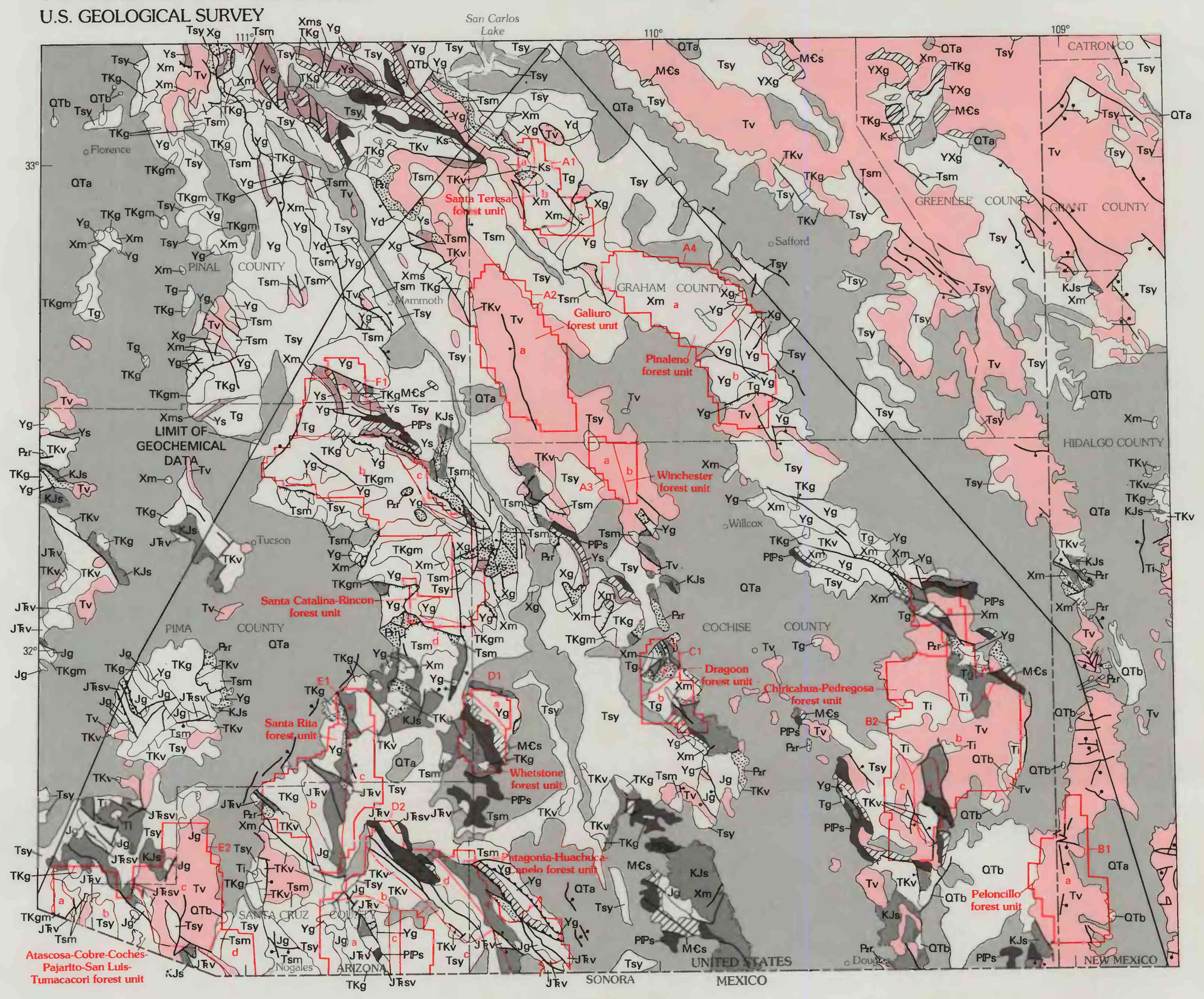
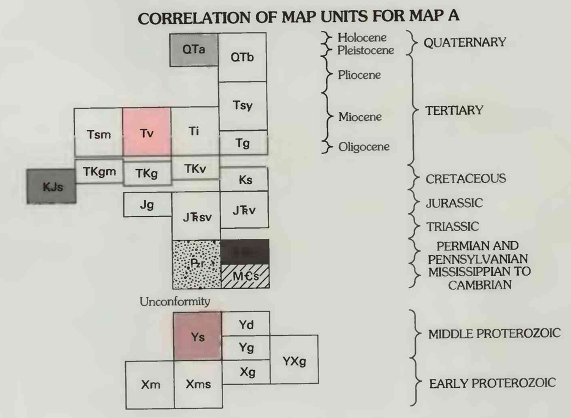


Map A. Geology

CORRELATION OF MAP UNITS FOR MAP A



DESCRIPTION OF MAP UNITS FOR MAP A

[Geology modified from New Mexico Geological Society (1982) and Reynolds (1988)]

