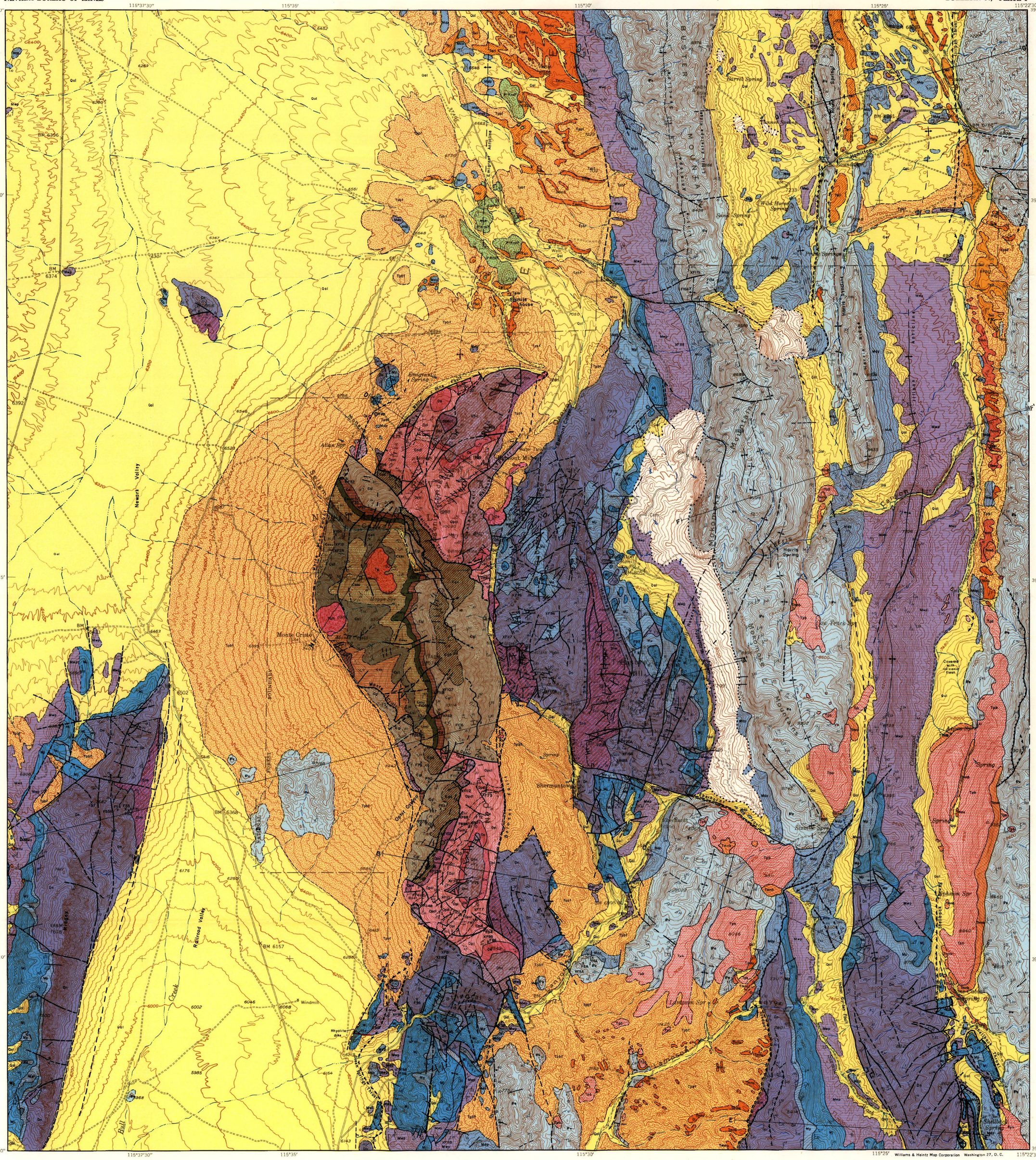


EXPLANATION

SEDIMENTARY ROCKS

QUATERNARY

Qal — Alluvium
Includes unrelated soil, sand and gravel

TERTIARY — CENOZOIC

Pliocene?

