

DESCRIPTIVE NOTES

GEOLOGICAL

The underlying consolidated rocks are quartzites, greenstone sills and lenses, and sericitic, chloritic, and graphitic schists. These form a large faulted anticline with its axis along the South McQuesten River Valley. The area has been severely glaciated on the lower levels and is in the permafrost region.

Lead-zinc-silver lodes occur in brecciated fault zones where these structures intersect thick-bedded quartzites and greenstone lenses. The lodes are of two general types: an early type containing quartz, pyrite and/or arsenopyrite with small amounts of galena and sphalerite, and a late type mineralized with siderite, galena, sphalerite, and freibergite (grey copper). Each type may occur separately, but most deposits exhibit the early lode type fractured and mineralized with minerals characteristic of the late lode type. The upper parts of nearly all lodes have been highly oxidized. The principal minerals in the oxidized zone are limonite, manganese oxides, cerussite, anglesite, malachite, and azurite.

GEOCHEMICAL

The field and laboratory methods used were those described by Boyle, Illsley, and Green (Geochemical Investigation of the Heavy Metal Content of the Stream and Spring Waters in the Keno Hill-Galena Hill Area, Yukon Territory; Geol. Surv., Canada, Bull. 32, 1955).

The results are expressed as total heavy metal (zinc, lead, copper) in parts per million. The principal heavy metal in the water is zinc. The temperature of the stream water varies from 5 to 10°C, and the pH varies from 5 to 8. Geochemical field work indicates that most of the lodes produce anomalies in the heavy metal content of the streams in their vicinity. Lodes not producing this effect are apparently not being oxidized owing to sealing by permafrost.

Most of the anomalies in the streams are centered on the favourable belt of quartzites that underlies parts of Galena Hill and Mount Haldane and contains the majority of the lead-zinc-silver lodes. North and south of this favourable belt of quartzites only scattered anomalies are present. From an exploration viewpoint the geochemical results suggest that detailed prospecting for lead-zinc-silver deposits should be concentrated along the favourable belt of quartzites, particularly on Mount Haldane and in the drift-covered area between this mountain and Galena Hill. A few anomalies occur north of Mount Haldane across the South McQuesten River. This area also merits investigation.

LEGEND

Concentration of heavy metal, 0.010 or greater ppm 0.05 ●
Concentration of heavy metal, less than 0.010 ppm 0.001 ○
Approximate location of known ore veins /
Mining properties 10

INDEX TO MINING PROPERTIES

- | | |
|------------------|---------------------|
| 1 Tin Can | 8 No Cash |
| 2 Bluebird | 9 Bermingham |
| 3 Yukeno | 10 Coral and Wigwag |
| 4 Mackeno | 11 Dixie |
| 5 Dragon | 12 Elsa |
| 6 Hector-Calumet | 13 Silver King |
| 7 Cream | 14 Lookout |

