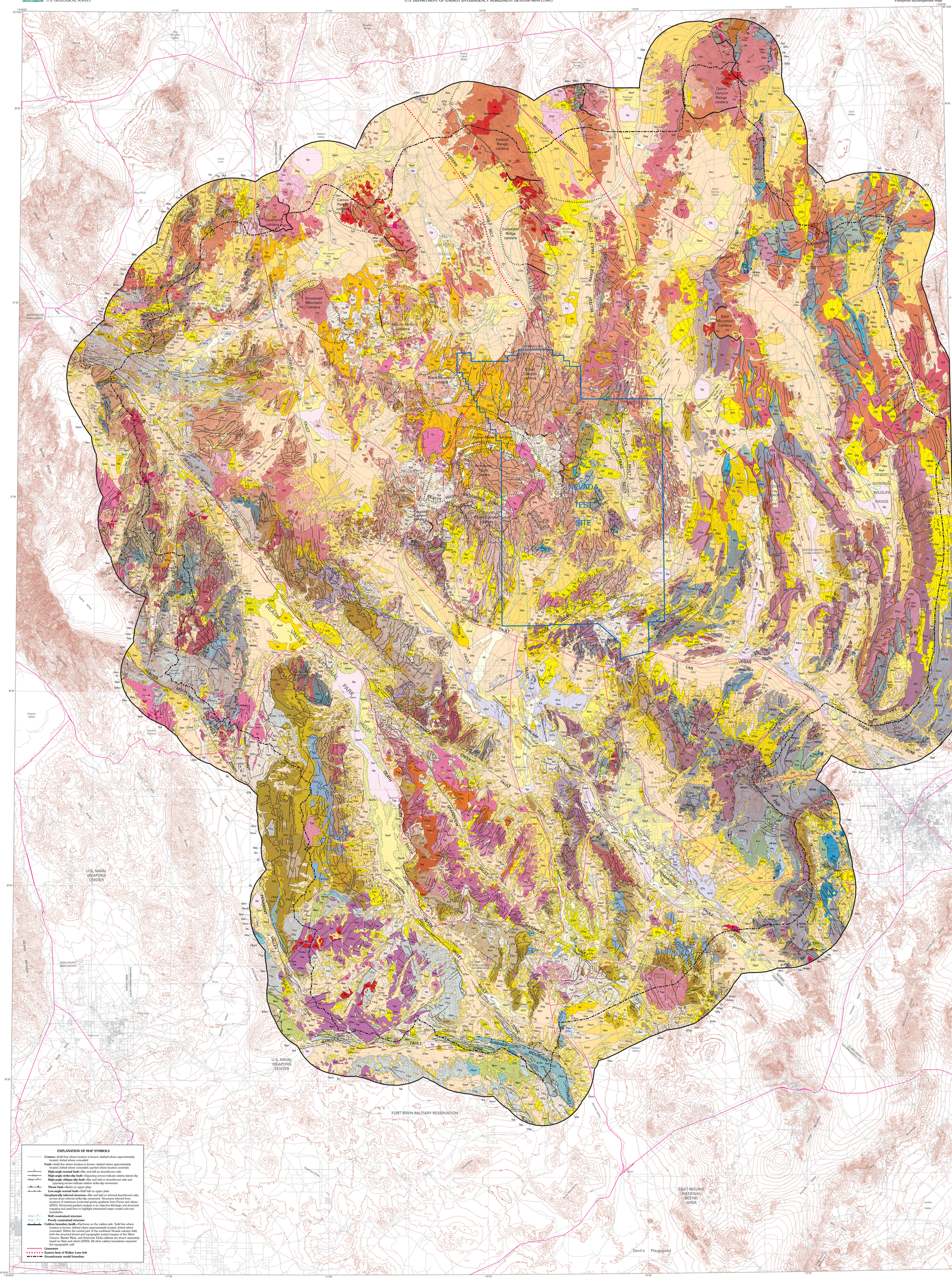
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
NEVADA OPERATIONS OFFICE, NATIONAL NUCLEAR SECURITY ADMINISTRATION,
U.S. DEPARTMENT OF ENERGY (INTERAGENCY AGREEMENT DE-A108-96NV11967)

MISCELLANEOUS FIELD STUDIES MAP MF-2381-A
Version 1.0
Sheet 1 of 2
Pamphlet accompanies map



EXPLANATION OF MAP SYMBOLS

Contact—Solid line where location is known; dashed where approximately located; dotted where concealed

Fault—Solid line where location is known; dashed where approximately located; dotted where concealed; queried where location uncertain

- **High-angle normal fault**—Bar and ball on downthrown side
- **High-angle strike-slip fault**—Opposing arrows indicate relative lateral slip
- **High-angle oblique-slip fault**—Bar and ball on downthrown side and opposing arrows indicate relative strike-slip movement
- **Thrust fault**—Barbs on upper plate
- **Low-angle normal fault**—Hall ball on upper plate

Geophysically inferred structure—Bar and ball on inferred downthrown side; arrows show inferred strike-slip movement. Structures inferred from locations of maximum horizontal gravity gradients from Ponce and others (2001). Horizontal-gradient analysis is an objective lithologic and structural mapping tool used here to highlight interpreted major crustal rock-unit boundaries.

- **Well constrained structure**
- **Poorly constrained structure**

Caldera boundary (wall)—Hachures on the caldera side. Solid line where location is known; dashed where approximately located; dotted where concealed. Within the central part of the southwest Nevada volcanic field, both the structural (inner) and topographic (outer) margins of the Silent Canyon, Rainier Mesa, and Ammonia Tanks calderas are shown separately based on Slate and others (2000). All other caldera boundaries represent the topographic wall

- **Lineament**
- **Eastern limit of Walker Lane belt**
- **Ground-water model boundary**

Base from U.S. Geological Survey, 1:100,000
Tonopah, Warm Springs, Quinn Canyon Range, Goldfield, Cactus Flat, Timpahute Range, Last Chance Range, Pahute Mesa, Pahranagat Range, Sarine Valley, Beatty, Indian Springs, Darwin Hills, Death Valley Junction, Las Vegas, Ridgecrest, Owlshead Mountains, Mesquite Lake, Cuddeback Lake, Soda Mountains, and Ivanpah DLG and DEM data, 1999.

Projection and 10,000-meter grid, zone 11
Universal Transverse Mercator
25,000-foot ticks based on California coordinate system, zones 4 and 5, and Nevada coordinate system, east, west, and central zones
1927 North American Datum

APPROXIMATE MEAN DECLINATION, 1993

SCALE 1:250 000
5 0 5 10 15 20 MILES
5 0 5 10 15 20 25 KILOMETERS
CONTOUR INTERVAL 100 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

MAP LOCATION

GEOLOGIC MAP OF THE DEATH VALLEY GROUND-WATER MODEL AREA, NEVADA AND CALIFORNIA

By

J.B. Workman, C.M. Menges, W.R. Page, E.M. Taylor, E.B. Ekren, P.D. Rowley, G.L. Dixon, R.A. Thompson, and L.A. Wright

2002

Digital database by Jeremiah B. Workman

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This map was produced on request, directly from digital files, on an electronic plotter

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ARC/INFO coverages and a PDF file for this map are available at http://geology.cr.usgs.gov/greenwood-pubs.html

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