years spanning the Eocene-Oligocene time boundary; the apparent time interval between intrusion and mineralization was less than 1 million years.

Closely similar mineral compositions, bulk chemical compositions, and apparent ages suggest that the igneous rocks at Bingham were derived by fractional crystallization from a monzonitic parent magma. The magmatic episode at Bingham was broadly contemporaneous with comparable events in the Stockton district 10 miles west of Bingham, the Tintic district 40 miles to the south, and the Park City district 35 miles to the east.

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LATE TERTIARY TECTONICS AND SEDIMENTATION, WHITE PINE-GRANT RANGE REGION, EAST CENTRAL NEVADA

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In the Grant Range-White Pine Range area, about 20,000 feet of Paleozoic rocks are overlain by 3000 to 5000 feet of Eocene-Oligocene sedimentary and volcanic rocks, and 0 to 10,000 feet of Miocene-Pliocene sedimentary rocks. The latter include gravity slide masses, monolithic breccia, and muddy boulder breccia derived from Paleozoic and volcanic rocks, as well as lacustrine sediments, vitric ash, and volcanic-rich detrital deposits.

Near concordance of Paleozoic and early Tertiary strata indicates that the major deformation of the area is post-Oligocene in age. Mesozoic movements were limited to formation of gentle folds and high angle faults of limited displacement.

Paleozoic and lower Tertiary rocks display north-trending folds, cut by a series of low-angle faults emplacing younger rocks over older. Structurally homogeneous range areas are separated by high-angle fault zones from other areas displaying different fold geometry and number of low-angle faults.

Displacement on low-angle faults increases from centers to ends of ranges; the faults are not continuous throughout ranges, and probably do not represent regional decollement features. Much observable movement took place during deposition of Miocene-Pliocene sediments, accompanied by emplacement of gravity slides and monolithic breccia in the Miocene-Pliocene basin. Movement on low angle faults was probably nearly surficial, resulting from uplift of ranges or basement extension. North-trending folds may be gravity effects on flanks of major uplifted blocks, or products of post-volcanic crustal shortening.