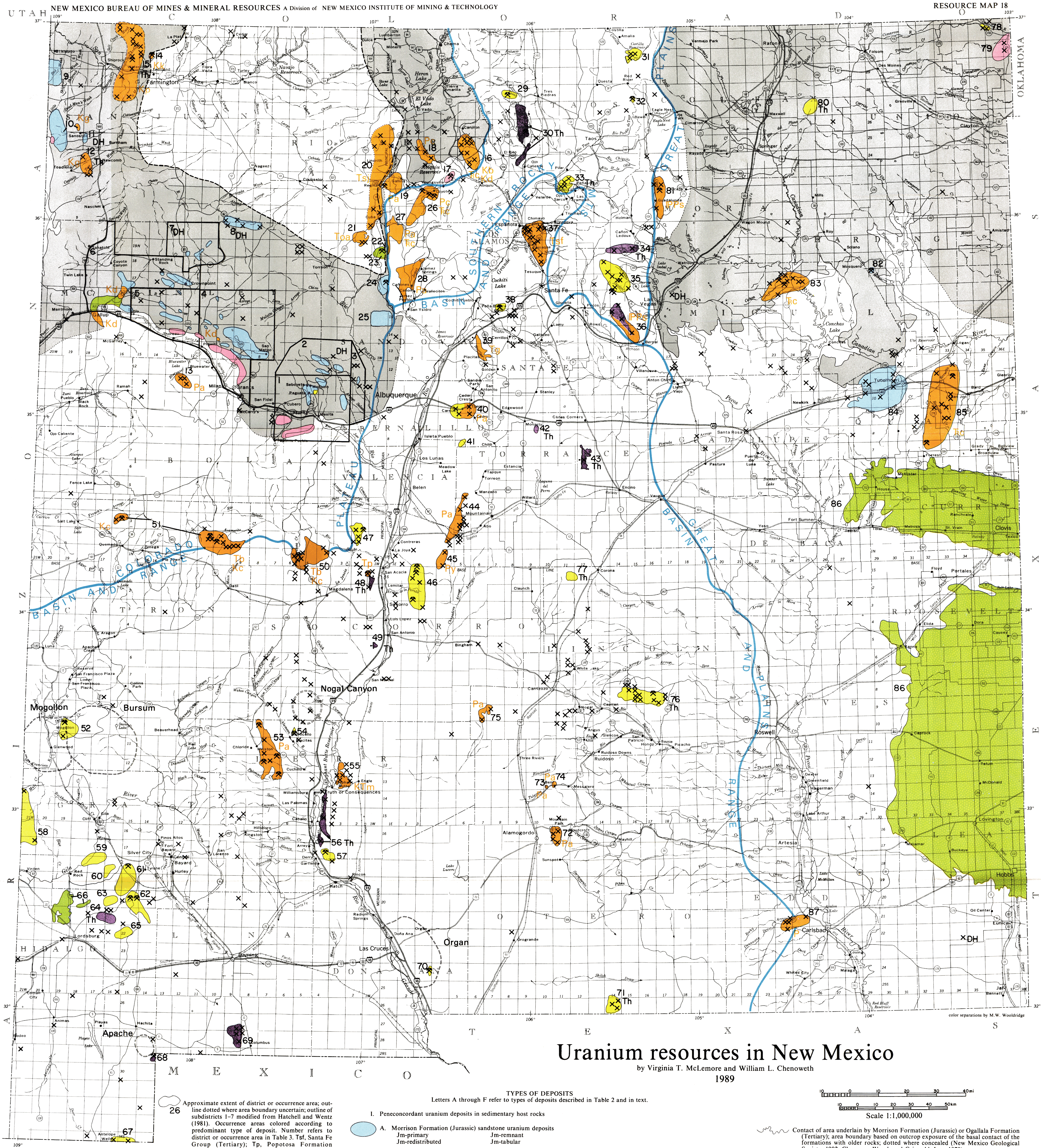

Uranium resources in New Mexico

by Virginia T. McLemore and William L. Chenoweth

1989

Scale 1:1,000,000

Approximate extent of district or occurrence area; outline dotted where area boundary uncertain; outline of subdistricts 1–7 modified from Hatchell and Wentz (1981). Occurrence areas colored according to predominant type of deposit. Number refers to district or occurrence area in Table 3. Tsf, Santa Fe Group (Tertiary); Tp, Popotosa Formation (Tertiary); Tg, Galisteo Formation (Tertiary); Tb, Baca Formation (Tertiary); Tsj, San Jose Formation (Tertiary); Toa, Ojo Alamo Sandstone (Tertiary); KTm, McRae Formation (Cretaceous-Tertiary); Kk, Kirtland/Fruitland Formation (Cretaceous); Kp, Point Lookout Sandstone (Cretaceous); Kc, Crevasse Canyon Formation (Cretaceous); Kg, Gallup Sandstone (Cretaceous); Kd, Dakota Sandstone (Cretaceous); Kb, Burro Canyon Formation (Cretaceous); Ꞓc, Chinle Formation (Triassic); Py, Yeso Formation (Permian); Pa, Abo Formation (Permian)—may extend into Madera, Bursum, or Yeso Formations; Pc, Cutler Formation (Permian); P, Permian rocks; PPs, Sangre de Cristo Formation (Pennsylvanian-Permian).

Area underlain by the Morrison Formation (Jurassic) where depth to top of Morrison is less than 5,000 ft.

Area underlain by the Ogallala Formation (Tertiary).

× Uranium occurrence (McLemore, 1983a); occurrences outside of colored areas have an accumulation of uranium less than 0.005% U_3O_8.

⚒ Uranium mine/property with production; mines in Grants and Shiprock uranium districts are not shown.

DH Subsurface uranium occurrence or deposit.

Th Thorium-rich area (greater than 100 ppm Th).

TYPES OF DEPOSITS

Letters A through F refer to types of deposits described in Table 2 and in text.

I. Peneconcordant uranium deposits in sedimentary host rocks

A. Morrison Formation (Jurassic) sandstone uranium deposits
- Jm-primary
- Jm-redistributed
- Jm-remnant
- Jm-tabular

B. Other sandstone uranium deposits
- Kd-redistributed
- K/T–roll front
- Sedimentary uranium
- Sedimentary copper
- Beach placer

C. Limestone uranium deposits
- Jwt
- Other limestone

D. Other sedimentary rocks with uranium deposits
- Shale
- Surficial

II. Fracture-controlled uranium deposits

E. Vein-type uranium deposits
- Jeter type
- La Bajada
- Collapse-breccia pipe
- Epithermal vein

III. Disseminated uranium deposits in igneous and metamorphic host rocks

F. Igneous and metamorphic rocks with disseminated uranium deposits
- Pegmatite
- Alkalic rock
- Granitic rock
- Carbonatite
- Miscellaneous

Contact of area underlain by Morrison Formation (Jurassic) or Ogallala Formation (Tertiary); area boundary based on outcrop exposure of the basal contact of the formations with older rocks; dotted where concealed (New Mexico Geological Society, 1982; Chapman, Wood, and Griswold, Inc., 1979).

Approximate 5,000-ft-depth contour to the top of the Morrison Formation (Jurassic).

Fault; ball and bar on downthrown side.

Approximate outline of physiographic provinces (modified from New Mexico Geological Society, 1982; J. Hawley, D. Love, written communication 1989).

Caldera (modified from New Mexico Geological Society, 1982; McIntosh, 1989; McIntosh et al., 1986; Peterson, 1976; Ratté, 1981; Ratté et al., 1979, 1984).

County seat

Interstate highway

U.S. highway

State highway

Railroad

Narrow-gauge railroad