Canada
Department of Mines

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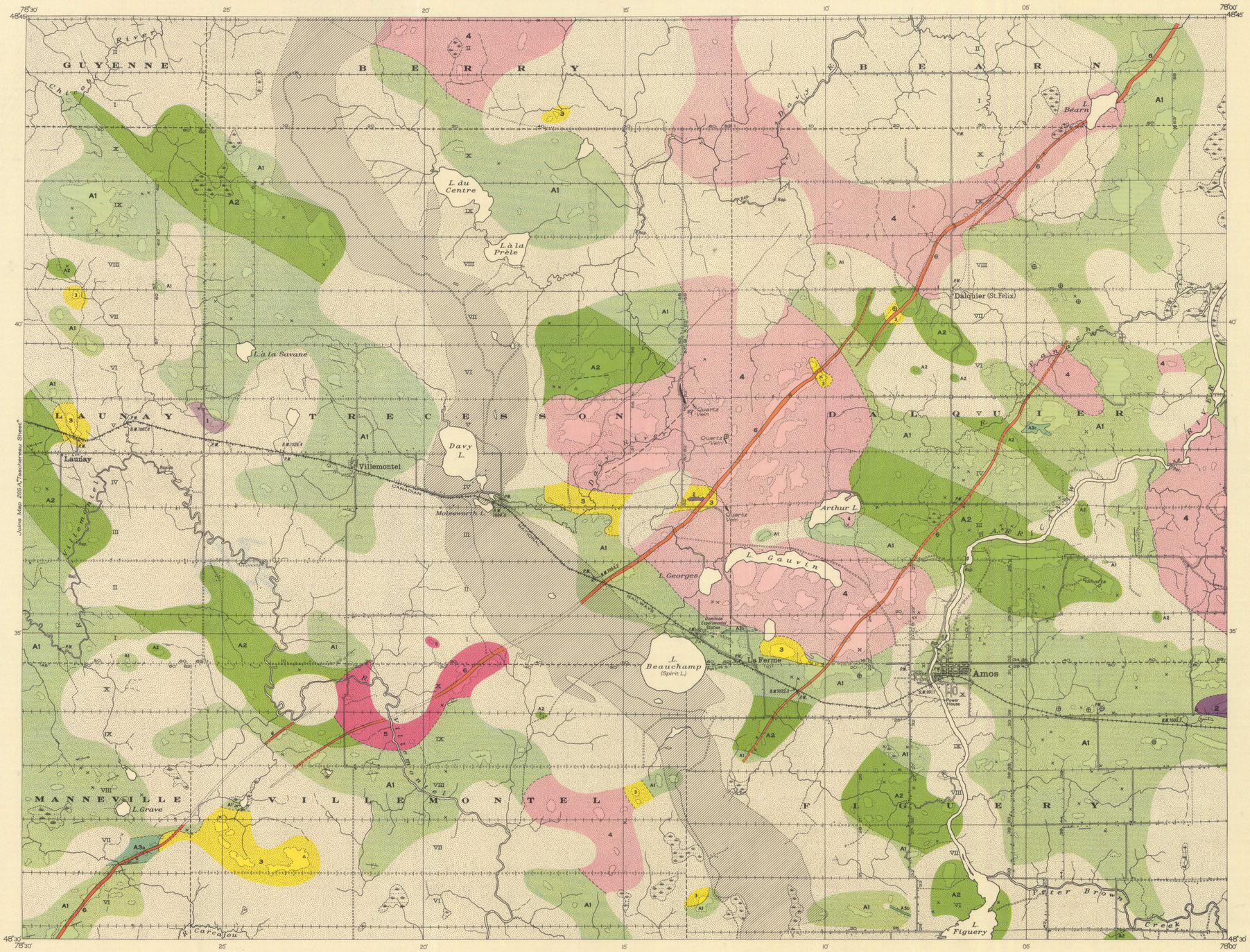


LEGEND

PRECAMBRIAN

POST-TIMISKAMING

- 6 — Olivine gabbro
- 5 — Quartz feldspar porphyry
- 4 — Granite
- 3 — Diorite; quartz diorite; meta-diorite
- 2 — Amphibolite
- 1 — Peridotite

