



U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY

**Digital aeromagnetic map of the Nevada Test Site and vicinity,  
Nye, Lincoln, and Clark Counties, Nevada, and Inyo County, California**

By D.A. Ponce<sup>1</sup>

Open-File Report 99-554-B

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U.S. DEPARTMENT OF THE INTERIOR  
BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY  
Charles G. Groat, Director

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## **ABSTRACT**

An aeromagnetic map of the Nevada Test Site area was prepared from publicly available aeromagnetic data described by McCafferty and Grauch (1997). Magnetic surveys were processed using standard techniques. Southwest Nevada is characterized by magnetic anomalies that reflect the distribution of thick sequences of volcanic rocks, magnetic sedimentary rocks, and the occurrence of granitic rocks. In addition, aeromagnetic data reveal the presence of linear features that reflect faulting at both regional and local scales.

## **INTRODUCTION**

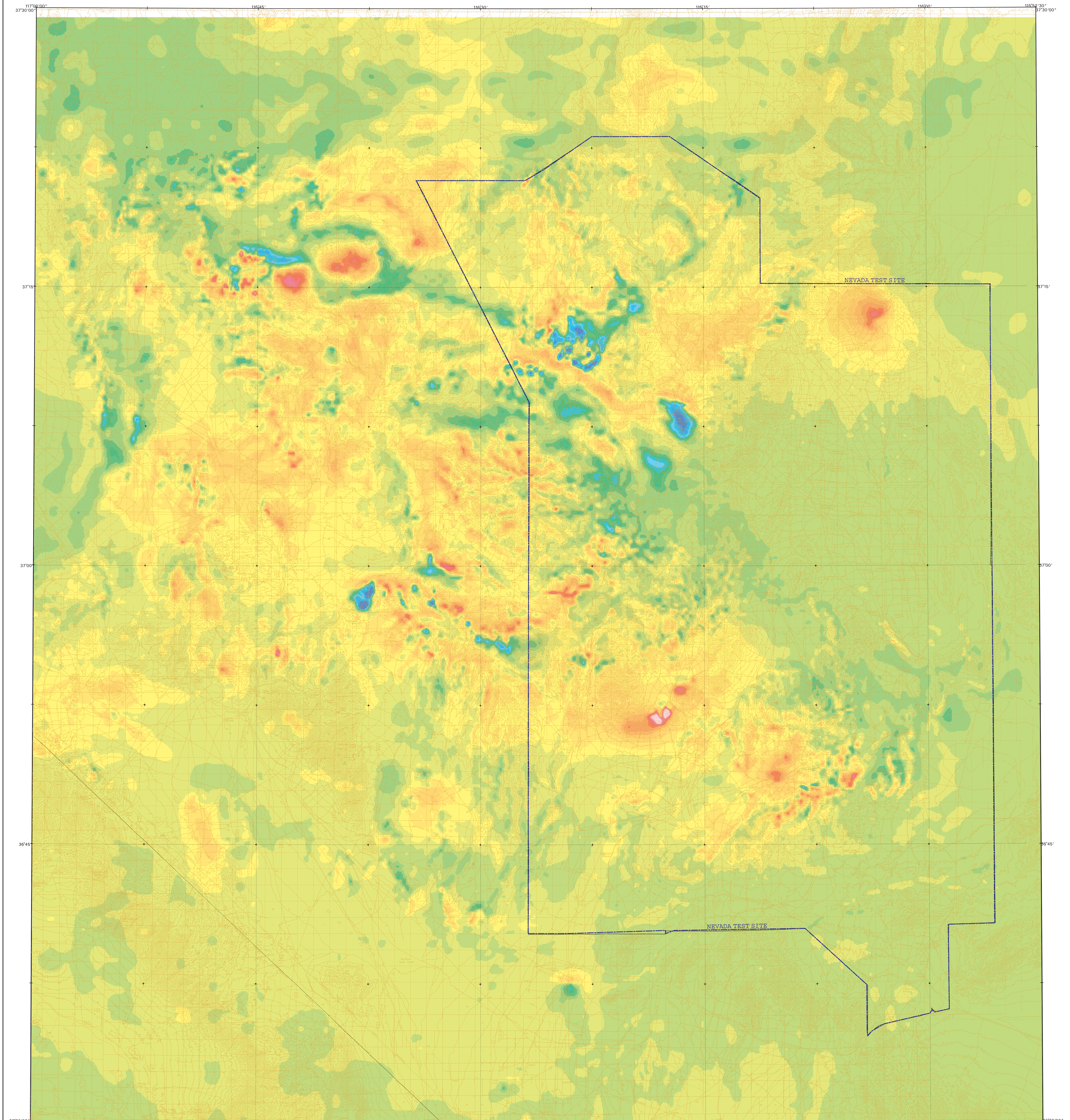
An aeromagnetic map of the Nevada Test Site area was prepared from a subset of fourteen separate aeromagnetic surveys that were gridded, merged, and described by McCafferty and Grauch (1997). These data are available in grid format from the EROS Data Center, U.S. Geological Survey, Sioux Falls, S. D., 57198 and from the National Geophysical Data Center, 325 Broadway, E/GC4, Boulder, Colo., 80303. Magnetic investigations of the Nevada Test Site area are part of an interagency effort by the U.S. Geological Survey (USGS) and the Department of Energy (Interagency Agreement DE-AI08-96NV11967) to help characterize the geology and hydrology of southwest Nevada. The Nevada Test Site area is located between lat. 36° 30' and 37° 30' N. and long. 115° 52.5' and 117° W.

