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MINING PROPERTIES AND DEVELOPMENT IN ABITIBI AND TEMISCAMINGUE COUNTIES DURING 1948 AND 1949

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PROVINCE OF QUEBEC, CANADA
DEPARTMENT OF MINES
MINERAL DEPOSITS BRANCH

MINING PROPERTIES AND DEVELOPMENT
IN ABITIBI AND
TÉMISCAMINGUE COUNTIES
DURING 1948 AND 1949

BY

J. CLAVEAU, W. N. INGHAM
AND W. G. ROBINSON



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MINING PROPERTIES AND DEVELOPMENT
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I N T R O D U C T I O N

The mining properties described in this report were examined during the 1948 and 1949 field seasons. Examinations were made by J. Claveau, W.N. Ingham and W.G. Robinson. The author's initials, together with the year in which the examination was made, appear at the end of the description of each property. If the same property was visited more than once, the more recent report only is published. However, all reports are on file at the Mineral Deposits Branch of the Quebec Department of Mines.

The work was confined to prospects and properties in the early stages of exploration, no attempt being made to record new developments at producing mines. Names of companies and descriptions of their holdings were correct at the date of the inspection, but may change subsequently. The wholehearted cooperation of company officials, geologists, engineers and prospectors in charge of operations at the properties is gratefully acknowledged.

Published maps and reports of the Geological Survey of Canada and of the Quebec Department of Mines, as well as plans, drill logs and reports of the various mining companies have been consulted in the preparation of this report. References to published information on the property or the area are given at the beginning of the description of each property. These often contain additional or more detailed information, especially as regards early exploration.

Assay results, unless otherwise stated, have been obtained from company records. Samples taken by the writers were all assayed in the laboratories of the Quebec Department of Mines. Gold values, when reported in dollars, are based on the gold price of \$35.00 per ounce.

BEAUCHASTEL TOWNSHIP

Beau Rand Gold Mines, Ltd.

Ref.: Que. Bur. Mines, Map No. 492, Halliwell Mine Area. (1940)
Que. Bur. Mines, Map No. 510, Flavrian Lake Area. (1941)
Que. Dept. Mines, Map. No. 617, Pt. of Beauchastel. (1947)

Beau Rand Gold Mines Ltd. holds a group of 8 claims in the northwest quarter of Beauchastel township. These comprise lots 21 to 24, range VIII, and lot 21 and part of lots 22 to 24 of range IX. Near access to the property is provided by a motor road which extends westward along the VIII-IX range-line to lot 29.

The claims are underlain predominantly by acidic volcanic beds which trend easterly, face south, and dip steeply south. The volcanic rocks have been intruded by several bodies of quartz diorite and by small bodies of quartz and feldspar porphyry.

In 1946, 4 diamond-drill holes totalling 969 feet were directed to explore a small body of feldspar porphyry in the central part of lot 24, range IX. Quartz veins with pyrite were intersected. Gold assays were low.

In the winter of 1947-48, 3 exploratory holes were drilled. Hole No. 5 was collared near the southeast corner of lot 24, range VIII, and was directed to the northwest to probe for a westerly trending fault which was believed to underlie the southern edge of the property. The hole penetrated andesite and rhyolite and had 250 feet of badly broken core indicating a major shatter zone. Sections of the core had quartz stringers and pyrite. Assays for gold gave nil and trace. The same fault was cut by drill holes on the adjacent property in the northern parts of lots 21 and 22 of range VII, and it is believed to underlie a depression that can be traced westward for two miles. Along the western projection of the fault a diabase dike in lot 13, range VII, has an apparent displacement indicating that the fault had a right-hand strike separation of about 800 feet.

Holes 6 and 7 were collared near the northern boundary of the property, in lot 26, range IX. They were directed northwest to probe for extensions of northerly trending zones with gold and molybdenite that had been explored on claims to the north. Both holes penetrated lightly chloritized rhyolite and had short sections of broken core that might represent faults. A section of the core with quartz and pyrite assayed 0.09 ounces of gold per ton across 5 feet.

Mr. E. Loring supervised the recent drilling. (W.G.R.-48)

BEAUCHASTEL TOWNSHIP

Belkor Mines, Ltd.

Ref.: Que. Dept. Mines, Geol. Rept. 13, p. 16.

Belkor Mines Ltd. has a group of mining claims in Beauchastel township comprising parts of lots 25 to 31 of ranges IX and X. The claims are numbered R.22240-49. The property was formerly held by Benkor Mines, Ltd. The motor road to Quesabe Mines crosses the northeast corner of the property.

The claims are underlain by a part of the Flavrian lake mass of granite. The granite has been intruded by a few diorite dikes. During 1949 exploratory work was done along a shear or fracture zone in the granite. This zone is exposed for about 30 feet in a trench on lot 29, range IX, about 1,400 feet south of the IX-X range-line. This zone is about a foot wide, strikes south of east, and has a few quartz stringers and some coarse pyrite. Other trenches along the strike of the zone were filled with water at the time that the property was examined.

Four diamond-drill holes were put down to probe this zone along a length of 200 feet. The holes cut granite with a few dioritic and rhyolitic dikes. The first 3 holes cut veins of white quartz, and 3 of these gave assays for gold of \$2.10 across 4 feet, \$5.60 across 5 feet, and \$4.90 across 2 feet, respectively.

The exploration was directed by J.F.B. Davies (W.G.R. - 49)

BEAUCHASTEL TOWNSHIP

Caron Malartic Gold Mines, Ltd.

Ref.: Que. Dept. Mines, Map No. 617 Pt. of Beauchastel Township (1947)

The property of Caron Malartic Gold Mines Ltd. in Beauchastel township comprises lots 5 to 7, the south half of lot 4, and the north half of lot 8, range X; lots 6 to 8, range IX; lots 2 to 6 and the north half of lots 7 to 10, range VIII. A wagon road from Antfield mine extends northerly across part of the property.

The claims are underlain by andesite with minor amounts of rhyolite. These have been intruded by a band of diorite, 2,000 feet in width, which trends north-south. Both the diorite and the volcanic rocks have been cut by the northwesterly-trending Aldermac diabase dike. Structural determinations indicate that most of the flows strike easterly and have tops south. Local determinations in lot 8, range VIII gave northerly strikes with tops east.

A northeasterly trending shear has been explored on adjacent claims on lots 1 and 2 of range X. The projected extension of this shear would cross the northwest corner of the Caron Malartic property. A northeasterly trending quartz vein, up to 130 feet wide outcrops on lots 7 and 8, range IX. The vein is believed to be an extension of the Quesabe Break in Duprat township.

Near the central part of lots 7 and 8, range VIII, surface work has been done on some small quartz veins in andesite adjacent to a northerly trending fault. The veins have a drag fold that indicates a right-hand movement on the fault. A vein on the east side of the fault has been stripped for 30 feet. It has a maximum width of 10 inches and an average width of 2 inches. It strikes N.45°E. and dips 70° southeast. A similar vein is exposed 70 feet to the north along the west side of the fault. It strikes N.55° E., dips steeply southeast, has a maximum width of 30 inches and averages 8 inches in width. Both veins have pyrite and a little molybdenite and are reported to give low assays in gold.

Some work has been done on another quartz vein in the northerly part of lot 7, range VIII. The vein occurs in the diorite near the contact with the volcanic rocks. It strikes N.30° E., and dips steeply to the east. Pyrite, chalcopyrite and galena occur in the vein. Two diamond-drill holes, 300 feet apart, were drilled easterly under the vein. Hole No. 1 cut two quartz veins in diorite that assayed respectively 7 per cent lead and 5 ounces of silver per ton across 1 foot, and 3.3 per cent lead and 2 ounces of silver across 6 inches. Hole No. 2 cut a three-inch quartz stringer that assayed 4.8 per cent lead and 11.5 ounces of silver per ton.

In the northern part of lot 8, range VIII, a rusty zone about 3,000 square feet in area occurs in pillowed porphyritic andesite. The zone has white stains that may have been derived from zinc minerals. There is also disseminated pyrite, with some concentrations along pillow margins. Diamond-drill hole No. 3 was put down adjacent to the eastern edge of this zone. It was drilled vertically to a depth of 635 feet but did not intersect any formation equivalent to the surface zone.

Magnetometer and Self Potential geophysical surveys were made of parts of the property by Koulomzine, Geoffroy and Co. The diamond drilling was directed by P.R. Geoffroy. (W.G.R. - 49)

BEAUCHASTEL TOWNSHIP

Elder Mines, Ltd.

Ref: Que. Dept. Mines, Min. Ind. 1944, p. 75; 1945,
pp. 71, 72, 76; 1946, p. 54; 1947, p. 61.
Que. Dept. Mines, P.R. No. 205, Pt. 1, pp. 7-10; No. 227,
pp. 14-15.

Geol. Surv. Can., Prel. Map 41-7A, Northeast Part of
Beauchastel Township.

Elder Mines Ltd. has a mining property that occupies parts of range I Duprat township, and of ranges IX and X, Beauchastel Township. The claims in Duprat are numbered R.12490-93 and C.33539, claims 4 and 5, and the Beauchastel holdings comprise Mining Concession No. 363; and claims R.15967; R.15971; R.15972; R.15976; C.4559, claims 1 to 5; C.5069, claims 1; C.7393; claims 1 and 2; C.7397, claims 1 to 4 and C.7398 claims 1 to 4. A motor road to the mine branches north from the Rouyn - Arntfield highway at the village of Evain.

Early exploratory work on the property was done by O'Leary Malartic Mines Ltd. and by the Teck-Hughes Gold Mines Ltd. Elder Mines Ltd. acquired the property in 1944 and explored it extensively by diamond drilling. An inclined shaft was started in 1946 and the principal vein has subsequently been developed on 6 levels spaced at vertical intervals of 135 feet. Ore shipments commenced in 1946 to the Noranda smelter. Gold production to the end of 1949 totalled 35,615 ounces from 270,096 tons treated. During 1949, 15,109 ounces of gold was extracted from 109,759 tons of ore. The ore averages about 75 per cent silica.

The veins being exploited on this property occur in part of the Flavrian lake granite mass. In places the granite is reddish, elsewhere it is grey, and in some parts it resembles diorite. This variation in appearance is probably due to the partial assimilation of inclusions of older rocks. The mine workings are about 1 mile from the eastern margin of the granite. This is significant to prospectors as it contradicts the popular belief that the interior of granitic masses is an unfavorable place to seek gold deposits. West of the mine workings the granite has been intruded by a northerly trending diabase dike.

A number of veins have been partially explored by diamond-drill holes and underground workings, but to the present nearly all of the production has come from the No. 1 vein. The strike of this vein is N. 57° E. on the first level but it is more nearly east-west on the bottom levels. On the first two levels the dike is 32° southeast, but at depth it flattens to about 15°. The principal ore shoot is about 450 feet long and rakes west at 40°. The vein pinches and swells, but the average width of the stopes is about 9 feet. The orebody consists of a highly silicified zone in the granite cut by veinlets of white and bluish quartz. Pyrite is the predominant metallic mineral with lesser amounts of specularite, chalcopyrite, galena, and molybdenite. Vugs, lined with crystals of quartz and pyrite, are quite common. Free gold occurs in fine fractures in the bluish quartz.

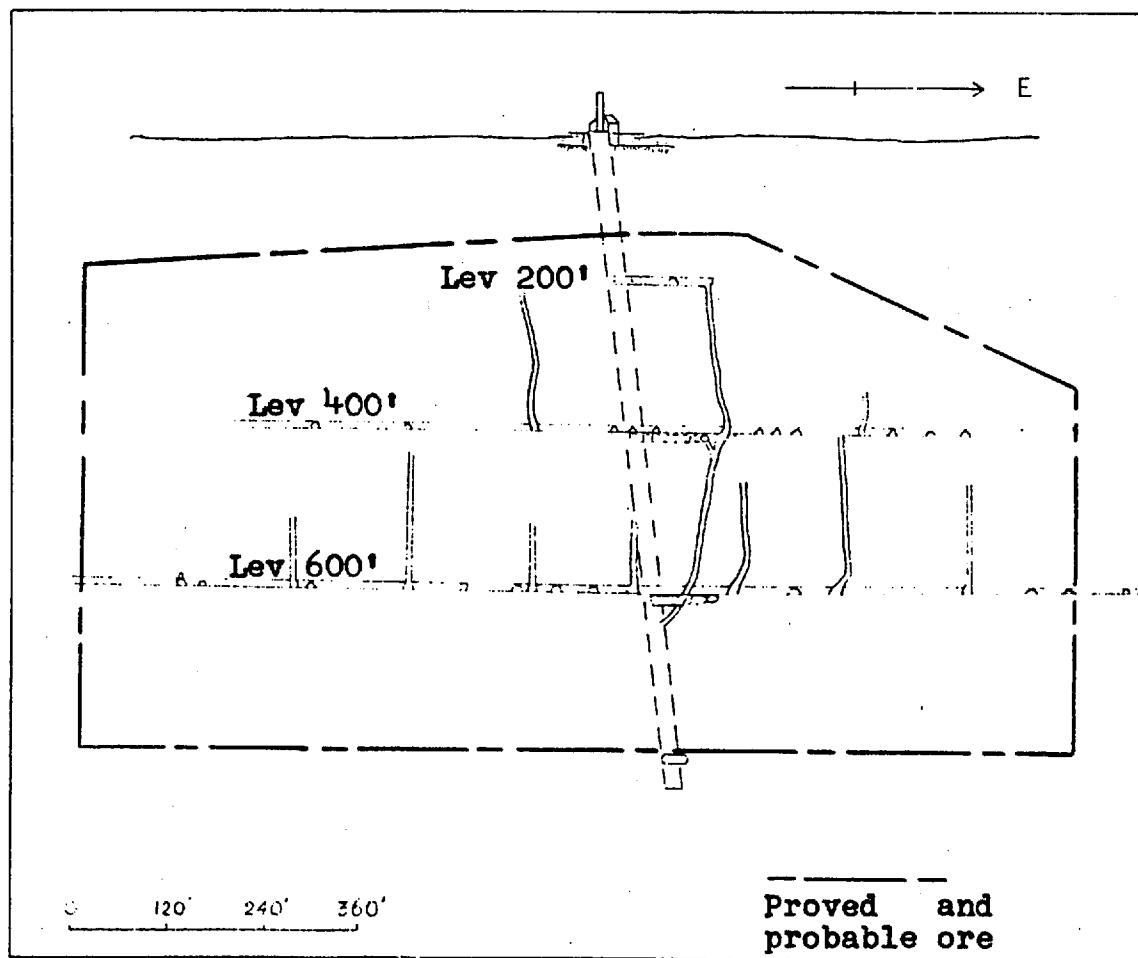


Fig. 2 Lake Wasa Mining Corporation, Limited.
 Longitudinal section in the plane
 of the Wasa shear, showing the
 underground workings and the proved
 and probable ore.
 (Copied from company records)

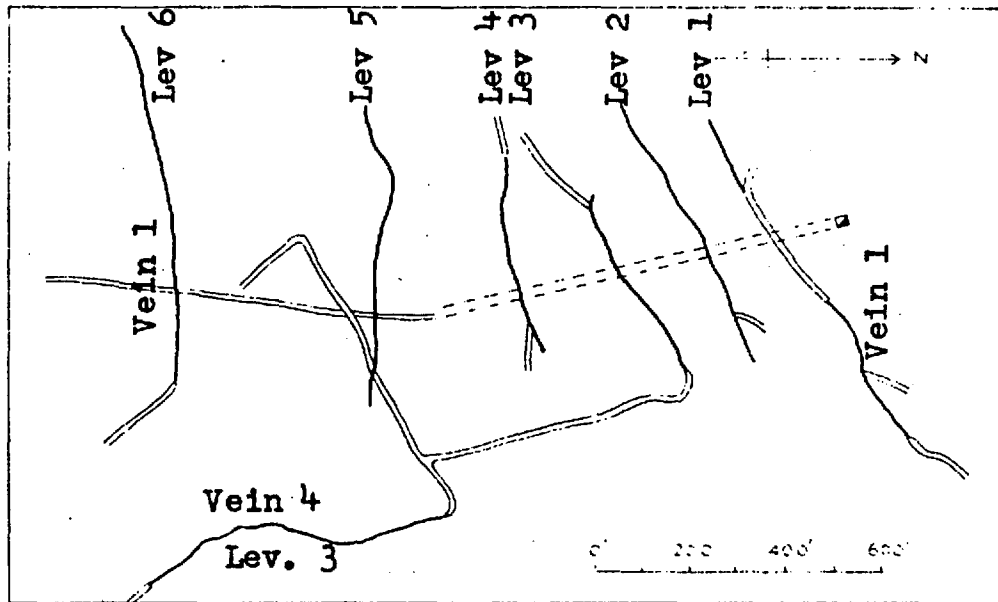


Fig. 1-A Elder Mines: Composite plan of the veins and the underground workings

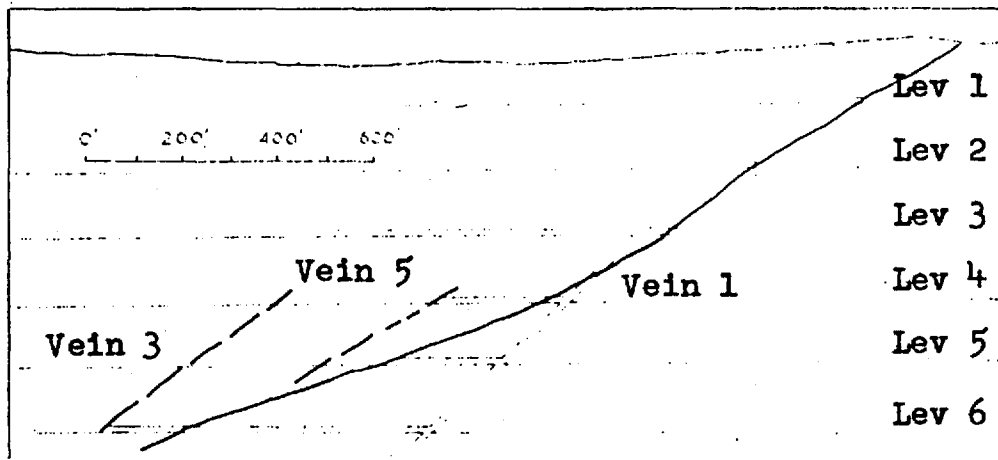


Fig. 1-B Elder Mines: X-section through the veins and underground workings

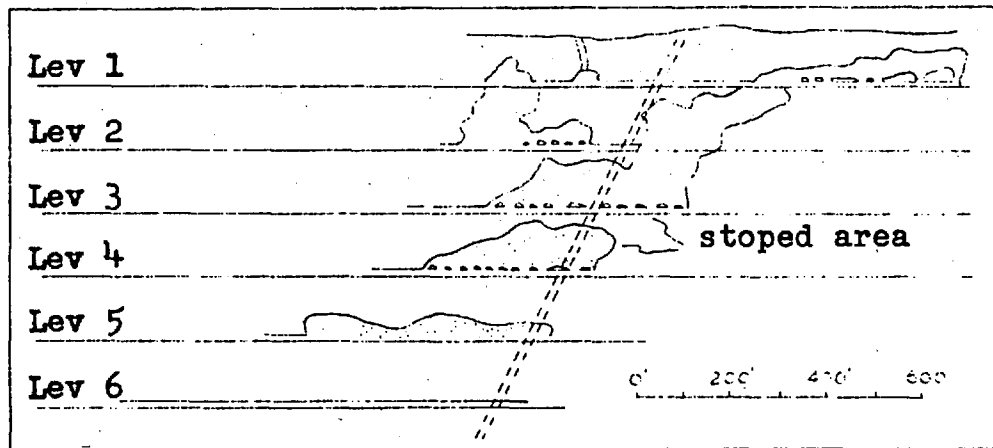


Fig. 1-C Elder Mines: Longitudinal section in the plane of vein No 1

(Copied from company records)

Most of the developed ore from the first four levels has been extracted. On the fifth level ore has been developed over a length of 500 feet and stoping is in progress. Recent work on this level indicates that there may be more ore east of the present workings and suggests the possibility of additional ore in corresponding portions of the upper levels. Drifting is in progress on the sixth level. In the west drift on this level the vein follows a basic dike. The dike shows evidence of considerable shearing and may cause unfavorable dilution. Ore reserves at the end of 1949 were reported to be 259,450 tons.

The No. 3 vein is roughly parallel to the No. 1 vein but converges toward it on the bottom level. On the third level the two veins are about 130 feet apart. The No. 3 vein is accompanied by a strong mud seam, but otherwise resembles the No. 1 vein. About 650 feet of drifting was done along this vein on the third level. Some ore was extracted but the tenor was found to be below the mine average.

The crosscut on the fifth level intersected another vein (No. 5) between the No. 1 and No. 3 veins and parallel to them. This vein has been explored by a small amount of drifting.

The No. 4 vein is east of the other veins. It strikes N 10° W. and dips 35° east. It has been explored by surface drill holes and partially developed by 700 feet of drifting on the third level. It resembles the No. 1 vein but is narrower and shows less evidence of shearing. Some 2,000 tons of ore extracted from this vein averaged 0.10 ounces of gold per ton.

The southern part of the property was formerly held and explored by Elderidge Gold Mines Ltd. A quartz vein in the southern part of lots 48 and 49, range X, Beauchastel township, was explored with drill holes for a length of 700 feet. The vein strikes easterly and dips 35° south. Assays from the intersections indicated an erratic distribution of gold. (W.G.R.- 49)

BEAUCHASTEL TOWNSHIP

Gan Copper Mines, Ltd.

Ref.: Que. Bur. Mines, Min. Oper. 1928, p. 71.
Que. Bur. Mines, Ann. Rept., 1929, Pt. A, P. 101.
Que. Dept. Mines, Geol. Rept. 30, p. 17.
Que. Dept. Mines, Min. Ind. 1941, p. 36.
Que. Dept. Mines, P.R. No. 227, pp. 15-16.

Gan Copper Mines Ltd. has a mining property in Beauchastel township comprising the north half lots 10 and 11, range VI; lots 11 and 12, the south half lots 7 to 10, and the northern part of lots 13 to 16, range VII; and lots 11 and 12, range VIII. The claims are numbered R.27616-20; R.41247-50; C.1166, claims 1 and 2; C.3620, claims 1 and 2; C.3630, claims 1 and 2; C.5121, claims 2 to 5; and C.7405, claims 1 to 4. They can be reached by a wagon road that extends northwestward from the old Aldermac shaft.

This property has been explored periodically since 1929. Most of the previous work was concentrated on an area of highly altered volcanic rocks in the eastern claims. This exploration has been described in published reports. In the winter of 1948-49, Denison Nickel Mines Ltd. financed a new programme of diamond drilling. Two holes were drilled in the eastern area and the remainder of the work was done in the hitherto unexplored western part of the property.

A band of diorite up to 1500 feet wide trends westerly across the property. On lots 7 to 10, range VII, a few scattered outcrops of acidic flows and breccias are exposed in an embayment of the southern contact of the diorite. Some of these outcrops have been chloritized and contain disseminated sulphides. An electrical geophysical survey of the western claims indicated a zone of low resistivity along this contact area. Twenty-two diamond-drill holes were put down to explore this zone and the adjacent areas. The holes intersected diorites rhyolites and acidic breccias. In places these rocks were chloritized and contained small amounts of pyrite, chalcopyrite and sphalerite, but no sulphide bodies of commercial importance were encountered.

Mr. George Salton directed the exploration. (W.G.R. -49)

BEAUCHASTEL TOWNSHIP

Lake Wasa Mining Corporation.

Ref.: Que. Bur. Mines, Min. Ind. 1937, p. 52; 1938, p. 56;
1944, p. 72; 1945, p. 77.
Que. Dept. Mines, P.R. No. 190, Pt. 1, pp. 11-14.
Que. Bur. Mines, Geol. Rept. No. 5, pp. 18-19.
Geol. Surv. Can., Prel. Map 45-17A. Western Beauchastel Township.
C.I.M.M., Structural Geology of Canadian Ore Deposits, pp. 730-734.

Lake Wasa Mining Corporation has a property in ranges IV, V, and VI of Beauchastel township comprising Mining Concessions No. 349 and 364. A motor road extends for three-quarters of a mile from the shaft area north of the Arntfield-Rouyn highway.

The property is underlain by acidic and basic volcanic rocks intruded by minor bodies of quartz diorite and by dikes of quartz porphyry and feldspar porphyry. The Wasa shear zone trends easterly across the central part of the property. It strikes N. 85° E., dips 50° north and averages about 150 feet in width. West of the property the shear merges with the Horne creek fault, while to the east it has been traced across the claims of the Wingait Gold Mines Ltd. and may be represented still farther east by a gold-bearing shear on the old Abbeville Gold Mines Ltd. property. The rocks are predominantly andesites on the south side of the shear and rhyolites on the north. Within the shear the rocks have been sericitized, chloritized, carbonatized, silicified and pyritized and rendered quite schistose. Pyroclastics can be recognized in places, but in most of the zone the primary characteristics of the rocks have been obscured.

The original discovery on the property was made in 1937,

at a point about 800 feet south of the present main shaft. La Mine d'Or Champlain Ltée acquired the claims and explored this area with trenches, diamond-drill holes and underground workings on the 200-foot level. Auriferous quartz-pyrite bodies were found in and near a diorite intrusive in andesite but the bodies were not considered sufficiently extensive to be mined.

In 1943 Wasa Lake Gold Mines Ltd. acquired the claims and started exploratory diamond drilling. The first hole cut the Wasa shear and subsequent holes traced this structure across the property. Two principal gold-bearing zones were outlined in the eastern and central parts of the shear respectively. In general, the gold was found to be associated with the silicified parts of the shear, but some ore was indicated in highly chloritic rocks.

A three-compartment inclined shaft was sunk about 300 feet south of the central ore bodies and four levels were established at vertical intervals of 200 feet. On the 200-foot level, crosscuts were driven north to the shear and south to connect with the old No. 1 shaft workings, but no development work was done on the main ore zone. On the 400- and 600-foot levels the central ore bodies were developed by scum drifts, lateral drill holes and raises. A station was cut on the 800-foot level and 3 holes fanned out to probe the ore horizon. The results were quite encouraging. The company reports an average of 0.142 ounces of gold per ton over a width of 28.3 feet and a length of 990 feet on the 400-foot level and an average of 0.152 ounces over a width of 31 feet and a length of 1,300 feet on the 600-foot level. The following conclusions are quoted from the company's annual report for 1947:

"There can now be little doubt about the presence in the Main Ore Zone of ample ore to support a 1,000-ton operation for several years and it is reasonable to expect that the Wasa Zone will be ore-bearing to depths much greater than the deepest so far tested.

"If stopes are laid out within the limits outlined in brown on the plans, close to 2,000,000 tons should be mined from the Main Ore Zone in the first 800 feet of vertical depth. The average grade indicated is \$5.25, the average recovery - \$5.00. By more selective mining than here contemplated, the average grade recovered could be raised, but the tonnage should be reduced substantially. The average horizontal width of ore in the zone should be around 30 feet, the average horizontal stope width 25.5 feet and the true thickness 20 feet. Dips range from 45° to 57°, averaging 50°.

"Substantial quantities of ore in addition to the above have been indicated by drilling in the Wasa shear zone at 1,000 feet to the east and in the Southern Zone at 1,000 feet to the south of the Wasa Zone."

Underground operations were suspended in 1948. The mine was managed by J.W. Mackenzie, J.E. Gill and E.A. Hart acted as consulting and mine geologists, respectively. (W.G.R. - 48)

BEAUCHASTEL TOWNSHIP

Ribago Rouyn Mines, Ltd.

Ref.: Que. Bur. Mines, Min. Operations, 1927, pp. 96-97.
Que. Bur. Mines, Min. Ind. 1937, p.53.
Que. Bur. Mines, P.R. No. 135, pp. 13-14.
Geol. Surv. Can. Prel. Map 41-7A Northeast Part of Beauchastel Township.

The Ribago Rouyn property is in ranges IX and X of Beauchastel and Rouyn townships and comprises Blocks 101-110, 157, and 158. A wagon road extends to the property from the eastern end of the motor road along the IX-X range-line in Beauchastel township.

The southern part of the property is underlain by grey dacites or rhyolites and the remainder by andesites. The flows strike north-east and have their tops to the southeast. A few structural determinations suggest that they dip about 45° to the southeast.

Early work on the property was done by Ribago Copper Corporation Ltd. and by New Ribago Mines Ltd. In 1927, a zone of disseminated sulphides in Block 105 was explored by underground workings. A shaft was excavated to 147 feet and 161 feet of lateral work completed on the 125-foot level. Four flat holes drilled from this level encountered zones with scattered chalcopyrite.

In 1937 and 1938 a number of northeasterly-trending quartz veins were explored with trenches and drill holes. One of these, in the northern part of Block 108, had considerable pyrite, pyrrhotite, chalcopyrite, and small amounts of gold. Assays from surface samples are reported to have indicated that the vein averaged about 3 per cent copper across 4.3 feet. Eleven additional drill holes were directed under the vein.

Further diamond drilling was done in 1946. A hole was collared near the northern part of Block 109 and drilled vertically to a depth of 2,016 feet. It penetrated basic volcanic flows and at 1,361 feet cut a mineralized zone 19.1 feet wide that averaged 1.4 per cent copper. The copper occurred as scattered chalcopyrite that may have been deposited in the interstitial material between pillows. A second hole was collared in the northwest part of Block 106 and drilled vertically to 1,364 feet. The first 700 feet traversed was volcanic formations and the remainder was largely granite.