KEEWATIN

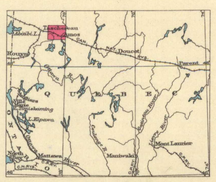
- A3 — A3a, Greywacke, conglomerate; A3b, argillite; A3c, chert
- A2 — Breccia, tuff, acid extrusive rocks
- A1 — Basic extrusive rocks, largely andesites

Symbols

- ⊕ — Indicates the presence of minor basic intrusive rocks usually basic porphyry or lamprophyre
- Quartz vein
- Drift covered areas (chiefly clay) in which bedrock outcrops are few or lacking. x = Small rock outcrops
- Sand, with some glacial drift

Geological boundary (defined)
Geological boundary (approximate)
Geological boundary (assumed)
Bedding (dip uncertain; inclined)
Schistosity (dip uncertain; vertical)
Fault (assumed)
Prospect

Geology by L. J. Weeks, 1933, 1934



TRUE NORTH
MAG. NORTH

Approximate magnetic declination, 14° West

MAP 327A
(PUBLICATION NO. 2403)

AMOS SHEET

ABITIBI COUNTY

QUEBEC

Scale, 63,360 or 1 Inch to 1 Mile

Miles: 1, ½, 0, 1, 2, 3

Kilometres: 1, 0, 1, 2, 3, 4, 5

Legend

- Road and buildings
- Road not well travelled
- Road along township boundary
- Bush road, trail or portage
- Railway
- Church
- School
- Post Office
- Triangulation station
- Township boundary
- Power line
- Power line (along railway)
- Permanent reference mark — P.R.
- Bench-mark — B.M. 1135.3
- Rapid or fall
- Marsh

Surveys by Topographical Division, Bureau of Economic Geology, Department of Mines, and the Department of Lands and Forests, Quebec. Compilation of aerial photographs supplied by the Topographical and Air Survey Bureau, Department of the Interior. Bench-marks by the Geodetic Survey of Canada.

PHYSICAL FEATURES

Through a mantle of clay, of most monotonous regularity, rock outcrops project to varying heights up to about four hundred feet. The elevation of the clay surface varies slightly from a little below, to a little above, one thousand feet above sea level. Traversing the middle of the map-area, and trending a little east of south, is a belt of sand ridges with some gravel, varying in width from one half mile to over two miles. Whereas areas underlain by clay are covered with thick growths of soft woods and large quantities of alder, the sand areas have very light arboreal growth, consisting mostly of jackpine and small poplars. The sand areas are generally higher than the surface of the clay, and very few rock outcrops project above its surface.

With the exception of northern and southwestern parts, the area is generally settled, and considerable land is cleared for agriculture.

GENERAL GEOLOGY

The so-called Keewatin rocks consist of extrusives, tuffs, breccias, and some sediments. Acid extrusives, chiefly rhyolite, together with breccia and tuff, form three bands (A2) traversing the area in a direction south of east. Flows and flow breccias are minor constituents of these bands, but are widely distributed along them. Tuffs, now altered to sericite schists, are exposed over large parts of the bands, particularly in the southeastern part of Dalquier township. Breccias are also widely distributed, and are particularly well exposed south of Amos, along the La Motte road and west thereof. The basic volcanics (A1) are largely andesitic flows, usually showing a well developed, but often distorted, pillow structure. All dips of these rocks shown on the map indicate attitudes of tops of the pillows, which may not correspond to the dips of the flows.

The two northern bands of acidic volcanics (A2) may unite in southeastern Dalquier township. If they do, their distribution would indicate that they mark the limbs of a fold and that the acidic rocks are overlain and underlain by basic extrusives. The dips of the rocks on both sides of the acidic band in northern Villemontel township suggest that the acidic rocks there occupy a synclinal trough.

Minor belts of sediments (A3) occur with the volcanic rocks at numerous localities, and the larger of these are shown on the map. Those indicated as A3b and A3c are bands of argillite or of chert that appear to be quite conformable with the surrounding rocks and probably represent short periods of local sedimentation during a period of predominant volcanic activity. In range 7 of Manneville township, a belt of sedimentary rocks, (A3a), mostly greywacke with small amounts of conglomerate, strikes south of west. A short distance to the south, and extending southward several miles, are exposures of pillow lavas that have the same strike and dip to the south, thus apparently overlying the sediments. No evidence of the attitudes of the volcanic rocks to the north of the sediments was obtained.