QTa **Young alluvium and older surficial deposits (Holocene to latest Pliocene)**—Deposits in present-day river and stream channels, valleys, flood plains, playas, on pediments, and eolian deposits

QTb **Basaltic rocks (Holocene to upper Pliocene; 0–4 Ma)**

Tsy **Sedimentary rocks (Pliocene to middle Miocene)**—Sediments deposited during and after late Tertiary normal faulting; commonly capped by patches of Quaternary surficial deposits. Includes Gila Conglomerate

Tsm **Sedimentary rocks (middle Miocene to Oligocene; 15–38 Ma)**—Deposited during middle Tertiary orogenic activity in the Basin and Range Province and southwestern Transition Zone

Tv **Volcanic rocks (middle Miocene to Oligocene; 15–38 Ma)**—Silicic to mafic flows and pyroclastic rocks; includes some subvolcanic intrusions

Ti **Subvolcanic intrusive rocks (middle Miocene to Oligocene)**

Tg **Granitoid rocks (early Miocene to Oligocene; 18–38 Ma)**

TKgm **Granitic rocks (early Tertiary to Late Cretaceous; 45–75 Ma)**—Commonly muscovite-garnet-bearing peraluminous granite and associated pegmatite

TKg **Granitoid rocks (early Tertiary to Late Cretaceous; 55–85 Ma)**—Generally metaluminous granite to diorite and subvolcanic porphyry

TKv **Volcanic rocks (Upper Cretaceous; lower Tertiary near Safford)**—Rhyolitic to andesitic volcanic rocks and locally associated sedimentary and subvolcanic intrusive rocks

Ks **Sedimentary rocks (Cretaceous)**—Dakota Sandstone, Mancos Shale, and related rocks near Morenci (Pinkard Formation) and Deer Creek

KJs **Sedimentary rocks locally interbedded with volcanic units (Cretaceous to Upper Jurassic)**—Upper Cretaceous Fort Crittenden Formation and equivalent rocks, Bisbee Group (Lower Cretaceous) and related rocks, Temporal, Bathtub, and Sand Wells Formations, rocks of Gu Achi

Jg **Granitoid rocks (Jurassic)**—Granite to diorite, locally alkaline

JTRsv **Sedimentary and volcanic rocks (Jurassic and Triassic)**—Sil Nakya, Ali Molina, and Pitoikam Formations, Cobre Ridge Tuff, Recreation Red Beds, Gardner Canyon Formation, and part of Canelo Hills Volcanics in southern Arizona

JTRv **Volcanic rocks (Jurassic; locally uppermost Triassic)**—Mount Wrightson Formation, part of Canelo Hills Volcanics, Mulberry Wash Volcanics, and equivalent rocks

PzR **Paleozoic rocks, undifferentiated**

PlPs **Sedimentary rocks (Permian and Pennsylvanian)**—Naco Group and Supai Group

MCs **Sedimentary rocks (Mississippian to Cambrian)**—Escabrosa Limestone, Percha Shale, Martin Formation, El Paso Formation, Abrigo Formation, and Bolsa Quartzite in southern Arizona

Ys **Sedimentary rocks (Middle Proterozoic)**—Apache Group

Yd **Diabase (Middle Proterozoic; 1,100 Ma)**

Yg **Granitoid rocks (Middle Proterozoic; 1,400 Ma)**

YXg **Granitoid rocks (Middle or Early Proterozoic; 1,400 Ma or 1,650–1,750 Ma)**

Xg **Granitoid rocks (Early Proterozoic; 1,650–1,750 Ma)**—Granite, granodiorite, tonalite, quartz diorite, diorite, and gabbro; commonly foliated

Xm **Metamorphic rocks (Early Proterozoic; 1,650–1,800 Ma)**—Undifferentiated metasedimentary, metavolcanic, and gneissic rocks