Field work by R.W. Boyle, E.L. Pekar and P.R. Patterson, July, August, 1955

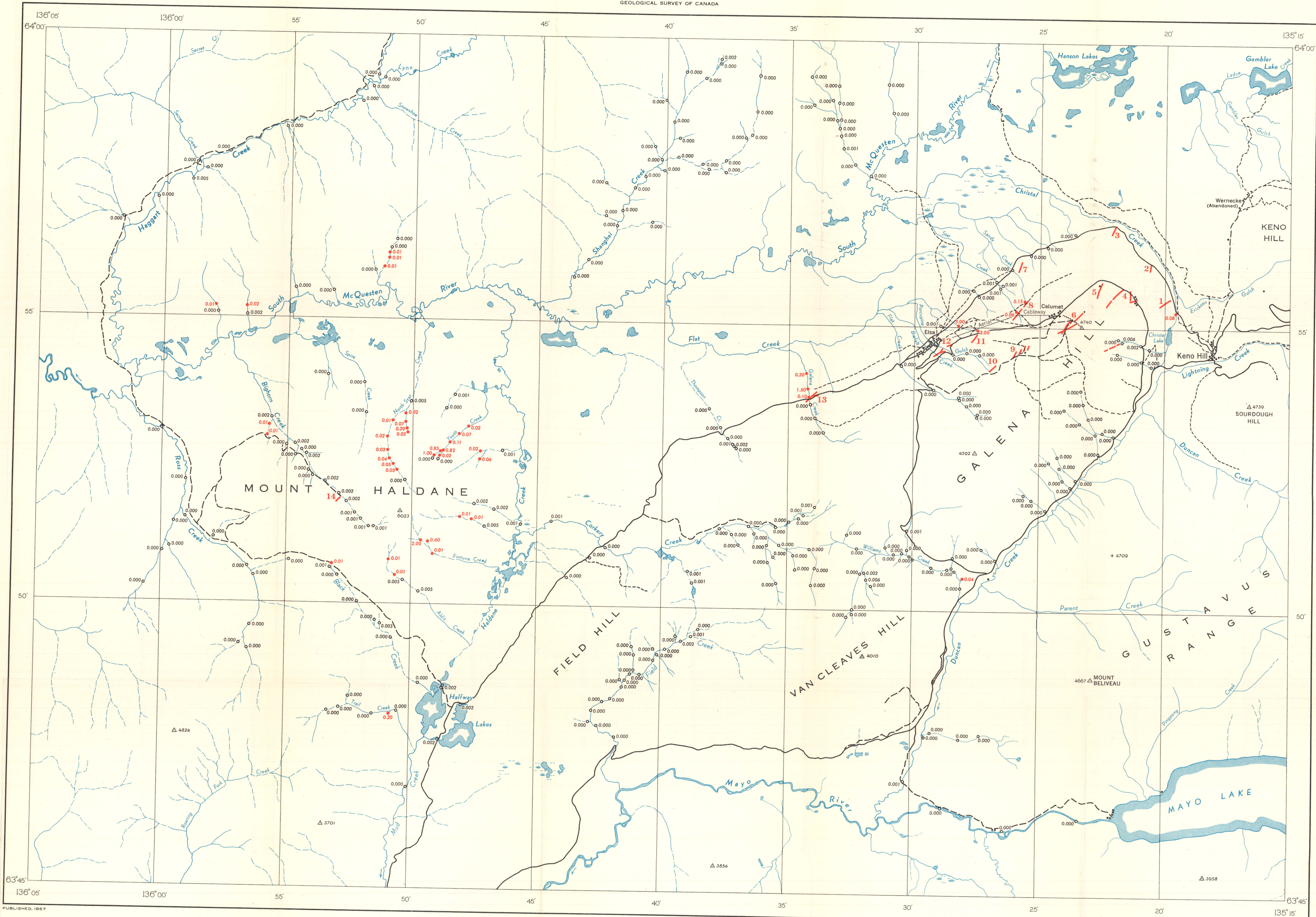
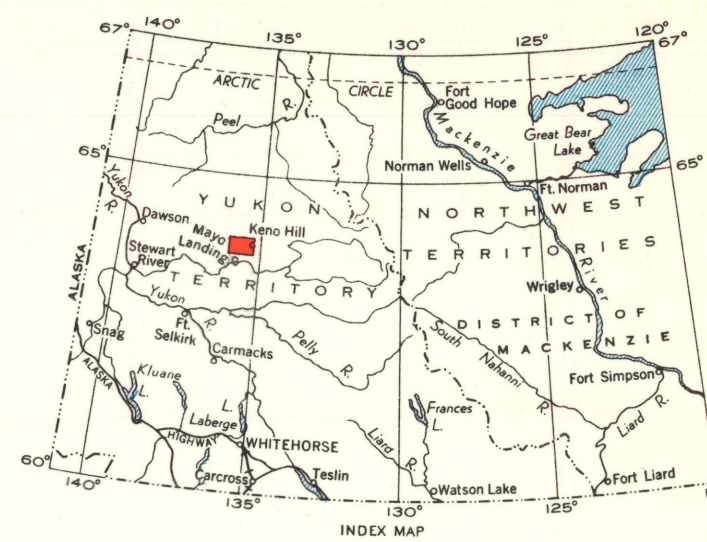
To accompany Bulletin 36

Main road
Other roads
Trail
Stream (intermittent)
Marsh
Horizontal control point Δ
Height in feet above mean sea-level 4740

Approximate magnetic declination, 34° 30' East

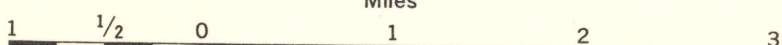
Cartography by the Geological Cartography Unit, 1956

Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario



MAP 1
Heavy Metal Content of Streams,
Galena Hill-Mt. Haldane Area,
Yukon Territory

Scale: One Inch to One Mile = $\frac{1}{63,360}$
Miles



Geographical names subject to revision

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