In 1949 it was decided to explore for extensions of the copper-bearing zone intersected by the 1946 drilling. Five more vertical holes were put down on a grid pattern at intervals of 100 feet. They encountered zones with scattered pyrite, pyrrhotite, chalcopyrite and sphalerite. The most encouraging intersections reported averaged 5.65 per cent copper across 4 feet and 3.4 per cent copper across 11 feet, respectively.

Five other holes were drilled under valleys in the southeastern part of the property. Two of these intersected a northeasterly trending shear. One section of core from one of these holes assayed 0.05 ounces of gold per ton across 4 feet.

The 1946 diamond drilling was supervised by A.F. Banfield and the 1949 work by A.W. Johnson and B.C. Fillingham. (W.G.R. - 49)

BEAUCHASTEL TOWNSHIP

West Wasa Mines, Ltd.

- Ref.: Geol. Surv. Can., Mem. 166, pp. 175-183.
Geol. Surv. Can., Prel. Maps 45-17 and 45-17B.
Que. Bur. Mines, Ann. Rept., 1932, Pt. C., pp. 74-86.
C.I.M.M., Structural Geology of Canadian Ore Deposits, pp. 719-730.

West Wasa Mines Ltd, has the former Aldermac Copper Corporation Ltd. property together with adjoining claims to the east, in ranges V and VI of Beauchastel township. The claims are numbered Block 63; C.2429, claims 1 and 2; C.7543, claims 1 and 2; C.7553, claim 1; R.6591 and R.18038. The Rouyn-Arntfield highway and the Ontario Northland Railway cross the southern part of the property. The geology and development of the Aldermac ore bodies have been described in other publications, so this report will deal only with recent exploration in other parts of the property.

The northwestern part of the property is underlain by the Aldermac syenite stock, and the southern part by acidic and basic flows and pyroclastics intruded by masses of quartz diorite and by other minor intrusive bodies. A younger diabase dike, 80 feet wide, trends northwesterly through the other formations. Several important faults trend westerly and southwesterly across the property. One of these, thought to be a continuation of the Beauchastel fault, underlies the valley along the north shore of Mackay lake. The Horne creek fault is believed to underlie the valley north of the railroad and to parallel it. Both faults are vertical or steeply inclined, and have apparently displaced the diabase dike with a right-hand movement and strike separations of 200 and 300 feet, respectively. The Wasa shear strikes south of west, dips 45° north, and merges with the Horne creek fault about 400 feet west of the Aldermac station. A southern branch of this shear with a parallel dip crosses the property 800 feet south of the main shear.

From 1944 to 1946, 16 holes were drilled in the southern part of the property. Three vertical holes probed the Wasa shear over a length of 1,300 feet between the eastern boundary of the property and the junction of the shear with the Horne creek fault. These cut 50 to 75 feet of sheared and altered rocks but failed to discover any replacement ore bodies comparable to those developed by Lake Wasa Mining Corporation in the same shear. Four holes drilled through the south branch of the Wasa shear cut a sheared and silicified zone, 15 to 25 feet wide, which gave low assays in gold.

Five holes were drilled under the southwesterly trending valley that is believed to mark the Horne creek fault. Three of these, collared in lot 26, cut a silicified zone 120 feet wide with shearing along the southern edge. Two holes collared in lot 24 failed to disclose shearing under the valley. The fault may therefore pass north of the valley through a body of quartz porphyry, outcrops of which show a westerly trending zone of quartz veins. Drill holes on the Arntfield property west of the porphyry cut a zone of strong shearing along the projected strike of the fault, which suggests that the intrusion of the porphyry was later than the principal fault movements.

Another programme of diamond drilling was commenced in 1947 and more than 20 holes were completed. Many of these were short holes put down with an "X-ray" drill in an area about 1,000 feet south of the Aldermac shaft. Two copper-bearing bodies in this area had been previously explored but not mined by Aldermac Copper Corporation Ltd. The rocks are now so heavily oxidized that it is difficult to follow the outlines of these bodies. The following description, taken from Memoir 166, Geol. Surv. Can., P. 176, was made when the bodies were first being explored.

"The No. 1 showing in this spotted rock is a small shatter zone lying apparently almost flat, and filled with pyrite and some chalcopyrite. It is only about 25 feet across. About 25 feet to the northeast there is another spot of heavy mineralization. The No. 2 showing is about 200 feet to the north. It is a lens traceable on the surface for about 130 feet, and striking due east. The middle 2 feet of the lens is almost solid sulphides and the surrounding rock is heavily impregnated with sulphides throughout a total width of about 15 feet. There is rather more chalcopyrite in this showing than in No. 1"

A vertical hole drilled by West Wasa Mines Ltd. through the No. 1 body cut a section which averaged 3.9 per cent copper across 6.2 feet. Two other holes that were directed at low angles of dip through the same lens cut sections which averaged 3 per cent copper for 30 feet and 36 feet, respectively. Several short holes drilled in the vicinity of the No. 2 body cut zones with considerable pyrite and some chalcopyrite and sections of these assayed 4.25 per cent copper for $8\frac{1}{2}$ feet; 2 per cent copper for 10 feet; 2.12 per cent copper for 3 feet and 2.58 per cent copper for 12.7 feet. The sulphides occur as seams in a dark grey chloritized rhyolite which has been altered in places to resemble dalmationite.

Two holes were drilled near the Aldermac shaft, and 3 other holes were drilled between the shaft area and the No. 2 body. Sections of the core gave low assays in copper and zinc.

C.T. Young directed the recent exploration. (W.G.R. -

48)

BOURLAMAQUE TOWNSHIP

Goldora Mines Ltd.

Ref.: Que. Bur. Mines, P.R. No. 154, p. 6; No. 190, Pt. I, p.20.
Geol. Surv. Can. Prel. Map 432A, and 46-18.

Goldora Mines holds a group of 30 claims in the south-east quarter of Bourlamaque township. The claim numbers are A.59720-22, A.61308-12, A.62480-81, A.75103-12, A.80751-59, and C.213, claim 1. A pole track, built in 1943, extends from the Fleming camp, near highway No. 59, across the northern claims. The new mine road at present being extended from Louvicourt Goldfield Mine to Obsaka Lake mine passes not far from the eastern claims of the group.

The north part of the property is underlain by a group of intermediate to acidic volcanic rocks. These are invaded by a diorite dike, 600 to 800 feet wide, extending across the property in a direction N. 30°E. for 1 mile. The southern claims are underlain mainly by andesitic lavas and tuffs intruded by diorite and feldspar porphyry. Graywacke occurs in the 2 claims at the southeast end of the property.

The results of earlier exploration, which uncovered shear zones, narrow auriferous quartz veins, and sulphide mineralization, are described in the references given above.

The property was surveyed magnetically, and diamond drilling started in July, 1944, up to April, 1949, when the last drilling programme ceased, a total of 56,858 feet was carried out in 88 holes.

Thirty-five drill holes were put down in and near the main northern diorite dike. These served to test surface showings of gold, and to explore it at various intervals across the entire property. A hole drilled in claim A.62481 yielded an average gold assay of \$6.36 for 13 feet of core consisting of sheared, silicified, pyritized diorite and vein quartz. Twelve more holes put down in the vicinity failed to reveal any extension of the gold mineralization. Other holes in the diorite yielded mostly low gold assays and some low values in copper across narrow widths.

A zone of feldspar porphyry and diorite dikes, occurring in the southeast section of the block of claims forming the northwestern part of the property, was explored by 23 diamond drill holes aggregating about 16,000 feet. Gold assays obtained were chiefly \$2.00 or less for 2 feet of core, and copper values ranged up to 1.1 per cent. No commercial ore shoots were outlined.

Thirteen holes were drilled to explore the 3 claims A.75106, A.75107 and A.75110, adjoining the Okaska Lake Mines claims in Bourlamaque township. Tuffs, agglomerates, breccias, and lavas cut by various intrusive porphyries were intersected. Scattered sulphide mineralization was found to be fairly abundant, but most of the holes gave only low gold assays. One hole drilled north along the Bourlamaque-Louvicourt township line at claim A.75106, yielded assays of \$7.00 and \$2.45 in gold per ton for core lengths of 1.0 foot and 2.0 feet, respectively. The gold occurred in altered diorite. A second hole, 400 feet to the east, cut a strongly sheared andesite with vein material, 1.0 foot of which carried \$7.00 in gold per ton.

Eleven holes totalling 7,108 feet were drilled in claim A.75105 to explore the south contact of a feldspar porphyry dike 450 feet wide. Several inclined holes penetrated the porphyry, and 5 vertical holes tested gold mineralization found in the volcanic beds close to the contact at intervals in an area 600 feet long and 100 feet wide. Actual gold values obtained ranged from less than 0.05 ounces to more than 0.50 ounces per ton for core lengths of from 1.0 to 15.0 feet. The zone was explored to a depth of 900 feet. It may be a series of short, flat veins, or a steeply inclined zone with an irregular dip.

Earlier drilling on the property was supervised by T. Koulozine, followed by G. Dumont, and finally H. Wilson. (W.G.R. - 49)

BOURLAMAQUE TOWNSHIP

Orenada Gold Mines Ltd.

Ref.: Que. Bur. Mines, P.R. No. 150, p.7; No. 205, Pt..1, p.31.
Geol. Surv. Can. Prcl. Maps 46-17, 46-18.

A block of 49 claims in south-central Bourlamaque township is held by Orenada Gold Mines. The claims are numbered C.43192, claims 1 and 2; A.32290-91, A.32294-95, A.32927-28, A.32930-31, A.37617-37, A.41287-90, A.43939-48 and A.81232-35. They are situated a short distance south of the East Sullivan mine.

The property is underlain mainly by sediments in the southern part and volcanics in the northern part. A stock of syenitic porphyry occupies the most northerly section.

Ninety-two drill holes have been put down on the property in intermittent programmes since 1934. The last 9 of these to penetrate bed rock were drilled during the first half of 1949 and totalled 6,525 feet. The holes are in the northwest part of the property in claims A.32927, A.32931, A.37617-18 and A.37621.

The holes were located to explore the south contact area of the syenitic stock along 4,000 feet at intervals of from 500 to 1,200 feet. G.P. Robertson was in charge of the work, and according to his drilling logs the syenite mass was penetrated in 5 of the holes. The basic to acidic lavas and pyroclastic rocks are severely altered in the contact area, and invaded by numerous dike rocks. Disseminated sulphide mineralization, pyrite, pyrrhotite, and monor chalcophyrite, were found in most of the holes. Some parts of the core yielded very low gold assays. A hole in claim A.37618 intersected 50 feet of disseminated sulphide with a copper content ranging up to 0.60 per cent. (W.N.I. - 49)

BOURLAMAQUE TOWNSHIP

Paramaque Mines, Ltd.

This company holds a group of 12 claims straddling the centre line at the east boundary of Bourlamaque township. The claims are numbered C.4618, claims 1 to 3; C.5728, claims 4 and 5 and A.66727-33. The property of Louvicourt Goldfields Corporation adjoins on the east. A rough road leads west from the Louvicourt Goldfields shaft area to Paramaque.

The principal country rock on the property is a group of acidic and intermediate fragmental volcanic rocks trending slightly north of east. The southern claims are intruded by part of a regional diorite sill which is invaded by east and northeast-trending dikes of feldspar porphyry. Gold has been found on the east and the surface in vein material in a small diorite body in the northern part of C.4618, claim 2, and in the main diorite area in the southern part of claim, A.66730.

A magnetometer survey was carried out on the property,

and diamond drilling started in November, 1944. During 1944 and 1945 the company completed 29,234 feet of drilling in 48 holes. During 1946 and 1947 about 15,000 feet of drilling was completed in 25 holes.

Eight holes were drilled to test the small diorite body in C.4618, claim 2. Gold was indicated in and near the diorite for a length of 400 feet. Some of the assays obtained were high, but widths were narrow. About 10 holes were put down in cross-sectional and scattered drilling between the above zone and the main diorite area extending across the south margin of the property. These intersected mainly acidic to intermediate lavas cut by small dikes of feldspar porphyry and diorite.

The remainder of the drilling was carried out along the main southern diorite. At the west side of the property the diorite is a single mass 800 feet wide in the form of an east-west trending sill or dike. Towards the east it is separated into several bodies by dikes of feldspar porphyry, by masses of volcanic rocks, and by faulting. Most of the 50 holes which penetrated diorite yielded gold assays, but the grade was low and the widths narrow.

The best diorite area encountered was a zone 500 feet in length lying against the north contact of the main east-west dike of feldspar porphyry. This area is in the southwest corner of claim A.66731. It was explored along 350 feet by 4 inclined drill holes and 5 vertical holes. Numerous low gold assays were obtained. One of \$8.75 per ton for 4 feet of core was obtained from a silicified zone.

Three quartz veins, 40 feet apart and with a parallel strike of N. 30° W., were found on the surface in the volcanic formation 100 feet north of the diorite in claim A.66730. The veins are 1 foot wide and the longest is 60 feet. Two of them yielded high-grade gold. Three holes put down to intersect the auriferous zones at shallow depths yielded low assays.

Two drill holes were put down vertically on the boundary between Paramaque and El Sol mines, 800 feet west of the township line. These penetrated the main gold-bearing El Sol diorite, and yielded gold assays of \$65.45 per ton for 1.0 foot of core at a depth of 357 feet, \$4.76 per ton for 6.0 feet of core at a depth of 502 feet, and \$11.20 per ton for 1.0 foot of core at a depth of 595 feet.

Geological work on the property was done by A. Robertson and I. Christopher, followed by G. Dumont. (W.N.I. - 49)

BOURLAMAQUE TOWNSHIP

Quebec Manitou Mines, Ltd.

Ref.: Que. Bur. Mines, P.R. No.121, p. 4.
Geol. Surv. Can., Prel. Map. 46-16.

This company holds a group of 24 claims at the east boundary of Bourlamaque township. The claims are numbered A.67007-12; A.50655-57;

A.54405-19. The property of Golden Manitou Mines Ltd. which was formerly a part of Quebec Manitou Mines Ltd., lies immediately to the west. Provincial highway No. 59, and the Senneterre-Noranda branch of the Canadian National Railways cross the property ten miles east of Val d'Or.

The claims cover part of the south margin of the Bourlamaque granodiorite mass, the northern half of the property being underlain by that rock. The southern part of the property is characterized by volcanic rocks which trend east-west. Trachytic types predominate. They are massive near the grano-diorite, but are altered to chlorite-sericite schist along the south end of the property.

Early prospecting of the claims consisted of surface trenches and test pits. A prospect shaft, reported to be 70 feet deep, was sunk in northeast claim A.67007 on narrow quartz veins with gold and copper mineralization. Two later surface drill holes under the zone yielded no values for these metals. In 1945 the company drilled 14 holes totalling 12,000 feet, and 4 holes totalling 2,500 feet in cooperation with Golden Manitou Mines Ltd. During 1947 and 1948, 5 holes with an aggregate length of 16,350 feet were drilled.

The first drilling programme explored the southern part of the property, with holes in 6 of the 8 claims forming the southernmost group. Four holes in claim A.67028 explored a strong zone of sericite schist. Three holes in the southwest part of claim A.67008, which is at the southwest corner of the property, penetrated another sericite schist zone over 200 feet wide, which locally yielded appreciable assay values in zinc, lead and silver. The company officials think this zone may be the eastern continuation of the main ore-bearing structure at Golden Manitou. If this is so, it must swing considerably northward in the intervening 2,000 feet.

The 25 holes of the second drilling programme were drilled mainly in claims A.54411 to A.54413. Distributed along a northeast line, they explored the south contact of the Bourlamaque granodiorite for a length of 3,800 feet. The holes indicate that in this area a bay of greenstone extends northeasterly into the main intrusive for about 1,500 feet. The granodiorite was found to consist of two facies, one more acidic, and the other a normal type characteristic of the batholith in most other places. Gold was found in a number of holes in the acidic granodiorite in the northwest corner of claim A.54410. The first hole to yield values gave an assay of 0.62 ounces of gold per ton for a length of 8 feet. This 8-foot section was made up of altered, acidic granodiorite mineralized with disseminated fine pyrite and cut by quartz veinlets containing coarsely crystallized pyrite aggregates. Five more holes covering a length of 500 feet were drilled in the vicinity. According to company records 8 samples ranging in width from 1.0 to 3.5 feet gave gold assays over 0.20 ounces per ton, but continuity between the inter-sections was not apparent.

Four holes in claims A.54412 and A.54413 traced a narrow shear zone in the granodiorite for 600 feet. It yielded low gold values.

Andrew Robertson is consulting engineer for the company, and the drilling carried out in 1947 and 1948 was directed by R. Renshaw.
(W.N.I. - 48)

BOURLAMAQUE TOWNSHIP

Starcourt Gold Mines, Ltd.

Starcourt Gold Mines holds a group of 5 claims in eastern Bourlamaque township. The claims straddle the centre line, and are numbered C.4229, claims 1 to 5.

A few scattered outcrops indicate the property is underlain mainly by acidic to intermediate flow and fragmental volcanic rocks.

An electrical resistivity survey was made on the property, and diamond drilling was started in November, 1949. Four holes, totalling 2,645 feet were put down to test conductive zones indicated by the electrical survey. Two holes were drilled north from the south boundary of C.4229, claim 4, and one was drilled south from the north boundary of this claim. The fourth hole was drilled south from the north boundary of C.4229, claim 3.

The holes intersected mainly rhyolitic rocks, minor andesite and agglomerate, and small dikes of diorite and quartz-feldspar porphyry. No sulphide mineralization was encountered, but one of the holes in the southern part of C.4229, claim 4, yielded a gold assay of 0.04 ounces per ton for 2.0 feet of core.

C.P. Robertson, was in charge of the drilling programme.

(W.N.I. - 49)

BOURLAMAQUE TOWNSHIP

Val d'Or Mineral Holdings, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept. 1934, Pt. B, pp.51-52.
Que. Bur. Mines, P.R. No. 120, p. 19.

This company holds a group of 11 claims in the northwest quarter of Bourlamaque township. The claims are numbered A.39137-41, A.39150-54, and A.53346. The properties of Lamaque and Sigma Mines adjoin to the west. Provincial highway No. 59 crosses the southern claims 3 miles east of Val d'Or.

The claims are underlain mainly by tuff and agglomerate. A band of trachyte and trachyte flow breccia, 400 feet wide, extends across the central section in an east-west direction. A body of hornblende diorite enters the northwest corner of the property with a width of 1,000 feet. It dies out $\frac{1}{2}$ mile to the east. Dikes found cutting the volcanic beds include diorite, granodiorite, rhyolite, and feldspar porphyry.

Surface work carried out on the claims in 1934 revealed vein material and sulphide mineralization carrying low values in gold. In 1937, 5 drill holes were put down to explore the west part of the property across 2,200 feet in a north-south direction. The main diorite body was intersected, and a gold assay of \$2.10 for 2.6 feet of core was obtained in

the southern part of claim A.39137. A second gold return of \$1.25 for 1.9 feet of core was secured from a shear zone in tuff in the eastern part of claim A.39153.

Drilling was resumed again in 1945 and continued until early 1947. This programme involved a total of about 35,000 feet in 50 holes. Twenty-eight of these holes, with a total length of about 28,000 feet, were drilled to cross section the property systematically at intervals from 400 to 1,000 feet. The exploration yielded several scattered samples with gold assays up to \$2.50 across widths of 2.5 feet or less.

The quartz veins outcropping in the southern part of claim A.39152 were intersected by 5 of the cross-sectional holes and 4 intermediate holes distributed along 2,100 feet. Vein material ranging in width from 1 foot to 12 feet was intersected, but it was found to carry only traces of gold.

One of the cross-sectional holes penetrated a quartz stringer zone in the eastern part of claim A.39139. A gold assay of \$22.75 per ton was obtained from 2.5 feet of this material, some of which contained visible gold. Nineteen holes were subsequently drilled in the immediate vicinity in an area about 400 feet by 600 feet.

H.S. Wilson acted as consulting geologist for the company during the 1945-47 exploration programme (W.N.I. - 49)

CADILLAC TOWNSHIP

Alger Gold Mines, Ltd.

Ref.: Geol. Surv. Can., Summ. Rept., 1925, pp.74c and 76c.
Que. Bur. Mines, Min. Op. 1926, pp.144-45; 1927, pp.142-43;
1928, pp.117-18.
Que. Bur. Mines, Ann. Repts., 1929, Pt.A, p.139; Pt.C, pp.53-57;
1930, Pt.A, p.88; 1933, Pt.A, p.109; 1935, Pt.A, p.59; 1936, Pt.A, p.65.
Que. Bur. Mines, P.R. No.116, pp.33-34.
Geol. Surv. Can., Mem. 206, pp.43-49.
Que. Bur. Mines, Min. Ind. 1938, p.77; 1939, p.75;
1941, p.53; 1945, p.94.

Alger Gold Mines Ltd. holds a group of 15 claims comprising Blocks 21 to 35, in Cadillac township. The group is bounded on the west by the boundary of the township, and on the east by the property of O'Brien Gold Mines Ltd. The Rouyn-Val d'Or highway crosses the property near the mine buildings.

The important "Cadillac Belt" of volcanic and sedimentary formations crosses the property, flanked on the north and south by greywacke and conglomerate. The Cadillac-Bouzan lake break is contained in the belt. Both the break and the rock formations strike easterly and dip nearly vertically. The break has a width of 100 to 200 feet of talc-chlorite schists, adjoined on the south by a zone of mixed andesites, porphyritic andesites, tuffs, graywacke, and conglomerate. These formations are described in detail in published reports. The conglomerate and the porphyritic andesite are more competent than the other members of the belt, and in the adjoining O'Brien Gold Mine are hosts to important deposits of gold ore.

The early development of the property by Thompson - Cadillac Mines Ltd. has been described in previous reports. A shaft was sunk about 620 feet from the eastern boundary of the property and lateral work was done on 4 levels spaced at 150-foot intervals. A second shaft connected the first level with the surface about 900 feet west of the main shaft. A mill installed on the property treated ore from these workings from 1936 to 1939.

Alger Gold Mines Ltd. acquired the property in 1945 and commenced a magnetometer survey of the western claims and a programme of diamond drilling. Twenty-four surface holes were drilled to explore a portion of the south side of the Cadillac break to the west of the underground workings. The holes were directed north at 100-foot intervals over a length of 1,700 feet. Many of them cut auriferous quartz veins which were largely confined to the porphyritic andesite. Assays from these intersections indicated erratic gold values. Four other holes probed the formations north of the break, and extensive drilling was carried out from the underground workings.

The result of the drilling was considered encouraging, and underground operations were resumed. The main shaft was deepened and new levels were established at the 725-, 850-, 975- and 1,100-foot horizons. Four veins, known as the "A", "B", "C" and "D" veins, were explored. These are narrow quartz veins occurring in fractures confined largely to the northern edge of the porphyritic andesite. The fractures are quite persistent and conform roughly with the attitude of the formation. In places the quartz pinches out, both along the strike and dip. The veins contain pyrite and arsenopyrite and in places have spectacular pockets of coarse gold. It was hoped that such pockets might be found in sufficient concentration to form rich ore shoots similar to those at the O'Brien Gold Mine, but this was not achieved and underground operations were suspended early in 1948.

The mining operations were directed by M.F. O'Shaunessey.
(W.G.R. - 48)

CADILLAC TOWNSHIP

Angus Mines, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept., 1935, Pt.A, p.59; 1936, Pt.A, p.63.
Que. Bur. Mines, P.R. No.116, p.38; No.150, p.13.
Que. Bur. Mines, Min. Ind. 1937, p.73; 1940, p.56; 1941, p.56;
1945, p.97.
Geol. Surv. Can., Mem. 222, pp.103-107.

Angus Mines Ltd. has a group of 32 claims in the south-east quarter of Cadillac township. These are numbered Block 55, and claims A.52393-97; A.53085-91; A.53093-95; A.53099-103; A.56343-44; A.58544-48; A.58642-44 and A.69532. A motor road extends eastward from the shaft, passes the West Malartic mine, and joins the Rouyn-Val d'Or highway about seven miles northwest of the town of Malartic. The Senneterre-Noranda branch of the Canadian National Railways and a power transmission line cross the property.

The geology of the property is described in detail in Memoir 222, Geol. Surv. Can. and will only be summarized in this report.

A narrow band of volcanic rocks known as the Cadillac belt extends southeast across the property and is flanked on both sides by graywacke and conglomerate. A portion of the volcanic band projects to the east and is believed to be part of a large drag fold. The Cadillac-Bouzan lake shear zone is contained in the Cadillac belt, near its southern contact.

Early exploration on the property was conducted by Pan-Canadian Gold Mines Ltd. and by West Malartic Extension Mines Ltd. In 1936 a small but rich gold-quartz vein was discovered in Block 55. Surface samples indicated that it had an average gold content of 1.03 ounces per ton across 18 inches for a length The vein occurs near the northern contact of the volcanic formation with the sediments and crosses that contact at a small angle. The vein was developed underground on the 150- and 275-foot levels and a mill of 50-ton daily capacity was installed. About 5,837 tons of ore was treated and gold valued at \$37,714 was recovered.

In 1945 and 1946, 71 diamond-drill holes were put down. Most of these were directed to explore the north and south contacts of the Cadillac belt. A gold-bearing zone was discovered in claim A. 52395 along the northern edge of the volcanic belt. The zone has auriferous quartz stringers across a width of 60 feet for a length of 800 feet. Many of the drill core intersections contained visible gold, and assays a very erratic gold distribution. The old underground workings were unwatered and the west drift on the bottom level was extended 1,800 feet to the northwest to develop the new zone. Several small auriferous shoots were outlined. One of these averaged 0.182 ounces of gold across 1.69 feet for a length of 78.5 feet.

The surface drilling and underground operations were managed by Gordon Michealson. (W.G.R. - 48)

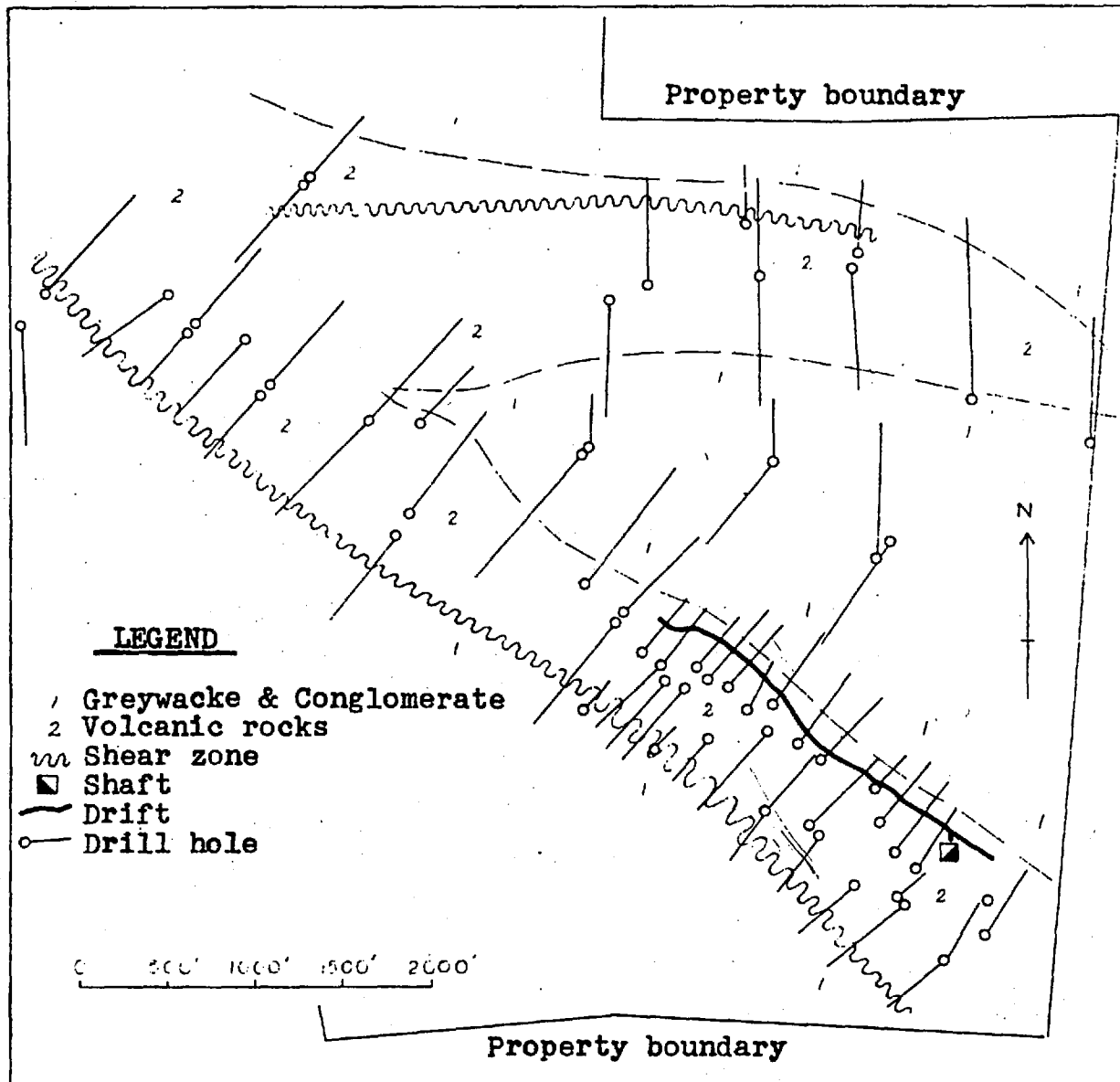
CLERICY TOWNSHIP.