## **AEROMAGNETIC DATA**

Aeromagnetic data of the Nevada Test Site area were flown at various flight-line spacings and altitudes (Sikora and others, 1993; McCafferty and Grauch, 1997). The central part of the map is covered by detailed aeromagnetic surveys flown at a flight-line spacing of 400 m (¼ mi) and a nominal flight-line elevation of 122 m (400 ft) above the ground, while older surveys along the north and northeast margin of the area were flown at flight-line spacings of 800 to 1,660 m (½ to 1 mi) and at constant barometric elevations of about 2,440 m (8,000 ft). A regional magnetic reference field was removed from each survey by subtracting a Definitive Geomagnetic Reference Field for the appropriate year of the survey. Aeromagnetic surveys were downward continued, if necessary, to a flight-line elevation of 122 m (400 ft) above the ground, adjusted to a common datum, and merged to produce a uniform map that allows interpretations across survey boundaries. Because of the poor quality of the older surveys, caution should be exercised when interpreting short-wavelength anomalies that cross the original survey boundaries along the northern and northeast margins of the map.

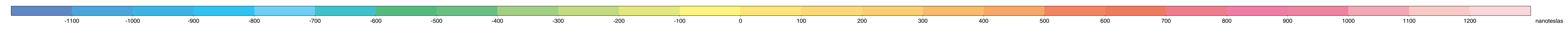
## **REFERENCES**

- McCafferty, A.E., and Grauch, V.J.S., 1997, Aeromagnetic and gravity anomaly maps of the southwestern Nevada volcanic field, Nevada and California: U.S. Geological Survey Geophysical Investigations Map GP-1015, scale 1:250,000.
- Sikora, R.F., Ponce, D.A., and Oliver, H.W., 1993, Status of aeromagnetic survey coverage of southwestern Nevada and southeastern California: U.S. Geological Survey Open-File Report 93-44, 15 p.



Base from U. S. Geological Survey, 1979  
Projection zone 11, Universal Transverse Mercator  
1927 North American Datum

SCALE 1:120 000  
0 1 2 3 4 5 6 7 8 9 10 KILOMETERS  
0 1 2 3 4 5 MILES  
CONTOUR INTERVAL 50 METERS  
WITH SUPPLEMENTARY CONTOURS AT 10-METER INTERVALS  
NATIONAL GEODETIC VERTICAL DATUM OF 1929



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NYE, LINCOLN, AND CLARK COUNTIES, NEVADA AND INYO COUNTY, CALIFORNIA**

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