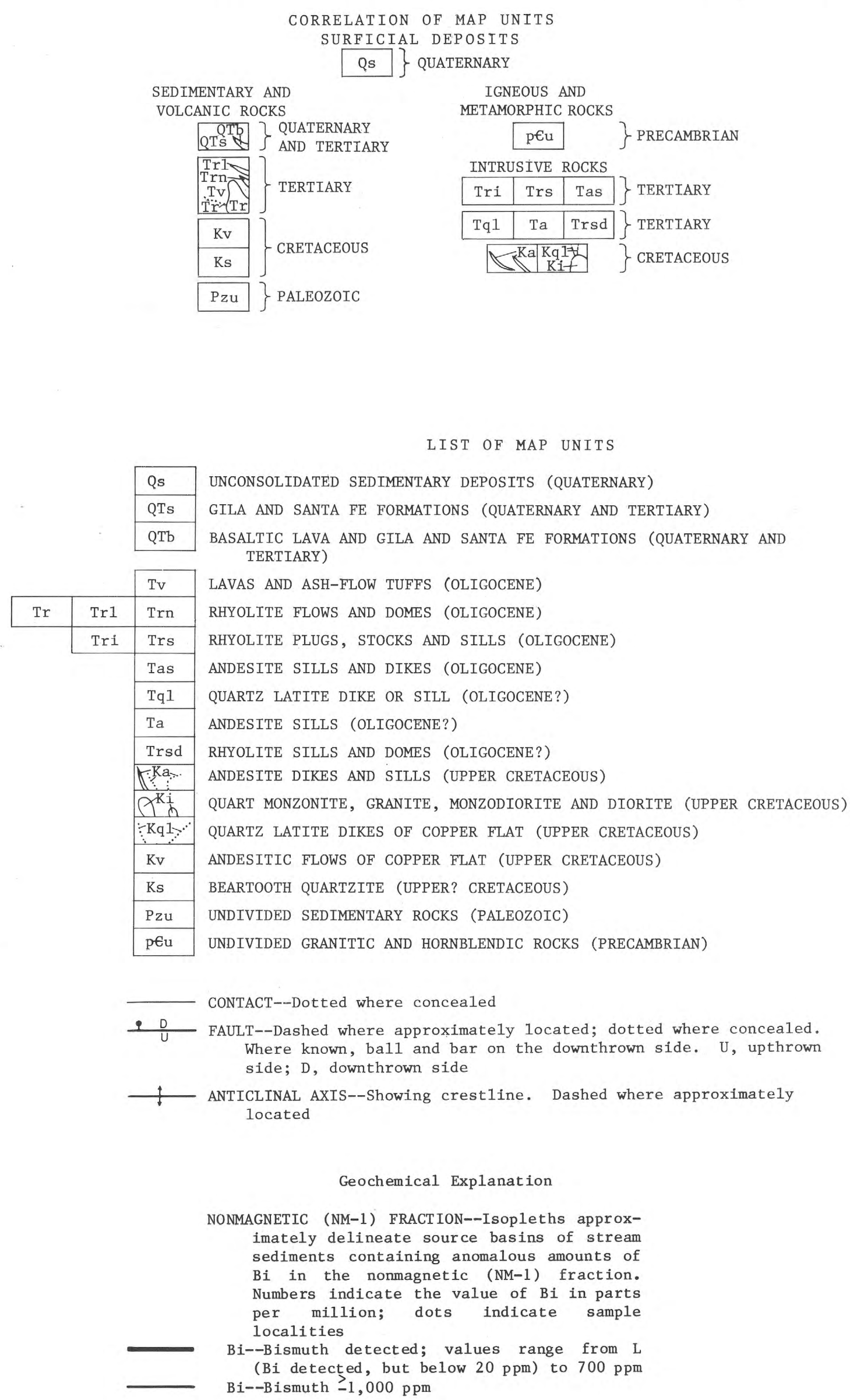


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Geology mapped by D. C. Hedlund, 1977

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There are bismuth occurrences associated with intrusive rhyolite porphyry (Ti) and along Tiersa Basin south of Log Cabin Peak. The pattern of bismuth occurrences in this area is similar to the pattern exhibited by magnetic oxide (Ni) and hematite (Fe) in the same area. The pattern over this area in both bismuth and lead suggest a subsurface, east-west geologic structure. The pattern of bismuth occurrences occur at the intersections of this east-west anomaly trend with north-south structures. The pattern of bismuth occurrences in the Log Cabin and bismuth maps in conjunction would occur at the intersections of the east-west structure and Log Cabin Peak and at the clay bend in the bismuth pattern in Gallinas Canyon, although no strong correlation is observed. The bismuth occurrences in Florida are associated at this intersection. The pattern of bismuth occurrences in the Florida area are revealed by the lead map in the area. Although the intersection areas seem to be the same, the pattern of bismuth occurrences in the anomaly patterns warrant further investigations.