Cross Fault Mines, Ltd.

Ref.: Geol. Surv. Can., Mem. 166, pp.229-230.
Geol. Surv. Can., Mem. 233, p.38

Cross Fault Mines Ltd. has a property in range V of Clericy township comprising lots 9 to 11; the southern half lots 3 and 4; the south tree quarter lots 5 to 7 and north half lot 8. A road from the village of Clericy extends south to the western extremity of the property. A trail extends east from this road along the IV-V range-line to the Harvie No. 4 shaft in the southern part of lot 6.

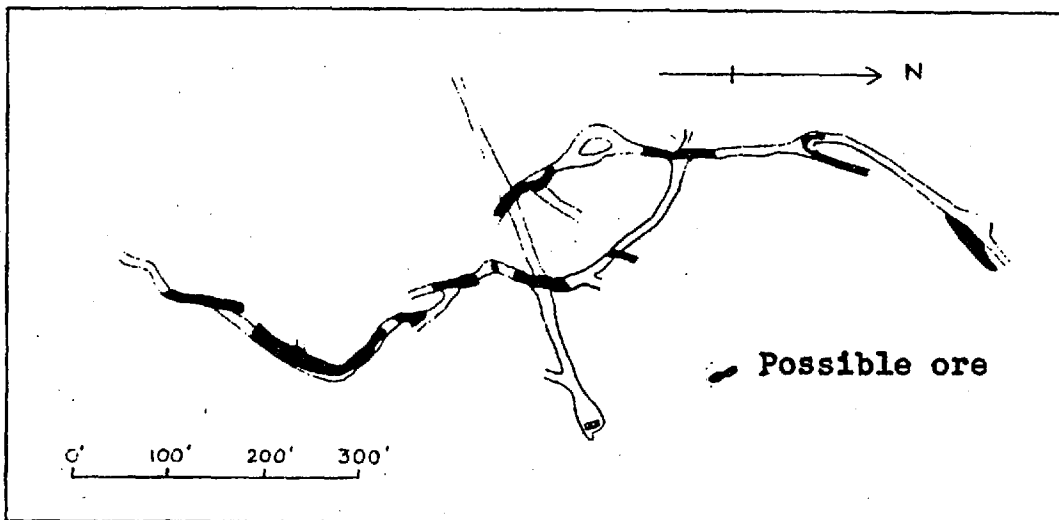
Much of the property has a rugged topography with many outcrops of rocks. The latter are predominantly northwesterly striking dacites and andesites with some related pyroclastic rocks. The southwest corner of the property adjoins the Clericy mass of granodiorite.



MMG 889

Fig. 3 Angus Mines, Limited:
Surface plan of eastern
part of the property

(Copied from company records)



M. M. Q. 890

Fig. 4 New Thurbois Mines, Limited
Plan showing lateral workings and
possible ore on the 260 foot level

(Copied from company records)

Early exploration was done by Archean Mines Development Company Ltd., Harvie Mining Exploration Company Ltd., Harvie Mining Company Ltd. and Aurel Mines Ltd. and included the sinking of the Harvie No. 4 shaft. Unfortunately the records of the early work have been lost.

The present owners acquired the property in 1945 and explored it with a geophysical survey and 6 diamond-drill holes totalling 1,830 feet, most of which probed areas where magnetic anomalies had been noted. The holes cut zones with small amounts of sphalerite and chalcopyrite but no intersections of commercial importance were reported by the company.

In the fall of 1948 the shaft was unwatered, the underground workings examined, and the shaft allowed to refill with water. On the 100-foot level about 230 feet of drifting had been done along a fracture zone in volcanic formations. The zone is 3 to 6 feet wide, strikes N.70° W., and dips 70° north. It has lenses and veinlets of quartz and some chalcopyrite and sphalerite. Channel samples taken at 10-foot intervals across the back indicated that a length of 70 feet averaged 0.156 ounces of gold per ton, 0.353 ounces of silver per ton, 0.642 per cent copper and 1.95 per cent zinc across 5 feet.

C.T. Bischoff directed the exploration work. (W.G.R. -48)

DASSERAT TOWNSHIP

Bordulac Mines, Ltd.

Ref.: Que. Bur. Mines, Min. Op., 1927, pp.87-88.
Geol. Surv. Can., Mem. 166, pp.234-35.
Que. Bur. Mines, Ann. Rept., 1933, Pt.A, p.91.
Que. Bur. Mines, P.R. No.116, p.3; No.135, p.4; No.227, p.38-39.
Geol. Surv. Can., Map. 240A, Opasatika Sheet.

Bordulac Mines Ltd. has a group of 41 claims adjacent to the Ontario boundary in ranges VII and VIII of Dasserat township. The claims are numbered T.2103-05; T.2108-17; R.21395-401; R.25049-50; C.8054, claims 1 to 9; C.8055, claims 1 and 2; C.3056, claims 1 and 2; C.8057, claims 1 and 2; and C.11225, claims 1 to 4. A rough road, passable for motor vehicles in dry weather, extends northward from the village of Cheminis, Ontario, for 3 miles along the interprovincial boundary to the south end of Labyrinth lake. The shaft and mine buildings are on the northeast shore of the lake about 2 miles from the end of the road, and can be reached by boat.

The property is underlain principally by a band of quartz diorite, about half a mile in width, which intrudes volcanic rocks of basic and intermediate composition. The southern edge of the band appears to be more silicious than the remainder and the intrusive may have a composite nature. The band trends about N.80° E. and extends from Labyrinth lake to Dasserat lake. On the Bordulac claims an easterly trending shear zone in the diorite has been exposed in trenches in 8 localities over a total length of 5,000 feet. The shear zone is from a few inches to several feet wide, dips south at 68°, and has auriferous quartz veins mineralized with pyrite.

The original "Russian Kid" claims were staked in 1924 by A.W. Balkimer and M. Mitto. The property was optioned by Mr. Morrison in 1934 and tested with 5 drill holes. It was optioned in 1935 by Sylvanite Gold Mines Ltd. and further explored by trenches and drill holes. In 1945 the property was purchased by Bordulac Mines Ltd. and has subsequently been explored by trenches, drill holes and geophysical and geological surveys. Underground operations commenced early in 1948.

The initial discovery was made in the Russian Kid zone in the eastern part of the property. A strong quartz vein, mineralized with coarse pyrite, is exposed in trenches and pits for a length of 350 feet. Channel samples taken by Sylvanite Gold Mines Ltd. indicated that a length of 160 feet averaged 0.32 ounces of gold per ton across 5.2 feet. This zone was further explored by drill holes in 1934, 1935, 1945 and 1946.

About 5,000 feet west of this zone, trenches near the narrows at the north end of the lake reveal shearing that is probably a continuation of the same structure. The rocks in the shear are more schistose and have less quartz. Samples from the trenches and drill holes in this area gave low gold assays.

Trenches along a ridge about half way between these two zones expose 2 roughly parallel quartz veins about 100 feet apart. These veins, referred to as the "Talus" and "North" veins, pinch and swell and have minor displacements along slips. In general they are from 2 to 18 inches wide and contain coarse pyrite and some visible gold. One of the trenches along the southern "Talus" vein showed coarse seams of gold cutting through the pyrite and quartz. Samples from this vein with no visible gold were reported to have assayed up to several ounces of gold per ton, while selected samples assayed up to 1,600 ounces.

The management considered that the gold distribution was too erratic for adequate exploration by diamond-drill holes, but that the rich surface exposures justified underground operations.

A two compartment shaft was sunk about 80 feet south of the "Talus" vein, and about 1,000 feet of lateral workings have been completed on the 150-foot level. West of the shaft the veins are narrow, have been displaced by cross faults, and are difficult to follow. East of the shaft, the "Talus" vein proved to be quite strong and continuous, with widths up to 3 feet. About 250 feet of drifting along the "North" vein indicated 2 sections that averaged \$33.44 across 16 inches for 60 feet and \$59.95 across 16 inches for 20 feet, respectively. A small amount of drifting along another vein north of the "North" vein disclosed a section that averaged \$15.80 across 12½ inches for 45 feet. The drift along the "Talus" vein gave the following results in contiguous sections from west to east: \$17.50 across 15 inches for 80 feet; no samples for 38 feet; \$10.00 across 16 inches for 50 feet; \$4.65 across 15 inches for 66 feet; and \$12.68 across 31 inches for 240 feet. All figures are copied from company records and were calculated from face samples. The values are uncut and are presumably based on gold at \$35.00 per ounce. Considerable scheelite was noted in the underground workings, but no attempt was made to ascertain the tungsten content.

G.S. Riddoll directed the underground operations, which were suspended in the fall of 1948. (W.G.R. - 48)

DASSERAT TOWNSHIP

St. Francis Mining Co., Ltd.

Ref.: Que. Dept. Mines, Map No. 618, Desvaux Lake Area.

St. Francis Mining Company Ltd. has a property in the centre of Dasserat township comprising claims C.33511, claims 2 to 5; C.33512, claims 3 to 5; C.34994, claims 1 to 3; C.36464, claim 3, and C.35083, claims 3 to 5. The property occupies the southerly part of Dasserat lake, and can be reached by boat from Kanasuta.

Rock exposures on islands and shoreline indicate that the property is underlain by syenite porphyry and by acidic and basic volcanic rocks. A magnetometer survey of the claims gave a magnetic high of about 3,000 gammas at a point 250 feet east of the southeast corner of island No. 15. In 1949 Buffalo Canadian Gold Mines Ltd. drilled 2 holes to investigate this anomaly. One hole was directed westerly from island No. 15 and the other was drilled vertically in the zone of high magnetometer readings. Both holes intersected a band of diorite with visible magnetite.

The drilling was supervised by A.F. Matheson. (W.G.R. -49)

DESTOR TOWNSHIP

New Thurbois Mines, Ltd.

Ref.: Que. Bur. Mines, Geol. Rept. No. 4, p. 26.
Que. Dept. Mines, P.R. No. 205, Pt. 1, pp. 47-49; No. 227, pp. 44-45.

New Thurbois Mines Ltd. controls a group of claims in Destor township comprising the northern half lots 39 to 43, range III, lots 38 to 43, range IV, and the southern half lots 39 to 44, range V. The shaft and mine buildings are on the southern half of lot 41, range IV, and can be reached by a motor road which branches north from the highway $2\frac{1}{2}$ miles west of Davangus.

Scattered outcrops indicate that the property is underlain chiefly by diorite with some irregular "islands" of andesite and rhyolite. Pillow determinations show that the flows strike easterly, dip steeply north, and have tops to the north. The consistency of attitude of the pillows in different "islands" of volcanics suggests that the diorite was intruded gradually and replaced the older formations without appreciably disturbing them.

In 1938 Beattie Gold Mines (Quebec) Ltd. optioned the part of the property then known as the Paquin claims. Three northerly trending quartz veins in diorite were discovered on lot 42, range IV, and these were explored with surface trenches and 10 diamond-drill holes. In 1943 Thurbois Mines Ltd. acquired the property and subsequently put down 90 diamond-drill holes totalling about 60,000 feet. These holes probed the vein zone over a north-south length of 1,700 feet. The initial holes, directed to explore the known veins, cut other parallel structures with a higher tenor in gold. These veins or gold-bearing zones were found to strike northerly and to dip to the west. Three of these, termed the "F north", "F south" and "C" zones were

calculated to have a combined length of 2,069 feet, an average width of 7.3 feet, and an average gold content of 0.225 ounces per ton.

A vertical shaft was sunk to 285 feet, and the "F" zone was explored on the 260-foot horizon. The gold-bearing bodies in this zone were found to be associated with two main fractures. These fractures have minor irregularities in attitude, but their strikes average north and they dip 60° west. They are filled with 1 to 12 inches of quartz and white carbonate with some tourmaline, pyrite and axinite, and in places have vugs. The veins filling the fractures are not auriferous, but the adjoining walls show various degrees of silicification and pyritization and in places have enough gold to make ore both in diorite and rhyolite. The silicification seems to be a better indicator of ore conditions than does the fine pyrite. Some of the diorite ore has been so silicified that it resembles rhyolite and in general the ore has a dull grey appearance. The fractures show some evidence of movement but are probably tensional openings and may be subsidiaries of the Porcupine-Destor fault which is 1½ miles south of the shaft.

The underground exploration was confined to the northern half of the favorable area explored by surface drill holes. In all, 14 bodies of possible ore were outlined, with a combined length of 970 feet, an average width of 10.2 feet, and an average gold content of 0.18 ounces per ton. The northerly workings extend beyond the area explored by the surface holes, and were still in favorable formations when operations were suspended in March 1948.

G.J. Boisjoli managed the underground operations, A.C. Lee acted as consultant, and L.S. Trenholme was mine geologist. The data for this report were obtained from these gentlemen, from personal observations at the mine and from the records of the company. (W.G.R. - 48)

DUBUISSON TOWNSHIP

Dubuisson Goldfields, Ltd.

Ref.: Que. Bur. Mines, P.R. No.150, 1940, p. 19.

The property of this company consists of a group of 19 claims in the northwest quarter of Dubuisson township. The claim group covers lots 16 to 19; range VII, lots 9 to 17, range VIII; south half lots 7 and 8, and lots 9 to 17, range VIII; south half lots 7 and 8, and lots 9 to 11, range IX. The Piché river traverses the property, and highway No. 59 crosses the northern part 10 miles west of Val d'Or.

No bedrock outcrops are known on the property. Diamond drilling and projected geological contacts indicate the most northern section is underlain by tuff and diorite. This is flanked to the south by a band of graywacke and associated rocks having a width of 4,000 feet, followed by 1,000 to 2,000 feet of peridotite, volcanic rocks and schists of the Cadillac break, then by 2,000 feet of graywacke, extending to and beyond the south boundary.

A magnetometer survey of the claims was carried out in 1936. During the period from May, 1938, to April, 1939, 11,959 feet of diamond drilling in 15 holes was completed. Between November, 1941, and May, 1942,

8,424 feet of diamond drilling in 11 holes was completed. Thirty-five holes, totalling 20,870 feet, were put down during September, 1946, to October, 1947. A total footage of 41,253 of drilling has been done on the property.

Except for 3 holes drilled in the southern part of lot 9, range IX, all of the drilling was concentrated in range VIII, lots 9 to 17, along the easterly trending band of peridotite, volcanic rocks, and schists of the Cadillac break. This band of rocks has a strike length of 8,000 feet on the property, and throughout this length it has been drilled at intervals varying from 100 to 1,000 feet.

The drilling indicates that the main schist horizon or zone of movement is 100 to 200 feet wide and lies along the north margin of the band of volcanic and intrusive rocks. Other strong shears branch from the main shear zone to form a braided pattern, with a few appearing to extend in a southwest direction from the volcanic formations into the sediments. Numerous dikes and lenses of diorite and porphyry were intersected in all the holes, and diabase was encountered in holes in lots 12 and 14.

Gold values were obtained at several places both along and across the main volcanic and schist bands. Several interesting auriferous intersections, associated with diorite and porphyry, were found in lots 9 and 10. These include assays such as 0.09 ounces per ton across 13.0 feet, 0.21 ounces across 5.0 feet, 0.05 ounces across 5.0 feet and 0.14 ounces across 2.0 feet. On lot 17 two holes 300 feet apart yielded gold assays of 0.11 ounces per ton for 1.5 feet of core and 0.71 ounces for 2.5 feet of core, respectively, in the zone of movement at the north edge of the volcanic formation. (W.N.I. - 48)

DUBUISSON TOWNSHIP

Kiena Gold Mines, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept., 1930, Pt. C, pp.74-76;
1935 Pt. B, pp.55-56;
Que. Bur. Mines, P.R. No. 116, p.48; No.120, pp.12-13;
No.161, pp.11-12.
Geol. Surv. Can., Memoir 166, pp.245-46.

This company holds a group of claims in the northwest quarter of Dubuissou township. The property lies at the southwest side of de Montigny lake, and most of the claims are covered with water. The claims are numbered A.40838-39; A.45027-34; A.46550-52; A.51659-62; A.54550-54; A.54583-88; A.56180-85; A.56194-204; A.60248-49; A.60846; A.60909-11; A.61832-40; M.L.1412 and Block A. Provincial highway No. 59 and the Canadian National Railways pass near the south boundary of the claim group.

Gold was discovered on Parker island, which forms part of M.L.1412, more than 30 years ago. The property is underlain mainly by andesitic flows, with narrow bands, in places, of more acidic volcanic breccia. The flows are intruded by dikes of peridotite, diorite and feldspar porphyry. The southern portion of the property lies across the strike of an important fault zone probably extending between Marlatic and Shawkey mines. An irregular area of highly altered and schisted rocks was found immediately north of Parker island during former exploration.

Earlier work was confined to the vicinity of Parker island. This includes a crosscut from the shaft on the island driven 3,000 feet northeast on the 430-foot level.

In April, 1949, Ventures put down 2 diamond-drill holes in claim A.46550 (N₂ lot 21, range IX). The first hole was drilled southwest for 1,002 feet. It intersected peridotite, dacite, andesite, tuff, and diorite dikes. Two strong shear zones were encountered. One length of 1.7 feet of core, showing quartz veining and sulphide mineralization, gave a gold assay of 2.70 ounces per ton. A second hole was put down above the first for 311 feet, to explore the possible upward extension of the auriferous section, but only traces of gold were obtained.

S.C. Farquharson was in charge of the drilling. (W.N.I.49)

DUBUISSON TOWNSHIP

Shawkey (1945) Mines, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept. 1935, Pt. B, p.42-49.

This company holds a group of 18 mining Blocks and claims in the northeast quarter of Dubuissou township. The claims of the property are designated Blocks N, T, U and V; A.40534-35; A.88030; and M.L.1658. The claims cover an area at the mouth of the Thompson river at de Montigny lake, immediately north of Provincial highway No.59, 5 miles west of Val d'Or.

The property has the first gold discovery made in the district, and part of it was originally staked by Fred La Palme in 1911. The early history, and the results of underground development during 1934 to 1936 are described in the reference given above. The earlier work was carried out on a vein system lying half a mile north of the main auriferous zone outlined by surface drilling during 1945 to 1947.

The property is underlain mainly by a series of inter-banded lava flows and peridotite sills. These trend northwest-southeast and dip steeply northward. The lavas are chiefly andesite, but a few bands of acidic flow breccia are present. These formations are intruded by small bodies of diorite and dikes or sills of feldspar porphyry and granodiorite porphyry.

The rocks are broken by cross faults striking N.30° E., some of which have displacements of more than 250 feet. They are also disturbed by strike faults in the form of shear zones. The strongest shear is called the No. 10 zone, and it varies in width from 10 to over 100 feet. It lies one-half mile south of the originally developed vein system.

During 1945 to 1947 the company completed about 37,000 feet of surface drilling, 28,500 of which was used to explore the No. 10 shear zone, and 9,000 used in cross-sectional exploration on the east side of the Thompson river and south of the No. 10 zone. Underground drilling from the old workings amounted to 20,000 feet, used in lateral and depth tests from the fourth and sixth levels. Total underground lateral development in the

form of drives, crosscuts and drifts amounted to 2,337 feet. Over 7,000 cubic feet of rock was slashed. One drive on the fourth level was extended 926 feet southeast, under the Thompson river, to reach a body of diorite containing auriferous quartz veins. Drilling below the level, according to company records, indicated a zone several hundred feet in length carrying an average of \$6.00 in gold per ton across 7.3 feet.

A crosscut was driven 195 feet north from the eastern end of the fourth level workings to explore a wide dike of feldspar porphyry, carrying vein material, which had been intersected by an underground drill hole. Two flat, close-lying veins were exposed for a length of 263 feet by drifting. Samples from these veins yielded erratic gold assays, but no commercial ore was indicated. Vertical drilling intersected a series of low-grade veins in the porphyry above and below the drift.

The No. 10 zone is in a strong break striking southeast across the southern part of the property. It lies in a band of volcanic rocks about 600 feet wide bounded on the north and south by peridotite sills. The schists are invaded by numerous dikes of feldspar porphyry, granodiorite, and diorite. The zone has been explored for a length of 2,300 feet by drilling which indicates appreciable values in gold for a length of 1,700 feet. The gold occurs in quartz veins in the andesite and schist, and in veins and stringer zones in fractured, mineralized porphyry. The veins in the andesite are from a few inches to more than 10 feet wide, and in some places form stringer zones over 20 feet wide. Visible gold is not uncommon.

Three main vein structures were indicated by the drilling, according to company plans. Two vein sections were outlined in a fault zone immediately north of an area of abundant porphyry. One of these has a length of 380 feet, an average width of 3.8 feet, and an uncut grade of \$7.13. The second has a length of 460 feet, a width of 9.3 feet and a grade of \$4.23. The third, occurring south of the porphyries, was traced for 860 feet. A lenticular ore body was outlined having a length of 500 feet, an average width of 5.6 feet, and a cut grade of \$4.91, below a depth of 400 feet.

Sheared, altered, and mineralized porphyry occurs over a length of 1,500 feet along the explored section of the zone. In places the porphyry is invaded by numerous stringers and veinlets of quartz, some of which carry high gold values over narrow widths. One hole intersected 34 feet of porphyry and vein quartz assaying \$2.14 per ton.

Geological work at the property was done by L.F. Vallance, who supplied the writer with most of the above data. (W.N.I. - 48)

DUFRESNOY TOWNSHIP

Macdonald Mines, Ltd.

- Ref.: Que. Bur. Mines, Min. Ind. 1939, p.60; 1941, p.43;
1944, p.68; 1945, p.68.
Que. Bur. Mines, P.R. No.150, pp.23-24; No.205, Pt.II, pp.10-12;
No.227, pp.57-58.
Geol. Surv. Can., Mem. 233, pp.49-50.

Macdonald Mines Ltd. has Mining Concessions Nos. 345 and 359 comprising the south half lots 47 to 49, range IV; the north half lots 43 to 49, range II; and lots 35 to 49, range III, excepting the southern parts of lots 39 and 40. They also hold claims numbered R. 39506 and R. 39509 to 11. The shaft house and principal mine buildings are in the northern half of lot 38, range III. A motor road extends south and west from the mine and joins the Macamic highway about 2 miles north of Noranda.

The western part of the property is underlain by part of the Dufault lake mass of granodiorite and the eastern part has rhyolites and andesites intruded by small bodies of diorite. Pillow determinations indicate that the volcanic beds strike northerly and have tops to the east. In the western part of the property a mass of volcanic breccia, about half a mile in diameter, is entirely surrounded by granodiorite. The breccia has phenocrysts of feldspar in a fine-grained, light-greenish groundmass and resembles a porphyry, but has been determined microscopically to be pyroclastic. Weak bedding has been observed in a few places.

In 1944 massive sulphides were discovered by diamond drilling along the northern contact of the volcanic breccia with the granodiorite. Further drill holes outlined a body 800 feet long and up to 330 feet wide. The principal sulphides are pyrite, sphalerite and chalcopyrite, in that order of abundance. Assays give low values in silver and gold. The sulphides have a sharp contact with the granodiorite to the north, but to the south the breccia has been silicified and pyritized.

A three compartment vertical shaft was collared west of the ore body and sunk to a depth of 950 feet, and a total of 2,500 feet of lateral work was completed on two levels. On the 325-foot level massive sulphides were outlined for a length of 500 feet and a maximum width of 300 feet. Zones in this body show a concentration of sphalerite that might permit selective mining. A crosscut averaged 8.27 per cent zinc and 0.72 ounces of silver per ton for a length of 124 feet.

A similar but smaller body of sulphides on the 925-foot level is 320 feet long and averages about 30 feet wide. It has been estimated to average 7 per cent zinc and to contain 1,300 tons per vertical foot. Development work done prior to January, 1949, has not clearly indicated the vertical continuity of the sulphide bodies or their relationship to one another.

The breccia-granodiorite contact, along which the sulphide bodies occur, has an average dip of 60° south. In places the contact is sheared, but elsewhere the sulphides contact the massive chilled edge of the granodiorite. Lateral workings on the 925-foot level reveal a strong shear 50 feet south of the contact that strikes northeast and dips 65° southeast. This shear resembles, and is along the strike of, the Heré creek fault, and may be part of that structure. Movement along this fault may have shattered the adjoining rocks and allowed the sulphide-bearing solutions to replace the fractured wedge of breccia between the fault and the relatively impervious granodiorite. Irregularities in the dip and strike of the granodiorite-breccia contact may also have influenced ore deposition.

Underground operations were suspended in 1948, but to the present (Jan. 1949) the workings have been kept free of water. J. Campbell

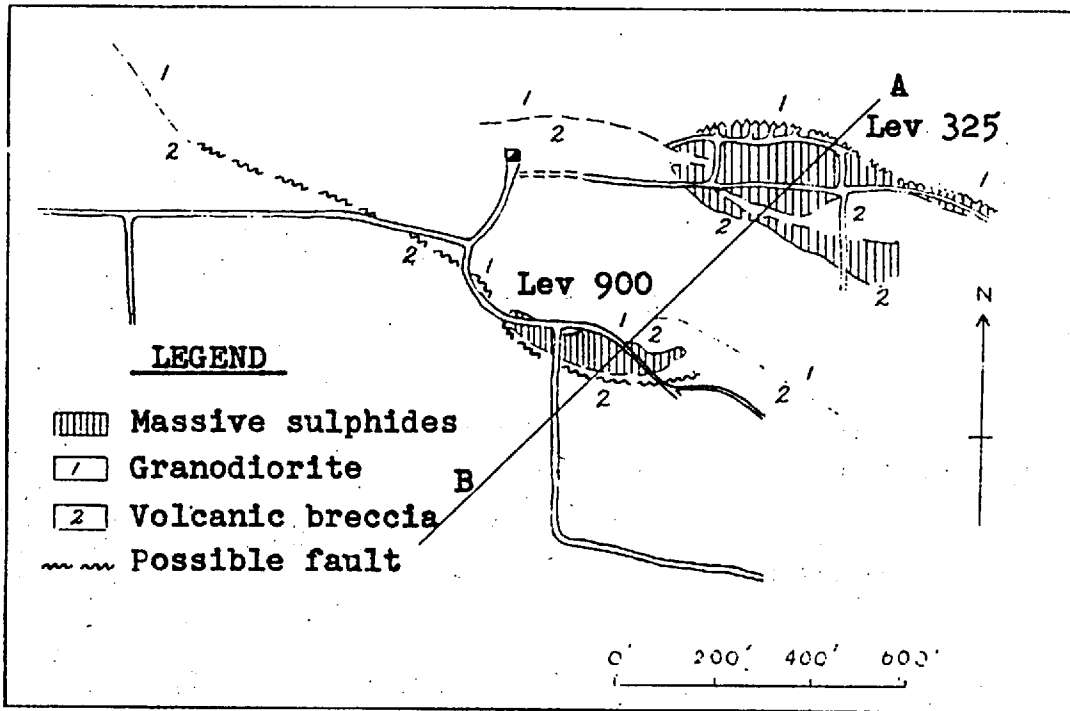


Fig. 5-A Macdonald Mines, Limited:
Composite geological plan on the
325 and 900 foot levels

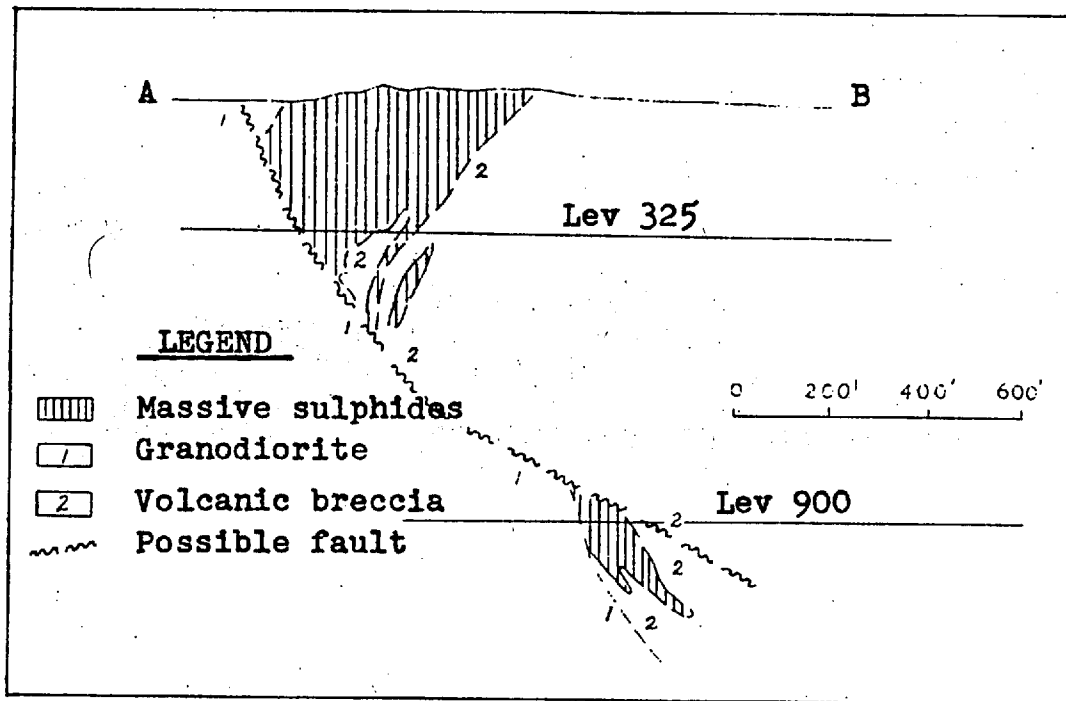
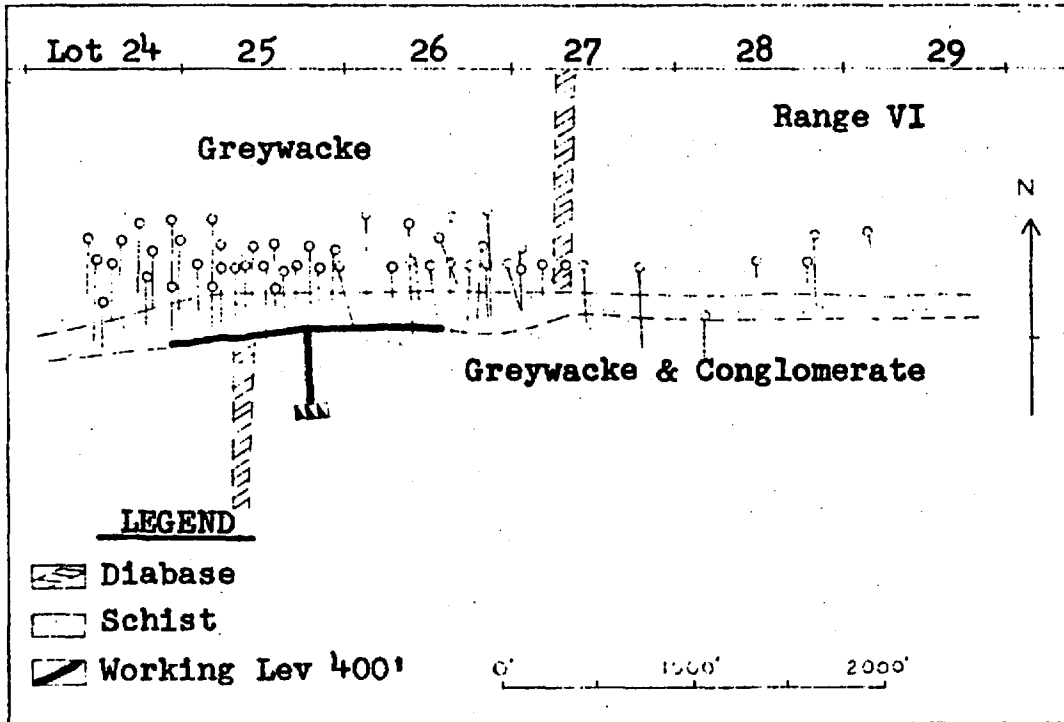


Fig. 5-B Macdonald Mines, Limited:
Section through the sulphide
bodies along the line A - B.