Tpbf — Belmont fanglomerate
Mainly unsorted and unbedded gravels and fanglomerates

UNCONFORMITY

Upper Miocene

Tmnu, Tmnb, Tmnr — Lake Newark formation
Tmnu (undifferentiated) volcanic rocks and gravels
Tmnb (member 2) bedded tuffs and pyroclastic rocks (hornblende)
Tmnr (member 1) bedded, rhyolite tuffs and pyroclastic rocks (biotite)

UNCONFORMITY

Eocene

Teiu, Teit, Teil — Illipah formation
Teiu (undifferentiated) limestones, conglomerates and interbedded tuffs
Teit (member 2) marl and fresh-water limestone with interbedded tuffs
Teil (member 1) wispy limestone and chert conglomerate

UNCONFORMITY

MESOZOIC ?

P-Kcs — Conglomerate and sandstone
Interbedded conglomerates and sandstones; the conglomerates contain chiefly chert and quartzite pebbles cemented by silicified or jasperized sandstone matrix

UNCONFORMITY

PENNSYLVANIAN

Pe — Ely limestone
Consists of about 100 feet of basal sandy limestone overlain by massive blue-gray limestone beds separated by thinner-bedded limestone; chert nodules common in massive beds

MISSISSIPPIAN

Upper Mississippian

Mdp — Diamond Peak formation
Reddish-brown medium-grained sandstone containing conglomerate lenses and sporadic sandy shale beds

Upper and Lower Mississippian

Mwp — White Pine formation
Black fissile carbonaceous shale with interbedded sandy and argillaceous beds; locally thin-bedded bluish fine-grained limestone

Lower Mississippian

Mj — Joana limestone
The massive limestone is light- to medium-gray, medium or coarse-grained with abundant crinoid stems and chert nodules and/or lenses

Mp — Pilot shale
Limy thin-bedded, platy shale; commonly weathers to reddish-brown

DEVONIAN

Dn — Nevada limestone
Has 250 to 350 feet of basal thin-bedded limestone with buff and reddish partings overlain by massive medium-gray to bluish-gray limestone

SILURIAN

Slm — Lone Mountain dolomite
Consists of five undifferentiated members: a basal light-gray coarse-grained dolomite; a lower dark fine-grained dolomite overlain by 200 feet coarse-grained dolomite; a fine-grained white porcelaneous dolomite with thin quartzite beds in upper part; a coarse-grained sugary medium and light-gray dolomite; a dark- to medium-gray mottled dolomite

ORDOVICIAN — PALEOZOIC

Upper Ordovician

Ohc — Hanson Creek dolomite
Dark-gray to black, fine-grained dolomite; gradational with underlying formation

UNCONFORMITY ?

Middle Ordovician

Oe — Eureka quartzite
Consists of 20- to 30-feet of basal, pinkish sandstone and interbedded quartzite overlain by massive quartzite

Lower Ordovician

Opl, Opd, Opdl, Opsl — Pogonip formation
Opl (member 4) thin-bedded limestone with diagnostic dolomite cap 10 to 20 feet thick
Opdl (member 3) massive medium- to dark-gray limestone locally dolomitized
Opd (member 2) thin-bedded reddish-brown, weathered limestone locally with shale partings and thin chert lenses
Opsl (member 1) alternate beds of thin-bedded, shale-parted limestone and beds of massive medium-gray limestone 1- to 3-feet thick

CAMBRIAN

Upper Cambrian

Ꞓgd, Ꞓgl — Goodwin formation
Ꞓgd (member 2) massive, medium- grained dolomite ranging from medium to dark gray
Ꞓgl (member 1) bluish, thin-bedded, fine-grained flaggy limestone; basal 20 feet of buff, thin-bedded, shale-parted limestone overlaid by 400 feet of thin-bedded fine-grained limestone with interbedded chert

Ꞓd — Dunderburg shale
Chaffy shale and interbedded thin-bedded limestone or shale-parted limestone; the basal 120 feet consists of greenish shale and upper 30 feet of thin shale-parted nodular limestone

