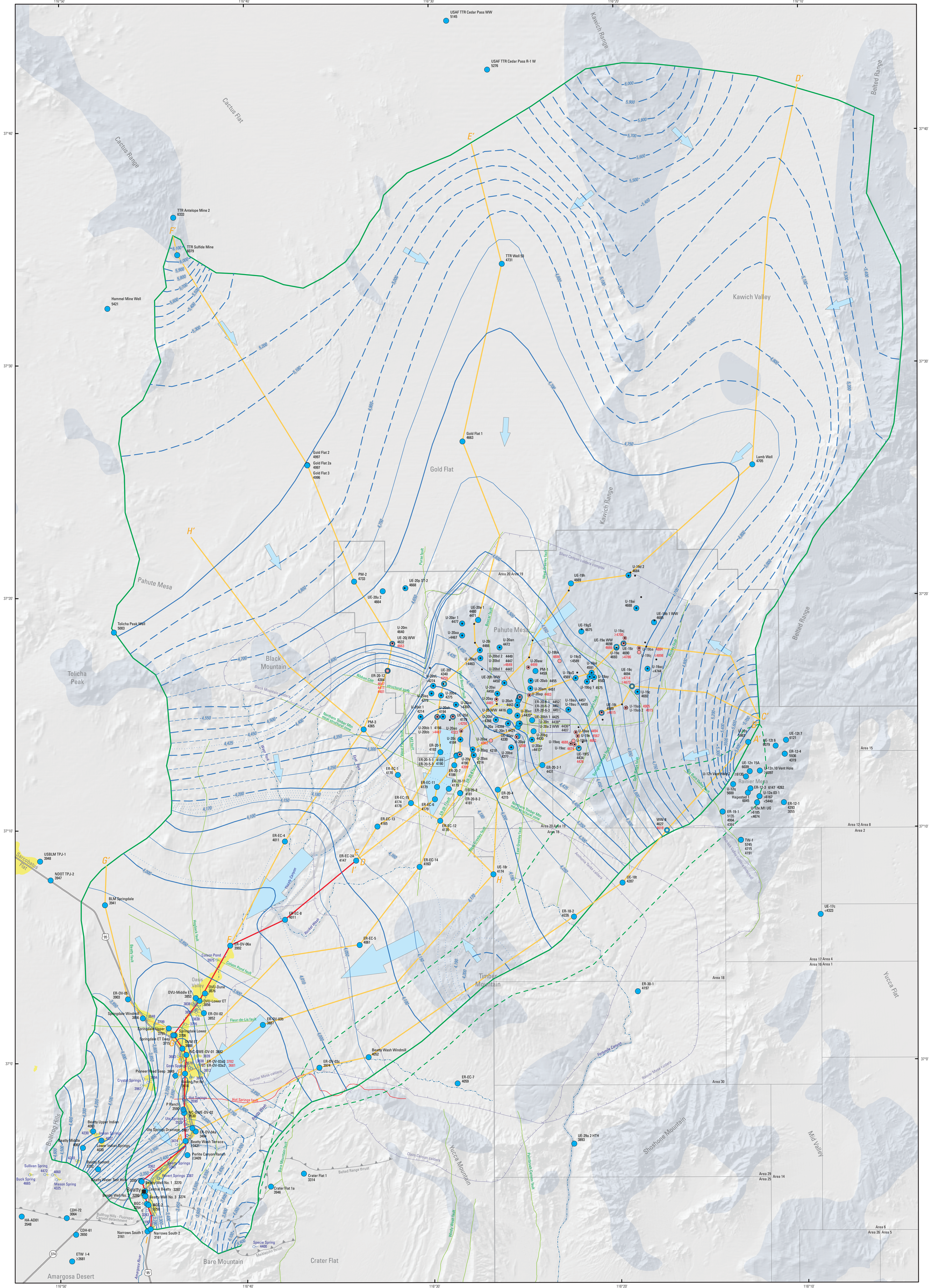




Base from U.S. Geological Survey digital data 1:100,000; hillshade from USGS 1-arc-second NED; Universal Transverse Mercator Projection, Zone 11, NAD83.

The map approximates present-day (2020) steady-state conditions. Pumping has occurred locally, but water-level drawdowns are negligible relative to the contour interval. Therefore, the potentiometric map also approximates predevelopment (pre-1950) conditions. The exception is a small area delimited by a dashed yellow line near well U-20 VV in eastern Area 20 of the NNS, where water levels may have been lowered about 20 ft because of nuclear testing.

The potentiometric map is a two-dimensional portrayal of the "regional" groundwater surface. The potentiometric map is not a water-table map, although in many areas the water table and mapped potentiometric surface are coincident. The map is intended to represent the potentiometric head in the most transmissive rocks at any given horizontal location. In areas where water levels in shallow wells are elevated relative to the contoured potentiometric surface, the shallow water levels are denoted as elevated but not contoured. Likewise, anomalously low water levels in wells relative to the regional surface are denoted but not contoured.

Generalized area of recharge—Recharge areas are for illustration purposes only. Modified from Fenelon and others (2018).

Generalized area of evapotranspiration, where groundwater is discharged to springs and seeps—Modified from Lucarelli and others (2001).

Major geologic structure—Location shown on map is below land surface at about depth of saturation. Modified from Reuter and others (2000), Bechtel Nevada (2002a), and Fenelon and others (2018).

Caldera structural margin
Normal fault
Thrust fault
Accommodation zone
Lineament

EXPLANATION

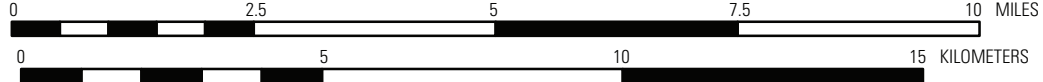
A A'
F F'
Trace of section shown on plate 2

Boundary of Nevada National Security Site (NNS)—Internal boundaries are NNS operational areas.

Groundwater basin boundary

Groundwater basin boundary uncertainty—Shows uncertainty on southeast side of boundary.

Potentiometric contour—Shows altitude of regional potentiometric surface, in feet. Contour interval is 100 feet. Supplemental contours of 50, 25, and 10 feet shown where detail is merited. Contours dashed where uncertain in areas of limited or no data. Datum is National Geodetic Vertical Datum of 1955.



General direction of regional groundwater flow—Arrow size indicates relative flow volume.

Area of potential dewatering—Shows areas where nuclear testing may have permanently lowered hydraulic heads 15–20 feet.

Underground nuclear test—Tests shown only for the Pahute Mesa–Oasis Valley groundwater basin. From U.S. Department of Energy (2015).

Spring

Hydraulic head and measurement location—Shows borehole name and head used to develop contours of the potentiometric surface. Number is hydraulic head, in feet, at symbol location. A ">" or "<" preceding a head indicates head used as a maximum; "c" or "s" preceding a head indicates head used as a minimum; "m" following a head indicates head represents pre-testing conditions and present-day head could be as much as 20 ft lower. Water levels used to calculate heads are in appendix 1.

PM-3-1
4365
Hydraulic head represents the regional potentiometric surface.

4365
Hydraulic head from shallow well and is anomalously high, not used in contouring.

4365
Hydraulic head from deep well and is anomalously high, not used in contouring.

4365
Hydraulic head from deep well and is anomalously low, not used in contouring.

Hydraulic Heads, Potentiometric Contours, and Groundwater Flow Directions in the Pahute Mesa–Oasis Valley Groundwater Basin, Nye County, Nevada

By
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