M.M.C. 891

(Copied from company records)



M. M. G. 892

Fig. 6 Heva Gold Mines, Limited
 Sketch plan of the surface geology,
 Diamond drill holes, and shaft.

(Copied from company records)

is mine manager and J. Gemmel mine geologist. Wm. Gerrie made detailed maps of the surface geology of the property. (W.G.R. - 48)

DUFRESNOY TOWNSHIP

Norbec Copper Mines, Ltd.

Ref.: Que. Bur. Mines, Min. Op. 1928, pp.96-97.
Que. Bur. Mines, Ann. Rept. 1929, Pt.A, pp.123-124;
1930, Pt.A, pp.80-81.
Que. Bur. Mines, Min. Ind., 1939, p.60; 1942, p.56; 1943, p.85.
Geol. Surv. Can., Mem. 229, pp.123-125; p.136.
Geol. Surv. Can., Maps 455A, Waite Area and 456A, Newbec Area.

Norbec Copper Mines Ltd. has 40 contiguous mining claims adjacent to the northeast holdings of Waite Amulet Mines Ltd. in Dufresnoy township. The Norbec holdings comprise Blocks 3 to 10, and claims A.1413; A.1415; A.1417; A.12146-47-50; A.2181-82; R.33245-54; R.33315-18-19-20-23; C.1361, claims 3 and 5; C.7426, claims 1 and 2, and C.G.494, claims 1 to 4. The property is 8 miles north of Noranda and is crossed by the Macamic highway.

The Norbec claims include a part of the northern contact of the Dufault lake granodiorite with the older volcanic rocks. The latter are mostly basic flows intruded by sills and dikes of diorite. Small flows of rhyolite occur with the andesites and a horizon of silicious rhyolite is known to underly the basic flows in the western part of the property. The volcanic beds strike northerly and dip gently east. In the eastern part of the property, adjacent to the granodiorite, is a peculiar formation termed the "Newbec breccia" that has irregularly-shaped fragments of many rock types in a silicious matrix. The Noranda and Powell northerly trending late diabase dikes cross the eastern and western parts of the property, respectively.

The present Norbec property includes areas explored previously by Norbec Copper Mines Ltd., Newbec Mines Ltd. and Beaver Mountain Copper Mines Ltd. In 1930 the last company completed about 1,000 feet of diamond drilling on what is now the northwest portion of the Norbec property. No records of this drilling are available.

Other early work was concentrated around the shaft area on Block 8, east of the Macamic highway. In this area the formations strike northerly, dip about 35° east, and comprise, from west to east, Newbec breccia, andesite, quartz porphyry, and diorite. A steeply dipping fault with an associated basic dike strikes north of east through these formations. A small lens of copper-bearing sulphides was discovered on the surface in the fault zone adjacent to the andesite-quartz porphyry contact. The fault zone was explored underground on the 60-125-, 250- and 375-foot levels and the small lenses of sulphides were found near the favourable andesite-porphyry contact. In 1930 about 278 tons of ore was shipped to the Noranda smelter and underground operations were suspended. In 1942 and 1943 Noranda Mines Ltd. drilled 8 more surface holes in the shaft area.

Diamond drilling was resumed in 1949 following the discovery

of an important copper-zinc orebody in the northeast part of the Waite Amulet property. When last visited, 11 holes had been completed on the Norbec property and drilling was continuing. Most of the holes were drilled in areas of rock alteration and directed to cut the rhyolite-andesite contact along which orebodies have been found on the Waite Amulet property. The holes indicated that the contact dips 20° east but they failed to intersect commercial concentrations of sulphides. One hole was drilled jointly with Wiltsey-Coghlan Mines (Quebec) Ltd. along the mutual boundary of the two properties.

The exploration is being directed by D. Derry and S. Farquharson. (W.G.R. - 49)

DUFRESNOY TOWNSHIP

Ordala Mines, Ltd.

Ref.: Geol. Surv. Can., Maps 454A, Amulet Area, and 455A, Waite Area.

Ordala Mines Ltd. has a group of 4 mining claims in ranges III and IV of Dufresnoy township between the Waite Amulet property on the west and the Lake Dufault property on the east. The claims are numbered R.36183-86 and have an area of about 132 acres. The property is half a mile south of the motor road to the Waite Amulet mine. Published geological maps show that it is underlain by the western part of the Dufault lake granodiorite.

Three exploratory diamond-drill holes were put down in the winter of 1948-49. Hole No. 1 was collared near the northwest corner of claim R.36185 and drilled vertically to a depth of 2,004 feet. Hole No. 2 was collared in the southern part of claim R.36186 and drilled vertically to a depth of 1,554 feet. Hole No. 3 was collared in claim R.36184, a short distance south of Duprat creek and west of the railroad. It was drilled vertically to a depth of 1,392 feet. The three holes passed through granodiorite with minor amounts of lamprophyre and quartz porphyry. Holes 1 and 2 were located within a few hundred feet of the contact of the granodiorite with the older formations. The failure of these holes to intersect the older formations suggests that the granodiorite contact is either vertical or dips to the west.

The exploration was directed by C.S. Johnson. (W.G.R.-49)

DUFRESNOY TOWNSHIP

Randona Quebec Gold Mines, Ltd.

Ref.: Que. Bur. Mines, P.R. No.161, p.13; No.190, Pt.1, pp.44-45.
Que. Dept. Mines, Min. Ind., 1944, p.68; 1945, p.68.
Geol. Surv. Can., Map 453A, Rouyn Area and 457A, Dufault Area.

Randona Quebec Gold Mines Ltd. has a property astride the Rouyn-Dufresnoy township line comprising claims C.6182, claims 1 and 2; C.7505; claims 1 to 3 and C.7537, claims 4 and 5 of Rouyn township; and claims C.6502, claims 1 to 4; C.6503, claims 1 to 3, and C.7482, claims 5 and 6, of Dufresnoy township. The motor road from the Macamic highway to the summer resort at Dufault beach extends eastward across the property.

The northwest part of the property includes part of a north-easterly trending sill or dike of diorite about 1,000 feet in width and the remainder of the property is underlain chiefly by acidic volcanic rocks. A few outcrops of basic lava have pillows elongated at N. 80° E. with tops south, but the general trend of the formations is northeast. The Area creek and Heré creek faults trend northeasterly across the property, about 1,700 feet apart.

In 1940 the property was held by Chibougamau Properties Ltd., who optioned it to Toburn Gold Mines Ltd. The latter company drilled 1 hole in the vicinity of the Area creek fault. The property was then acquired by Randona Quebec Gold Mines Ltd. and in 1944 a vertical hole was collared in diorite near the northwest corner of the property. The original intention was to drill this hole to a depth of 4,000 feet to try to intersect the favorable andesite-rhyolite contact along which Waite Amulet Mines Ltd. had developed orebodies, but the hole had to be abandoned at 2,700 feet. The first 1,040 feet was in diorite and the remainder in a zone of mixed acidic and basic volcanic rocks and diorite.

In 1945 and 1946 holes 2 to 17 were drilled under the direction of C.E. Gamey and in 1948 holes 19 to 22 were drilled under the direction of S.E. Malouf and R.J. Dionne. Six holes directed through the Area creek fault showed it to be a strongly shattered zone 50 to 60 feet wide, with a mud seam and some veinlets of quartz and carbonate. It appears to dip about 70° south. Three holes directed under the Heré creek fault cut another strongly shattered zone, 70 feet in width, which dips south at 40° to 50°. The other holes were drilled in various parts of the property. No intersections of commercial importance were reported by the company.
(W.G.R. - 48)

DUFRESNOY TOWNSHIP

Ranrouyn Mines, Ltd.

Ref.: Geol. Surv. Can., Mem. 229.

Ranrouyn Mines Ltd. has a group of 13 claims in the southwest quarter of Dufresnoy township, about 7 miles north of the city of Noranda. The claims are adjoined by Norbec Copper Mines on the north and by Lake Dufault Mines on the west. They comprise lots 54 to 62 and parts of lots 52 and 53 of Macamic road range West, and lots 54 and 55 of Macamic road range East. The property is traversed by the Macamic highway, and a branch road from that highway and by a spur line from the Canadian National Railways to the Waite Amulet mine.

Scattered outcrops indicate that most of the property is underlain by part of the Dufault lake granodiorite stock. The No. 4 fault at the Waite Amulet Mine (Mem. 229, Geol. Surv. Can., p.118) projected to the east, would trend easterly across the northern part of the property.

In 1948 a geophysical magnetic survey was made of the claims by Mining Geophysics Corporation Ltd. The readings were interpreted as indicating that the northern contact of the granodiorite stock might underlie the drift-covered area in the northern part of the property. The

projection of the No. 4 fault would also cross this area. Accordingly 2 diamond-drill holes were directed south from points 250 feet north and south, respectively, of the north property boundary. Both holes intersected massive granodiorite and the drilling programme was terminated.

Harold Way directed the exploration. (W.G.R. - 48)

DUFRESNOY TOWNSHIP

Wiltsey-Coghlan Mines (Quebec) Ltd.

Ref.: Que. Bur. Mines, Ann. Rept. 1929, Pt. A, p.124.
Que. Bur. Mines, Min. Ind. 1938, p.65; 1939, p.63.
Que. Bur. Mines, P.R. No. 150, p.24.
Geol. Surv. Can., Map 455A, Waite Area.

Wiltsey-Coghlan Mines (Quebec) Ltd. has a mining property in the western part of Dufresnoy township comprising Blocks 60 to 63, 85, and 86. The property is adjoined on the west by Waite Amulet Mines, on the north by Norbec Copper Mines, and on the east by Lake Dufault Mines. The motor road from the Macamic highway to the Waite Amulet shaft crosses the northern part of the claims.

The southeastern part of the property is underlain by granodiorite, the northwest part by quartz diorite, and the northeast corner by basic volcanic flows. The lavas and the sill of quartz diorite strike northerly and dip about 30° east. A late diabase dike trends northerly through the granodiorite and quartz diorite.

This property was previously explored by diamond drilling in 1929 and 1938. Four vertical holes were drilled through the quartz diorite sill to explore the underlying lavas. The holes were from 1,750 to 2,500 feet deep and passed through the base of the sill at about 1,200 feet. The company reported that favourable alteration was encountered in the lavas near the contact with the sill.

In 1948 Waite Amulet Mines Ltd. discovered a new copper-zinc orebody about 1,600 feet west of the Wiltsey-Coghlan boundary. This orebody is believed to be associated with an easterly-dipping andesite-rhyolite contact. It was decided to deepen the Wiltsey-Coghlan drill hole No. 4 to explore this contact. The deepened hole cut the andesite-rhyolite contact at 2,662 feet and was continued to a depth of 3,001 feet without encountering any concentration of sulphide minerals. The 4 deep holes were then surveyed by electrical geophysical methods. In cooperation with Norbec Copper Mines Ltd. a fifth hole was drilled on their mutual boundary to a vertical depth of 616 feet.

The recent exploration was supervised by A.W. Johnson and B.C. Fillingham. (W.G.R. - 49)

DUHAMEL TOWNSHIP

Villa Lead Mining Corporation, Ltd.

- Ref.: Geol. Surv. Can., Ann. Rept. Vol. X, 1897, pp.147 I-149 I.
Geol. Surv. Can., Pub. No.1064, "Geology of an Area Adjoining the East Side of Lake Temiskaming".
Geol. Surv. Can., Mem. 103, "Temiskaming County, Quebec", pp. 146, 152-153.
Geol. Surv. Can., Summ. Rept. 1925, Pt. G, pp.20-27, "Wright Mine, Duhamel Township, Quebec."
Geol. Surv. Can., Economic Geology Series No. 8. "Zinc and Lead Deposits of Canada".
Geol. Surv. Can., Mem. 201 "Geology and Mineral Deposits of Ville Marie and Guillet (Mud) Lake Map Areas, Quebec," pp.34-35.
Ont. Bur. Mines Vol. XVI Pt.II, "The Cobalt-Nickel Arsenides and Silver Deposits of Temiskaming", pp.65-66.

Villa Lead Mining Corporation was incorporated in 1947 to acquire the Wright mine, which is on the northeast shore of Temiskaming lake, about 7 miles north of Ville Marie. The property consists of 17 claims in range I of Duhamel township and range II of Guigues township. The early history of the mine has been related in other reports and will not be reviewed in detail. Suffice it to say that the deposit was discovered in 1686, that it has been developed by underground workings to a depth of 330 feet, that it has twice been in production, and that it was inactive from 1925 to 1948. The shaft is on the lakeshore in lot 63, range I, Duhamel township. A core shack has been erected near the shaft, but none of the former mine buildings remain. A wagon road from the shaft extends eastward for $1\frac{1}{2}$ miles and joins the motor road which branches west from the Notre Dame du Nord - Ville Marie highway about 3 miles south of St. Bruno.

Geol. Surv. Can., Memoir 201 describes the deposit as occurring in a formation of Keewatin agglomerate which strikes northeast and dips steeply to the northwest. Other reports have referred to the host rock as Huronian conglomerate. The outcrops around the shaft have large, well-rounded boulders of porphyritic dacite in a fine-grained matrix of similar material. The ore occurs in a brecciated zone in which fragments of the agglomerate are cemented together with quartz, calcite, galena and sphalerite.

Surface exposures and plans of the underground levels indicate that the ore is in a nearly vertical pipe, roughly oval in cross section, with widths of 50 to 90 feet. The writer estimates that this body would contain about 130,000 tons between the surface and the 330-foot level. No records are available on the amount of ore that has been mined, but an old section of the underground workings shows stopes on two levels, from which about 30,000 tons could have been extracted. Some ore is tied up in the shaft pillar and the near-surface ore would be difficult to mine because of the overlying lake. The management have estimated that 130,000 tons could be mined to a depth of 480 feet.

In 1948, 16 diamond-drill holes were put down, most of them directed toward the ore pipe. In general they confirmed the outline of the pipe as shown on the old plans, and several holes intersected underground workings. One hole intersected the pipe 150 feet below the bottom level. The weighted average of 12 of the drill hole intersections was 6.6 per cent lead and 1.3 ounces of silver per ton. A composite sample made up of the pulps of

all the samples of the ore sections assayed 6.03 per cent lead and 1.27 ounces of silver per ton.

The recent drilling was supervised by Nelson Bidgood.
(W.G.R. - 48)

DUPRAT TOWNSHIP

Consolidated Ansley Mines, Ltd.

Ref.: Que. Dept. Mines, Map 510, Flavrian Lake Area.

Consolidated Ansley Mines Ltd. has a group of claims in range I, Duprat township, adjoining the property of Quesabe Mines Ltd. on the west. The claims are numbered C.8070, claims 1, 2, 3, 5; C.8775, claims 1 to 4; C.8776, claims 1 and 2, and C.16745, claims 1 and 2. The property is crossed by a wagon road that extends westward from Quesabe Mines.

Most of the property is underlain by rhyolite with some minor irregularly shaped bodies of diorite and andesite. In places areas of the basic flows appear to be inclusions in the rhyolite. At the adjoining property of Quesabe Mines Ltd. gold orebodies have been developed along a northeasterly trending fault known as the Quesabe break. This break was traced to the eastern boundary of the Ansley claims.

During 1949, 11 holes were drilled to probe the fault zone and one hole was directed to explore the area north of the fault. The drilling confirmed the presence of the Quesabe break for a length of 1,300 feet across the property. Most of the holes cut a mud seam, several inches wide, with a silicified zone with quartz stringers and pyrite on one or both sides of the seam. Samples from this zone gave low assays in gold. The most encouraging intersection averaged 0.082 ounces of gold per ton across 14.3 feet. Near the western boundary of the property the indicated dip of the fault is 74° north. The holes were predominantly in rhyolite, but those near the western boundary passed through a capping of diorite.

The exploration was directed by D.M. Giachino.
(W.G.R. - 49)

DUPRAT TOWNSHIP

Lepine Lake Gold Mines, Ltd.

Lepine Lake Gold Mines Ltd. has a group of mining claims in Duprat township comprising lots 42 to 45, range V, and lots 43 to 48, range VI. The property is crossed by several lumbering roads which can be used by motor vehicles and which join the motor road that extends from the Macamic highway to the Waite Amulet shaft.

The property is underlain by the northeast tip of the Flavrian lake granite mass and by adjoining volcanic formations. Earlier diamond drilling on an adjacent property indicated a strong fault trending north of east from Noza lake. The projection of this fault would cross the

northwest corner of the Lepine Lake Gold Mines property. Interbedded andesites and rhyolite which lie to the south of this fault, strike northeast and have tops to the southeast. The volcanic formations to the north of the fault trend southeast and have tops to the northeast. A northerly trending diabase dike cuts the granite and the volcanic rocks near the western edge of the property.

During 1949 a magnetometer survey was made of the property and 3 diamond-drill holes were put down to test anomalies. One of the holes passed through the volcanic rocks into the granite mass. The other holes intersected acidic and basic volcanic rocks with minor dikes.

The exploration was directed by W.W. Beaton. (W.G.R.-49)

DUPRAT TOWNSHIP

Quesabe Mines, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept., 1934, Pt. A, pp. 86-87.
Que. Bur. Mines, P.R. No. 116, p. 11; No. 135, pp. 11-13;
No. 145, pp. 4-5; No. 227, pp. 65-66.
Que. Dept. Mines, Geol. Rept. 13, pp. 13-14.

Quesabe Mines Ltd. are developing a property in Duprat township that was held successively in the past by Birrel Gold Mines Ltd., Flavrian Gold Mines Ltd. and Payco Gold Mines Ltd. The property comprises 15 claims in parts of lots 19 to 28 of range I. The claims are numbered R. 11447-51; R. 15867-71, and C. 3618, claims 1 to 5. The shaft house and mine buildings are in the central parts of lots 24 and 25 and can be reached by a motor road which extends north and west from the western extremity of the colonist road along the IX-X range-line of Beauchastel township.

Most of the property is underlain by acidic volcanic formations intruded by minor bodies of diorite. The southeast corner of the property is underlain by part of the Flavrian granite mass and in the northeast, most of the outcrops are basic volcanic rocks. Pillow determinations in the lava indicate that the flows strike northeast and have tops to the southeast. In places rhyolitic rocks can be seen to intrude basic volcanic rocks and diorites and it is conjectural what proportion of the so-called acidic lavas are true flows.

Former operators of the property explored the shaft vein in the central part of lot 25, a northeast trending shear about 1,500 feet northeast of the shaft, and a northerly trending shear in the southern parts of lots 22 and 23. Accounts of these explorations are contained in published reports. Quesabe Mines acquired the property in 1945 and subsequently explored it with a magnetometer survey and 56 diamond-drill holes, 16 of which were put down with an "X-ray" drill.

Diamond-drill holes put down by Quesabe Mines Ltd. indicate that the shaft vein and the mineralization northeast of the shaft occur along a strong fault which has been traced across the property. The fault has an average strike of N. 70° E. and dips steeply to the north. It has a well defined mud seam. At the western boundary of the property the fault is half

a mile distant from, and striking toward, a large quartz vein which has outcrops over a length of 2 miles in Beauchastel township. On the east side of Flavrian lake a topographic depression suggests that the fault may continue to the northeast for several miles. Thus the Quesabe fault would seem to be part of a strong and continuous structure.

In the western part of the property, on lots 19 to 22, the fault crosses high ground and has been traced by trenches and by holes drilled with an "X-ray" drill. The holes cut the mud seam and some of them cut vein material, the most favorable intersection of which assayed 0.10 ounces of gold per ton for a core length of 25 inches. The fault dips north at 65°, and apparently displaces a dike with a normal movement. On lots 23 and 24, 8 holes directed through the fault cut vein material which gave low gold assays.

Near the shaft the fault bends to the east and becomes nearly vertical. Surface workings by former operators exposed 2 quartz lenses 60 feet and 120 feet long, respectively, along the fault. Two bulk samples from these lenses are reported to have assayed 0.70 ounces and 0.90 ounces of gold per ton, respectively. The zone was explored by a number of drill holes and by a vertical shaft to a depth of 325 feet. Quesabe Mines Ltd. drilled another 5 holes near the shaft to test the zone at different depths. The most favorable intersections were obtained from the 2 deepest holes which cut vein material with 0.255 ounces and 0.709 ounces of gold per ton across core lengths of 7 feet 9 inches and 9 feet 10 inches, respectively. The intersections were at vertical depths of 525 and 705 feet below the shaft collar.

These intersections encouraged the company to do further underground work. A new headframe was erected, the shaft was deepened to 475 feet, and drifting is proceeding on the 450-foot level. The management reports that the first 330 feet of drifting indicates the vein has an average width of 4.5 feet and an average gold content of 0.421 ounces per ton. The quartz is bluish and well fractured and has abundant fine pyrite. It occurs in rhyolitic rocks along the south side of the mud seam.

Northeast of the shaft previous operators explored a shear zone in andesites that appears to be part of the same fault structure. The zone had quartz stringers mineralized with pyrite and chalcopyrite, exposed over widths up to 10 feet for a length of 125 feet. A bulk sample weighing 4,500 pounds is reported to have assayed 0.44 ounces of gold per ton. Nine drill holes probed the zone at depth. Several additional holes were drilled in this area. Most of them cut vein material, but few of the intersections gave assays of ore grade. One hole cut 19 inches of vein material which assayed 0.43 ounces of gold per ton.

The present operations are being supervised by C.W. Groskery and D. Giachino. Data for this report were obtained from these gentlemen, from personal observations, and from company records. (W.G.R. - 48)

DUPRAT TOWNSHIP

Workman Syndicate

Ref.: Que. Dept. Mines, Geol. Rept. 13, p.18.

The Workman syndicate has 5 claims comprising parts of lots 27 to 31 of ranges I and II, of Duprat township. The claims are numbered R.16598-602. The western part of the property is a few hundred feet from the motor road to the adjoining Quesabe Mines.

The northwesterly part of the property is underlain by basic lava flows that strike northeast and have tops to the southeast. The southeast part of the property is underlain by part of the Flavrian lake mass.

Interest in the property was stimulated in 1949 by the development of bodies of gold ore at the adjoining Quesabe Mines. These ore shoots were found along the south side of a northeasterly trending fault known as the Quesabe break. The projected extension of this fault would cross the northern part of the Workman claims. A magnetometer survey of the property gave low magnetic readings along this projected extension. Diamond-drill hole No. 1 was collared near the western boundary of the property and directed southeast to intersect the break. The hole passed through basic flows and cut a mud seam 6 inches wide that is believed to be part of the break. A second hole was drilled from the same location to cut the break at a greater depth. This hole was largely in granite and granitized volcanic rocks. It also cut a mud seam. Correlating these seams would indicate that in this area the fault dips 80° south. A third hole, collared 400 feet to the east, was directed south to cut the break. It passed through volcanic rocks and also cut a mud seam. A fourth hole was collared to the southeast to explore an area of high magnetic intensity outlined by the magnetometer survey. It cut basic lava flows and diorite.

W.W. Beaton directed the exploration. (W.G.R. - 49)

FOURNIERE TOWNSHIP

Caron Malartic Gold Mines, Ltd.

The property of this company in Fournière township consists of lots 22 to 31, range VII. It may be reached by walking 2 miles south from the prospect shaft in the southeastern part of the property of Canadian Malartic Gold Mines Ltd.

A few scattered outcrops occur in the northern half of the property on lot 23 and lots 26 to 31. These consist of graywacke, syenite, porphyry, and diorite. The property lies within the southern belt of Kewagama graywacke, and appears to be underlain mainly by that formation.

Surface trenching was carried out on the western claims in 1937 by a previous holder of the property. It is reported that a vein carrying gold values was found in an exposure of porphyry in the northern part of lot 22. Early in 1947 a magnetometer survey of lots 26 to 31 was carried out. This indicated a diabase dike striking northwest across the claims, and an acidic intrusive formation underlying the southeast part of the property. During the summer of 1948 the company put down 5 diamond-drill holes totalling 1,284 feet.

The first drill hole, in lot 29, cut mainly diorite and

amphibolite, and the diabase dike. The second hole, in lot 27, intersected mainly dioritic rock. The fourth hole, drilled under the vein in the northern part of lot 22, cut various porphyry dikes in graywacke, and a barren quartz vein 6 inches wide. The fifth hole, on 28-29 lot-line, penetrated mainly diorite. The third hole, after drilling through 7 feet of rock, re-entered overburden and was abandoned. (W.N.I. - 48)

GAND TOWNSHIP

Lake Opawica Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No. 227, p.75.
Geol. Surv. Can. Paper 39-2 (1939)

This company holds 50 claims in Gand and La Roncière townships. The claims are numbered C.19166, claims 1 to 4; C.19167-69, claims 1 to 5; C.19199-200, claims 1 to 5; C.19202, claims 1 and 5; C.19354, claims 1 to 5; C.35337, claims 1 to 5; C.35339, claim 1; C.G.1302, claims 1 to 3, and C.G.1305, claims 1 to 5. The property was originally staked for Duhuisson Mines Ltd. by Huntly MacDonald and Frank Biéler in 1945. Sold to Lake Opawica Mines Ltd. in 1946, development work including 5,000 feet of diamond drilling was done during that year. In 1947, an additional 2,500 feet of drilling was done. Work in 1948 included additional prospecting and trenching on the property and the addition of 6 new claims to the holdings. Gold-bearing structures on those 6 claims gave \$4.00 per ton.

The main mineralized zone is a strong shear zone running approximately N.75° E. and following the contact between a conglomerate and a fragmental band. The shear is impressive and was the locus of heavy hydrothermal alteration characterized by the presence of the green mica mariposite. It is out by narrow quartz stringers and mineralized with pyrite. A grab sample taken from the shear zone assayed \$2.59 per ton in gold. (J.C. - 48)

JOANNES TOWNSHIP

Heva Gold Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No.190, Pt.II, p.31; No.205, Pt.II,
pp.26-28.
Geol. Surv. Can., Map 615A, Bousquet Joannès.

Heva Gold Mines Ltd. holds 24 contiguous claims in Joannès township comprising lots 20 to 29 and the north half lots 19 and 30 to 36, range VII; and lots 24 to 29, range VI. The shaft house and mine buildings are on lot 25, range VI, and are accessible by a motor road which extends south for three-quarters of a mile to join the Rouyn-Val d'Or highway about 14 miles east of Rouyn. The Senneterre-Noranda branch of the Canadian National Railways crosses the property near the mine camp.

The property is underlain chiefly by formations of graywacke and conglomerate which strike easterly and dip 50° to 60° north. The Cadillac-Bouzon Lake break extends easterly across the southern part of the property. It cuts the bedding of the sedimentary rocks at a small angle and

dips 60° north. The break has a width of 100 to 200 feet of soft talc and chlorite schists intruded by small bodies of diorite. A northerly trending diabase dike intrudes the formations on the north side of the break. A similar dike was found in the underground workings on the south side of the break, about 1,500 feet to the west. The latter dike bends abruptly to the east where it meets and is cut off by the break, suggesting that it is a displaced segment of the northern dike and that the break had a post-diabase right-hand movement.