Xms **Metasedimentary rocks (Early Proterozoic; 1,650–1,800 Ma)**

Contact

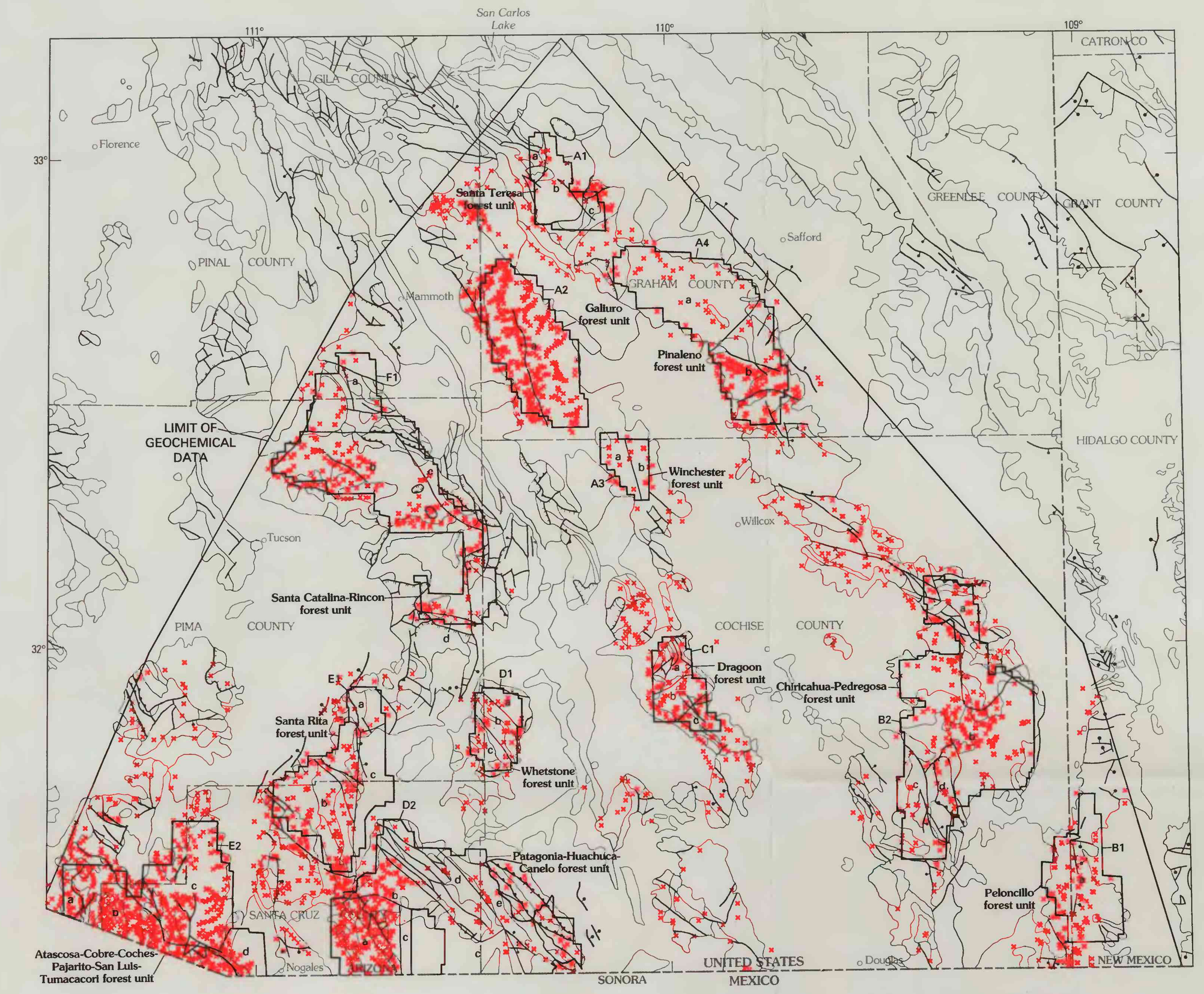
Fault—Bar and ball on downthrown side

Low-angle normal fault

Detachment fault

Thrust or reverse fault