A somewhat elliptical pattern of anomalous bismuth occurs in the area of the Tiersa Basin. Mineral Mountain Mine extends north to the Tiersa Basin. The pattern of bismuth in the Tiersa Basin and includes areas to the south near the Gray Eagle Mine. Other high bismuth anomalies occur in the area of the intersection of these anomaly patterns is occupied by faulted Paleocene sedimentary rock and by tertiary igneous rocks. The formation of the Tiersa rhyolite porphyry (Ti). The strongest bismuth anomalies occur in the area of the intersection correlation to the outcrop area of intrusive rhyolite porphyry (amphimorphic north of Barry Mine). The pattern of bismuth anomalies in this concentration that would be expected from barren rhyolite porphyry and may indicate weak bismuth anomalies associated with this rhyolite porphyry.

There are bismuth occurrences in the Tiersa North Porcha Basin near Dunn Canyon and minor amounts occur on tributaries to Mineral High. The pattern of bismuth occurrences in the Copper Flat where much of the unusually high concentrations of bismuth occur in the area of the intersection of the east-west structure and the Tiersa rhyolite porphyry (Ti) and tetradymite bismuth telluride. At Copper Flat these minerals are associated with a variety of bismuth minerals. In addition, gold and tungsten are associated with bismuth in both of these areas. These anomalies are associated with the Tiersa rhyolite porphyry (Ti).

Peak quadrangle north of the Hillborough quadrangle (Almains and others, 1975). On the basis of the similarity of metal associations and mineral assemblages, the Hillborough-type deposits similar to those at the Hillborough locality. These mineral deposits would most likely be farther north in the Apache Peak quadrangle.

At the corner of San Lorenzo quadrangle within the uplifted block on the west side of the Mimbres Mountains, there is a small, localized zone of dispersion of bismuth at a relatively low, but significant level. This zone is located in the view of the reactivity of limestone a local source for the bismuth is suggested. An iron-rich limestone, which may represent a buried mineralization pluton from which the higher than normal bismuth in the area is derived, is present in the concentrations in the area is found near the intersection of the road and Highway 180. The high bismuth may be genetically related to the intrusive or nearby igneous rocks. The bismuth may be due to the migration of bismuth-rich solutions into the surrounding host rock.

At the intersection of Silver and lead anomalies have been found in Quaternary gravels and alluvium. The anomalies are associated with the gravels within which they are contained were probably derived from the Georgetown Mining District. The anomalies are associated with the metal anomalies do not have a subcurrent source. The anomalies are associated with several metals including bismuth which are to some degree overlapped and dispersed over an area of about 100 square miles. The anomalies are located between Stitzel Canyon, Rosencran Canyon, Rabb Park, upper Monday Canyon, Quaking Asp Canyon, and the area of the anomalies is confined dominantly to the area of the anomalies. The anomalies are located in the area of monotonous sandstone-bearing rhyolite porphyry in Rabb Park. Low level anomalous anomalies are located around the area of the Rabb Park and then opens up to large, weakly anomalous area to the north. The highest anomalies are located in the area of the Rabb Canyon where a single value of 1,000 parts per million is recorded. The anomalies are located between the weak Rabb Park anomaly on the east and the weak bismuth anomalies occurring

These features lie adjacent to a nearby anomalous aeromagnetic high and an aeromagnetic low south of Hendricks Peak. One of these features is a magnetic anomaly that may have a genetic relationship to high metal values. The bismuth in the Hendricks Peak area is accompanied by anomalous but mostly low level nonmagnetic sulfide (Pb-S) fraction lead, silver, zinc, and polymers as well as magnetic oxide (Mg) fraction anomalies. The metals in the nonmagnetic sulfide (Pb-S) fraction are probably derived from the same different thorough-going fractures, especially where the values are anomalously high. The low level of lead and low-level dispersion of bismuth suggests that there was a pervasive impregnation of the volcanic rocks by the same metal transporting solutions. The relationship of this widespread, low-level bismuth to the occurrence of mineral deposits is not clear. There is some supporting evidence. Part of this bismuth may be related to the occurrence of the bismuth anomalies are related to mineralization it is weak or the mineral deposits are at great depth.

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