DISCONFORMITY

Middle Cambrian

Ꞓsu, Ꞓsll, Ꞓsl — Secret Canyon shale
Ꞓslu (member 4) upper thin-bedded limestone separated by beds of greenish shale 3- to 20-feet thick
Ꞓsu (member 3) upper greenish shale; where unweathered the outcrops resemble mudstone; where metamorphosed the massive bonded hornfels are composed of fine-grained diopside and tremolite bands
Ꞓsll (member 2) lower thin-bedded, shale-parted limestone
Ꞓsl (member 1) lower thin-bedded brownish shale locally micaceous; where metamorphosed, a brown hornfels with a greenish hue

Ꞓg — Geddes limestone (?)
Dark gray-black platy limestone

IGNEOUS ROCKS

EXTRUSIVE ROCKS

Tab — Basalt
Unstratified basalt flows

INTRUSIVE ROCKS

Tdk — Rhyolite dike
Light gray porphyritic dike about 6 feet wide

Tg — Granodiorite
Medium-grained subhedral granodiorite

Tqm — Quartz monzonite
Medium-grained, greenish rock cut by innumerable quartz stringers

TERTIARY

Strike and dip of beds

Strike and dip of overturned beds

Strike of vertical beds

Horizontal beds

Syncline

Anticline

XF32 Fossil localities

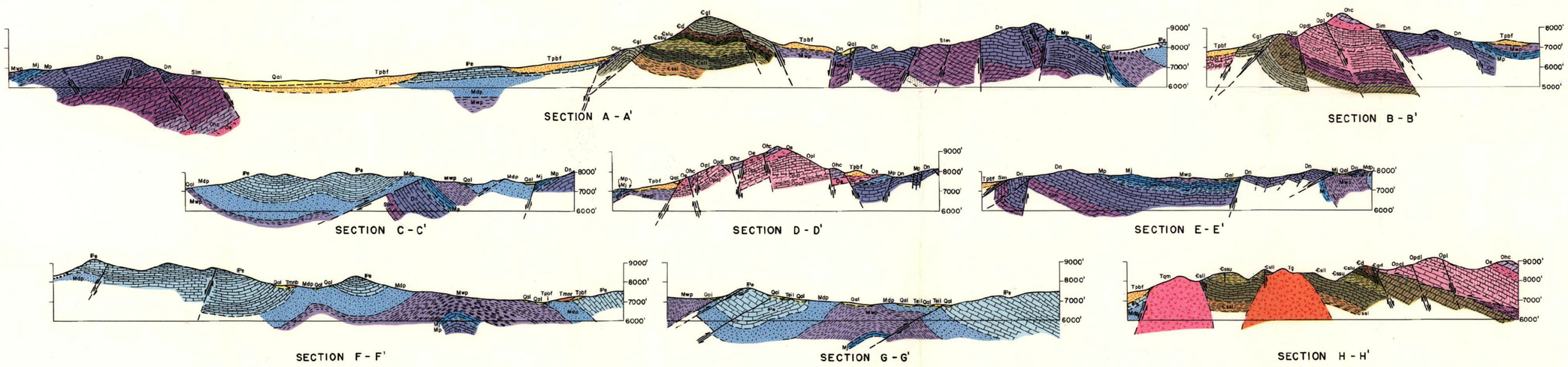
Contact
Dashed where approximately located

Fault
Arrow in direction of dip when known; dashed where approximately located

Thrust fault
Saw-teeth on side of upper plate; dashed where approximately located

Landslide area

Intraformational beds



GEOLOGIC MAP OF THE WHITE PINE DISTRICT

WHITE PINE COUNTY, NEVADA

By F. L. Humphrey

Geology by F. L. Humphrey
Assisted by W. Hughes, T. Morris, D. Shawe

APPROXIMATE MEAN DECLINATION, 1951

2000 0 2000 4000 6000 8000 10000 12000 14000 16000 18000 20000 Feet

Contour interval 40 feet

1960

Topography by U. S. Geological Survey 1951
Geologic Cartography by B. Hamilton