The intrusive rocks constitute six groups all younger than the volcanic rocks, but whose relative ages are only imperfectly known. Peridotite (1) largely altered to serpentine forms one body, and is younger than the neighboring basic volcanics. Possibly the peridotite antedates the other intrusives, but evidence is lacking. Amphibolite (2) forms two small masses, one of which is surrounded by diorite. The age of the amphibolite relative to the diorite is unknown.

Rocks of the dioritic group (3) exhibit great variations in texture, and a considerable range in composition. The small masses in ranges 6 and 7 of Manneville and Villemontel, in range 7 of Dalquier, and in range 5 of Launay townships, are of a fine-grained quartz diorite. A much coarser quartz diorite outcrops in range 6 Figuery township, near the Villemontel line. This mass and another outcropping nearly two miles northwest of it are alike except that the dark coloured minerals are more abundant in the northwestern occurrence; the two are possibly parts of one body. The large area of diorite extending along the highway from one mile east of Davy lake to the Dalquier township line lacks quartz and most of the feldspar has been replaced by sericite and chlorite. The small body lying south of L. Gauvin and east of La Ferme is of the same type, but chlorite is more abundant. Coarse quartz diorite resembling that outcropping in Figuery township occurs surrounded by granite in range 6 Dalquier township. Relations with the granite are unknown. A small mass in range 1 Berry township is possibly a border phase of the granite mass to the north. The diorite in Trecesson township is, in lots 59, ranges 3 and 4, cut by granite and, therefore, most if not all the dioritic bodies are presumably older than the granite.

The granite (4) bodies exhibit variations in texture and composition but all so far as known consist of quartz, orthoclase, hornblende, biotite and very small amounts of plagioclase feldspar. The greatest compositional variation is exhibited by the quartz, which varies in amount from at least as low as 12% to 50% or more. The small body in ranges 7 and 8 of Villemontel township is finer in grain than the other granites and in places possesses a texture verging on the porphyritic.

The quartz feldspar porphyry (5) is very light coloured and practically lacks dark minerals. It is essentially composed of small phenocrysts of quartz orthoclase and plagioclase lying in a usually aphanitic groundmass of the same minerals. In one locality the rock is sufficiently coarse-grained that the individual grains of the groundmass are plainly distinguishable to the unaided eye.

Two dykes of olivine gabbro (6) traverse the area. The more northerly is peculiar in that it ends at least three times to recur with a considerable overlap to the right of its former course. The rock in both dykes consists essentially of labradorite and olivine.

MINERAL DEPOSITS

No important mineral discoveries had been made in Amos area prior to October 1934.

The property of Jay Copper-Gold Mines, Ltd., is located in lots 42 and 43, range 2, Dalquier township. A shaft has been sunk 618 feet with levels at 300, 400 and 500 feet. Underground work ceased in 1929. A line of cross trenches extending east and west from the shaft are now filled with debris. One of these 200 yards west of the shaft still shows on its sides a much weathered, mineralized belt ten feet wide, having a sharp contact on the north with sheared sericite schist. The rock of this belt is weathered to a light buff on the planes of shearing, and to a deep purple where broken across these planes. Mineralization where found unaltered, consists of pyrite. Pieces from the dump showed the mineralization in depth to consist of pyrite and chalcopyrite. What is apparently another mineralized zone has been cross-trenched 125 feet south of the shaft. These trenches, like those in line with the shaft are filled with debris.

The property of North Country Mines, Ltd. is situated about one half mile west of the Jay property and the mineral occurrence is essentially similar. An old shaft was sunk in 1916 and some ore shipped. In 1928 a second shaft was sunk about 100 feet north of the old shaft. The second shaft is 115 feet deep and 150 feet of lateral work was done at the 100-foot level before work was discontinued in 1928.

Caved trenches in shear zones in sericite schist occur about one mile west of this property. The only mineral observed was pyrite.

The Cossette-Maguire prospect in lot 56, range 6, Trecesson township consists of a quartz vein in granite and is well exposed for a length of 212 feet. The vein strikes north-northeast, apparently follows a shear zone, and is faulted seven times in this distance. It varies in width from an inch or so to five feet. On the west side of the vein is a narrow body of chlorite schist three feet wide at one place. The vein is said to carry some gold.

Since the completion of work, gold is reported to have been discovered in range 9, Dalquier township.