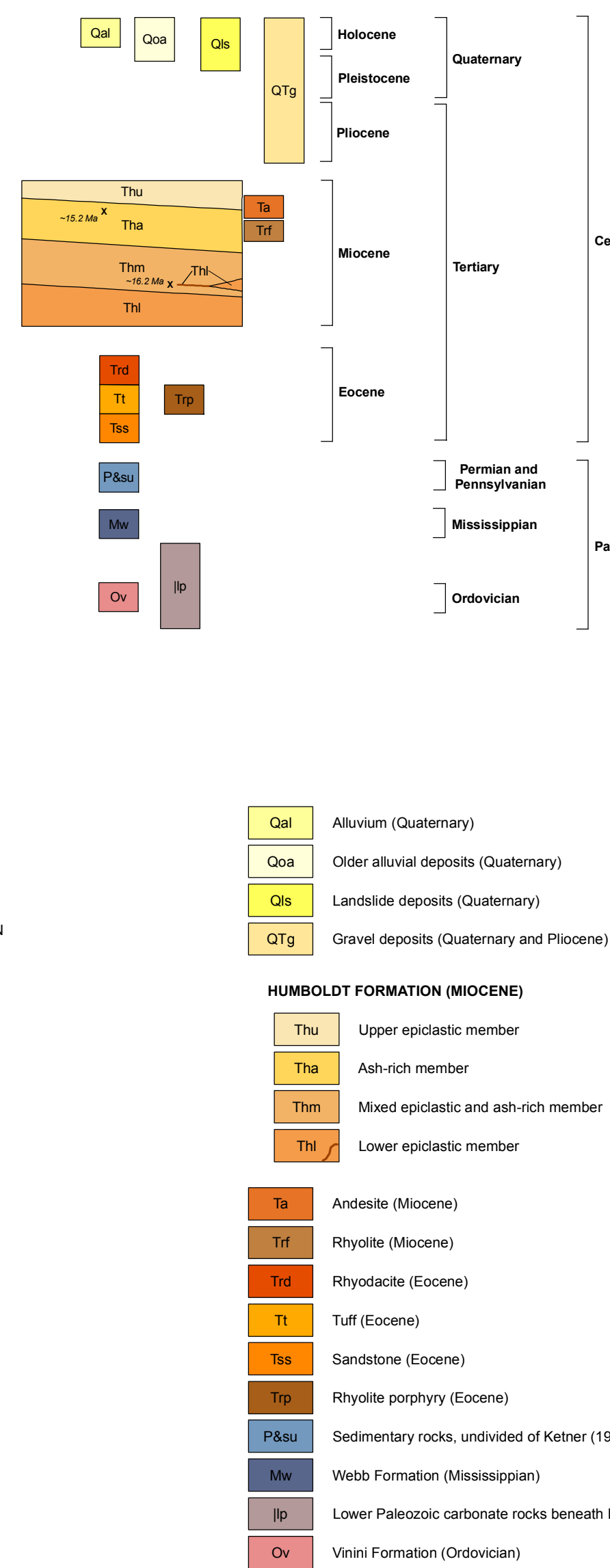
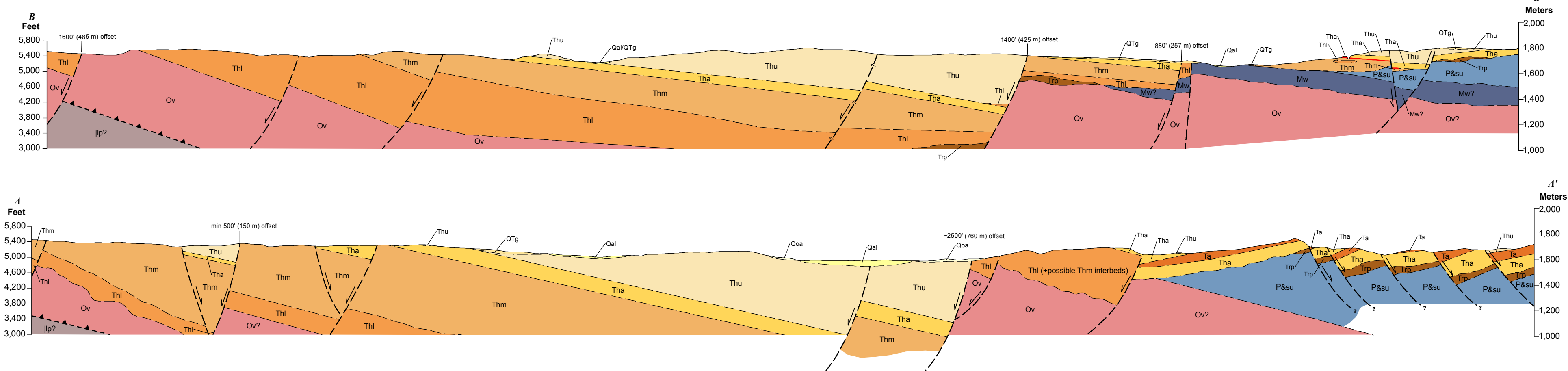


GEOLOGIC MAP OF THE HUNTSMAN RANCH QUADRANGLE, ELKO COUNTY, NEVADA

Alan R. Wallace, Michael E. Perkins, and Robert J. Fleck
2008



See accompanying text for full unit descriptions, notes, and references for this map.

