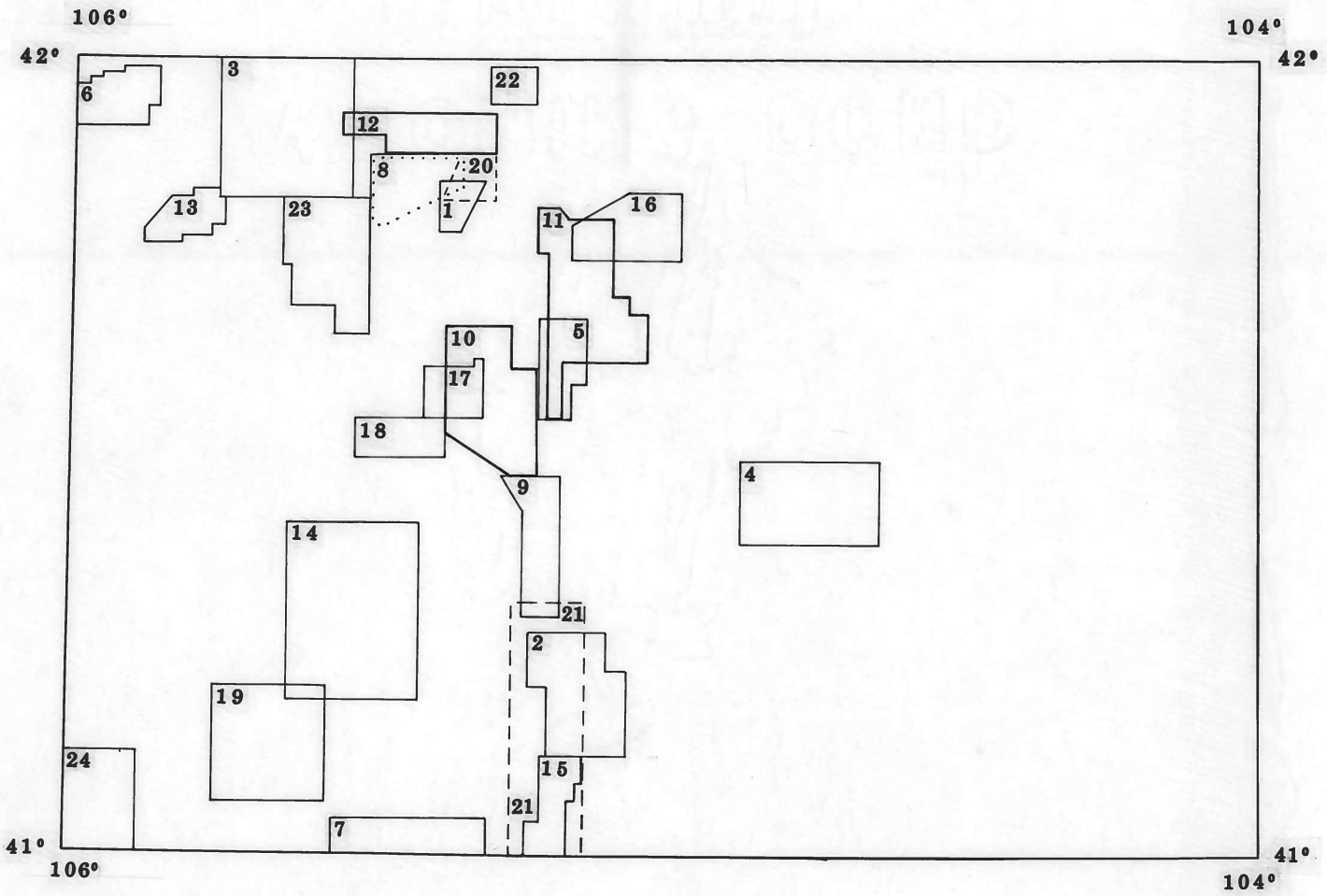

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EXPLANATION

Anticline- arrows perpendicular to axis show symmetry, i.e., short arrow indicates flank with steeper dip. Axis is dashed where covered or approximately located. Arrow on axis indicates direction of plunge.

Monocline- arrow indicates flank with steeper dip. Axis is dashed where covered or approximately located. Queried where existence is questionable.

Normal Faults- ball on downthrown block (dashed where covered or approximately located). Queried where existence is questionable.

Thrust/Reverse Faults- teeth on upthrown block (dashed where covered or approximately located). Queried where existence is questionable.

Shear Zones

Possible Active Fault- as identified by Case (1986).

THIS MAP WAS COMPILED FROM THE MOST RECENT AVAILABLE INFORMATION AND IS ONLY AS RELIABLE AND COMPLETE AS THE SOURCES CONSULTED. SOME SMALLER FEATURES WERE OMITTED SINCE THEY COULD NOT BE PLOTTED AT THIS SCALE. SOURCES CONSULTED ARE LISTED IN ACCOMPANYING REFERENCE LIST.

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

5 0 5 10 15 Nautical Miles

CONTOUR INTERVAL 200 FEET
WITH SUPPLIMENTARY CONTOURS AT 100 FOOT INTERVALS

BASE MAP FROM THE U.S. GEOLOGICAL SURVEY, 1969.

THIS MAP HAS NOT BEEN REVIEWED FOR CONFORMITY WITH THE EDITORIAL STANDARDS OF THE GEOLOGICAL SURVEY OF WYOMING.

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