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

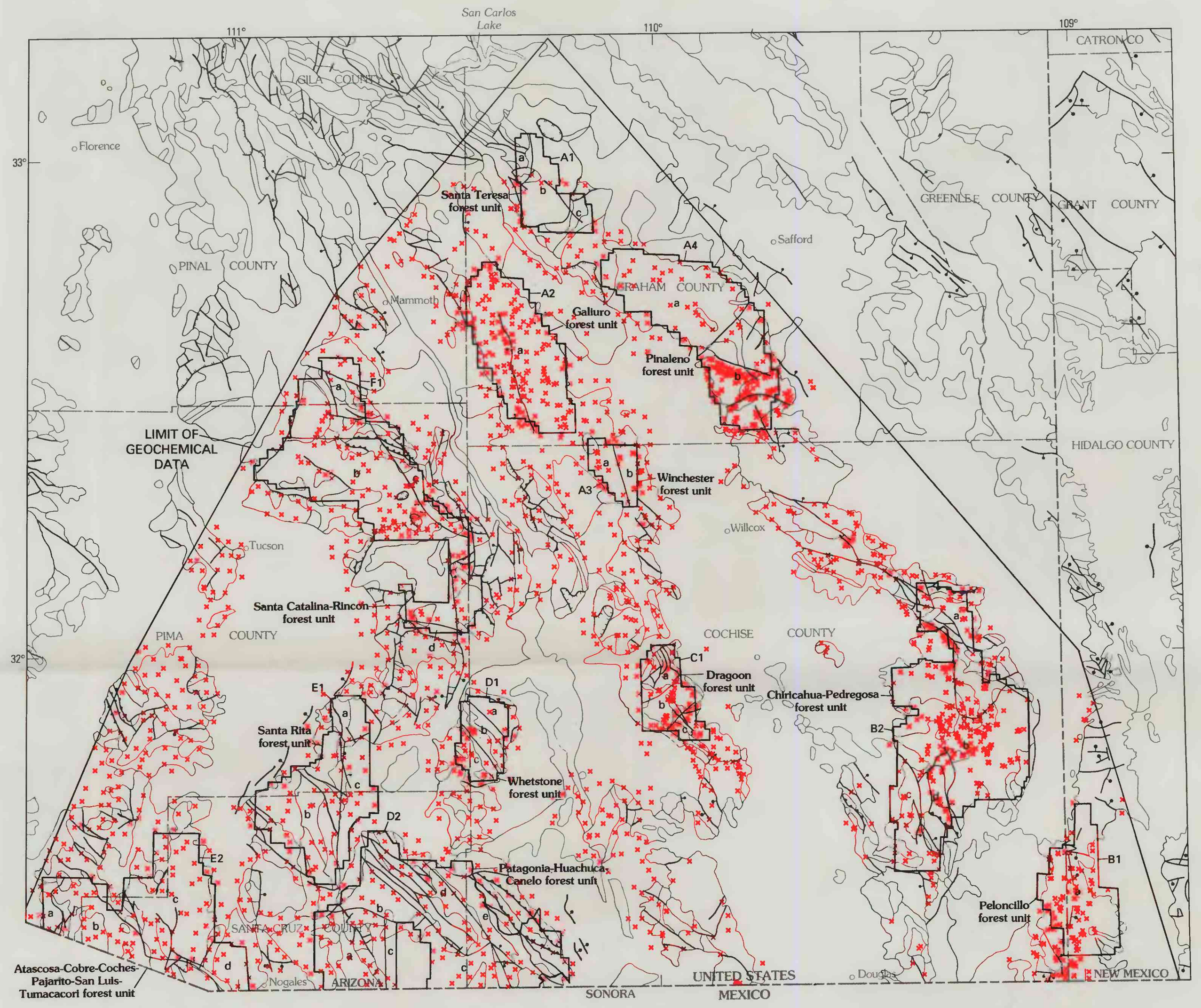


Map B. Stream–sediment samples analyzed by semiquantitative, direct-current arc emission spectrography

EXPLANATION FOR MAP B
[See map A for map units]

