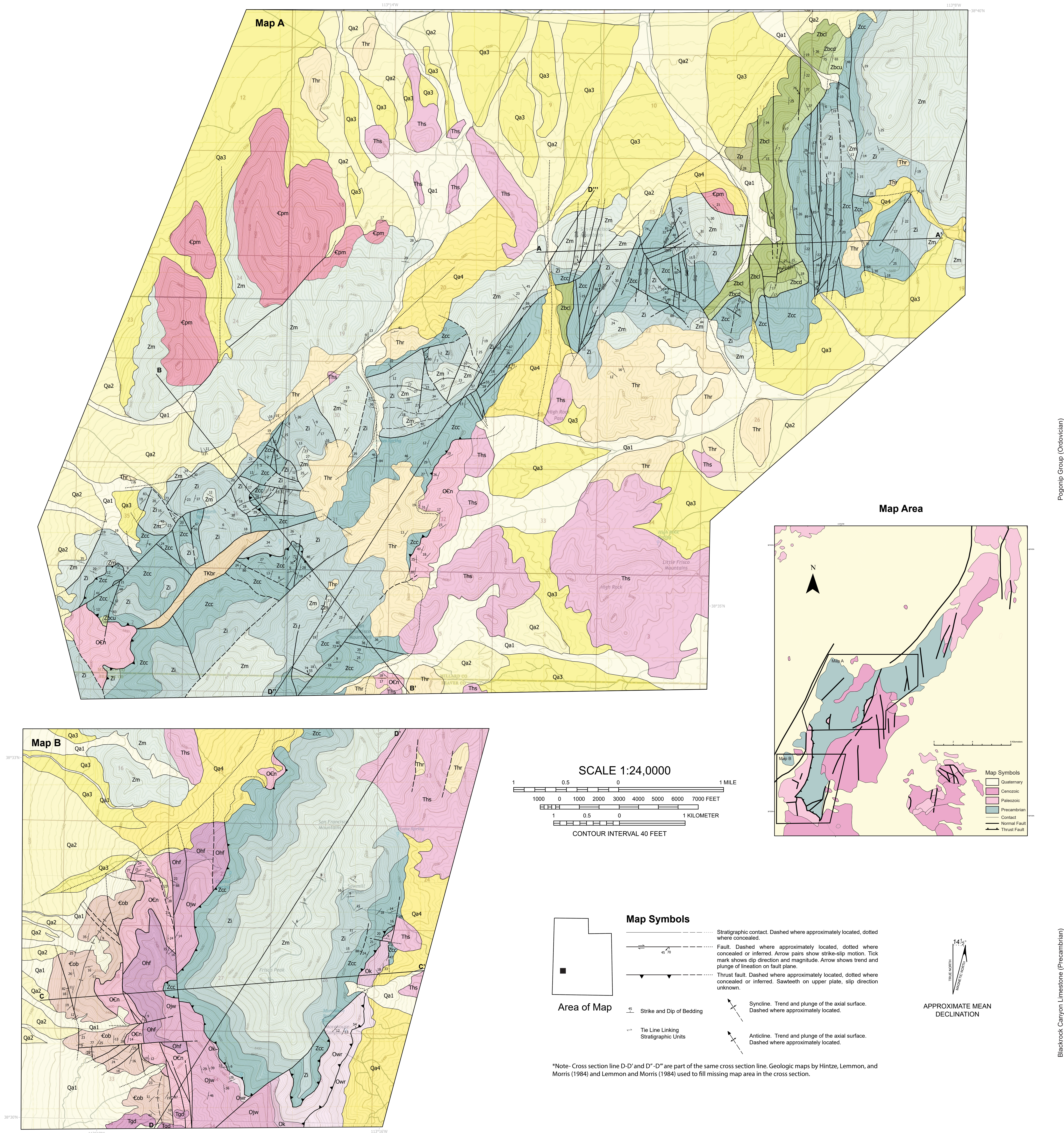


Plate 1. Geologic Map of the San Francisco Mountains, Utah

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Description of Map Units

Qa1	Alluvium (Quaternary): Mapped through NAIP imagery, detailed unit description is not distinguished. Unit thickness is not available.
Qa2	Alluvium (Quaternary): Mapped through NAIP imagery, detailed unit description is not distinguished. Unit thickness is not available.
Qa3	Alluvium (Quaternary): Mapped through NAIP imagery, detailed unit description is not distinguished. Unit thickness is not available.
Qa4	Alluvium (Quaternary): Mapped through NAIP imagery, detailed unit description is not distinguished. Unit thickness is not available.
Tgd	Granodiorite of Cactus Stock (Tertiary): Moderate to dark reddish-brown on the weathered surface, pale grayish on the fresh surface. Contains small 1-3 mm crystals of plagioclase, biotite, quartz, hornblende, pyrite, and chalcopyrite. Local greenschist metamorphism containing chlorite. Indurated, contains white skarns and sills, tabular geometry, intrusive contacts. K-Ar age 28 Ma (Lemmon et al., 1973). Unit thickness is not available.
Ths	Horn Silver Andesite (Tertiary): Brownish-orange and brownish-red on the weathered surface, pale purple to grayish purple on the fresh surface. Mainly consists of porphyritic flow rocks but also contains tufts in the central part of the range. 50% total phenocrysts, phenocryst assemblage: plagioclase-biotite-quartz-hornblende with trace augite and magnetite. Contains flow foliations, friable, slope forming. K-Ar ages of 34.1-30.8 Ma (Lemmon et al., 1973). Unit thickness is up to 600 m.
Thr	Conglomerate of High Rock Pass (Tertiary): Contains two facies of conglomerate mostly concentrated in the central part of the range. Facies one: boulder conglomerate consisting of ~98% local limestones with a very small amount of quartzites, contains no volcanic clasts, well-rounded, clast supported, beige light brown silt to sand matrix, outcrop is not well exposed, slope and hill forming, coarsening upward with ~1 m size boulders at the top of unit. Facies two: pebble to cobble conglomerate with some boulders ~0.5 m in size, consists of ~80% local quartzites and ~20% local limestones, contains no volcanic clasts, quartzite clasts are sub-angular, limestone clasts are sub-rounded, clast supported, red silt to sandy matrix, poorly sorted. Unit thickness is up to 100 m.
TKBr	Tectonic Breccia (Tertiary): Mounds of intermittently outcropping cobble to boulder breccia. Clasts within each individual mound are distinct to a single lithologic unit of localized quartzites. Unit thickness is not available.

Footwall of the Frisco Thrust