Symbology (per FGDC-STD-013-2006)

Contact Long-dashed where approximate; short-dashed where inferred; dotted where concealed. All contacts poorly exposed or covered by younger deposits.

Fault Long-dashed where approximate; short-dashed where inferred; dotted where concealed. All faults poorly exposed or covered by younger deposits.

Thrust Fault Short-dashed where inferred. Sawtooth on upper plate. On cross-sections only. Location and depth not known with any certainty.

Lineament Visible on aerial photographs but of indeterminate origin; could be produced by preferential weathering along faults or sedimentary bedding.

Quarry Andesite was quarried in the southwest corner of the quadrangle; sand and gravel were quarried at the southern edge of the quadrangle. See text for details.

Anticline Dashed where approximate.

Syncline Dashed where approximate. Locally related to offset along a fault, but offset was minimal where shown as a synform.

Line of cross section

Strike and dip of bedding
Inclined Vertical Horizontal

Feeder vent for andesite flow units
(NW 1/4, NW 1/4, sec. 10, T.33N, R.52E.)

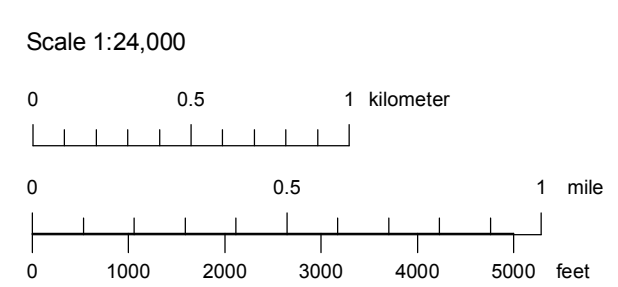
Location of "Ar" and/or "Tephra" sample site Adjacent number refers to sample sites listed in Table 1.

Exposure of diatomite bed Beds likely are laterally continuous between exposures.

Green chert bed

Area of diagenetically altered strata Secondary zeolites and chert are present in ash-rich sedimentary rocks in the lower part of member Tha in the west-central part of the quadrangle, as well as in member Thm near the center of the quadrangle. Reflectance spectroscopy (PIMA) analyses indicate that orionite and (or) clinoptilolite (spectra are indistinguishable) are the principal zeolites, with lesser chabazite, neither detrital nor authigenic clay minerals are present. Chert includes opaline silica and knobby, Magad-type chert. In the Dry Gulch area, the degree of alteration diminishes to the north and is not present north of Dry Gulch; faults and unaltered younger units conceal the extent of the altered rocks in other directions. Alteration products also decrease upsection. In addition, a persistent green replacement chert bed (ch) in the west-central and entire eastern parts of the quadrangle is present at or near the contact between members Thm and Tha or, in the absence of Thm, within Tha. This bed contains chabazite in addition to chert.

Area of silicified and bleached strata Massive secondary chalcocite and opaline silica are present in some tuffaceous units in member Thm in the upper Susie Creek area south of the Huntsman Ranch site and in members Thm and Tt along upper Dry Gulch. Red-orange lines are thin zones of stratabound massive secondary chalcocite and quartz that form sinuous outcrop patterns. Opaline chalcocite and later calcite also fill pore spaces in pebble conglomerates in Thm. On the west side of Susie Creek sec. 17 & 20, T.34N, R.53E, textures suggest at least two sinter deposits at different stratigraphic horizons, each of which is <1 m thick and underlain by massive, stratiform silica replacement bodies in tuffaceous sediments. On the east side of Susie Creek, altered sedimentary rocks are present several tens of meters stratigraphically beneath the silicified zone shown on the map. In the Dry Gulch area, most sediments are bleached but do not contain significant amounts of secondary silica; one tuffaceous bed was replaced by white amorphous silica. Bleached beds alternate with unbleached beds, and the amount of bleached rocks diminishes along strike to the south and north of Dry Gulch. On the basis of dates and field relations in both areas, alteration of the strata ended by about 16.1 Ma.



CONTOUR INTERVAL 40 FEET

Projection: Universal Transverse Mercator, Zone 11, North American Datum 1927 (m)

Base map: U.S. Geological Survey Huntsman Ranch 7.5' Quadrangle (1958)

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