× Sample locality

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

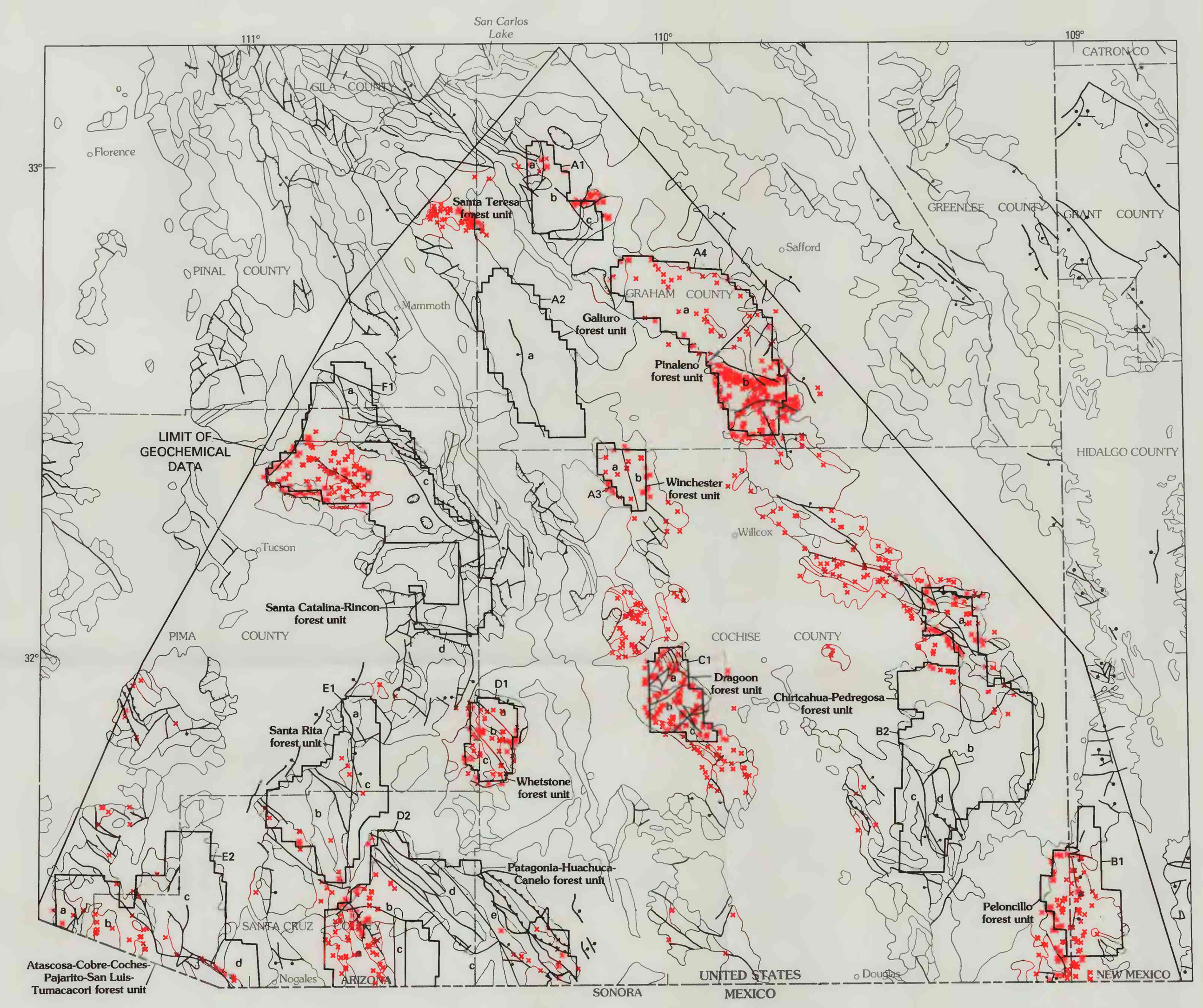


Map C. Stream-sediment and soil samples analyzed for Au by flameless atomic-absorption spectrophotometry and for Ag, As, Au, Bi, Cd, Cu, Mo, Pb, Sb, and Zn by inductively coupled plasma spectroscopy

EXPLANATION FOR MAP C
[See map A for map units]