In 1944 and 1945, Heva Cadillac Gold Mines Ltd. explored the break along a length of 3,600 feet with 56 diamond-drill holes. Intersections of gold-bearing quartz veins along the south or footwall side of the break were obtained for a length of 3,200 feet. Other auriferous intersections were obtained in the graywacke south of the break. The management calculated that the drill hole intersections indicated about 300,000 tons of ore averaging 0.23 ounces of gold per ton above the 400-foot horizon.

A three compartment shaft was sunk to an inclined depth of 697 feet and the footwall of the break was explored by about 1,100 feet and 1,600 feet of drifting, respectively, on the 275- and 400-foot levels. A short distance east of the crosscuts on both levels a subsidiary fracture branches southeast from the break. Short shoots of possible ore have been outlined in a network of quartz veins occurring in the subsidiary shear and along the footwall of the break near its juncture with this shear. Other possible ore shoots were outlined west of the crosscuts in more definite quartz veins along the footwall of the break. Some of the quartz is glassy and elsewhere it has a texture like sugar and can easily be crumbled between the fingers. The veins have a little coarse pyrite and some fine gold. The talc chlorite schists on the hanging wall of the veins are very soft and fissile and may jeopardize the successful mining of these bodies.

Four flat holes drilled from the 400-foot level explored gold-bearing zones with quartz stringers about 300 feet south of the shaft. Three of the holes cut zones that assayed 0.32 ounces of gold per ton across 5 feet, 0.34 ounces across 4.5 feet, and 0.3 ounces across 3.6 feet, respectively.

Underground operations were suspended in February, 1948. The mine was managed successively by J.M. Thompson and W.E. Bennett. (W.G.R. - 48)

JOANNES TOWNSHIP

Hosco Gold Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No.190, Pt. II, pp.31-33;
No.205, Pt. II, pp.28-30.
Que. Dept. Mines, Min. Ind., 1944, p.86; 1945, p.92;
1946, pp.91-92; 1947, p.68.
Geol. Surv. Can., Map. 614A, Bousquet Joannes.

Hosco Gold Mines Ltd. has two groups of claims in ranges VI and VII of Joannes township. Underground operations have been confined to

the west group, which comprises the north half of lots 30 to 46, range VI, and the south half of lots 30 to 46, range VII. The shaft and mine buildings are in the northern part of lot 39, range VI, and can be reached by a motor road which extends north from the Rouyn-Val d'Or highway.

The west property straddles the Cadillac-Bouzan lake break for $2\frac{3}{4}$ miles. The break strikes easterly and dips 60° to 65° north. North of the break the property is largely drift-covered, with a few scattered outcrops of graywacke. South of the break the formations consist of graywacke with interbedded conglomerate. One bed of conglomerate is 500 to 1,500 feet thick and forms a prominent ridge along the southern part of the property. The formations strike easterly and dip north at about 55° . Three northerly trending dikes of younger diabase are exposed on the property.

Hosco Gold Mines Ltd. acquired the property in 1944. The initial diamond-drill holes obtained gold-bearing intersections on the footwall side of the Cadillac break and subsequent holes probed the break along most of its length on the property. Numerous gold-bearing intersections were obtained in an area 2,500 feet long and 450 feet wide. The host formations are massive quartzitic graywackes, except for 3 argillaceous beds, 2 of which are on the south side of the break and one on the north. These argillaceous beds make good horizon markers. South of the southern marker beds is an easterly trending quartz vein, known as the "C" vein, which dips 70° to 80° north. The gold-bearing intersections can be aligned into 3 principal zones. The northerly zone is adjacent to the hanging wall of the break, the central zone is between the south marker beds and the break, and the southern zone is between the southern marker beds and "C" vein.

A shaft with inclination 55° north was sunk and levels established at inclined depths of 350 feet and 500 feet. The principal workings on both levels are west of the shaft. The lateral work was confined to the southerly of the 3 auriferous zones indicated by surface drilling. Small ore shoots were developed on both levels. The ore occurs in weakly sheared and silicified zones which have quartz stringers, biotite, fine pyrite and arsenopyrite, and are accompanied by a buff colored alteration product in the graywacke which may be due to sericitization. Coarse visible gold is quite common, particularly along the southern edge of the argillaceous horizons. Cross fractures are common along the gold-bearing zones.

These zones strike easterly and dip north more steeply than the enclosing formations. Individual ore shoots were found to rake westerly at about 40° .

Production was started at the mine in June, 1948, and ceased in October, 1949. The ore was transported by truck to the company's mill at the McWatters mine. A total of 50,567 tons of ore was treated and 7,367 ounces of gold produced. Mill recovery was calculated to be 79 per cent. W.J. Hosking acted as mine manager and L.S. Trenholme as geologist. (W.G.R. - 49)

LA RONCIÈRE TOWNSHIP

La Roncière Gold Mines, Ltd.

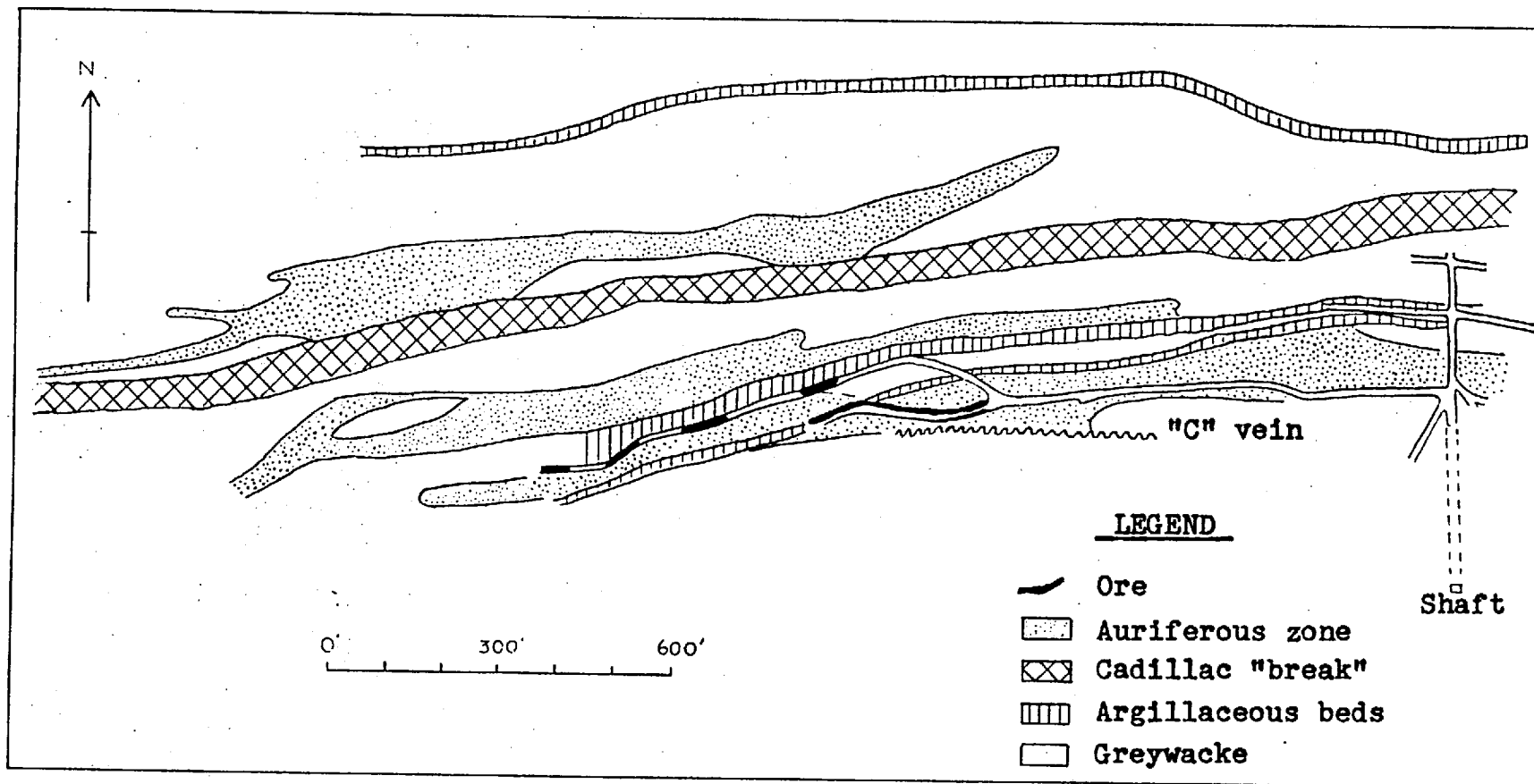
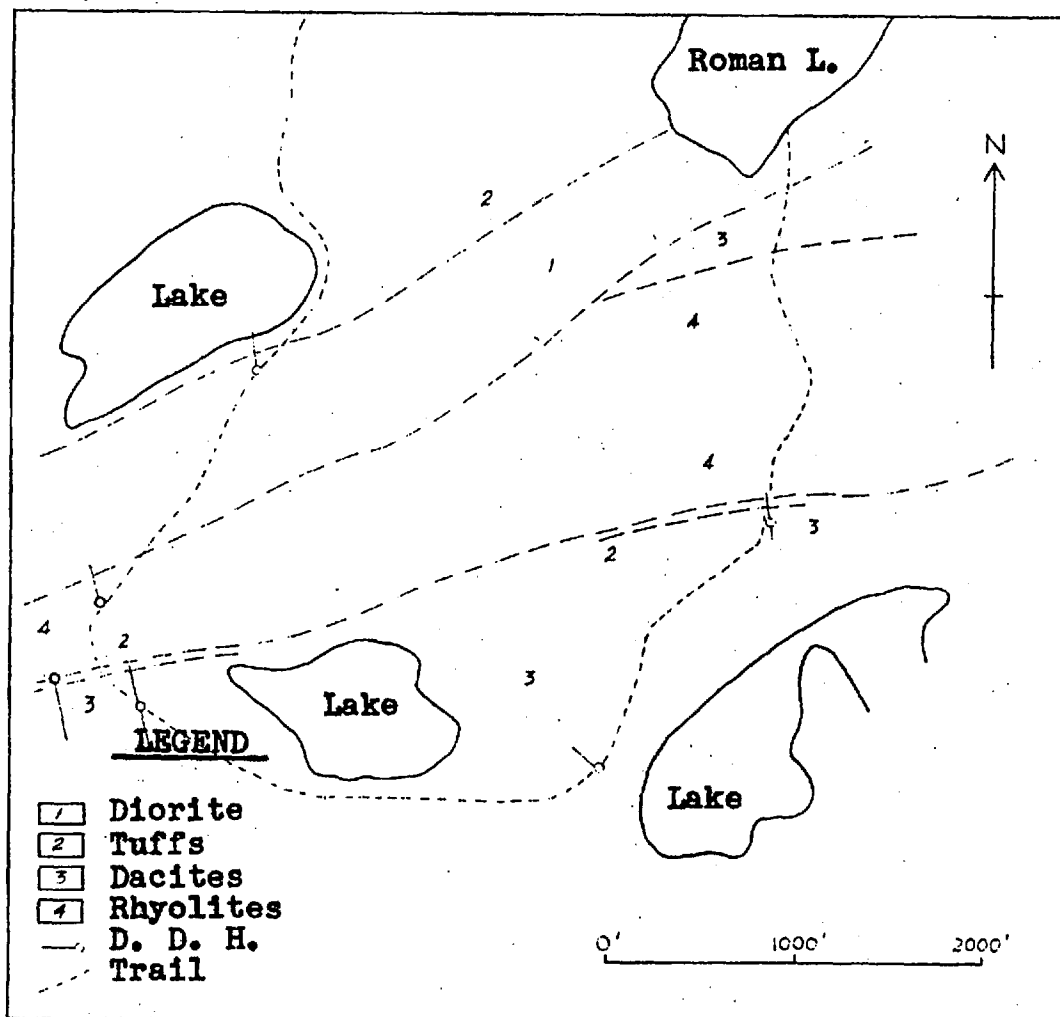


Fig. 7 Hosco Gold Mine: Plan of the underground workings and generalized geology on the 500' lev.

M.M.Q. 893

(Copied from company records)



M.M.Q. 894

Fig. 8 Concord Mines, Limited:
Sketch showing generalized surface
geology and diamond drill holes.

(Copied from company records)

This company holds 45 claims in La Roncière and Gand townships, numbered C.11032, claims 1 to 5; C.14628, claims 1 to 5; C.14652, claims 1 to 5; C.17561, claims 1 to 5; C.18918, claims 1 to 5; C.18920, claims 1 to 5; C.G. 1101, claims 1 to 5; C.G. 1103, claims 1 to 5, and C.G. 1159, claims 1 to 5. The present company, organized and headed by René Dallaire, has the property under option from the Consolidated Mining and Smelting Co. of Canada Ltd. Drilling was in progress at the time of our visit, September 16, 1948, in company with Mr. Dallaire.

The property straddles a major easterly shear in rhyolitic and andesitic lavas. Several gold-bearing structures, commonly in sheared tuffaceous horizons, have been uncovered along or in the immediate vicinity of the main shear.

Locality No. 1.

This lies in the east-central part of claim 3, C.17561. It consists of a quartz vein occurring in highly fissile tuffs in andesite. The vein and the tuffs strike N.85° E., and dip 80° south. Having a width of 28 inches at the surface, and being exposed for a length of 20 to 25 feet, the quartz vein carries pyrite, arsenopyrite, and spectacular free gold. It was traced by diamond drilling for at least 400 feet along its strike.

Hole No. 7, 138 feet to the east, gave high gold assays, around \$30.00 per ton. Hole No. 8, 180 feet to the east, traversed only andesite. Thus the vein pinches out or is interrupted by faulting between holes 7 and 8. Hole No. 9, 244 feet to the west gave an assay of \$7.35 per ton across 1 foot. A sample of fairly barren quartz taken by the writer from the surface assayed \$4.62 per ton in gold. The tuffs forming the walls of the vein are reported to assay \$2.50 per ton in gold.

Locality No. 2.

A zone of sheared and silicified tuffs, heavily mineralized with pyrite and arsenopyrite, occurs 900 feet west of locality No. 1. It strikes N.77° E. and dips vertically. This zone is reported to assay 0.25 ounces of gold per ton across 4 feet.

Locality No. 6.

This zone lies 600 feet west of No. 2. The first hole on this zone was being drilled at the time of our visit. The zone consists of sheared acid tuffs shot through by mineralized bluish-grey quartz. On the south of the shear is massive pillowed lava which forms a fifteen-foot escarpment facing north. Exposures of the sheared tuffs are few in number and the north wall of the shear zone is exposed in one trench only. The shear is estimated to be about 15 feet in width. It strikes S.85° E. was followed over 200 feet, and is open at both ends.

Locality No. 7.

Two hundred feet south of No. 2, a quartz vein 5 feet wide in sheared, silicified, mineralized tuffs is exposed at the surface by 3

trenches. The vein has a general easterly trend and a steep dip. It was traced over a length of 250 feet, and is open at both ends. Intersections by diamond drilling showed an average width of 5 feet for the vein at depth. One hole at the east end gave \$7.45 per ton in gold across 4.9 feet.
(J.C. - 48)

LESCURE TOWNSHIP

Concord Mines, Ltd.

Ref.: Geol. Surv. Can., Map 397A, Chibougamau Sheet (East Half).

Concord Mines Ltd. held a group of 50 mining claims in Lescuré, Rasles and Druillette townships, about 130 miles northeast of Senneker. The claims, which have since expired, were between Lac Bras-Coupé and Windy Lake and were numbered C.32700, claims 1 to 5; C.32701, claims 1 to 5; C.32702, claims 1 to 5; C.32703, claims 1 to 5; C.32704, claims 1 to 5; C.32733, claims 1 to 5; C.32734, claims 1 to 5; C.32735, claims 1 to 5; C.32736, claims 1 to 5; and C.32737, claims 1 to 5. The easiest access to the area is by air.

The property included Roman lake, 3 other small lakes, and part of Lac de la Baie. The land portions have thick green bush. From the camp site near the southwest end of Lac de la Baie a rough road extends to the trenches and drill holes and terminates at the south-west end of Roman lake.

During 1947 and 1948, the southwest quarter of the property was mapped geologically, tested with magnetic and electrical resistivity geophysical surveys, and probed by 8 diamond-drill holes totalling 2,266 feet. The writer made a cursory examination of a few of the trenches and some of the drill core after operations were suspended at the property.

The claims cover part of the eastern extension of the Wedding river - Opawica lake belt of volcanic formations, and are near the northern contact of that belt with the granite. The southwest part of the property is underlain chiefly by rhyolite and dacite with related pyroclastics. These formations strike north of east, dip steeply south, and have pillows facing to the south. They have been intruded by sill-like bodies of quartz diorite. Two tuff bands, about 1,300 feet apart, have been traced across the property. These bands have been sheared and contain appreciable amounts of graphite, pyrite and pyrrhotite. Surface samples containing these minerals were reported to have given interesting assays in gold, silver, copper and zinc. The 2 zones were traced by geophysical surveys and explored by 8 diamond-drill holes. The holes cut sections with disseminated and massive sulphides. The best assay return was 0.05 per cent copper and 0.005 ounces of gold per ton.

The geophysical surveys and subsequent diamond drilling were supervised by Geo-Technical Development Company, Ltd. (W.G.R. - 48)

LOUVICOURT TOWNSHIP

Bevcourt Gold Mines, Ltd.

A group of 37 claims and fractions constitutes the property of Bevcourt Gold Mines, Ltd. in northeastern Louvicourt township. The junction of provincial highways Nos. 58 and 59, 19 miles east of Val d'Or is at the east boundary of the property. The property includes the south half lot 44 and lots 45 to 51, range VII; lots 46 to 48, range VIII; and 2 groups of claims adjoining on the northwest and southwest, which are numbered C.5077, claims 1, 3 and 4; C.5078, claims 1 to 5; C.5592, claims 1 to 3; C.7629, claims 1 to 3 and C.G.512, claim 5. Buffadison Gold Mines adjoins this property on the west.

Most of the property is underlain by the central section of an elongated stock of granodiorite. It intrudes sheared and altered volcanic rocks and is cut by dikes of feldspar porphyry and andesite. A younger dike of diabase, 300 feet wide, strikes northeast across the western claims. Along the north side the granodiorite is sheared and altered and shows considerable variation in texture and composition.

The company started a diamond drilling programme in November 1944. About 35 holes totalling over 35,000 feet were completed before shaft sinking started in bedrock in August, 1946. Most of the holes were drilled in the northwest part of the property, being directed to explore a gold-bearing zone localized in the north margin of the granodiorite west of the northeast trending diabase dike. Six holes were put down east of the dike in lot 51, range VII. These traced the north contact of the main intrusive for 5,000 feet to the east boundary of the property. A few low gold values were found in quartz stringer zones in the sheared granodiorite. Five long holes cross-sectioned the granodiorite in lot 44 for 4,500 feet south of the gold-bearing area.

Most of the drilling was concentrated at the north end of lots 44 and 45, between the Buffadison property and the diabase dike 2,000 feet to the east. The work outlined in a general way 2 gold-bearing zones, a north zone and a south zone. Scattered gold values occur across a width of up to 200 feet in the south zone. Individual auriferous sections vary in width from less than 1 to more than 10 feet, and the arithmetical average of 32 uncut assays, representing a total of 105 feet of core from 13 drill holes, gives an approximate grade of 0.14 oz. of gold per ton. These holes represent a length of 1,600 feet along the zone.

In the north zone, which is separated from the south zone by 150 feet of material mainly barren, gold values were found across a width of up to 300 feet. The values in the eastern portion were low and far between but in the western sections they were frequent, and individual intersections of ore grade were up to 47 feet in length. Some narrow veinlets carried upwards of 1 ounce of gold per ton.

The shaft, which is collared in the northeastern part of lot 45, was originally sunk to a depth of 730 feet, with levels at 200, 350, 500, 600 and 700 feet. Late in 1947 the shaft was deepened to 1,020 feet and

additional levels established at 800, 900 and 1,000 feet. The shaft and underground workings are in the north gold-bearing zone, the former penetrating down through the main, steeply north-dipping, east-west porphyry dike. The upper 2 levels of the mine have not been opened up, all the development work being carried out on the 6 levels from 500-foot to 100-foot levels inclusive. The 700-foot level is the most developed, with workings extending 700 feet west of the shaft and 600 feet east. In addition to several thousand feet of crosscutting and drifting, the company carried out extensive underground drilling and put in 25 raises totalling 2,400 feet before underground operations were temporarily suspended at the end of 1948.

The part of the property explored underground is a block of granodiorite lying between the east-west porphyry dike, which is the eastward extension of the Buffadison dike, and the east-west north contact of the granodiorite. This block is 150 to 250 feet wide, 2,000 feet long, and contains auriferous veins to an explored depth of at least 1,000 feet. Within the block a series of vein zones lying in echelon, both vertically and horizontally, dip 30° to 45° north. These trend diagonally northwest, terminating down dip at the steep north dipping greenstone contact on the north, and joining on the rise side with vein material in the steep north dipping dike and shear on the south. In general these vein zones have a length of about 300 feet, a width of 100 feet and a thickness up to 30 or 40 feet. The greatest thickness of the vein zones occurs along their intersection with the dike and shear, where a highly shattered area is developed containing a series of flat, tensional, vein filled openings. Tension fracturing is also effective farther away from the dike at numerous points down the dip of the veins with flat offshoots branching into both the hanging wall and the foot wall. Usually there are 1 or 2 larger veins in each zone and the thickness or width of mineable ore is variable depending on the abundance of associated vein material in the adjacent wall rocks. On the 600-foot level, 800 feet of drifting has been done on a persistent tensional vein which strikes east-west and dips flatly to the south, opposite to the main zones. The average width is 3.5 feet. One section 143 feet long, from which the drift hacks were taken down and milled at the Perron mill in 1948, averaged 0.35 oz. of gold per ton.

In 1947 the company shipped 5,705 tons of ore from a surface stock pile to the Perron mill, and recovery amounted to 753 ounces of gold. In 1948, 8,720 more tons of Bevcourt ore was milled at Perron, yielding 1,518 ounces of gold. In April, 1948, J.L. Jowsey, mine manager, reported that development to that date had indicated 251,400 tons of ore averaging \$7.63 per ton. This does not include a substantial tonnage outlined by subsequent work on the bottom three levels. (W.N.I. - 48)

LOUVICOURT TOWNSHIP

Buffadison Gold Mines, Ltd.

Ref.: Que. Bur. Mines, Ann. Rept. 1931 Pt. B, pp.97-98;
1932 Pt. B, pp.15-19.

Que. Bur. Mines, P.R. No.116; p.67; No.126, v.2;

No.205, Pt.II, pp.34-36; No.227, pp.84-85.

Geol. Surv. Can. Prel. Map No. 45-10 (1945).

This company holds a group of 14 claims in the northeast quarter of Louvicourt township. The claims are numbered A.87511-18 and A.87953-58. They comprise parts of lots 35 to 44, range VII. Provincial highway No. 59 passes close to the north boundary of the property, 17 miles east of Val d'Or.

The property covers the western quarter of a granodiorite stock which is elongated east-west for a length of 4 miles and is nearly a mile wide. The granodiorite is enclosed in altered, schistose volcanics, and is cut by dikes of quartz diorite, feldspar porphyry syenite porphyry, andesite and diabase. The stock is sheared, fractured, altered and invaded by gold-bearing quartz-tourmaline veins at intervals for 6,000 feet along the northern margin in Buffadison ground and an additional 2,000 feet to the east in Bevcourt ground.

Following the discovery of gold on the claims in 1931 by S.B. Jowsey, Dome Mines Ltd. carried out surface exploration during 1932. Louvre Gold Mines Ltd. was incorporated in 1934 to develop the property. Subsequently options were held successively by Premier Gold Mining Co. Ltd., Teck Exploration Co. Ltd. and Madison Gold Mines Ltd. The present company, under sponsorship of Buffalo Canadian Gold Mines Ltd., Anglo-Huronian Ltd., Noranda Mines Ltd. and Newmont Mining Corporation of Canada Ltd., started a programme of exploration drilling early in 1945.

Before shaft sinking was started in July, 1946, the company had completed 23 drill holes totalling about 20,000 feet. These, and about 18 additional holes totalling about 10,000 feet, put down by previous holders of the claims, are distributed east-west along 3,500 feet of the north margin of the granodiorite, mainly in the northern parts of lots 40 to 43, range VII.

Although gold assays were obtained throughout the length of granodiorite explored by surface drilling, their scattered distribution and erratic grade were not diagnostic of a continuous orebody. Most of the better gold values were found in the eastern section of the zone extending for 2,000 feet west of the Bevcourt boundary. Here a south and a north auriferous zone were indicated in a general way. In the south zone gold was found at various intervals across 200 feet. Lateral correlation of the intersections was not apparent. The company reported one ore shoot in the zone having a length of 800 feet with an average grade of \$21.70 per ton over 3.4 feet. About 300 to 400 feet to the north the second zone also yielded several commercial assays possibly diagnostic of mineable shoots.

As indicated by the drill core, the gold-bearing zones consisted of sheared, carbonatized and silicified granodiorite with stringers and veins of quartz, abundant tourmaline and moderate pyrite. Most of the gold, which occasionally is visible, is closely associated with aggregates of coarse-grained pyrite. These, and consequently the gold tenor, are of erratic distribution, making the deposit difficult to evaluate by means of drilling.

Shaft sinking to a depth of 980 feet and establishing of 6 level stations were completed early in 1947. Douglas Parent was appointed

mine manager, and crosscuts were started north to allow east-west drifting on the indicated auriferous zones. In June, 1948, almost 2 years after shaft work had started, underground operations at the property were suspended. During this time the company completed 8,573 feet of drifting and crosscutting, 1,417 feet of raising, and 41,459 feet of underground diamond drilling. Most of the underground work was carried out on the second (360-foot), fourth (660-foot) and fifth, (810-foot) levels. On the fifth level a drift was extended for 1,200 feet east of the shaft crosscut to the Bevcourt boundary, and for 1,000 feet west to the southwesterly trending granodiorite-volcanic contact. Several raises were driven both east and west of the crosscut.

The underground openings show that a system of lenticular quartz-tourmaline veins and veinlets are injected into the main granodiorite along its northern margin. The veins are mineralized with coarse aggregates of pyrite, very minor chalcopyrite, a little scheelite and selenite, tellurobismuthite (identified spectrographically at Quebec Department of Mines mineralogy laboratories) and gold. Most of the gold is in the clusters of coarsely crystallized pyrite, lying in thin plates along the cleavage planes. Selected samples of pyrite assay as high as 30 ounces of gold per ton.

A dike of feldspar porphyry intrudes the granodiorite about 200 feet south of, and parallel to, its north contact. The dike occupies a steeply dipping older shear, and subsequent movements in and along the dike are an important factor in the localization of the south-dipping veins between it and the contact. A second dike and shear zone parallels the above about 300 feet farther south, and north-dipping veins occur between the two. Several fine-grained, basic, dike-like bodies, which strike in various directions, appear to have caused the termination of some of the vein-filled fractures in the granodiorite.

On the second level a drift was extended for several hundred feet east of the crosscut. It followed a group of narrow discontinuous veinlets 6 to 12 inches wide carrying from 0.5 to 1 ounce of gold per ton. East of the crosscut on the fourth level, the main vein in the south zone was explored for a length of 90 feet by drifting and an additional 70 feet by diamond drilling. The width is reported by the company as 2 to 3 feet and the grade as 0.40 ounces of gold per ton from muck samples. West of the crosscut on the fourth level a drift was driven 630 feet near and in the main porphyry dike and narrow, lenticular vein material.

East of the crosscut on the fifth level a drift followed the main vein in the south zone for 360 feet. For the most part it is very narrow, and the gold tenor very erratic. Another drift on the fifth level explored the Main vein zone in the north section over a length of 2,000 feet. About half this length gave ore values in several discontinuous shoots, mainly averaging one foot wide, according to company reports.

Andrew Robertson was general manager for the company and the underground geological work was done mainly by Ivan Christopher.
(W.N.I. - 48)

LOUVICOURT TOWNSHIP

Frokar Gold Mines, Ltd.

This company, a subsidiary of Frobisher Ltd., holds a group of 22 claims in southern Louvicourt township along the west side of the north-south centre line. The claims are numbered C.4617, claims 1 to 4; C.4787, claims 2 to 5; C.4788, claims 1 to 5; C.4789, claims 1 to 5 and C.4790, claims 2 to 5. The property may be reached by walking $1\frac{1}{2}$ miles south-east from the Lapaska shaft, which is 20 miles east and south by motor road from Val d'Or.

There are no rock outcrops on the property. Projected geological boundaries indicate the claims are underlain by 3 main formations. From north to south these are interbedded lavas and tuffs, tuffs and greywacke.

In 1945 a magnetometer survey of the western part of the property was made. In 1946, 2 shallow drill holes were put down in C.4617, claim 2, and another hole, drilled jointly with Dikor Mines Ltd. was directed south along the east boundary of C.4617, claim 4. In 1948 a hole collared in C.4789, claim 3, was drilled south for 699 feet. The first holes intersected mainly andesite and tuff, and the last traversed similar interbedded volcanic rocks cut by a few narrow porphyry dikes. No gold mineralization of importance was found.

S. Farquharson, geologist, logged and sampled the drill core, and provided the above data on the drilling. (W.N.I. - 48)

LOUVICOURT TOWNSHIP

Karpus Gold Mines, Ltd.

