

**CORRELATION OF MAP UNITS**

Qa	Quaternary	Quaternary
Tc	Tertiary (Cretaceous)	Tertiary (Cretaceous)
Tt	Tertiary (Tertiary)	Tertiary (Tertiary)
Tm	Tertiary (Middle Tertiary)	Tertiary (Middle Tertiary)
Tl	Tertiary (Lower Tertiary)	Tertiary (Lower Tertiary)
Cu	Upper Cambrian	Cambrian
Cm	Middle Cambrian	Cambrian
Cl	Lower Cambrian	Cambrian
Pc	Pre-Cambrian	Pre-Cambrian

**DESCRIPTION OF MAP UNITS**

- Qa** ALLUVIAL AND LATE BOWENVILLE DEPOSITS (Quaternary) -- Bowdenville alluvial fan deposits near Swasey Peak and Tule Valley. The alluvial fans on alluvial fans have been largely eroded by wind-blown sand. The alluvial fans are composed of unstratified and unconsolidated sandstone, siltstone, and shale, and are covered by a thin layer of wind-blown sand. The alluvial fans are composed of unstratified and unconsolidated sandstone, siltstone, and shale, and are covered by a thin layer of wind-blown sand.
- Q1** LANDSLIDE DEPOSITS (Quaternary) -- Developed locally on Wheeler Shale and Chinle Formation; consist of slumped blocks of overlying rocks.
- Q2** OLDER ALLUVIUM (Quaternary) -- Bowdenville alluvial deposits above present stream levels.
- Tc** CONGLOMERATE (Tertiary) -- Boulder, some to 4 m long, chiefly of granitic and basaltic rocks, including some volcanic rocks derived from the Chinle, Tropic, and Navajo formations. The matrix is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand. The conglomerate is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Tt** LIMESTONE (Tertiary) -- White to grayish or grayish-brown coarse crystalline limestone that forms the high and rounded hills. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Tm** BRITTLE LIMESTONE (Tertiary) -- Coarse-grained chiefly of Cambrian dolomite and limestone in fragments from great size to a rough between well cemented, resistant, and restricted to a rough between the hills and the base of the Cambrian strata. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Tl** MIDDLE KANABIN TUFF (Tertiary) -- Light-gray non-resistant tuff composed of about 10 percent phenocrysts of amphibole, biotite, quartz, and hornblende. The tuff is probably the same as the tuff which is reported by the adjacent Mt. Tropic (Hiltner, 1961) where it has yielded a K-Ar date of 38 m.
- Cl** DOME (Tertiary) -- Brown-weathering altered site of unstratified or stratified igneous rocks, mostly of granitic and dioritic composition. The dome is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cu** LOWER MIDDLE CAMBRIAN (Middle Cambrian) -- Includes:
  - Upper member** -- Characterized by white laminated sandstone that contains about 10 percent phenocrysts of amphibole, biotite, quartz, and hornblende. The sandstone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
  - Lower member** -- Dolomite, finely to coarsely crystalline, light- to medium-gray, mostly massive, cliff-forming; some thin bedded. The dolomite is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cm** MARJUM FORMATION (Middle Cambrian) -- Dark-gray to grayish-brown to blackish limestone, interbedded with thin-bedded sandstone and shale. The formation is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Ch** HELLER SHALE (Middle Cambrian) -- Thin-bedded gray-weathering shale to very thin-bedded, gray to black, argillaceous shale. The shale is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Ch** SANDY LIMESTONE (Middle Cambrian) -- Medium-dark-gray cliff-forming limestone. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cw** MIDDLE CAMBRIAN (Middle Cambrian) -- Tripartite formation consisting of basal slope-forming limestone, middle slope-forming dark-gray ledge-forming limestone, and upper thin bedded limestone containing abundant Chonetes and other trilobites. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cd** DOME LIMESTONE (Middle Cambrian) -- Upper thin-bedded to medium-gray, argillaceous massive cliff-forming limestone. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cc** CHINLE FORMATION (Middle Cambrian) -- Tripartite formation consisting of basal slope-forming limestone, middle slope-forming dark-gray ledge-forming limestone, and upper thin bedded limestone containing abundant Chonetes and other trilobites. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Ch** HOWELL LIMESTONE (Middle Cambrian) -- Includes:
  - Upper member** -- Light-gray massive, finely crystalline limestone that forms prominent cliff. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
  - Lower member** -- Dark-gray thin-bedded argillaceous limestone that forms basal portion of Howell cliff. The limestone is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Pc** PINCH FORMATION (Middle and Lower Cambrian) -- See Hiltner and Robinson (1973) for discussion of fossils and age assignment of members.
- Cpt** TATE MEMBER (Middle Cambrian) -- Dark-brown phyllitic quartzite interbedded with siliceous, blue and orange, occurs in a few beds up to 2 m thick and mostly in the Pinch Formation. The quartzite is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cpl** LOWER MEMBER (Lower Cambrian) -- Dark-brown phyllitic quartzite with interbedded argillite shale and siliceous, orange and blue, occurs in a few beds up to 2 m thick and mostly in the Pinch Formation. The quartzite is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Cm** PROSPECT MOUNTAIN QUARTZITE (Lower Cambrian) -- Pinkish-gray to light-brown quartzite, argillite, and siliceous, orange and blue, occurs in a few beds up to 2 m thick and mostly in the Pinch Formation. The quartzite is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.
- Ch** SEDIMENTARY ROCKS, UNDIVIDED (Pre-Cambrian) -- Not assigned, shown only as cross sections. Pre-Cambrian rocks that underlie the Prospect Mountain Quartzite in this region consist of quartzite, argillite, and siliceous, orange and blue, occurs in a few beds up to 2 m thick and mostly in the Pinch Formation. The quartzite is composed of unstratified and unconsolidated sandstone, siltstone, and shale, and is covered by a thin layer of wind-blown sand.