× Sample locality

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

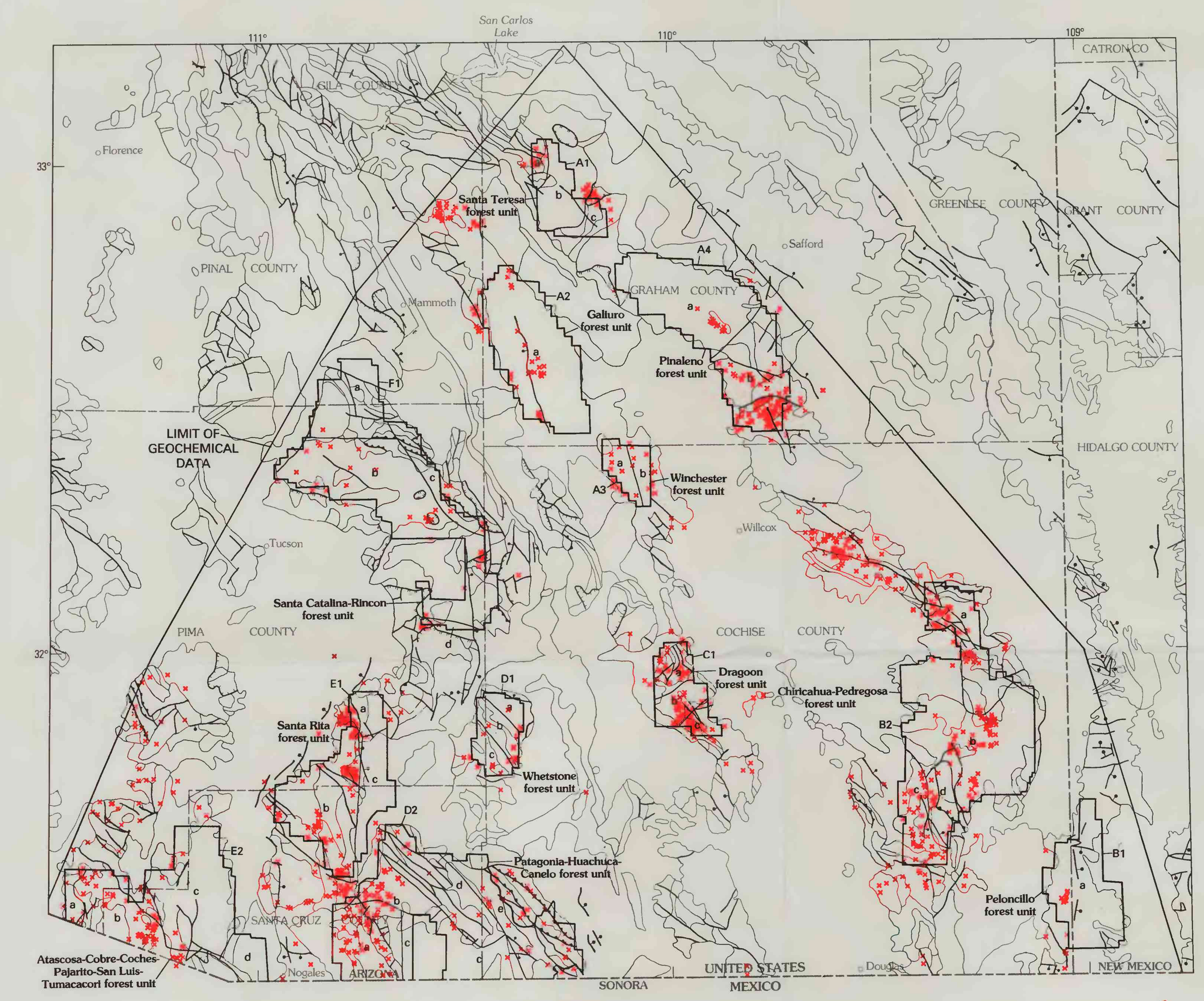


Map D. Nonmagnetic heavy-mineral-concentrate samples

EXPLANATION FOR MAP D
[See map A for map units]

× Sample locality

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

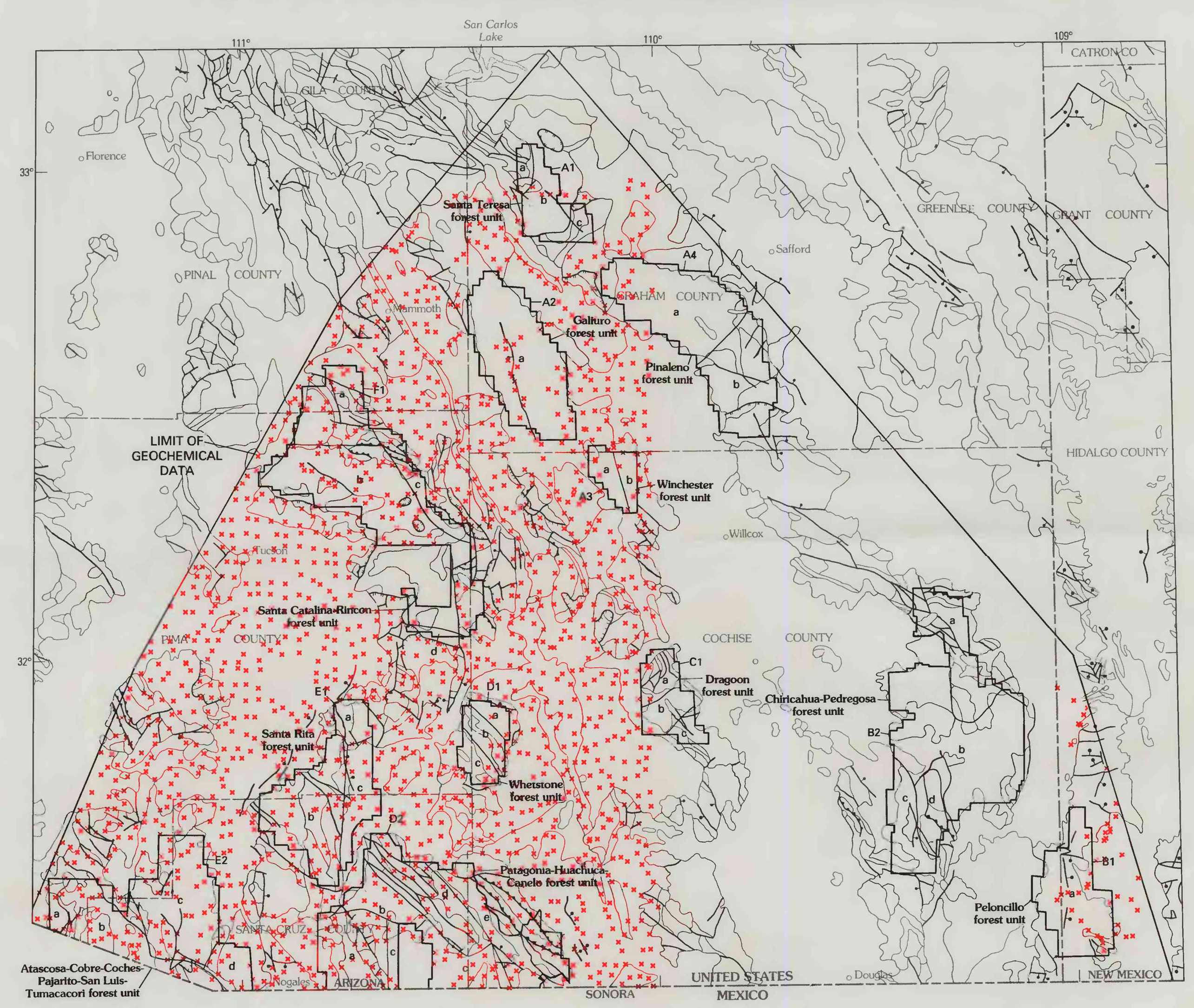


Map E. Rock samples

EXPLANATION FOR MAP E
[See map A for map units]

