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DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

8

PRELIMINARY GEOLOGIC MAP OF EUREKA COUNTY, NEVADA

By
R.E. Lehner, K.M. Tagg, M.M. Bell, and R.J. Roberts

MINERAL INVESTIGATIONS
FIELD STUDIES MAP MF-178

PUBLISHED BY THE U. S. GEOLOGICAL SURVEY
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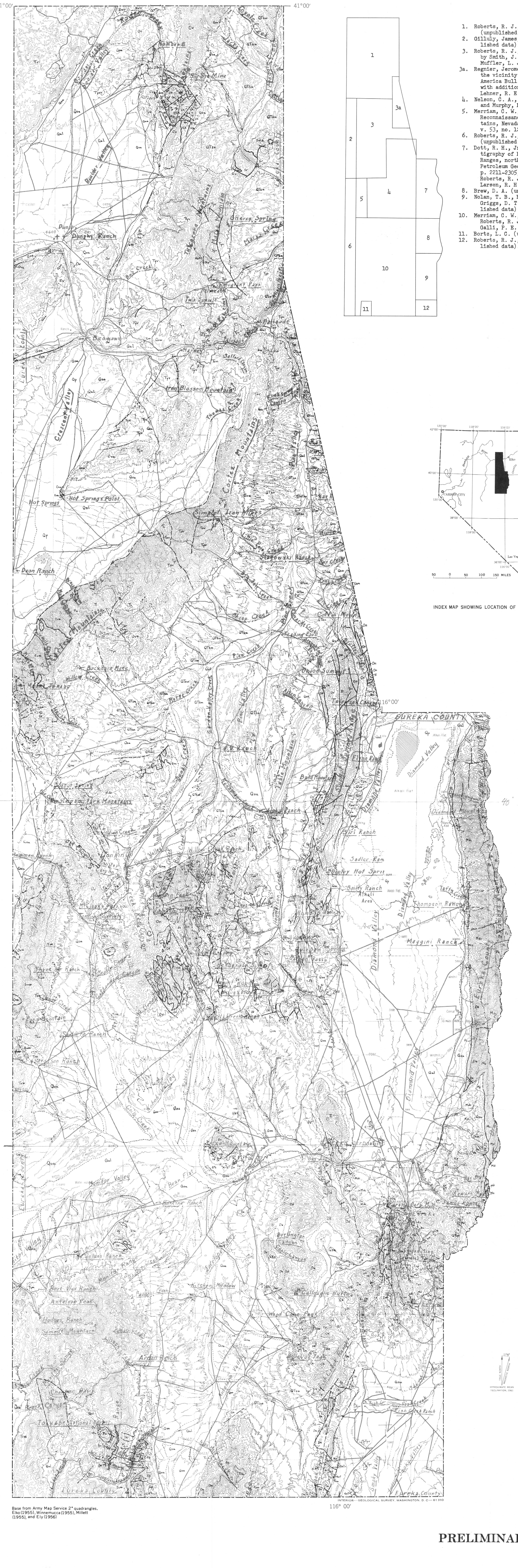

Base from Army Map Service 2° quadrangles, Elko (1955), Winnemucca (1955), Millett (1955), and Ely (1956)

116° 00′

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D. C.—61310

SOURCES OF DATA

1. Roberts, R. J., Lehner, R. E., and Bell, M. M. (unpublished data).
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EXPLANATION

QUATERNARY

Qal — Alluvium

Silt, sand, and gravel on flood plains and in stream channels

Qp — Playa deposits

Playa beds in Crescent and Diamond Valleys

Qs — Sinter deposits

Calcareous deposits at Broffey Hot Springs; siliceous deposits at The Geyers and Walti Hot Springs

Qoa — Older alluvium

Fan deposits; mostly unsorted debris on flanks of ranges

Qvu — Volcanic rocks, undivided

Mainly olivine basalt

QTsu — Sediments, undivided

White to buff silt, sand, and gravel in valleys; locally includes diatomaceous silt and diatomite

QTvu — Volcanic rocks, undivided

Olivine basalt; locally includes intercalated pyroclastics and sediments

TERTIARY

Miocene and Pliocene

Tyv — Younger volcanic rocks

Andesite, quartz latite, rhyolite and related pyroclastic rocks

Tg — Gravels

Tilted gravels in Cortez and Simpson Park Mountains

Tvu — Volcanic rocks, undivided

Eocene and Oligocene

Ti — Intrusive rocks

Quartz monzonite in northern Cortez Mountains and Fish Creek Range; mostly fine to medium grained. Intrusive andesite in Eureka district

Tov — Older volcanic rocks

Altered andesite and rhyolite with related pyroclastics; altered propylitically in places

Upper Cretaceous and Eocene

TKi — Intrusive rocks, undivided

Quartz monzonite and granodiorite; mostly medium to coarse grained

CRETACEOUS

Lower Cretaceous

Kn — Newark Canyon formation

Carbonaceous shale, sandstone, conglomerate, and some fresh-water limestone. Conglomerate contains chert, quartzite, limestone, and dolomite boulders