Qwr	Watson Ranch Quartzite (Ordovician)- White to very light grey on the weathered surface, very white on the fresh surface, pale yellowish orange weathering pattern. Very fine to fine-grained, sugary crystalline texture, indurated, thick bedding, slope and ledge forming. Unit thickness is 90 m.
Ok	Kanosh Shale (Ordovician)- Pale to moderate greenish yellow on the weathered surface, pale to light olive on the fresh surface, orange and black weathering pattern. Very fine-grain silt to very fine sand, thin bedding, contains fossils, slope forming. Also contains the Pogonip Limestone. Medium/light to medium grey on the weathered surface, medium grey to dark grey on the fresh surface. Very fine to fine-grained, contains calcite veins, micrite, indurated, thick bedding, slope forming, contains brachiopods and bivalves. Unit thickness is 150 m.
Qjw	Juab and Wah Wah Limestones (Ordovician)- Medium grey on the weathered surface and contains moderate to dark reddish brown silty layers on the weathered surface, medium bluish grey on the fresh surface. Very fine to fine-grained, micrite, thin bedding, contains spiral shells, slope forming. Abundant silty beds give the unit a yellow tinge. Unit thickness is 120 m.
Ohf	Fillmore Formation and House Limestone (Ordovician)- Light bluish grey with yellowish grey on the weathered surface, medium grey on the fresh surface. Fine to medium-grained, medium bedding, some beds highly laminated, no fossils observed, cliff forming. Yellowish brown silt outcrop characteristics. Unit thickness is 700 m. Full thickness not observed due to low-angle normal faults.
OCn	Notch Peak Formation (Ordovician and Cambrian)- Limestone and dolostone, white to pinkish grey on the weathered surface, white and yellowish grey streaks on the fresh surface, rounded blocky weathering pattern. Fine to medium-grained, sparry, bedding thickness variable and difficult to observe, no fossils observed, slope forming. Heavily jointed and faulted. Contains moderate reddish orange sandy grains and laminations as outcrop characteristics. Unit thickness is 500 m. Full thickness not observed due to low-angle normal faults.
Escsp	Steamboat Pass Shale (Cambrian)- Very poorly or not exposed at the surface. Thickness not observed due to low-angle normal faults. Unit thickness is 60 m.
Cob	Big Horse Limestone (Cambrian)- Contains two facies of limestone. Facies one: very pale orange with pale yellow orange fracture fill on the weathered surface, white on the fresh surface. Very coarse-grained, recrystallized calcite, sparry, variable bedding sizes, some fine silty laminations and lenses, no fossils observed, cliff forming. Facies two: light to medium grey on the weathered and fresh surfaces. Grain size varies, recrystallized calcite, sparry, contains thin silt beds, contains trilobite fragments, algae, stromatolites, cliff forming. Unit thickness is 280 m.