× Sample locality

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

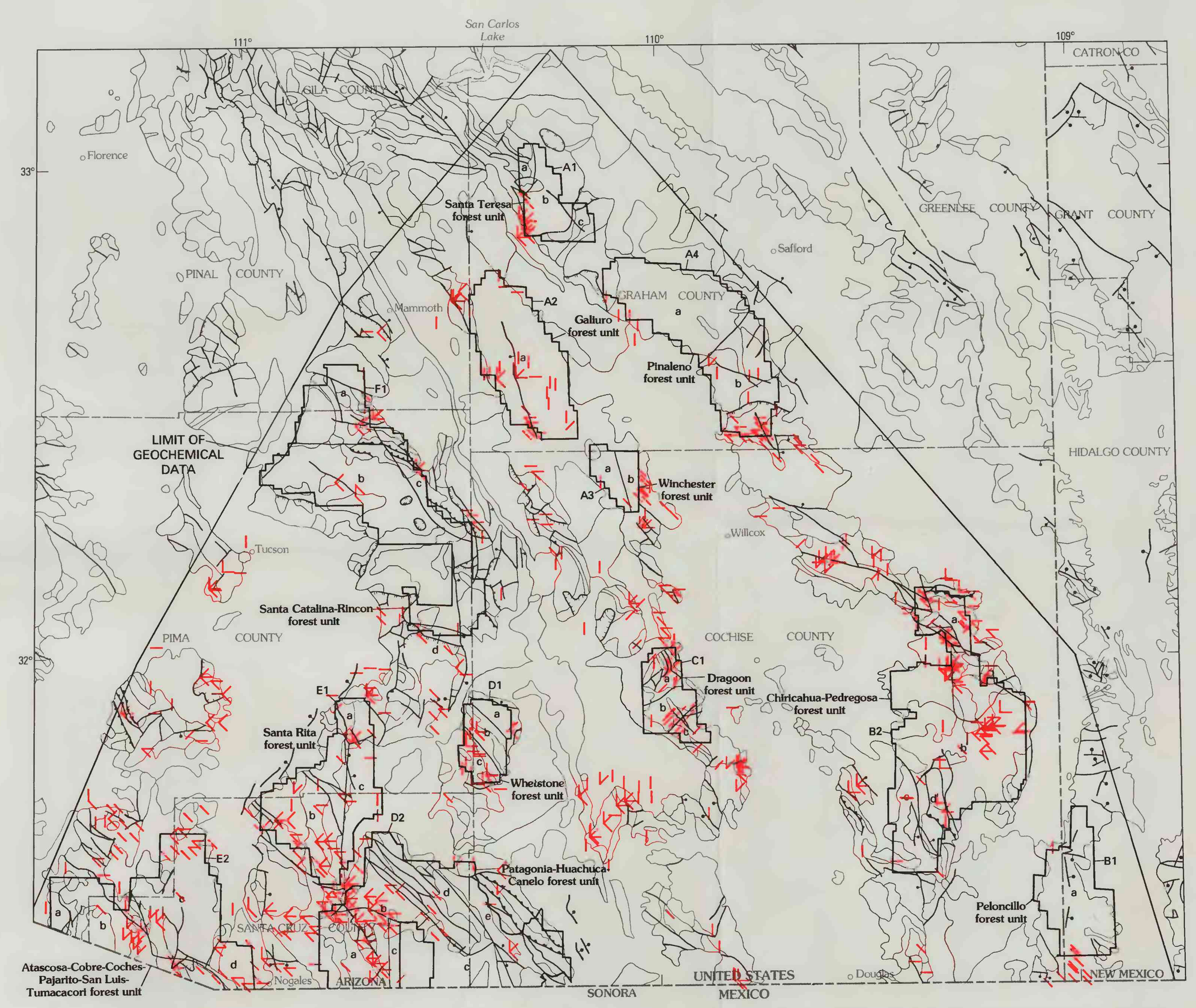


Map F. NURE stream-sediment and soil samples

EXPLANATION FOR MAP F
[See map A for map units]

