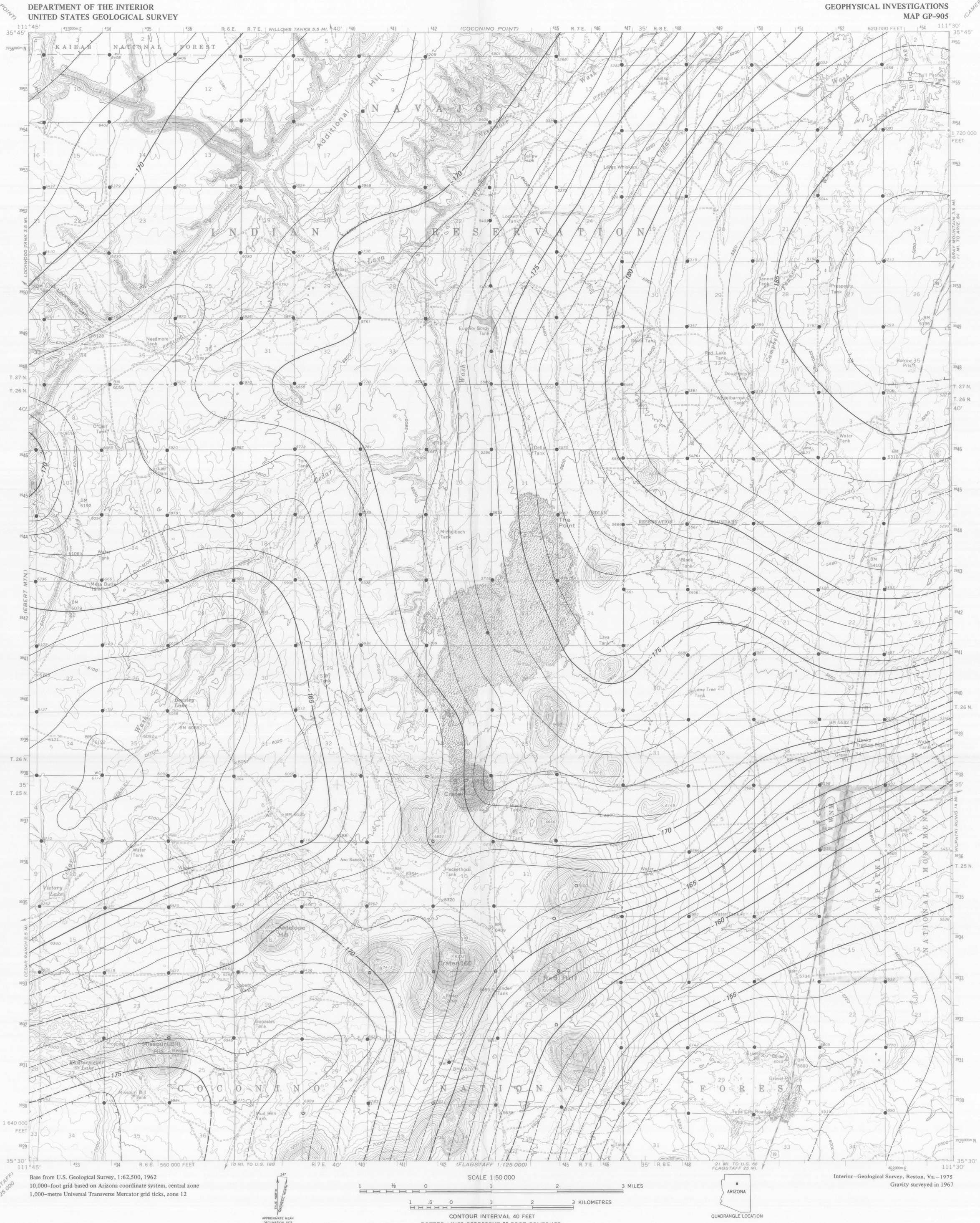
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

GEOPHYSICAL INVESTIGATIONS
MAP GP-905



Base from U.S. Geological Survey, 1:62,500, 1962
10,000-foot grid based on Arizona coordinate system, central zone
1,000-metre Universal Transverse Mercator grid ticks, zone 12

APPROXIMATE MEAN DECLINATION, 1975

SCALE 1:50 000

1 ½ 0 1 2 3 MILES

1 .5 0 1 2 3 KILOMETRES

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL

ARIZONA
QUADRANGLE LOCATION

Interior—Geological Survey, Reston, Va.—1975
Gravity surveyed in 1967

EXPLANATION

-170
Gravity contours
Dashed where approximately located. Hachures indicate areas of lower gravity. Contour interval 1 milligal

● ○
Gravity stations
Stations indicated by open circles were located on pyroclastic deposits where observed gravity readings have had an additional Bouguer correction applied to the readings to account for these low-density volcanics. A density of 1.30 g/cm³ (grams per cubic centimetre) was assumed for the pyroclastics whose thicknesses were estimated from the geologic map of the S P Mountain quadrangle (Ulrich and Bailey, 1974)

NOTE

A density of 2.67 g/cm³ was used in the reduction of the data to the Bouguer gravity anomaly (with the exception stated above). Terrain corrections, from 0–20 km, were made for readings at all stations using a method described by Kane (1962). The value of theoretical gravity was computed from the International Gravity Formula. All stations were referenced to the gravity base station at the Flagstaff, Ariz., airport (Woollard and Rose, 1963, p. 93; revised by U.S. Air Force Aeronautical Chart and Information Center, 1972).

REFERENCES

Kane, M. F., 1962, A comprehensive system of terrain corrections using a digital computer: Geophysics, v. 27, p. 455–462.

Ulrich, G. E., and Bailey, N. G., 1974, Geologic map of the S P Mountain quadrangle, Arizona: U.S. Geological Survey open-file report 74–5, scale 1:50,000.

U.S. Air Force Aeronautical Chart and Information Center, 1972, Revisions to ACIC RP (reference publication) 25 "World Relative Gravity Reference Network," August 1970.

Woollard, G. P., and Rose, J. C., 1963, International gravity measurements: Tulsa, Oklahoma, Society of Exploration Geophysicists, 518 p.

COMPLETE BOUGUER GRAVITY MAP OF S P MOUNTAIN QUADRANGLE, COCONINO COUNTY, ARIZONA

By

John D. Hendricks

1975

For sale by U. S. Geological Survey
Denver, Colo. 80225 and Reston, Va. 22092, price .75 cents