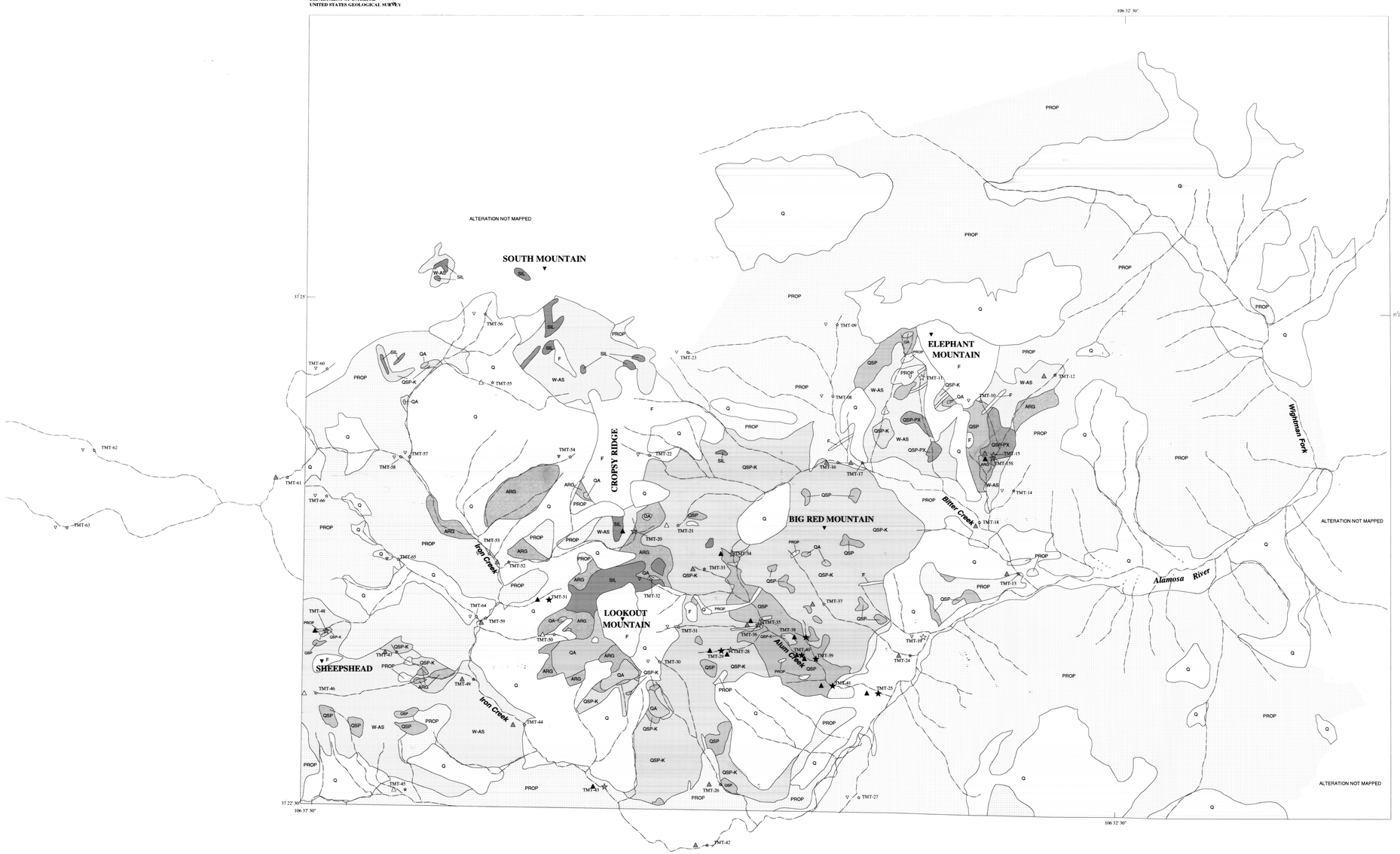
DEPARTMENT OF INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT
OF96-639
SHEET 5 OF 10



ALTERATION ASSEMBLAGES

QA	Quartz-alunite assemblage--Fine-grained quartz and alunite replacement of volcanic rocks
SIL	Silicified assemblage--Fine-grained quartz and chalcedony replacement of volcanic rocks
ARG	Argillic assemblage--Kaolinite alteration, feldspars completely altered
QSP	Quartz-sericite-pyrite assemblage--Includes silica stockwork veinlets, sericite 2M1 and 1M polytypes
QSP-K	Quartz-sericite-pyrite assemblage overprinted by kaolinite--Some kaolinite probably supergene
QSP-PX	Quartz-poorly crystalline sericite-pyrite assemblage--All sericite poorly crystalline
W-AS	Weak argillic/sericitic assemblage--Contains kaolinite and (or) sericite; feldspars metastable
PROP	Propylitic assemblage--Weak alteration; chlorite, epidote, and calcite mainly after mafic minerals; feldspars mostly unaltered
F	Unaltered rocks
Q	Mixed Quaternary units--alteration not mapped

pH VALUES

Dashed to left of sample point

- ▲2 to 2.99
- ▲3 to 3.99
- △4 to 4.99
- ▼5 to 5.99
- ▽6 to 7.55

SPECIFIC CONDUCTIVITY

- ★> 1630
- ☆860 to 1630
- ☆625 to 860
- ✶ 340 to 625
- ✩ 0 to 340

ALTERATION MAP OF THE IRON, ALUM, AND BITTER CREEK AREAS, UPPER ALAMOSA RIVER, SOUTHWESTERN COLORADO

WITH pH AND CONDUCTIVITY DATA

By Dana J. Bove, Thomas H. Barry, Anna B. Wilson, Jeffrey Kurtz, Ken Hon, and R. E. Van Loenen

0 0.25 0.5
Kilometers

SCALE 1:12,000

PLATE 5

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards or with the North American stratigraphic code.