Hanging Wall of the Frisco Thrust

Zm	Prospect Mountain Quartzite (Cambrian) - Unit description separated into upper and lower units. Upper: light to pale brown on the weathered surface, mix between the pink, pink refrauge, greyish red purple, and very dusky purple on the fresh surface, brownish orange to black weathering pattern. Coarse-grained, crystalline, abundant cross-bedding, thick bedding, some grains up to 5 mm in size, very sharp edges when broken, slope and ledge forming. Lower: light to pale brown on the weathered surface, pinkish grey on the fresh surface. Texturally different than the upper, sandier then the upper, fine to coarse-grained, contains grains not crystals, also contains some pebble metaconglomerate beds, slope forming. Unit thickness is 1000 m.
Zm	Mutual Formation (Precambrian) - Quartzite, pale red to greyish red on the weathered surface, slightly lighter whitish on the fresh surface, very pink outcrop characteristics, elephant skin or raindrop weathering pattern. Coarse to very coarse-grained, sub-rounded grains, contains gain-supported pebble metaconglomerate beds, contains some phyllitic bedding but less green in color when compared to the Inkorn Formation, abundant cross-bedding, thick bedding >1 m, slope and ledge forming. Unit thickness is 600 m.
Zi	Inkorn Formation (Precambrian) - Quartzite, dusky brown to very dusky red on the weathered surface, mainly greyish red can vary to moderate orange pink on the fresh surface, very dark black varnish weathering pattern. Medium to coarse-grained, sub-angular grains, contains some lithic fragments with variable minerals, crystalline but sand grains may be visible, thick bedding, slope and ledge forming. In the upper part of the section contains bedding of thinly laminated phyllite slate light olive grey in color. Unit thickness is 170 m.
Zcc	Caddy Canyon Quartzite (Precambrian) - Pale reddish brown on the weathered surface, greyish red on the fresh surface, dark yellowish orange and some white grey weathering pattern. Very fine to fine-grained, crystalline, sugary texture, primarily quartz arenite, densely faulted and fractured, thick bedding, slope and ledge forming. In the northern part of the range the unit contains light to medium grey beds, matrix-supported metaconglomerate with pebble size grains. Unit thickness is 600 m. Full thickness not observed due to thrust faulting.
Zbcu	Upper Member- Argillite, dark yellowish brown to moderate brown on the weathered surface, same color but slightly lighter on the fresh surface. Outcrop is not well exposed and is buried by detritus of the Caddy Canyon Quartzite. Thinly laminated bedding that is heavily deformed and tightly folded, fine-grained, slope forming. Unit thickness is 50 m.
Zbcd	Middle Limestone and/or Dolomite Member- greyish to dusky brown on the weathered surface, dusky brown on the fresh surface. Limestone with quartz cement, contains tightly folded argillite beds, not well exposed and mostly buried by detritus of the Caddy Canyon Quartzite, mainly dark pieces in float, slope and flat lying topography. Unit thickness is 50 m.
Zbcl	Lower Member- Quartzite and argillite, white to very light grey to black orange brown on the weathered surface, very light grey on the fresh surface, weathering pattern may be black varnish like the Inkorn Formation. Very fine to fine-grained, crystalline, sugary texture, argillaceous, crystals may look like the Caddy Canyon Quartzite but whiter in comparison, some cross-bedding, medium bedded quartzite, thin bedded argillite, heavily strike-slip faulted, slope forming. Unit thickness is 200 m.
Zp	Pocattello Formation (Precambrian)- Argillite and quartzite. Reddish brown on the weathered and fresh surfaces. Thin laminations, not well exposed and mostly buried by detritus of the Blackrock Canyon Limestone. Unit thickness is 300 m. Full thickness not observed due to thrust faulting.