× Sample locality

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

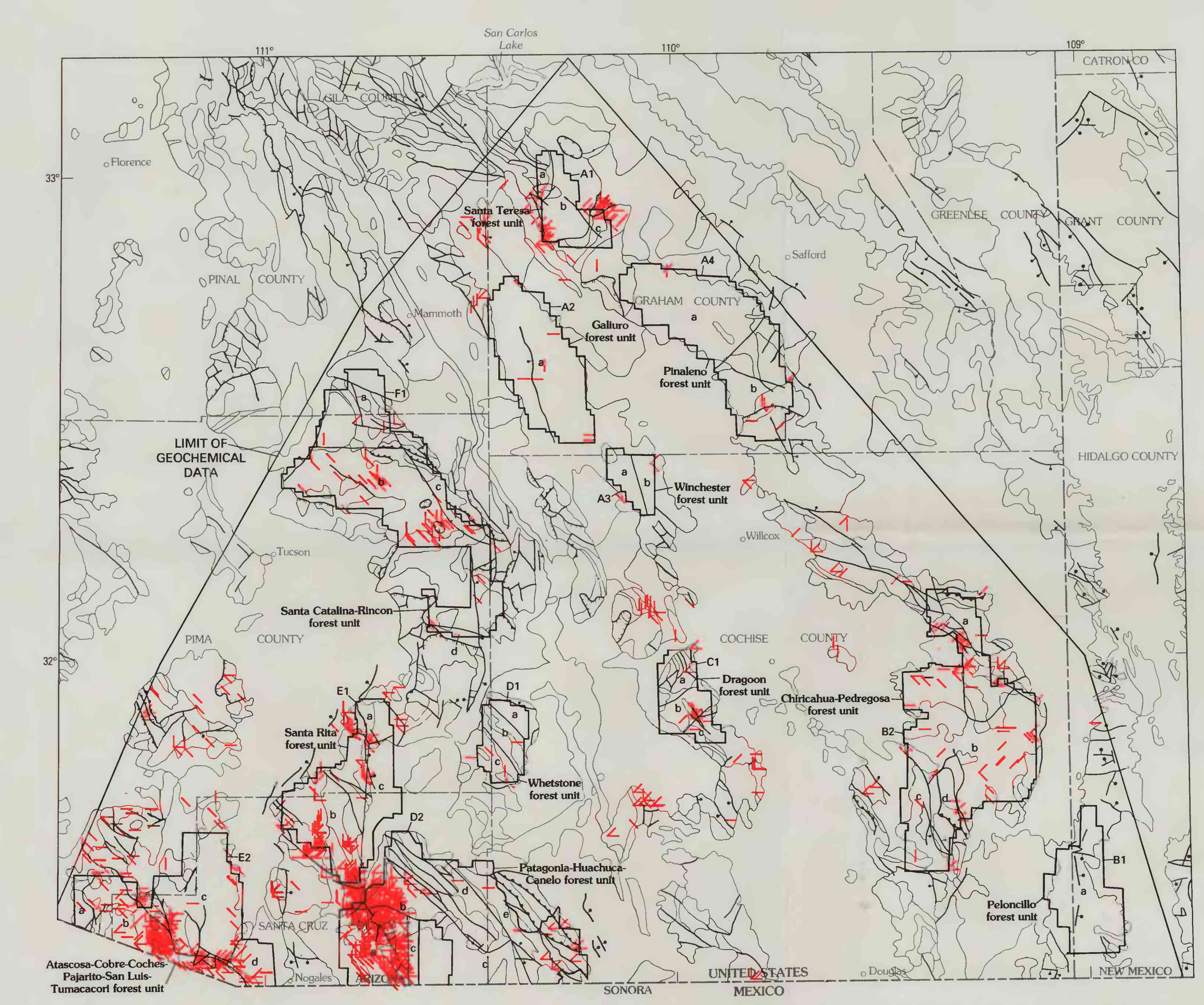


Map G. Stream-sediment and soil samples containing anomalous abundances of Au as determined by flameless atomic-absorption spectrophotometry and Ag, As, and Sb as determined by inductively coupled plasma spectroscopy

EXPLANATION FOR MAP G
See map A for map units]

Au, Ag, As, Sb **Abundance, in parts per million**
Au 0.003–4.6
Ag 0.17–24
As 8–400
Sb 1.7–250

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on



Map H. Stream-sediment samples containing anomalous abundances of Cu, Pb, Ag, and Mo as determined by semiquantitative, direct-current arc emission spectrography

EXPLANATION FOR MAP H
[See map A for map units]

Cu, Pb, Ag, Mo **Abundance, in parts per million (>, greater than)**
Cu 150– >1,000
Pb 150– >20,000
Ag 0.5–200
Mo 7–300

C1 **Forest unit discussed in text**—Areas labeled a–e are subareas of Forest unit discussed in text as C1, D2e, and so on

0 25 50 75 100 MILES
0 25 50 75 100 KILOMETERS

MAPS SHOWING GEOLOGY, SAMPLE LOCALITIES, AND DISTRIBUTION OF SAMPLES CONTAINING ANOMALOUS ABUNDANCES OF SELECTED ELEMENTS, CORONADO NATIONAL FOREST AND ADJACENT AREAS, SOUTHEASTERN ARIZONA AND SOUTHWESTERN NEW MEXICO

Compiled by
Gary A. Nowlan

1996