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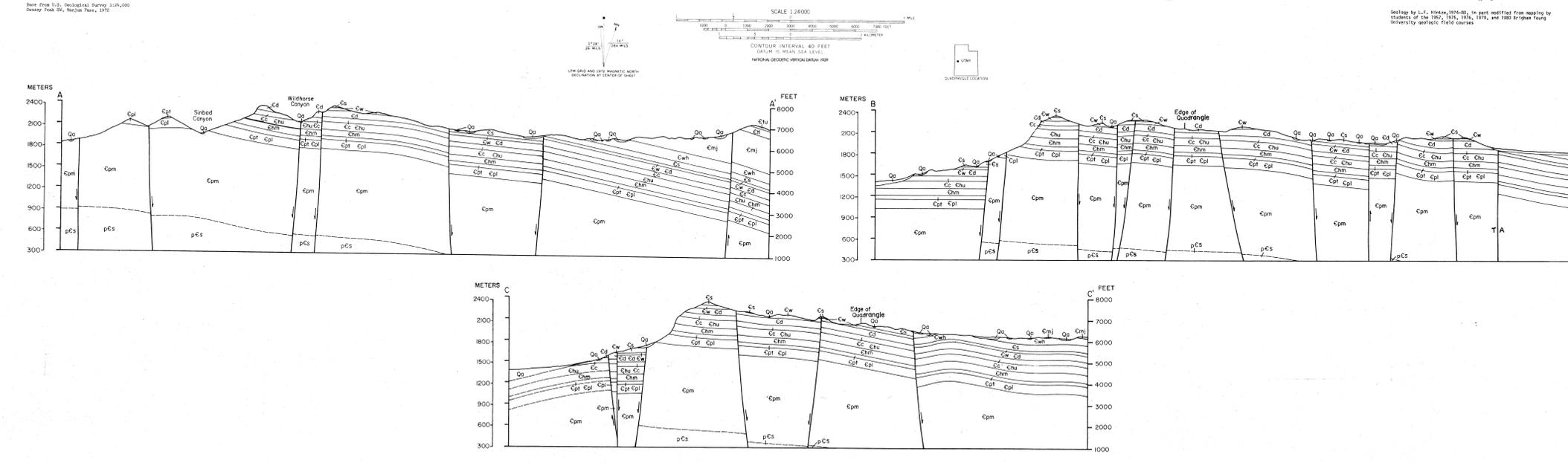
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**GEOLOGIC SYMBOLS**

- Contact -- Based where approximately located
- Fault -- Where approximately located, dashed where concealed. Bar and bolt on opposite downthrown side. Arrows show the direction of displacement. On cross-sections (1) indicates relative movement (upthrown downthrown), (2) indicates relative movement away from observer. Subhorizontal-dipping faults are near fault of Mesozoic age (Hiltner, 1973). North-south-trending faults are of Paleozoic age. Faults strike that cut the west side of range are described by Hiltner (1981).
- Fault on floor of depression -- Southwest on quartering plan. (List of Mesozoic age faults, 1973)
- Highest member of late Mesozoic shoreline terrace
- Strike and dip of beds
- Dike



PRELIMINARY GEOLOGIC MAP OF THE MARJUM PASS AND SWASEY PEAK SW QUADRANGLES, MILLARD COUNTY, UTAH

By  
Lehi F. Hiltner  
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