MAJOR ANGULAR UNCONFORMITY

POST OROGENIC ROCKS

OVERLAP ASSEMBLAGE
(CLASTIC)

PERMIAN

Pg — Garden Valley formation

At base, limestone; above, conglomerate, sandstone, and shale; above, resistant siliceous conglomerate; uppermost, interbedded purple and red shale and conglomerate

Pc — Carbon Ridge formation

At base, carbonaceous sandstone and dark-gray carbonaceous sandy shale containing oval concretions; above, gray coarsely crystalline limestone containing black and brown chert lenses. Conglomerates characterize upper units on Diamond Peak

UNCONFORMITY

CARBONIFEROUS — PENNSYLVANIAN, MISSISSIPPIAN

ℙu — Pennsylvanian rocks, undivided

Limestone in the Monitor Range; in the Cortez Mountains, includes quartzite, dolomite, siltstone, and chert pebble conglomerate

ℙe — Ely limestone

Massively bedded bluish-gray limestone

ℙMu — Pennsylvanian and Mississippian rocks, undivided

Mu — Mississippian rocks, undivided

In the Eureka area, may include Joana limestone at base; includes Chainman shale and Diamond Peak formation above. In northern part of county, includes unnamed conglomerate and Tonka formation of Dott (1955)

Mdc (Md, Mc) — Diamond Peak formation and Chainman shale

Md, Diamond Peak formation, conglomerate and sandstone with calcareous matrix grading laterally to fossiliferous limestone
Mc, Chainman shale, black shale with a few thin interbeds of brown sandstone

ANTLER OROGENY

PRE-OROGENIC ROCKS

WESTERN ASSEMBLAGE

(DETRITAL-VOLCANIC)

EASTERN ASSEMBLAGE

(CARBONATE)

DEVONIAN

Dwu — Devonian rocks, undivided

Shale and calcareous beds

De (Dd, Dn) — Devonian rocks

May include Pilot shale of Mississippian and Devonian age at top
Dd, Devils Gate limestone, cliff-forming thick-bedded gray to blue-gray limestone, crinkly argillaceous laminae
Dn, Nevada formation. At base, light-gray dolomite; above, thick-bedded sandstone; above, alternating light and dark dolomite; above, thin- to medium-bedded limestone and sandy and argillaceous limestone; uppermost, cliff-forming, massively bedded dark dolomite

DSwu — Devonian and Silurian rocks, undivided

Limestone conglomerate, quartzite, and shale in northern Sulphur Spring Range

DSeu — Devonian and Silurian, undivided

Limestone and shaly limestone for the most part

SILURIAN

Swu — Silurian rocks, undivided

Mostly calcareous and siliceous shale and chert

Sl — Lone Mountain dolomite

Thick-bedded to massive medium- to light-gray dolomite

Sr — Roberts Mountains formation

At base, massive black chert; above, gray platy and shaly limestone; uppermost, massive dolomitic limestone

SOu — Silurian and Ordovician rocks, undivided

Limestone and dolomite

ORDOVICIAN

Upper Ordovician

Oh — Hanson Creek formation

Fractured and brecciated dark-gray to black dolomite

Middle to Upper(?) Ordovician

Oe — Eureka quartzite

Vitreous white fine-grained sugary quartzite

Ova — Valmy formation

Interbedded vitreous massive quartzite, chert, argillite, and greenstone

Ov — Vinini formation

Interbedded chert, shale, sandstone, and greenstone

Ou — Ordovician rocks, undivided

Lower and Middle Ordovician

Op — Pogonip Group

In lowest part, well-bedded light- to blue-gray massive limestone with light-gray to white chert near base; in middle part, platy medium-gray thinly bedded fine-grained to porcelaneous limestone with shale and limy shale partings and some light-gray crystalline sandy limestone characterized by olive-green or greenish-blue cast on fresh surfaces; in uppermost part, massive medium- or light bluish-gray fine-grained limestone with local thin-bedded argillaceous limestone

CAMBRIAN

Middle and Upper Cambrian

Ꞓh — Hamburg dolomite

Dark-gray massively bedded limestone and dolomite with some banded and mottled dolomite; alters to dull gray rather coarsely crystalline somewhat vuggy dolomite. Dolomite with white rods in a darker matrix. Minor intraformational dolomite conglomerate

Ꞓu — Cambrian rocks, undivided

Includes in ascending order, Prospect Mountain quartzite, Pioche shale, Eldorado dolomite, Geddes limestone, Secret Canyon shale, Hamburg dolomite, Dunderberg shale, and Windfall formation in Eureka district

Contact

Dashed where approximately located or where gradational

Fault (U / D)

Dashed where approximately located; dotted where concealed; U, upthrown, D, downthrown side

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SCALE 1:200 000

5 0 5 10 15 MILES

CONTOUR INTERVAL 200 FEET
DATUM IS MEAN SEA LEVEL

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For sale by U. S. Geological Survey price 50 cents

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