03-01-1993

Area Characterized by Hot, Dry Summers and Cold, Relatively Moist Winters

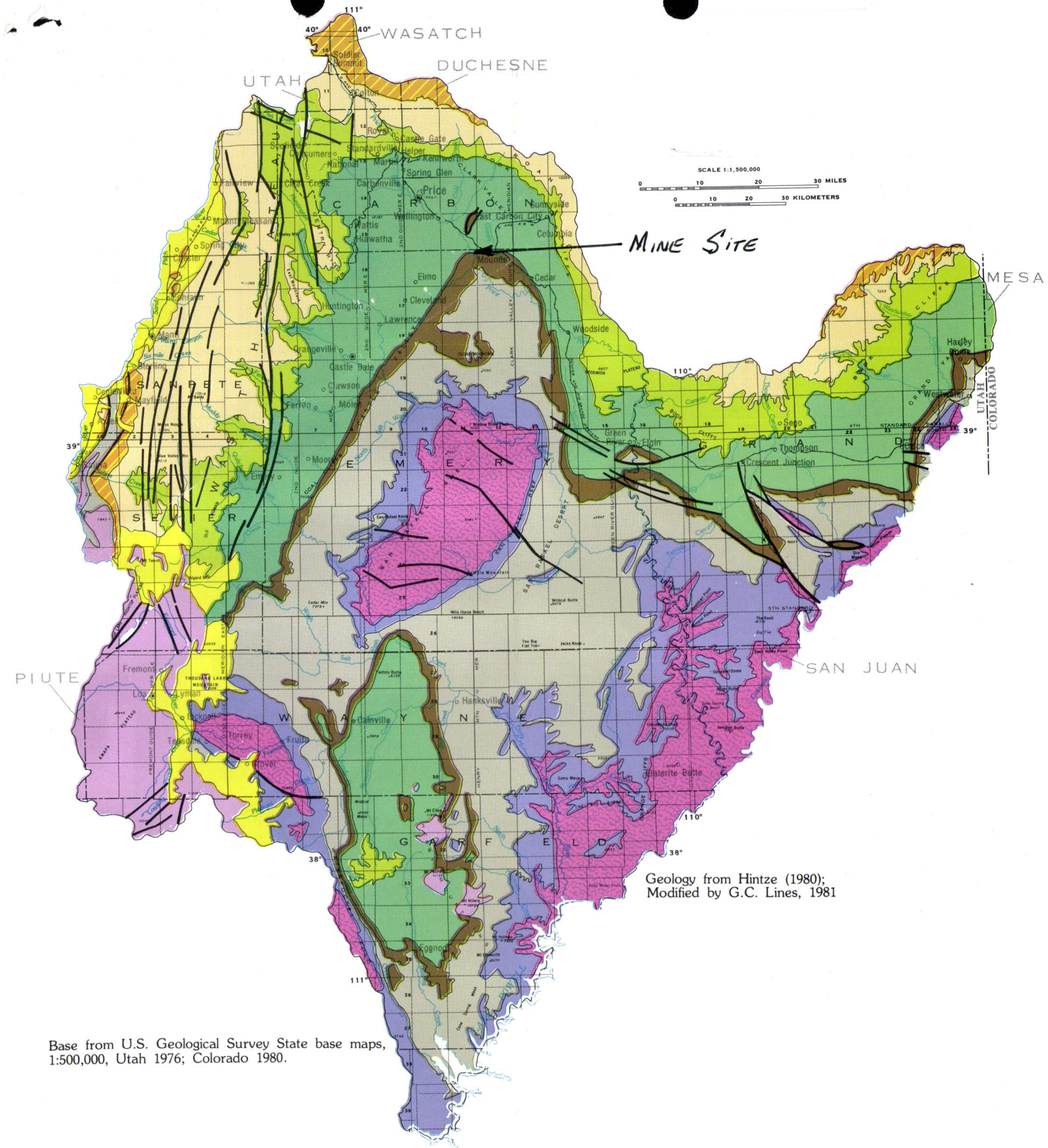
Normal annual precipitation varies from less than 6 inches in the lower valleys to locally more than 40 inches on the high plateaus; it is estimated to total about 8.5 million acre-feet.

Precipitation on the area varies widely, both areally and with time. Normal annual precipitation ranges from less than 6 inches in the vicinity of the communities of Hanksville and Green River to locally more than 40 inches along the crest of the Wasatch Plateau (figure 2.3-1). Based on figure 2.3-1, the annual is estimated to total about 8.5 million acre-feet.

Most of the annual precipitation falls in the higher altitudes during the winter, as indicated in figure 2.3-2. Winter precipitation chiefly results from generally widespread frontal-type storms that move across the area from west to east, and most of that precipitation is snow. The winter snowpack commonly accumulates to more than 100 inches on the higher plateaus and is the principal source of late spring and early summer runoff in the area. The April 1 water content of the snowpack at Blacks Fork snow course is shown in figure 2.3-3 for 1950-80.