This company, a subsidiary of Frobisher Ltd., holds a group of 36 claims in southwestern Louvicourt township. The property lies to the east of Obaska Lake Mines, and south of Lapaska Mines. The claims are numbered C.4615, claims 1 to 5; C.4619, claims 1 to 5; C.4761, claims 1 to 5; C.4771, claims 1 to 5; C.4772, claims 1 to 5; C.4785, claim 1; C.4786, claims 1 to 5, and C.G.366, claims 1 to 5. The property may be reached by a motor road extending 2 miles south from the Vicour road, which branches from highway No. 59 at a point 14 miles east of Val d'Or.

The northern part of the property is underlain by a series of interbedded basic to intermediate lavas and intermediate to acidic tuffs. South of this there appears to be a zone made up mainly of thin bedded, tuffaceous sediments 1,500 to 3,000 feet thick. The most southerly claims probably are underlain by micaceous greywacke. The Cadillac fault zone may trend in a direction slightly north of east across the most southerly claims, and mark the contact between the tuffaceous sediments and the greywacke sediments.

A magnetometer survey of the northern two-thirds of the property was carried out in 1945. During July, 1948, the company put down

2 diamond-drill holes totalling 1,375 feet. One hole was drilled in C.4615, claim 1, in the northern part of the property. It intersected andesite and tuff, and a 100-foot core length of diorite. The other hole, collared in C.G.366, claim 4, cut mainly tuff and andesite. The holes penetrated rocks giving high magnetic readings, caused by magnetite in the andesite. The best gold assay obtained was from 1.0 feet of core carrying a little chalcopryrite and 0.03 ounces of gold per ton, in the hole in C.G.366, claim 4.

S. Farquharson, geologist, logged and sampled the core for the company, and provided the above data on the drilling. (W.N.I. - 48)

MALARTIC TOWNSHIP

Abitibi Ventures, Ltd.

This company holds a group of 6 claims near the northwest corner of Malartic township. The claims are numbered; C.13942-44, claims 1 to 5. They cover lots 5 to 10, inclusive, range IX. Provincial highway No. 60 crosses the property 2 miles north of Rivière Heva village.

No outcrops of bedrock are known on the claims. They appear to be underlain mainly by volcanic rocks of the Malartic group. A geomagnetic survey of the property was carried out in 1946, which indicated anomalous conditions in the southwest corner. One drill hole, 1,250 feet in length, was directed north from a collar at the corner of lots 4 and 5 on the VIII-IX range-line. The hole penetrated mainly basic lavas, cut by dikes of feldspar porphyry, granite, and diorite. Narrow bands of vein material, as well as pyritization and silicification were noted in some of the acidic dikes, but no gold assays of importance were reported. The exploration was directed by Paul d'Aragon. (W.N.I. - 48)

MALARTIC TOWNSHIP

East Amphi Gold Mines, Ltd.

Ref.: Geol. Surv. Can., Mem. 222, p.65-67.

Que. Bur. Mines, P.R. No.161, pp.25-26; No.227, pp.96-98.

East Amphi Gold Mines Ltd. was incorporated in 1942 to develop 2 claim groups in Malartic township. The company is sponsored by a mining group consisting of Howey Gold Mines Ltd., Northern Canada Mines Ltd., The Coniagas Mines Ltd., Pioneer Gold Mines of B.C. Ltd., Cyril Knight Prospecting Co. Ltd., and Inspectors Airways Co. Ltd. The 2 claim groups are in the southwest quarter of Malartic township and are separated by 4 lots held by Parbec Malartic Gold Mines Ltd. The groups are part of large holdings formerly rented by the Amphi Gold Properties Ltd. The west group comprises north half lots 1 to 11, range II; south half lots 4 to 6, and lots 7 to 12, range III. The east group is made up of lots 16 to 31, range I; and lots 16 to 19, range II.

The Canadian National Railways branch line between Senneterre and Noranda passes diagonally across both claim groups. Provincial highway No. 59 crosses the east group one-half mile north of the town of Malartic. A motor road leads west from the highway for $1\frac{1}{4}$ miles to the new shaft

site on lot 20.

The dominating geologic feature of the claims is the Cadillac fault zone, which crosses both groups in a northwest-southeast direction. A length of 6,000 feet along the strike of the fault zone is covered by the west group, and 7,500 feet by the east group. The fault is marked by intense shearing across several hundred feet, and lies in the southern part of a band of basic volcanic rocks 2,000 to 4,000 feet wide, known as the Cadillac belt. Numerous dikes, sills and irregular bodies of quartz-feldspar porphyry, diorite, syenite and albite granite occur in the schists of the fault zone and adjacent formations to the south. The gold mineralization is closely associated structurally with these intrusive rocks and with areas of drag folding.

South of the Cadillac volcanic belt the rocks are mainly greywacke of the Keewagama group. North of it interbedded sediments of the Cadillac group, consisting of conglomerate and greywacke, extend for $1\frac{1}{2}$ miles.

Prior to 1937 Amphi Gold Syndicate carried out preliminary surface work on the west group, and did some drilling on the north half lots 8 and 9, range II, on the south side of the Cadillac belt. In 1937 International Mining Corporation (Quebec) Ltd. optioned this group and did surface exploration along the Cadillac volcanic belt. While the property was under option to Howey Gold Mines Ltd. and associates during 1940 and 1941, 8 drill holes totalling 5,017 feet were put down in the west group in and near the same Cadillac belt.

Early exploration on the east group of claims was carried out by Laurentian Gold Mines Ltd. during 1923 to 1927. This work was done mainly in the southern parts of lots 16 and 17, 1,500 feet south of the Cadillac fault, where a small body of mineralized albite granite and numerous dikes intrude the Keewagama greywacke. The sediments are flexed into a large S-shaped drag fold. This structure controlled the outline of the intrusive, which is also S-shaped. The granite, particularly at the northwest nose of the fold, is invaded by a large number of veins, veinlets and irregular bodies of white quartz. Some of the vein quartz is sparingly mineralized with pyrite, chalcopyrite and galena. In 1928, Cartier Malartic Gold Mines Ltd. carried out diamond drilling, and sank a shaft in the veined intrusive in southern lot 17 to a depth of 100 feet and did over 100 feet of lateral work. The writer has no information on the results of this work, and apparently no work has been performed on the zone since 1928.

The chief geologic and economic interest of the east group is the Cadillac belt and fault zone, on which all later development has been concentrated. In 1937, McIntyre Porcupine Mines Ltd. optioned the east group and, before the agreement lapsed in 1938, they put down 18 drill-holes aggregating 13,000 feet. Two other holes, drilled jointly with Parbec Gold Mine Ltd., totalled 1,070 feet. Early in 1939, Canadian Malartic Gold Mines Ltd. optioned the groups and completed 5,540 feet of drilling in 7 holes. In the spring of 1940 both groups were optioned to Howie Gold Mines Ltd. and associates, who completed 32 holes totalling 15,651 feet on the east before operations were suspended in 1941. About 20 holes were put down during 1944 and 1945 by the present company. Altogether upwards of 70 drill holes have been put down on the east group. These total 45,000 feet.

Ten of the drill holes form 3 cross-sections of the favourable Cadillac volcanic belt. One cross-section is at the Parbec boundary (lot 15-16 line), the second is 1,500 feet southeast of the first, and the third is in lot 22, 4,500 feet southeast of the second. Eight of the holes are drilled at the south end of lots 25 to 30, range I, at various intervals in and near the north half of a plug of albite granite intruding the volcanic formations.

About 50 drill holes are distributed across southern lots 16 to 23, range I, at various intervals along 7,500 feet of the south part of the Cadillac volcanic belt. They indicate this part of the Cadillac belt, which is drift-covered, is a zone of intense shearing and alteration invaded by a group of acidic porphyries varying slightly in mineralogical composition, and by dioritic bodies of irregular outline. Gold was found in almost every drill hole, but, except in lots 20, 21 and 22, most of the assays were below ore grade. From lot 20 to lot 16 at the west boundary of the property, a distance of 3,800 feet, most of the drill holes are widely spaced, so that the possibilities are not completely explored. In lots 20 to 22, 30 drill holes, directed into the main fault zone, indicated several auriferous shoots occurring intermittently along a length of 3,000 feet. Plotting of the intersections shows sufficient alignment in some places to suggest continuous ore shoots. At the west side of lot 20, 4 intersections, representing a length of 300 feet and a width of 5 to 18 feet, gave gold returns ranging from \$2.10 to \$21.85 per ton. Other gold assays were obtained for an additional 2,000 feet to the southeast from intersections which can not definitely be correlated. They occur at various intervals across a width as great as 400 feet. Some individual auriferous zones are of ore grade, whereas others are low grade, and widths are variable.

A shaft, located in southwest lot 20, was completed to a depth of 504 feet at the end of 1946. Two levels were established, one at 325 feet, and one at 475 feet. Before operations were suspended in January, 1948, 4,894 feet of drifting, 1,364 feet of cross-cutting, and 16,162 feet of drilling were carried out on the two levels. Crosscuts were extended north to the main Cadillac fault zone of highly sheared rocks, then drifting proceeded east and west to the auriferous areas indicated in surface holes. The company reports that 6 concentrations of gold were disclosed on the 325-foot level. These are mainly fractured, veined, silicified, coarsely pyritized, gold-bearing bodies of diorite, intruded by acidic porphyry dikes. The intrusives are enclosed in soft schists, varying from chloritic, talcose, actinolitic to amphibolitic types, and showing considerable contortion.

The best gold concentration on the 325-foot level, 350 feet west of the shaft crosscut, has a length of 120 feet, a width of 23 feet, and a grade of 0.54 ounces per ton. This is adjoined by an additional 180 feet of mainly low-grade material. This shoot lies in a drag-folded area. Drill holes above and below encountered much lower-grade mineralization. Directly below this shoot, on the 475-foot level, an auriferous zone 60 feet long was found to assay 0.38 ounces per ton across drift width.

Several interesting gold intersections were obtained in horizontal drill holes put out from the drifts, but most of them were not further investigated. Chances for the occurrence of larger orebodies at greater depth remain unexplored. (W.N.I. - 48)

MALARTIC TOWNSHIP

Vinray Malartic Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No.227, pp.105-06.

The property of Vinray Malartic Mines, Ltd. consists of 9 claims in the southeast quarter of Malartic township. The claims cover north half lots 43, 44, 45 and 51, and lots 46 to 50, of range II. The camp, which is located in the northern part of lot 42, range II, may be reached by means of a newly constructed tractor road starting from provincial highway No. 59 at a point 2 miles north of Malartic and going east along the II-III range-line to the Malartic river and then southeast for a total distance of $2\frac{1}{2}$ miles.

A few small scattered outcrops occur in the central part of the property. These consist of basic lavas, tuff, agglomerate, and diorite. Results of geological mapping, a magnetometer survey, and diamond drilling in the northwest part of the property suggest that structurally the rocks form a large drag fold, the axis of which trends about east-west. As indicated by a magnetic horizon of diorite and tuff, the nose of the fold lies in lot 43, with the north limb striking northeast and the south limb southeast. Before shaft sinking started in March, 1947, the company had completed 28,407 feet of drilling in 45 surface holes.

During the period between January and July, 1945, the company put down 10 drill holes. Seven of these form a north-south cross-section along the 50-51 lot line extending for 3,400 feet south of range-line II. The holes intersected chiefly andesite, minor intermediate lava and tuff, narrow peridotite sills, granodiorite dikes, and dikes of albitite and siliceous syenite. Near the north end of the cross-section the core from one hole consisting of diorite intruded by quartz-carbonate stringers and sparsely mineralized with pyrite, assayed 0.04 ounces of gold per ton for 6 feet. Two holes were drilled in northeast lot 51. These cut mainly basic lavas, tuff, and peridotite. A few very low gold assays were obtained. One hole was drilled south along the 49-50 lot line at a point 550 feet south of range-line II. A section of silicified, carbonatized volcanic rock 7.5 feet long from this hole gave a gold assay of 0.03 ounces per ton.

Following a magnetometer survey made during the summer of 1945, diamond drilling was resumed in January, 1946. Most of the holes were located in the central part of lot 43, and were put down to explore the diorite at the nose of the drag fold. The gold assays obtained in the northern part of the fold nose were low, the best results reported by the company being 13.8 feet at \$4.97 per ton, 5.0 feet at \$4.23 and 3.0 feet at \$5.39. No lateral extension was found for these intersections in holes drilled 100 feet to the east and west.

Three holes spaced at 650-foot intervals were directed to explore the north limb of the drag fold. One of these holes located 1,800 feet northeast of the nose of the fold, in the north-central part of lot 45, had an intersection of 2.7 feet at \$6.54 in gold per ton from a zone of well mineralized diorite intruding tuff.

In the southern part of the fold nose, in lot 43, holes spaced at 50-foot intervals indicated an auriferous zone 400 feet long. Company reports show that this zone was erratic in grade and width, ranging from 1.4 feet at \$3.08 per ton to 33.5 feet at \$8.47. There were also indications of a second, shorter, gold-bearing section 100 feet to the north. Other gold assays were obtained from holes distributed for 1,000 feet south-east of the main zone in lots 43 and 44.

The shaft, which is collared a short distance north of the main zone in the central part of lot 43, was sunk to a depth of 275 feet. Levels were established at 125 feet and 250 feet. Crosscuts were extended south for 163 feet on the first level to the main shear, and 166 feet on the second level, to and beyond the main shear. Before work was discontinued in August, 1947, 150 feet of east-west drifting was done on the first level, and 65 feet on the second level. This work did not fully explore the main zone nor the indications in surface holes to the southeast. Work was resumed in December, 1947, and discontinued again in March, 1948, after the first level drift was extended a short distance west, and about 100 feet of raising was carried out from it in two workings east and west of the shaft crosscut.

The drifts along the main gold-bearing structure show that it is a steeply north dipping east-west shear, cutting across the enclosing diorite body at a small angle to the trend of the intrusive. The shearing ranges in width from 4 to 10 feet, and in places the diorite is much brecciated. One main lead of auriferous vein quartz averaging less than one foot wide is injected along the zone of shearing and brecciation. The adjacent diorite schist is cut by numerous stringers of quartz, some of which fill flat-lying tension openings. Hydrothermal alteration of the wall rock, including silicification, carbonatization, and the deposition of tourmaline, pyrite, and biotite, has bleached the diorite to a light buff colour. According to company records, face sampling of the 125-foot level drift gave an average width of 2.5 feet at 0.20 ounces of gold per ton for the explored length of 155 feet. The same width and grade are reported for the 250-foot level for the drifted length of 68 feet. The raises show that at a depth of 100 feet below surface a sharp roll in the dip occurs, and this local structure is responsible for marked enrichment. (W.N.I. - 48)

MONTBELLARD TOWNSHIP

New Norzone Mines, Ltd.

Ref.: Que. Bur. Mines, P.R. No. 135, pp.14-15; No.227, pp.109-10.
Que. Dept. Mines, Min. Ind. 1946, p.97.
Geol. Surv. Can., Map. 240A, Opasatika Sheet.

New Norzone Mines, Ltd., has a group of 10 contiguous claims in Montbellard township. These comprise lots 31 to 33, range VIII, lots 32 to 34 and parts of lots 35 to 37, range IX, and lots 34 to 38, range X. The shaft and mine buildings are in the northern part of lot 36, range IX, and are accessible by a motor road which extends south for a mile and joins the road along the VIII-IX range-line about $1\frac{1}{2}$ miles west of the village of Rosendy.

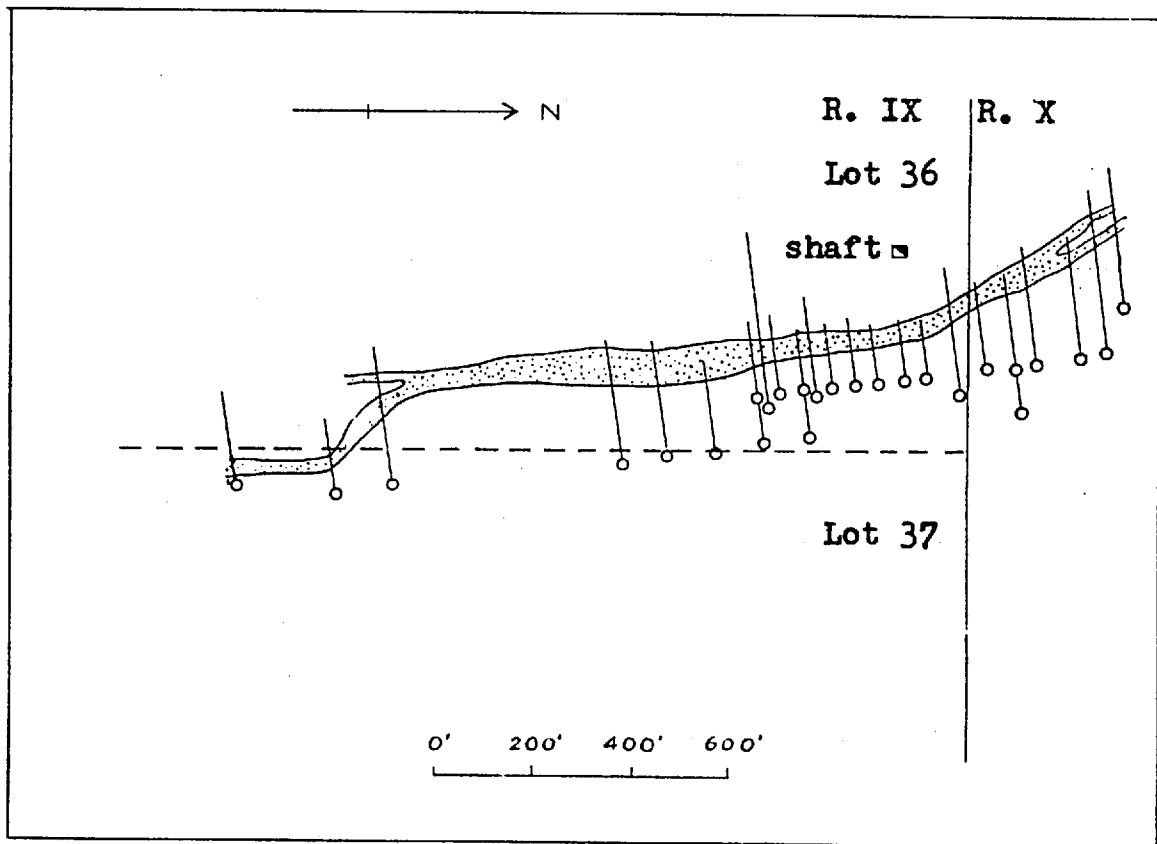
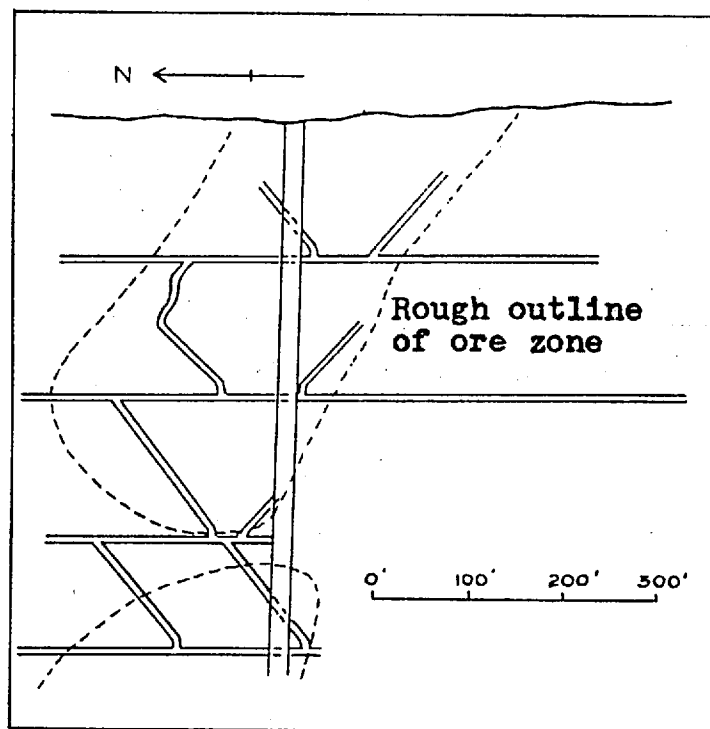
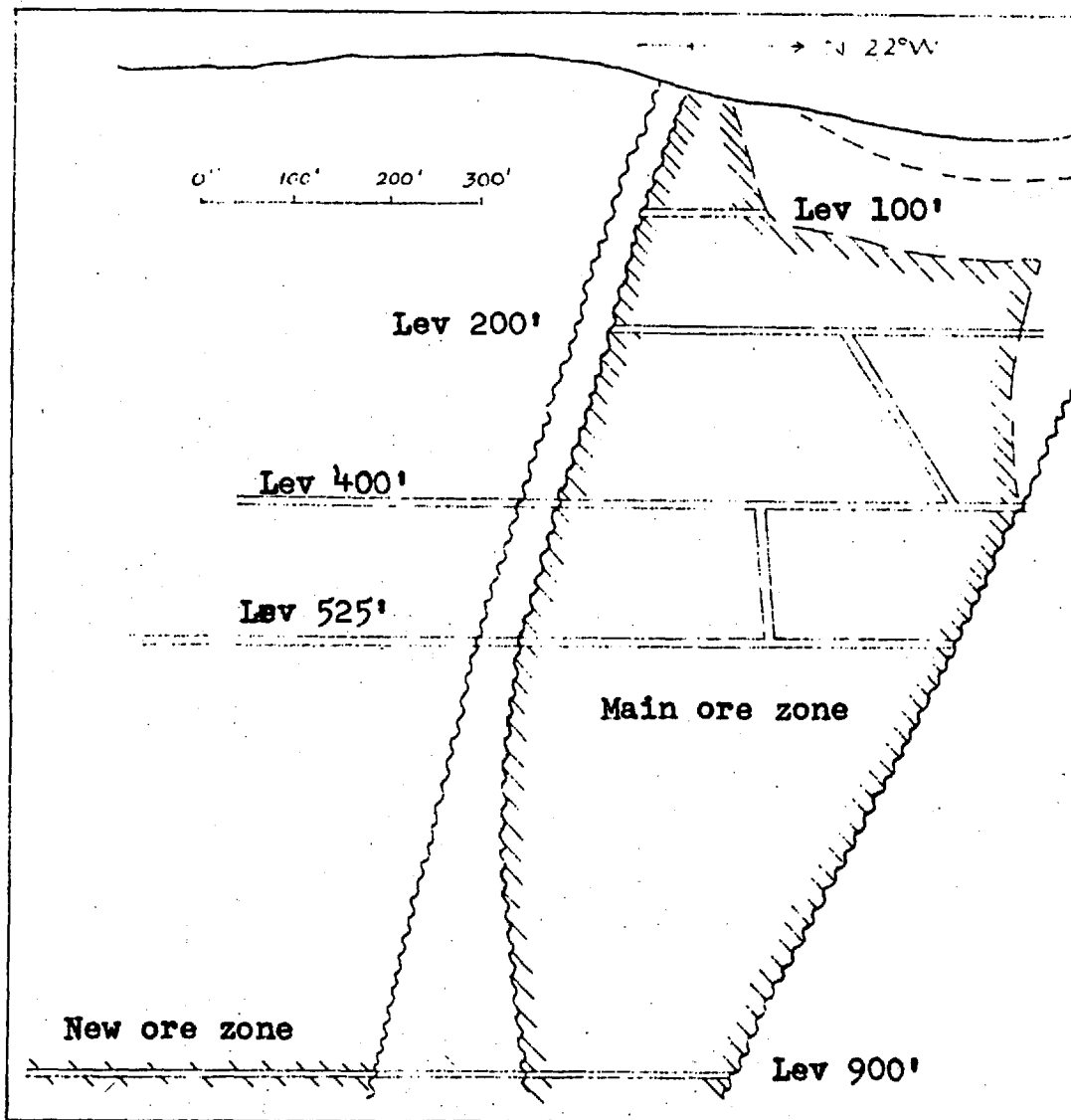


Fig. 9-A New Norzone Mines, Limited
Surface plan showing vein and D D H
 (Copied from company records)



M.M.Q. 895

Fig. 9-B New Norzone Mines, Limited
Longitudinal section in plane of the
vein showing underground workings



M.M.O 896

Fig. 10 Anglo-Rouyn Mines, Limited
 Longitudinal section in the plane of
 the main vein showing the underground
 workings

(Copied from company records)

Scattered outcrops indicate that most of the property is underlain by formations of gently dipping graywacke. These commonly have brown mica developed along the bedding planes and in places have been altered to amphibolites. A dike of late diabase trends northeast across the northern part of the property.

The ore deposits occur in a large quartz vein which forms a prominent ridge in the northern part of lot 36, range II. The vein strikes N. 6° W., is nearly vertical, and is from 40 to 100 feet wide. It has been traced by trenches for 1,200 feet, and by diamond-drill holes for 1,900 feet. A vein of similar appearance and attitude has been found on the property of Shearzone Mines Ltd., a mile to the south, and may be a continuation of the Norzone structure.

The sulphides occur along definite lenticular zones in this vein. These zones have vuggy and banded quartz and contain sphalerite, galena, chalcopyrite and pyrite, in that order of abundance. The main sulphide-bearing zone is exposed in trenches and pits for several hundred feet. A bulk sample from one of the pits is reported to have assayed 28.05 per cent zinc, 5.10 per cent lead and 0.91 ounces of silver per ton.

Siscoe Gold Mines Ltd. optioned the property in 1942 and put down 14 diamond-drill holes. Norzone Rouyn Mines Ltd. acquired the property in 1946 and probed the vein along a length of 1,900 feet with 25 drill holes. Company records show that the drill intersections of the main sulphide zone averaged 10.49 per cent zinc and 0.82 per cent lead across 8.1 feet for a length of 500 feet. A shaft was sunk on the west side of the vein and the ore zone was developed on the 150-300-, 450- and 580-foot levels. The principal sulphide bearing zone was traced for 300 feet on the first level and for 350 feet on the second, but seemed to pinch out a short distance above the third level. The zone rakes about 60° north and angles across the vein in dip. For part of its length it is adjacent to the pegmatite dike. On the bottom level two similar and parallel zones have been explored. The easterly zone has been followed for 400 feet and is strong at the north face. The other zone, which is 40 feet to the west, has been traced for 290 feet. The sulphides are less continuous than on the upper levels and occur as a series of lenses.

The management have calculated that ore reserves to a depth of 620 feet total 87,700 tons with an average content of 8.5 per cent zinc, 0.74 per cent lead, and 0.24 ounces of silver per ton. Charles Cashman supervised the underground operations, which were suspended in January, 1949, (W.G.R. - 48).

PERSHING TOWNSHIP

Ansley Gold Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No. 190 Pt. III, p.13.

Ansley Gold Mines holds a group of 59 claims in the north-west quarter of Pershing township. The claims are numbered C.7706, claims 1 to 5; C.7708, claims 1 to 5; C.7711-17, claims 1 to 5; C.7719, claims 1 to 5; C.7720, claims 1 to 3; C.7721, claim 1, and C.7722, claims 1 to 5. The

west boundary of the property is the Pershing-Vauquelin township line. The eastern part of the property is traversed by the motor road from Senneterre to Croinor Pershing Mines.

Rock exposures in scattered, small outcrops and trenches indicate that most of the property is underlain by basic to intermediate lavas. Graywacke and iron formation occur along the southern margin. Tuff and agglomerate are interbedded with the lavas, particularly near their contact with the sediments. Several sills of diorite and quartz diorite, up to 500 feet in width, and up to 2 miles in length, intrude the volcanic formations. All these formations are cut by narrow dikes of feldspar, and quartz-feldspar porphyry. Carbonatization is pronounced, especially in the vicinity of the volcanic-sedimentary contact, which is marked by a strong talc-carbonate shear zone at least 100 feet wide. Auriferous quartz veins have been found in some of the diorite and adjacent volcanic rocks.

During 1938 to 1940 the Consolidated Mining and Smelting Company of Canada Ltd. held the claims forming the southeastern part of the present property. Surface trenching at that time in C.7716, claim 1 exposed a strong zone of schisted, carbonatized, rocks invaded by quartz-tourmaline stringers and carbonate veinlets. Although sulphide mineralization is very sparse at the surface, free gold is reported in the zone.

Before starting to drill, Ansley Gold Mines Ltd. carried out a geophysical survey of part of the property, geological mapping, and considerable trenching in overburden and rock. This work was done mainly on or near diorite bodies in C.7716, claim 1, C.7715, claim 3 and 4, C.7706, claim 1, and C.7722, claim 5. Encouraging gold assays were obtained from vein material in altered diorite in value of \$6.50 per ton in gold is reported for a 6-foot channel sample.

Drilling started in 1945, and before operations were suspended in 1947 some 30,000 feet in 54 holes was completed. Except for 4 holes put down along the mutual boundary with Boycon Pershing Gold Mines Ltd. (Vauquelin-Pershing township line), the drilling was done in the eastern part of the property. Five east-west sills of diorite were partially explored. No.1 diorite, the most southerly, was drilled along 1,600 feet. No.2, 1,000 feet to the north, had one cross-section of 2 holes. No.3 was tested along 2,000 feet by 6 holes. No.4 was drilled along 6,200 feet with 12 holes. No.5, the most northerly, was explored along 4,000 feet by means of 18 holes.

Four of the diorite zones yielded only very low gold assays, but more promising results were obtained in the most northerly sill. It yielded low values along 2,500 feet, with one section 200 feet long in the eastern part of C.7706, claim 1, giving results of 0.11 ounces of gold per ton 1.6 feet, 0.07 ounces for 1.1 feet, and 0.19 ounces for 1.4 feet.

