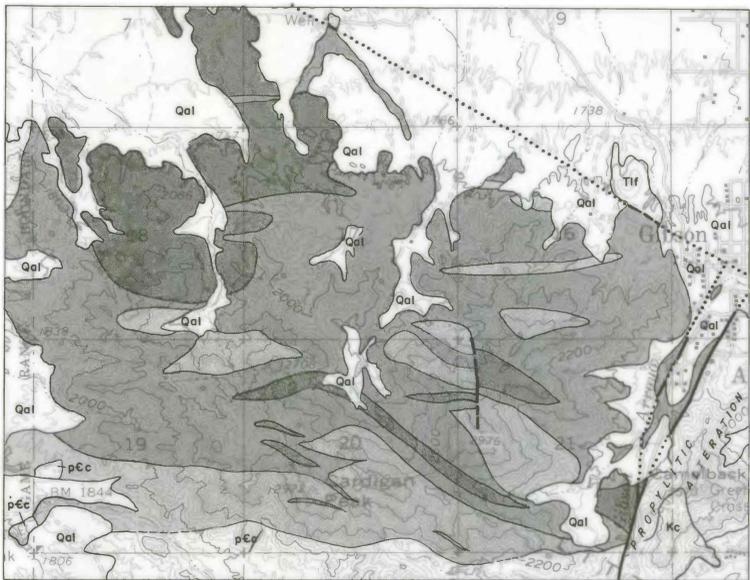


EXPLANATION

Quaternary	Qal	Undifferentiated alluvium and mine waste
Tertiary	Thp	Hospital Porphyry
	Ts	Sneed Andesite
	Tlf Ta	Locomotive Fanglomerate, Tlf and Ajo Volcanics, Ta
Early Tertiary or Late Cretaceous	KTfg pd	Fine-grained granite and monzogranite, KTfg. Feldspar porphyry and hornblende andesite dikes, pd
	KTgp	Aplitic monzogranite porphyry, KTgp. East of Gibson Arroyo mainly granodiorite porphyry, KTgp
	KTm/KTmo KTg	Monzogranite, equigranular, KTm and with oikocrystic quartz and K-feldspar, KTmo. East of Gibson Arroyo mainly granodiorite, KTg.
Cretaceous	KTmd	Coarse-grained quartz monzodiorite, monzodiorite, and quartz monzonite.
	KTfd	Fine-grained diorite, monzodiorite and quartz monzodiorite
Precambrian	Kc	Concentrator Volcanics
	ap	Andesite porphyry dikes
	pCp	Cardigan Gneiss and Chico Shuni Granite
	- - -	Contact, dashed where gradational, dotted where concealed.
	- - -	Fault, dashed where inferred, dotted where concealed.
	60	Strike and dip of bedding.
	70	Strike and dip of 10-50 cm dikes of monzogranite porphyry with fine aplitic groundmass.

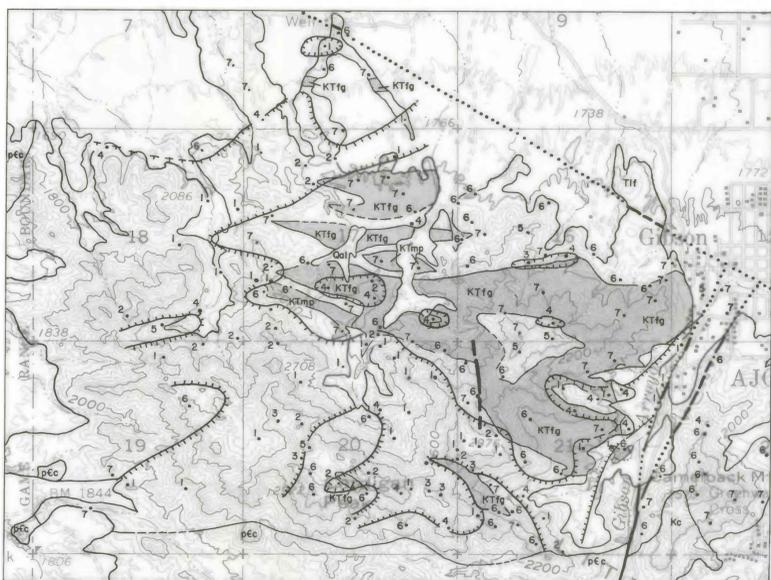
Figure 1. Geologic map of the Ajo mining district, Pima County, Arizona. Geology of areas outside of the Cornelia Pluton modified from Gilluly, 1946. Geology of the New Cornelia mine from an unpublished map by Phelps Dodge Corporation, New Cornelia Branch.



EXPLANATION

[Light Gray Box]	Rocks are mainly fresh. Veins of epidote, hematite, or actinolite with white Na-Ca alteration envelopes are more than 5 m apart.
[Medium Gray Box]	Veinlets of epidote, hematite, and actinolite and their alteration envelopes are closely spaced but remnants of fresh rock remain.
[Dark Gray Box]	White Na-Ca alteration is pervasive. All K-feldspar is replaced by oligoclase and all biotite is replaced by amphibole. Veinlets of epidote, hematite, actinolite, or tourmaline are abundant.

Figure 2. Intensity of sodic-calcic alteration in the Cornelia pluton west of the Gibson Arroyo.



EXPLANATION

Map Symbol	Fluid Inclusion Populations (v indicates vapor bubble)	
1.	[Symbol 1]	boiling conditions indicated
2.	[Symbol 2]	
3.	[Symbol 3]	
4.	[Symbol 4]	
5.	[Symbol 5]	
6.	[Symbol 6]	
7.	[Symbol 7]	
	[Symbol 8]	Area of rocks with fluid inclusion populations indicating boiling conditions (types 1 through 4).
	KTfg KTgp	Igneous rocks formed by rapid quenching (fine-grained granite, KTfg and monzogranite porphyry, KTgp)

Figure 3. Distribution of populations of fluid inclusions in rock quartz in the Cornelia pluton.

MAPS SHOWING ROCK TYPES, HYDROTHERMAL ALTERATION, AND DISTRIBUTION OF FLUID INCLUSIONS IN THE CORNELIA PLUTON, AJO MINING DISTRICT, PIMA COUNTY, ARIZONA

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.