Summer precipitation generally results from convection-type storms that move into the area from the south. Those storms are generally localized and of short duration; however, they produce torrential rains that often result in flash flooding and associated property damage.

Air temperatures vary considerably both diurnally and annually throughout the area. Midsummer daytime temperatures in lower areas commonly exceed 100°F and midwinter night-time temperatures throughout the area commonly are well below 0°F. The summer temperatures are accompanied by large evaporation rates. As shown in figure 2.3-2, evaporation during July at Scofield Dam in the Price River drainage basin averaged almost 17 inches for 1931-75. During that same period, average annual evaporation was about 35 inches at Scofield Dam and about 42 inches at the community of Green River (Waddell and others, 1981, p. 6). Although not recorded, there probably also is significant sublimation of the winter snowpack, particularly in the higher plateaus, which are unprotected from dry winds that are common in this region.

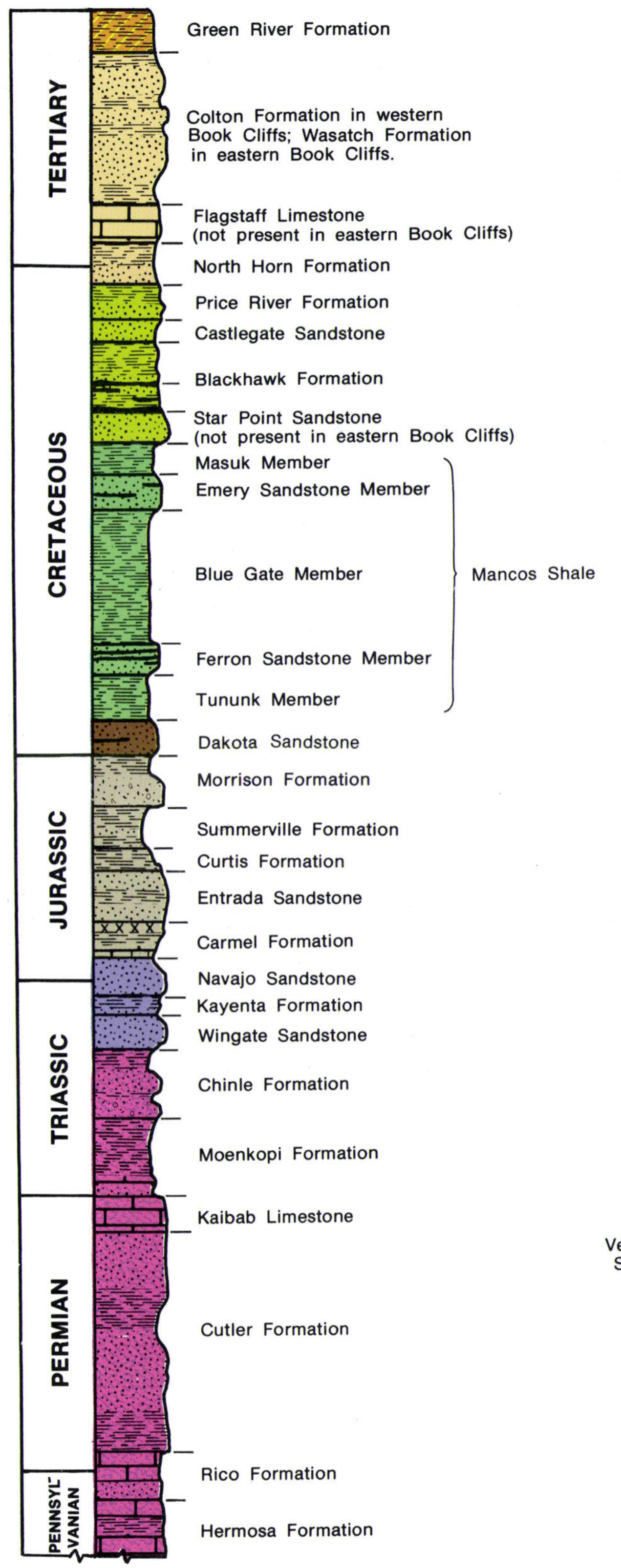


Geology from Hintze (1980);
Modified by G.C. Lines, 1981

Base from U.S. Geological Survey State base maps,
1:500,000, Utah 1976; Colorado 1980.

EXPLANATION

SEDIMENTARY ROCKS



SURFICIAL DEPOSITS

Alluvial, eolian, and glacial deposits of Quaternary age, undivided

IGNEOUS ROCKS

Intrusive and extrusive igneous rocks of Tertiary age, undivided

CONTACT, APPROXIMATELY LOCATED

FAULT, APPROXIMATELY LOCATED

ROCK TYPES

Shale, siltstone, or mudstone

Sandstone

Conglomerate

Limestone

x x x x Gypsum

Coal

Vertical Scale

0
500
1000
1500
2000 Feet

Note:
The approximate average thickness and major rock types of each sedimentary rock unit are shown in the geologic column.

Figure 2.2-1 Geologic map and generalized stratigraphic column.