One drill hole yielded an assay of 0.06 ounces of gold per ton for 3.4 feet of core in the volcanic rocks between the most southerly diorite and the next to the north.

J.H. Norrie acted as consulting engineer for the company.

PERSHING TOWNSHIP

Croinor Pershing Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. 190, Pt. III, pp.15-20.

Croinor Pershing holds a group of claims in the northwest quarter of Pershing township. The group includes Mining Concession No.339; C.3753, claim 1; C.3754, claims 1 and 2; C.5313, claims 1 to 5; C.5495, claims 3 and 4; C.5496, claims 3 and 5; C.5497, claim 3; C.5500, claims 1 to 5; C.5502, claims 1 to 5; C.5503, claims 2 to 5; C.7099-100, claims 1 to 5; C.7707, claim 1 and C.7709, claims 1 to 4. The property is a short distance northeast of Garden Island lake. It may be reached by a motor road extending 28 miles south and east from Senneterre.

The property is underlain by a group of southeast trending lavas and pyroclastics. Towards the north the lavas are trachytic types. These are underlain to the south by several thousand feet of andesite containing horizons of tuff and agglomerate. One main band of tuff and agglomerate 2,000 feet wide, is intruded by a diorite dike which has been traced for nearly 3 miles across the property. The diorite and volcanic rocks are invaded by dikes of feldspar porphyry and of late Precambrian diabase.

Twelve drill holes were put down by operators previous to the formation of the present company. Croinor Pershing Mines Ltd. put in about 70 surface holes, all distributed along the main diorite dike for a length of about 9,000 feet. Gold mineralization was obtained at intervals in the holes covering 5,000 feet of the eastern part of the dike, 2,900 feet of which gave discontinuous ore-grade assays. The drilling indicated a promising section in claim A.44989, and nearly in 1946 a shaft was put down to a depth of 250 feet, with levels at 125 and 250 feet. In 1947 the shaft was deepened to 640 feet, with levels added at 375 and 500 feet. Underground development of the gold deposits continued until November, 1948, when, according to the company, operations were suspended pending a decision on the construction of power transmission line to the property.

The ore occurs in the main diorite dike. It consists of sheared, brecciated, veined, heavily, pyritized diorite lying along the foot-wall of the dike, which dips 60° northeast. Discontinuous, irregular masses of vein quartz are associated in places with the diorite ore-rock, but, as a rule the quartz carries little, if any, gold.

Drifting carried put before operations ceased comprised about 1,200 feet on the first, 1,100 feet on the second, 500 feet on the third and 1,500 feet on the fourth levels. On the first level 6 gold shoots, with a total length of 642 feet, averaging 0.18 ounce per ton over 5.8 feet were explored. On the second level 5 gold shoots, with a total length of 698 feet and an average grade of 0.28 ounces per ton over 6.4 feet were indicated. On the fourth level drifting and drilling indicated a zone over 600 feet long of ore grade and width west of the shaft crosscut. The drift west of the crosscut extended for about 1,500 feet, and had just entered a gold-bearing area 500 feet long near a porphyry body intruding the diorite when the mine was closed down.

Company officials state that sufficient ore averaging 0.28

6 ounces of gold per ton has been opened up to operate a 300-ton mill for about two years. There is also indicated a substantial tonnage of low grade material requiring further exploration, and the promising ore near the west porphyry remains largely unexplored. (W.N.I. - 48)

ROUYN TOWNSHIP

Anglo-Rouyn Mines, Ltd.

Ref.: Que. Bur. Mines, Min. Op. 1928, p. 79.
Que. Bur. Mines, Ann. Rept. 1934, Pt. A, p. 82; 1935, Pt. A, p. 51.
Que. Bur. Mines, Min. Ind. 1937, p. 58; 1938, p. 60; 1940, p. 44;
1945, p. 78; 1946, pp. 99-100.
Que. Bur. Mines, P.R. No. 135, p. 22; No. 161, p. 29; No. 227, pp. 118-19.
Geol. Surv. Can., Mem. 229, p. 79.

Anglo-Rouyn Mines Ltd. has a mining property in Rouyn township comprising Blocks 34 to 39, inclusive. The property is adjoined by Powell Rouyn Gold Mines on the south, by Belgold Mines and New Marlon Gold Mines on the west, and by Joliet-Quebec Mines on the east. The mine can be reached by a motor road which branches west from the Macamic highway about $2\frac{1}{2}$ miles north of Noranda.

The property is underlain chiefly by basic and acidic volcanic rocks which strike northwest and face and dip northeast. In general, the eastern part of the property is characterized by rhyolite and the western part by andesites. The contact between these two formations has been offset along a series of northeasterly faults. The most southerly of these, known as the No. 1 fault, is near the southern boundary of the property and has been exposed on the surface and cut by drill holes from the underground workings. It strikes $N.60^{\circ}E.$ and is believed to dip steeply south. The Heré creek fault underlies a depression about 1,500 feet north of the No. 1 fault. Where exposed in the underground workings it has a seam of mud 3 to 6 inches wide with the adjacent rocks strongly shattered for 100 feet. The fault strikes $N.50^{\circ}E.$, dips 55° southeast, and has a left strike separation of about 1,300 feet.

A third important fault is believed to underlie a northeasterly trending valley about 2,000 feet north of the Heré creek fault. The presence of this fault is indicated by the termination of the andesite formations along their strike at this valley. The valley is in line with the Beauchastel fault to the southeast and at the Arca creek fault to the northeast, suggesting that these are part of the same major structure.

This property has been explored intermittently since the first days of the Noranda camp. Most of the early work was performed by Pontiac Rouyn Mines Ltd. who, in 1933, to 1935, drilled the main vein and explored it with underground workings on the 100 - and 200-foot levels. Further drilling and geophysical surveys were completed in 1933 and 1940. In 1945, Anglo-Rouyn Mines Ltd. acquired the property and drilled another 36 holes. A vertical three-compartment shaft was put down 1,000 feet east of the old shaft, and the main vein was developed on the 400-, 525- and 900-foot levels. Shipments of ore to the customs mill at the Powell Rouyn Gold Mines were started in November, 1948.

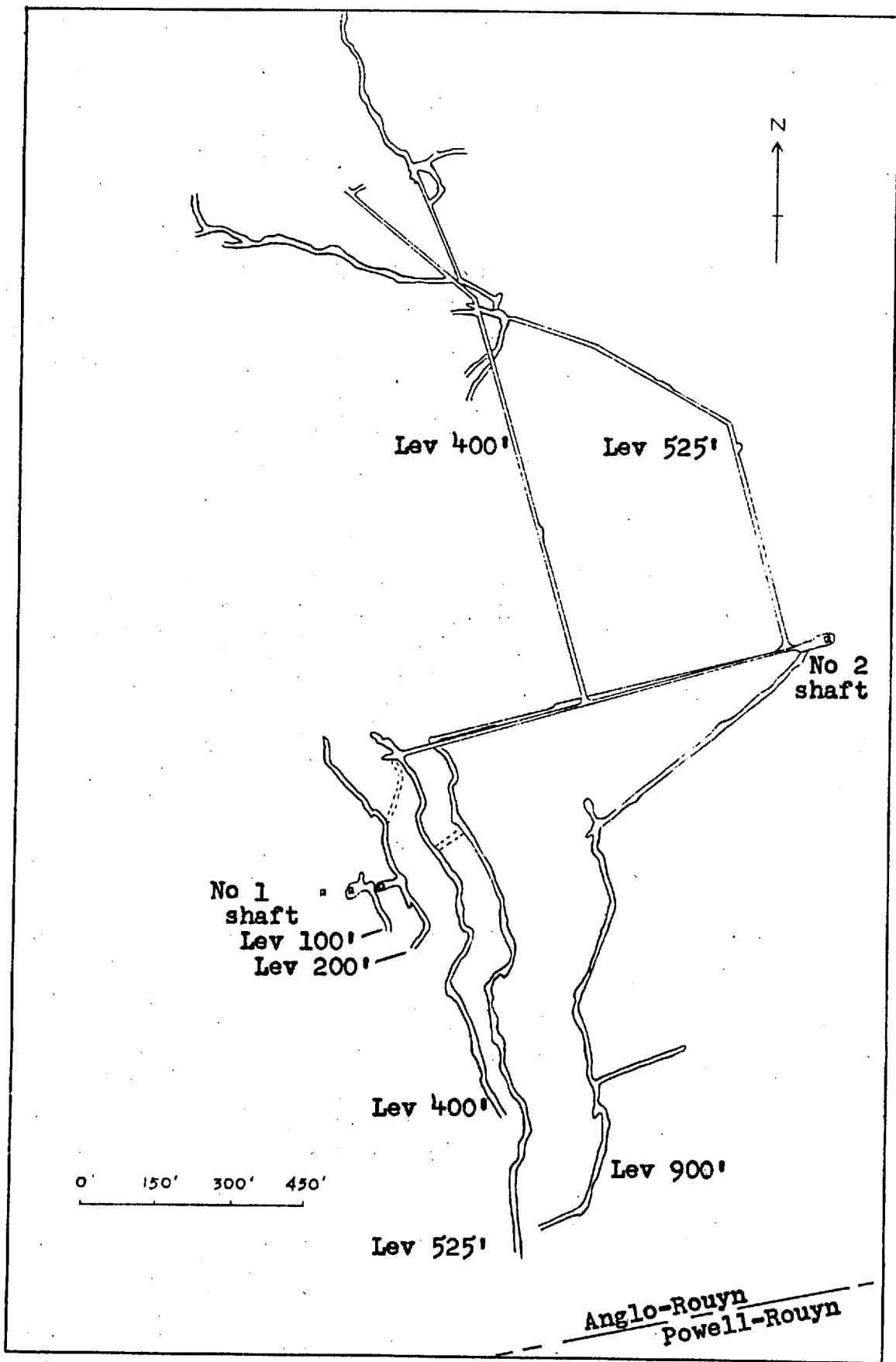


Fig. 11 Anglo-Rouyn Mines, Limited
 Composite plan of the underground workings

M.M.Q. 897

(Copied from company records)

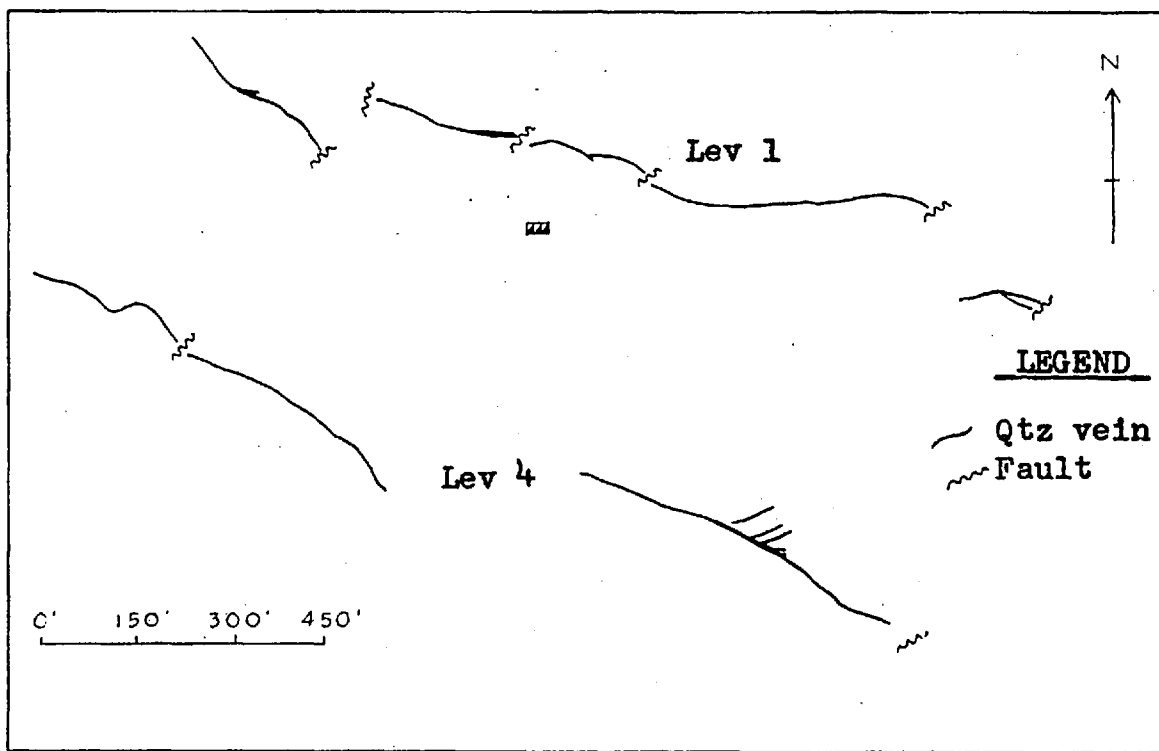
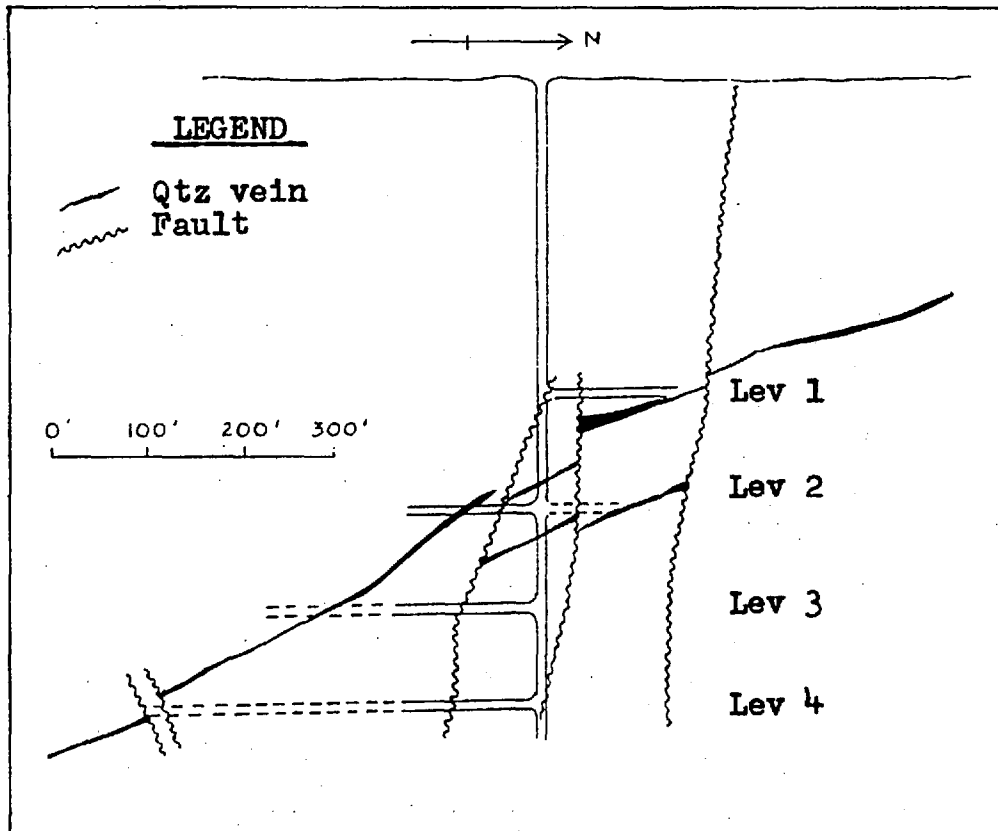


Fig. 12-A Donalda Mines, Limited
 Composite plan of the developed veins
 on the first and the fourth levels



M.M.Q. 898

Fig. 12-B Donalda Mines, Limited
 Vertical section through the shaft

(copied from company records)

The main vein has been traced on surface for 150 feet and underground by diamond-drill hole intersections for 900 feet. It strikes N.15° W. and dips 60° east. It has been cut off to the north by the Heré creek fault, and dies out to the south before reaching the No. 1 fault. It is similar in appearance and attitude to the Powell vein and may be a continuation of that vein, offset 1,000 feet east by faulting. It is displaced for short distances by several minor cross faults.

One of these, the "B" fault, has a right strike separation of 20 to 80 feet, and marks the southern limit of the ore on the 400- and 525-foot levels. The vein occurs along a weak shear developed in an old basic dike. On the 400- and 525-foot levels the country rock is predominantly andesite, but on the 900-foot level the vein passes through a body of granite on the south side of the "B" fault. South of the granite mass on the 900-foot level the shear persists through the andesite as a strong and steeply dipping structure but is deficient in quartz. The principal vein minerals are quartz and white carbonate, with some coarse pyrite and a little chalcopyrite and black tourmaline.

On the 400-foot level combined lengths of ore total 460 feet and average 0.393 ounces of gold per ton across 4.6 feet. On the 525-foot level two shoots have been outlined which average 0.14 ounces across 5 feet for a length of 278 feet, and 0.13 ounces across 5 feet for a length of 120 feet, respectively. On the 900-foot level a section of 218.5 feet between the Heré creek and "B" faults averages 0.285 ounces across 6.9 feet, and a section south of the "B" fault averages 0.479 ounces across 6.5 feet for a length of 384 feet. The latter section raises hopes that ore conditions are improving with depth, not only because of the increased tenor of gold mineralization, but because the upper levels have no ore indicated south of the "B" fault. The improved ore conditions are probably associated with the change in the host rock from andesite to granite. Company estimates of ore reserves above the 525-foot level are 79,823 tons averaging 0.21 ounces of gold per ton.

Limited development work has been done on what is known as the "North" vein. This vein is on the north side of the Heré creek fault, about 1,000 feet east of the main vein, and may be a displaced portion of that vein. The north vein strikes N.20° E., dips 40° east, and averages about 2 feet in width. It has been explored by a drift on the 525-foot level. For a length of 300 feet it is calculated to be of possible ore grade.

In 1948, 6,752 tons of ore was treated at the customs mill at the Powell Rouyn Gold Mines and 1,489.02 ounces of gold was extracted. At present (Feb. 1949) ore is being drawn from stopes on the 400-, 525- and 900-foot levels and shipped to the mill at the rate of 150 tons daily. (W.G.R. - 48)

ROUYN TOWNSHIP

Donalda Mines, Ltd.

Ref. Que. Dept. Mines, Min. Bul. 1943, p.84; 1944, p.76;
1945, p.79; 1946, p.101.

Que. Dept. Mines, P.R. No.190, Pt.III, pp.27-28.
Geol. Surv. Can., Map 625A, Lake Routhier Sheet.

Donalda Mines Ltd, has a group of claims in Rouyn township comprising Mining Concession No.371, Blocks 152, 153, 192, 193 and claims C.3250, claims 1 to 5; C.3289, claims 1 to 5, and C.3290, claims 1 to 5. The property is adjoined on the west by Quemont Mining Corporation Ltd., on the east by Eldona Gold Mines Ltd. and on the south by Noranda Mines Ltd. The shaft and mine buildings are near the Macdonald road, which branches east from the Macamic highway about 1 mile north of Noranda.

The Horne creek fault strikes easterly across the southern part of the property and dips nearly vertically. North of the fault acidic volcanic formations predominate. The Donalda No. 1 and No. 2 faults branch northeasterly from the Horne creek fault and are about 1,400 feet apart. Gold ore has been developed in two gently dipping quartz veins in the block of porphyritic rhyolite between the three faults. The veins are in echelon, strike N.80° W., and dip 25° south. The host formations have similar strikes but dip 70° north. The vein fractures show little evidence of fault movements and may be tensional openings. They have been displaced for short distances by a number of cross faults. The vein filling is white quartz, with a little white carbonate along fractures, some pyrite, and minor amounts of chalcopyrite and galena. Visible gold occurs in places. The host rocks near the veins are reddish, probably due to silicification.

The veins have been developed on 4 levels by a total of more than 3,600 feet of drifting and by raises between the levels. The management have calculated that combined lengths of 2,000 feet have an average gold content of 0.232 ounces of gold per ton across a mining width of 5 feet. The veins have not been traced above the first level. Downward, if their attitude persists, they will meet the Horne creek fault at a vertical depth of about 850 feet. The chances of lateral extensions beyond the present workings are excellent as many of the headings were stopped on ore.

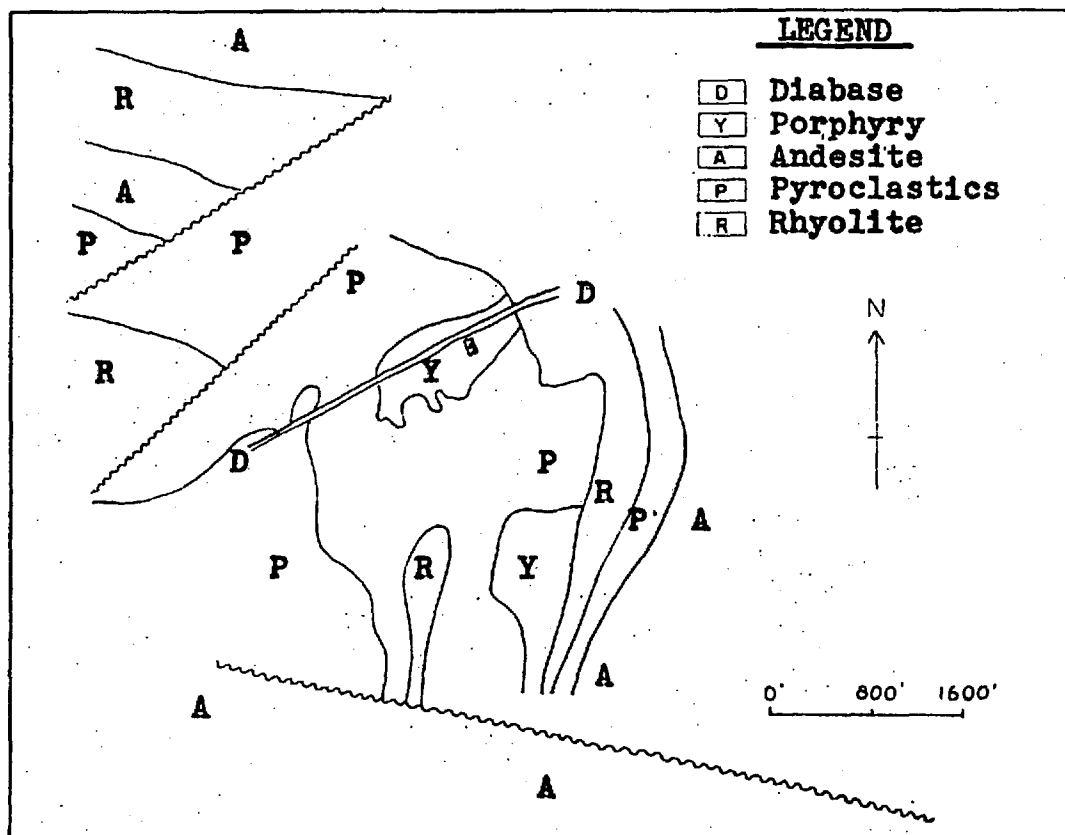
In October, 1948, the company commenced shipping ore to the customs mill at Powell Rouyn Gold Mines. The total of the 1948 shipments was 13,810 tons. Total recovery was 2,552 ounces of gold. Ore shipments are continuing (Feb. 1949) at the current rate of 230 tons daily.

T.C. Fawcett is the mine manager and E.A. Hart the mine geologist. Chamberlin Management Corporation acts as consultant for the property. (W.G.R. - 48)

ROUYN TOWNSHIP

Eldona Gold Mines, Ltd.

- Ref.: Que. Bur. Mines, Min. Op. 1927, p.98.
Que. Bur. Mines, Ann. Rept., 1931, Pt.A, p.96.
Que. Dept. Mines, Min. Ind. 1944, p.78; 1946, p.101.
Que. Dept. Mines, P.R. No.190, Pt. III, pp.29-31; No.205, Pt. III, pp.22-26; No.227, pp.124-25.
Geol. Surv. Can., Mem. 233, pp.52-53.



M.M.Q. 899

Fig. 13 Eldona Gold Mines, Limited
Sketch plan of the surface geology
in the shaft area

(Copied from company records)

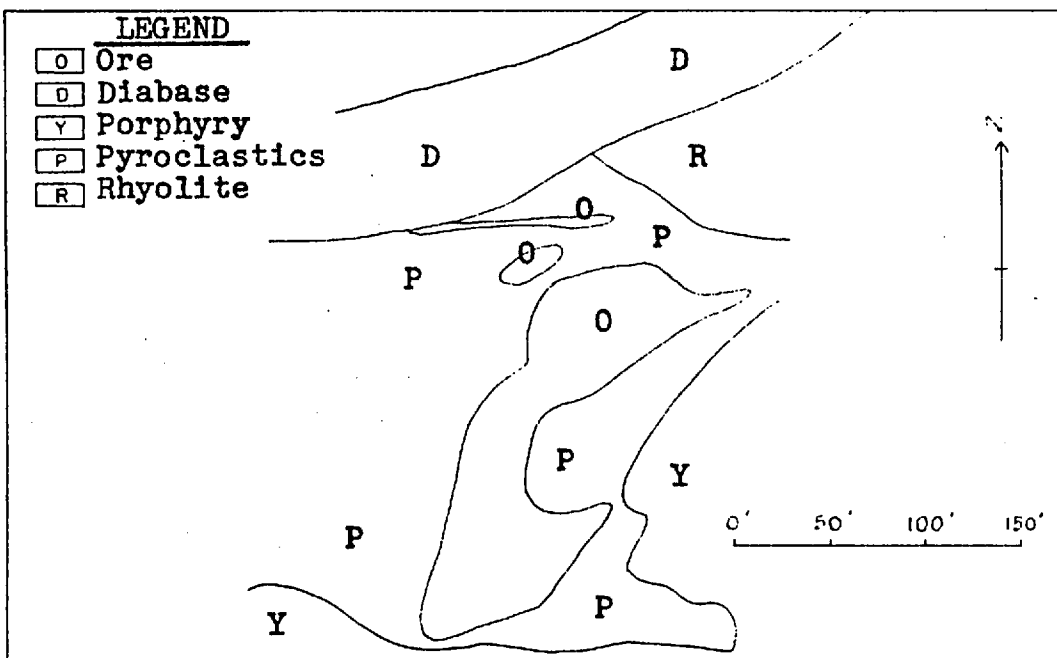


Fig. 14-A Eldona Gold Mines, Limited
Sketch plan of geology on the Lev 850'

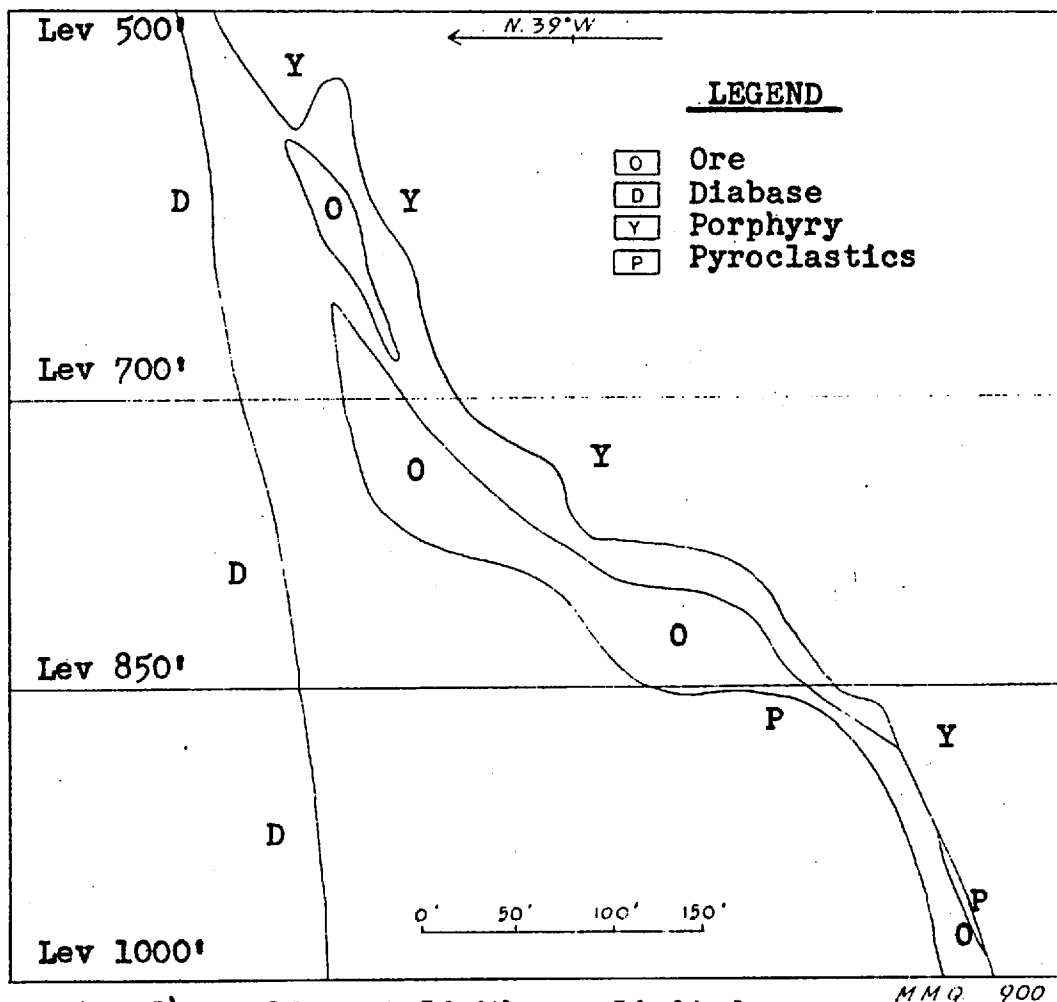


Fig. 14-B Eldona Gold Mines, Limited
Vertical section through the ore zone

(Copied from company records)

Eldona Gold Mines Ltd. has a mining property in Rouyn township about 3 miles northeast of the city of Noranda. The claims are numbered T.289-291; T.2806-09; T.1940-42; C.6500, claims 1 to 6, and C.7482, claims 1 to 4. The shaft area is accessible by motor road.

