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(254)

Item 90

TONOPAH NYE COUNTY NEVADA

Production: Approx. 1,888,000 oz. Au, 178,000,000 oz. Ag, tonnage ranges from 7.12 to 15 MT in literature, given grades range from 0.17 to 0.23 oz./t Au and 20.7 to 25 oz./t Ag. Less than 2% base metals.

Type: Classification varies from "epithermal" to "disseminated in igneous rocks"

Host Rocks: Miocene andesite flows, rhyolite, tuffs

Ore Age: 19.1 m.y.

Vein Mineralogy: Adularia, Quartz, Calcite, Sericite, Argentite, "Ruby Silvers", Pyrite, Chalcopyrite, Galena, Naumantite, Arsenopyrite, Barite, Rhodochrosite, Rhodonite.

Alteration: Propylitic, Potassic, Argillic, Phyllic, Silicic. No hypegene (e.g. alunitic) alteration.

Others: Base metals increase with depth. Temperature of precipitation 240°-265°C. Samples of quartz veins with sulfides were collected from dumps.

* Naumantite is $(Ag_2Pb)Se$ of the argentite group.

MKB:0493b

TO: J. L. Walker

FROM: D. E. Ayres E. P. R.

SUBJECT: Nevada gold deposits field trip, March 1- 5, 1982.

This field trip was arranged by Fred Warnaars and Tony Greenish of the International Explorations Department. Max Boots of that department and Jean Lawler participated also. Visits were made and samples collected from the "Carlin-type" deposits at Cortez, Gold Acres and the Sterling Mine, a "porphyry" related deposit at Round Mountain, and an epithermal hot springs deposit at Borealis. Locations of these deposits are shown on the accompanying map.

Approximately 50 samples were collected, mainly from the Cortez, Sterling and Borealis deposits. These appear suitable for clay mineral and possibly fluid inclusion analysis. The Sterling mine, in view of its size, geological setting, ease of access and the interest shown by the staff, has potential for research studies on Carlin-type mineralogy and alteration.

Dean Ayres

D. E. Ayres

10 March, 1982

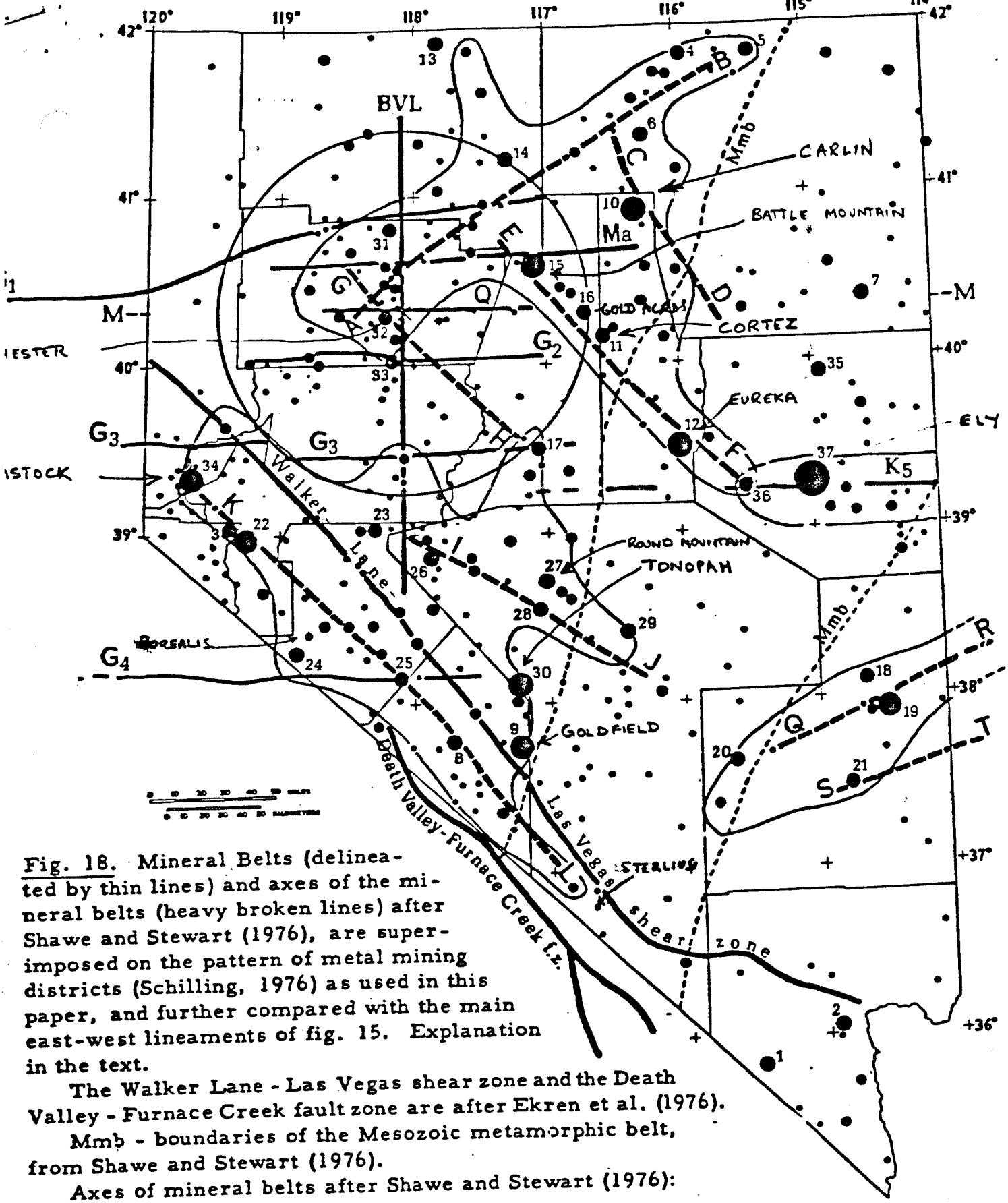

Fig. 18. Mineral Belts (delineated by thin lines) and axes of the mineral belts (heavy broken lines) after Shawe and Stewart (1976), are superimposed on the pattern of metal mining districts (Schilling, 1976) as used in this paper, and further compared with the main east-west lineaments of fig. 15. Explanation in the text.

The Walker Lane - Las Vegas shear zone and the Death Valley - Furnace Creek fault zone are after Ekren et al. (1976).

Mmb - boundaries of the Mesozoic metamorphic belt, from Shawe and Stewart (1976).

Axes of mineral belts after Shawe and Stewart (1976):

A - B : Shoshone - Jarbidge

(continued on next page)