The property is underlain principally by volcanic formations and related fine-grained intrusives. The Horne creek fault trends easterly across the claims and dips nearly vertically. South of the fault are basic flows that strike easterly and have tops to the north. North of the fault a band of acidic pyroclastic rocks, overlain by rhyolite, trends northward and northwestward, forming an open anticlinal fold pitching to the east. A mass of rhyolite porphyry intrudes the pyroclastic rocks near the nose of the fold, and a late diabase dike trends northeasterly through the volcanic formation near the axis of folding.

Intermittent exploration has been done on this property since 1927. In 1931, Ville Marie-Rouyn Mines Ltd. bored 14 diamond-drill holes, and further drilling was done by Mining Corporation of Canada Ltd. in 1939. Eldona Gold Mines Ltd. acquired the property in 1944, conducted a geophysical survey, and put down 95 diamond-drill holes. Intersections obtained near the diabase dyke gave favorable assays in gold, silver and zinc, and it was decided to explore this area with underground workings. A vertical shaft was sunk to 525 feet and zones of disseminated sulphides were outlined on the 375- and 500-foot levels. Inclined holes directed below the 500-foot level cut massive and disseminated sulphides that had an appreciable tenor of gold, silver and zinc. The shaft was deepened and 4 orebodies were developed from workings on the 700-, 850- and 1,000 foot levels. These bodies are calculated to have 192,000 tons of ore with an average content of 0.14 ounces of gold per ton, 3.14 ounces of silver per ton and 4.3 per cent zinc. Shaft sinking has been resumed and 3 new levels will be established at intervals of 150 feet.

Both the rhyolite porphyry and the diabase dike may have been important structurally in localizing the orebodies. Both probably had a damming effect on ore-bearing solutions circulating through the more permeable pyroclastic rocks. The dike strikes N.60° E. and dips steeply south. The porphyry is elongated roughly parallel to the dike but dips south at about 50°. The porphyry straddles the dike on surface and passes south of it between the 500- and 700-foot levels. The sulphides form replacement bodies along, or near, the agglomerate - porphyry contact in the wedge of agglomerate between the footwall of the porphyry and the south side of the dike. The "B", or main orebody, has been developed on the 700-, 850- and 1,000-foot levels, and has been tested by drill holes below the latter level. It has an irregular shape with a maximum length of 500 feet and widths up to 50 feet. The "A" orebody is a small lens developed by a raise above the 700-foot level and the "C" and "D" bodies are small lenses developed on the 850-foot level. Another sulphide zone with some sphalerite and chalcopryrite has been outlined near the shaft on the 1,000 foot-level and may be the top of a new orebody.

The ore consists of disseminated and massive pyrite with sphalerite, small amounts of chalcopryrite and galena and minor amounts of visible gold, electrum and native silver. The latter minerals are commonly concentrated around small patches of white carbonates. In the massive

sulphides some of the sphalerite forms bands parallel to the walls of the ore bodies. Both the agglomerate and porphyry are bleached and carbonatized near the orebodies.

Chamberlin Management Corporation acts as consultant for the mine, Wm. Aitcheson is mine manager, and E.A. Hart is the mine geologist. (W.G.R. - 48)

ROUYN TOWNSHIP

Lynalda Gold Mines, Ltd.

Ref.: Geol. Surv. Can., Map 625A, Lake Routhier Sheet.

Lynalda Gold Mines Ltd. has a property in the northeast corner of Rouyn township comprising claims C.7388, claims 1 to 4; C.7487, claims 1 to 6; C.7488, claims 1 to 4; C.7495, claims 1 to 3; C.7496, claims 1, 3, 4 and 5; C.7497, claims 1 to 4; C.7498, claims 1 to 4; C.7499, claims 1 to 4; C.7500, claims 2 to 5; C.7917, claims 1 to 4, and C.7918, claims 1 and 2. A trail follows the power line east from Eldona Mines and crosses the property. The easiest access in summer is by boat up the Kinojevis river, which flows along the western edge of the property.

The claims are largely drift-covered and have only a few exposures of bedrock. A diabase dike about 1,000 feet wide, which trends northeasterly across the property, has several prominent outcrops. The older formations are exposed along the flanks of the dike, and along the banks of the Kinojevis river. These indicate that the southern part of the property is underlain by acidic pyroclastic rocks, the central part by rhyolites, and the northern part by andesites.

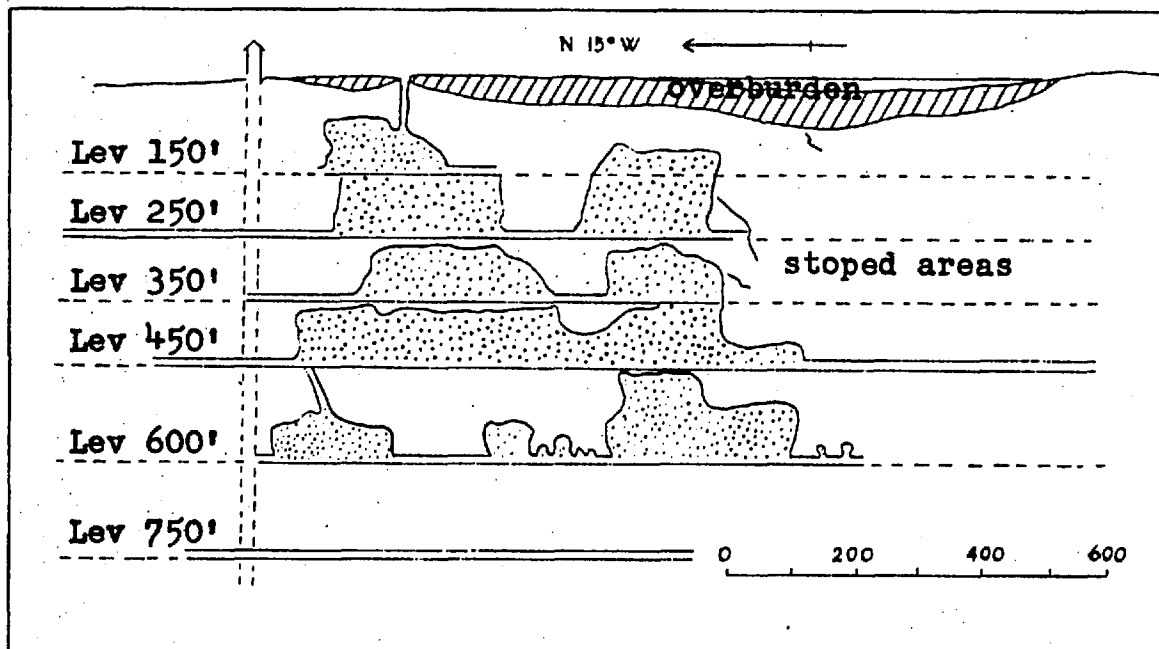
A geophysical survey of the property was made by Sherwin Kelley in 1946, and in 1947 and 1948; 11 diamond-drill holes were bored. Most of the holes were directed either north or south, and were collared at intervals over a length of 2 miles across the strike of the formations. In general the core substantiated the stratigraphy as indicated by the outcrops. Several holes penetrated shears with quartz and carbonate stringers, but no assays of commercial importance were reported by the company.

George Salton directed the exploration for Chamberlin Management Corporation. The property was not examined by the writer and data for this report were obtained from the company records. (W.G.R. - 48)

ROUYN TOWNSHIP

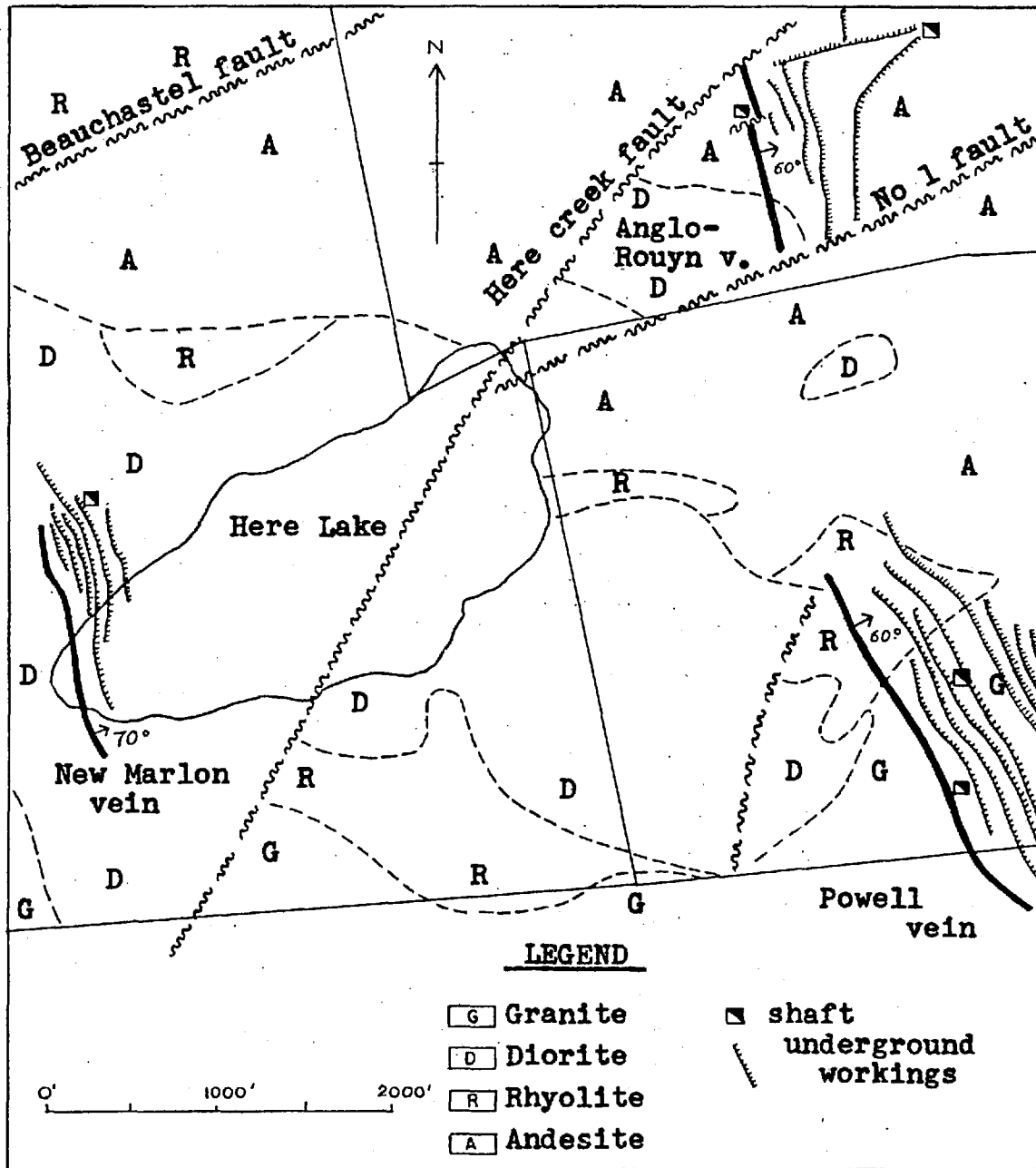
New Marlon Gold Mines, Ltd.

Ref.: Que. Bur. Mines, P.R. No. 116, p.19; No.227, pp.126-127.
Que. Bur. Mines, Min. Ind. 1937, p.59; 1945, p.82; 1946,
pp.102-103; 1947, p.71.
Geol. Surv. Can., Map. 453A, Rouyn Area.



M.M.Q. 901

Fig. 15 New Marlon Gold Mines
 Longitudinal section in the plane of the vein
 (Copied from company records)



M.M.Q. 902

Fig. 16 New Marlon Gold Mines
 Plan showing the generalized geology and the relative position of the New Marlon, Anglo-Rouyn, and Powell-Rouyn veins.

The property of New Marlon Gold Mines Ltd. comprises Blocks 6 and 204 in Rouyn township, and Block 160 in Beauchastel township. The shaft and mine buildings are at the west end of Héré lake and can be reached by a branch motor road from the Rouyn - Arntfield highway.

Published geological maps show the northern part of the property as underlain by volcanic formations and the remainder by part of the Powell granite mass. The granite has inclusions of rhyolite and diorite. Two major faults are known to strike toward the property. The Beauchastel fault has been drilled on adjoining claims to the west and strikes towards the northern portion of the property. The Héré creek fault has been encountered at the adjoining Anglo-Rouyn mine and found to dip 55° southeast and to strike southwest toward the New Marlon mine. The fault has not been recognized in the New Marlon workings, but a drill hole cut a strong shear under the northeast end of Héré lake, and another cut a similar shear along the Noranda-New Marlon boundary, south of Héré lake. These intersections suggest that the fault swings sharply to the south under Héré lake.

The northern part of the property was formerly held by Rouyn Reward Gold Mines Ltd. It was explored by 7 drill holes in 1934 and by another 6 holes in 1937. The latter holes were put down near the northeast end of Héré lake. In 1944 Marlon Rouyn Gold Mines Ltd. was formed to develop the property, and the name of the company was subsequently changed to New Marlon Gold Mines, Limited.

A northerly-trending quartz vein was discovered on the surface near the west end of Héré lake. The vein was tested with diamond-drill holes, and gold-bearing intersections were obtained over a length of 2,500 feet. Underground exploration was started in 1946 and the vein was ultimately developed on 6 levels. The company purchased the mill at the Francoeur mine, and started milling in July, 1947. The ore was taken to the mill by trucks. During the two years of operations 108,188 tons of ore was treated and 19,170 ounces of gold produced. Development work on the 750-foot level indicated only 30 feet of ore, so operations were suspended in May, 1949. Shortly afterward the mill was destroyed by fire.

Most of the underground workings are in a dioritic rock that may be a basic phase of the granite or may be a part of a body of older diorite. The northern end of the drift on the second level, and the southerly portion of the drift on the fourth level, are in more granitic rocks. A few small bodies of rhyolite are exposed in the workings.

The main vein follows a weak shear that strikes $N.15^{\circ} W.$ and has an average dip of 70° east. The best grade of ore was found in two sections where the dip of the vein showed local steepening. The shear seems to have followed a pre-existing fracture that was filled with a basic dike. A mixture of vein material, basic dike, and sheared rocks occupies widths of from a few inches to several feet. The quartz is white and has a little coarse pyrite. Some white carbonates were noted, particularly in bodies of better-grade ore. On the bottom level, and in the southerly parts of workings on the upper levels, the shear persists but is devoid of basic dikes, quartz, and ore. The vein is similar in character and structure to the veins

being mined at the Anglo-Rouyn Mines and Powell Rouyn Gold Mines.

The mine was managed successively by A. Teeple and J. M. Thompson. (W.G.R. - 49)

ROUYN TOWNSHIP

New Rouyn Merger Mines, Ltd.

- Ref.: Que. Bur. Mines, Ann. Rept. 1933, Pt. A, pp. 95 and 104; 1933, Pt. C, pp. 63-71;
1935, Pt. A, pp. 51-52; 1936, Pt. A, p. 56.
Que. Bur. Mines, Min. Ind. 1938, p. 56; 1939, p. 51; 1943, pp. 93-94;
1944, pp. 85-86; 1945, pp. 88-89; 1946, pp. 92-93.
Que. Bur. Mines, P.R. No. 116, p. 23; No. 135, pp. 26 and 28; No. 150, pp. 40-41;
No. 161, pp. 19-20; No. 190, Pt. III, pp. 31-35;
No. 227, pp. 133-134.
Geol. Surv. Can. Mem. 231, pp. 58-59; pp. 81-82; pp. 88-94.
Geol. Surv. Can. Prel. Map 43-7c.
C.I.M.M., Structural Geology of Canadian Ore Deposits, pp. 789-96.

The property of New Rouyn Merger Mines Ltd. consists of 54 contiguous mining claims in ranges V, VI and VII of Rouyn and Joannès townships. The Semeterre-Noranda branch of the Canadian National Railways and the Rouyn-Val d'Or highway cross the southern part of the property. The shaft and mine buildings are in the southern part of lot 61, range VI, Rouyn township and can be reached by a motor road which branches eastward from the highway about 7 miles east of Rouyn.

The present property is the consolidation of mining properties formerly held by several mining companies. Published accounts of earlier exploration may be found under the names of East Rouyn Gold Mines Ltd., O'Neil Thompson Gold Mines Ltd., Hosking-Cockeram Syndicate, Mondoux Property, Big Bend Mining Corporation Ltd., and Rouyn Merger Gold Mines Ltd. Exploratory drill holes put down by East Rouyn Gold Mines Ltd. indicated two ore bodies in the southern part of lot 61, range VI. New Rouyn Merger Mines Ltd. tested these bodies with additional holes and developed them with underground workings on four levels. Ore drawn from the bottom three levels was treated at Noranda mine on a customs basis.

Detailed descriptions of the geology and ore deposits on this property have recently been published and only a summary will be given in this report. The property is underlain by easterly trending formations of lavas, pyroclastics, graywacke and conglomerate. The important Cadillac-Bouzan lake break trends easterly across the $4 \frac{1}{3}$ mile length of the property. This structure has apparently been displaced by movement along the northeasterly trending Davidson creek fault which underlies the creek of that name. A third important fault, now termed the Rouyn Merger fault, branches southwesterly from the Cadillac break in lot 62, range VI, Rouyn township.

The developed orebodies occur on the south or footwall

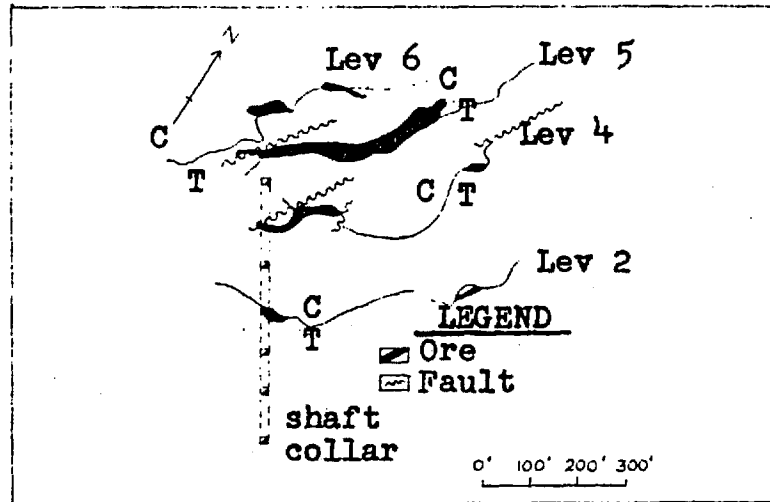


Fig. 17-A New Rouyn Merger Mines, Limited
 Composite plan of the geology on
 the principal underground levels
 C = Conglomerate T = Tuff

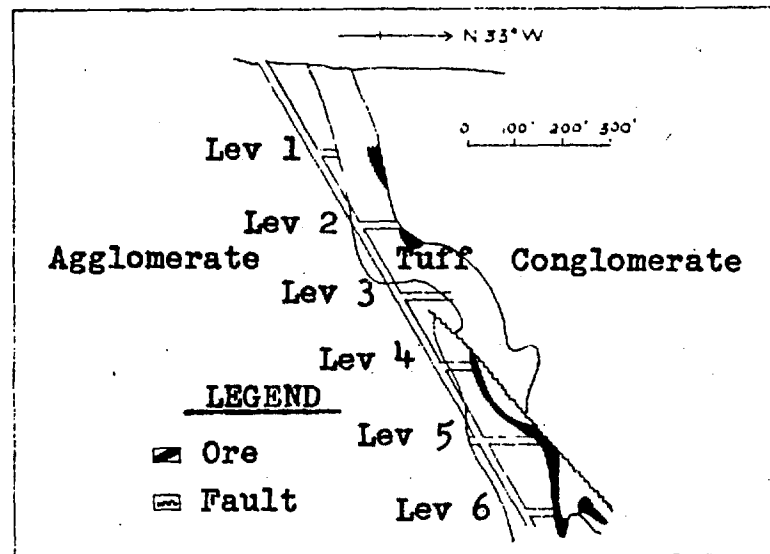


Fig. 17-B New Rouyn Merger Mines, Limited
 Vertical section through the
 underground workings

(Copied from company records)



side of the Rouyn Merger fault, along the contact of conglomerate on the north with tuffs on the south. The average dip of this contact is about 60° northwest. The developed ore is confined to an embayment or open syncline along this contact. A strong fault angles across the contact both in strike and dip and seems to have been an important factor in controlling ore deposition. On the fourth and fifth levels the wedge of conglomerate between this fault and the contact with the tuffs has been crushed and has thus formed a suitable host for ore replacement, while the adjoining softer tuffs may have had a damming effect. This fault has not been recognized above the fourth level and may have been absorbed by flowing or folding in the less competent tuffs. On the sixth level the fault should be in the conglomerate north of the workings, but its increased distance from the contact may have minimized its influence as an ore control.

The developed ore is of two types. Most of it occurs in conglomerate and consists of a network of quartz stringers which decrease in quantity away from the contact with the tuffs. The quartz is accompanied by white carbonates, albite and scheelite and both the stringers and the wall rock contain pyrite and small amounts of chalcopyrite. Some ore has also been developed in a zone of brown altered material in the tuffs, adjacent or near to conglomerate ore. Pyrite, carbonates and quartz in small veinlets can be discerned megascopically in specimens of this type of ore. Analyses indicate that the brown color is due to the presence of rutile.

The annual report of the company for 1947 states:

"Diamond drilling from the surface had indicated the presence of 359,000 tons of ore averaging 0.212 ounces per ton or \$7.40 (gold at \$35.00 per oz.) between the surface and the 1,000-foot horizon.

"Underground lateral development work on the 4th, 5th and 6th levels, together with a raise from the 5th to the 4th levels and the winze from the 5th to 6th levels, has partially developed a block of this indicated ore. This block, extending from the fourth to the sixth levels is estimated to contain, after applying a 20% dilution factor, 165,000 tons averaging 0.184 ounces or \$6.44 (gold at \$35.00 per ounce)".

Between June 13th, 1948, and January 14th, 1949, 32,198 tons of ore was treated at Noranda mine and 3,895 ounces of gold was produced.

The mining operations were directed by R.V. Hopper and W. L.C. Greer, successively, L.S. Trenholme acted as mine geologist.

The information in this report was drawn from communications with these gentlemen, from observations at the mine, and from the company records. (W.G.R. - 48).

SENNEVILLE TOWNSHIP

Bidgood-Doody Claims.

The Bidgood-Doody group consisted of 59 claims (which have since been allowed to lapse) straddling the east-central part of the Senneville-Bourlamaque township line. The claims in Senneville township covered the south half lots 29 and lots 30 to 52, range I; and lots 35 to 50, range II. In Bourlamaque township the 10 claims adjoining to the south were numbered C.7160, claims 1 to 5, and C.7172, claims 1 to 5. The Val d'Or-Barraute motor road crosses the northwest part of the property 9 miles from Val d'Or.

Only three rock outcrops are known to occur on the property. These are in granodiorite, in range II, Senneville township at the north end of the 47-48 lot line, and in the southeast part of C.7160, claim 1 in Bourlamaque township, and at the southern end of the 41-42 lot line, range II, Senneville township. The property appears to be underlain entirely by granodiorite of the Bourlamaque batholith.

Magnetic geophysical and limited electrical geophysical work on the property was done in 1948. The former was carried out by Quebec Explorers Ltd. and the latter by Toburn Gold Mines Ltd. who optioned the property for a short time and put down one drill hole. The hole was 300 feet long and directed north from a collar on the I-II range-line at the 41-42 lot line. The rock intersected was an intimate mixture of granodiorite and greenstone breccia, which had caused a magnetic anomaly. No metallic mineralization was encountered.

Paul d'Aragon supervised the exploration. (W.N.I. - 48)

SENNEVILLE TOWNSHIP

CRANGOLD MINES, Ltd.

This company holds a group of 15 claims in the southwest quarter of Senneville township. The claims are numbered C.11743, claims 1 to 5; C.11744, claims 1 to 5 and C.12926, claims 1 to 5. The property is in range III between Blouin lake and the Harricana river. It is most easily reached by travelling one mile across the lake from a motor road close to the eastshore in range IV.

Only three rock outcrops occur on the property, so the geology is very imperfectly known. Two of the exposures are basic volcanic rock and the third is a coarse-grained andesite or a fine diorite. The volcanic beds, where exposed, strike northeast, with a south dip and south top.

Considerable trenching to bedrock was carried out in the area of scattered volcanic outcrops in C.11743, claim 5. The property was explored by a magnetometer survey in 1946. In mid-1948, 4 diamond-drill holes, totalling 1,774, feet were put down.

The geophysical survey indicated that the northwest part of the property is underlain by an acidic intrusive, and one of the drill holes put down in that section confirmed the interpretation, and yielded a few very low gold assays in granitic porphyry. The other 3 holes were drilled in C.11743, claim 4, on the shore of the lake, to investigate magnetic anomalies. These holes intersected mainly basic volcanic rocks, peridotite and diorite cut by acidic porphyry dikes. Two of the holes, 1200 feet apart, showed specks and seams of chalcopyrite and sphalerite, and one narrow brecciated and silicified section carrying appreciable amounts of copper sulphide.

The geophysical survey and subsequent drilling were directed by Theo. Koulomazine. (W.N.I. - 48)

URBAN TOWNSHIP

Macho River Gold Mines, Ltd.

Ref.: Que. Dept. of Mines, Geol. Rep.14.

This company holds a block of 34 claims in the southwest corner of Urban township. They are numbered C.G.2014, claim 5; C.29839, claims 4 and 5; C.30622, claims 1 and 2; C.30623, claim 5; C.30624, claims 1 to 5; C.30625, claims 1 and 2; C.30626, claims 1 and 2; C.31618, claims 1, 3, 4 and 5; C.31619, claims 1 to 5; C.31620, claims 1 to 5; C.31621, claims 1 to 5. They lie southeast of the property of Quebec Smelting and Refining Corporation.

W.G. Robinson visited the property in 1947 and 1948. The following is extracted from his reports:

"The original discovery was made by Jack Woods in 1947. The underlying formations were mapped by R.L. Milner in 1939 as basic and intermediate volcanic rocks. Subsequent mapping on the property of Quebec Smelting and Refining Corporation suggests that the western part of the group may be underlain by granite. Milner's map shows a north-trending fault along the Macho river in Barry township. This fault projected northward would pass very near the Woods discovery, and the exposed shearing and quartz veins may be part of this break.

"The discovery is a few hundred feet east of the Macho river and about 30 feet south of the boundary with the Quebec Smelters group. A trench exposes a quartz vein and stringer zone in andesite for a length of 6 feet. The vein is 2 to 2½ feet wide, strikes northerly, and appears to dip steeply west. A shearing exposed in the wall of the trench seems to strike roughly parallel to the vein, but dips about 20° east. Disseminated chalcopyrite and pyrite occur in both the vein and the quartz stringers in the shear, and the western wall of the vein is also heavily impregnated with chalcopyrite. Samples taken of the vein by the writer assayed 0.042 ounces of gold per ton across 2 feet. A grab sample taken by the writer from the quartz stringers in the shear assayed 1.684 ounces, and a grab from the western wall of the vein returned 0.467 ounces of gold per ton. It was probed by 4,000 feet of drilling in the winter of 1947-48.

"Another northerly-trending auriferous structure in lavas was discovered about 1,800 feet northeast of the "Woods" discovery. It consists of a shear which has small quartz veins with free gold over widths of a few inches to several feet. It has been traced for 180 feet and dips about 45° to the east. Company records show that samples taken at irregular intervals along its length gave assays of 3.48 ounces of gold per ton across 2.1 feet; 0.17 ounces across 4.2 feet; 3.61 ounces across 2.7 feet; 0.16 ounces across 1.5 feet; 0.44 ounces across 1.0 feet; and 0.25 ounces across 1.8 feet. Holes directed under the surface mineralization gave intersections over a length of 100 feet which returned assays of 2.8 ounces across 0.3 feet; 0.06 ounces across 3.0 feet; 155.66 ounces across 0.3 feet; and 0.66 ounces across 2 feet, respectively."

The present report deals with the "north shear" and the Farchell vein, the latter being located 500 feet south of the "north shear".

The Farchell vein consists of a group of complex structures which cannot be readily integrated into a significant pattern. There appears to be, however, a more or less continuous shear of general southerly trend extending 100 feet through a series of trenches with possibly an extension southward of an additional 100 feet. Farther south the over-burden is too thick for economical trenching. It is the feeling on the property that this southerly shear of the Farchell vein is the extension of the "north" shear. The Farchell vein being not quite in line with the "north" shear, a fault is assumed along the northeasterly picket line which lies along a northeast-trending acid dike traversing the area between the two prospects. The Farchell vein would thus be the south segment of the "north" shear, and would be offset to the northeast.

The main shear of the Farchell vein is occupied by a narrow quartz vein varying in width from 10 to 2 inches. The values in gold are generally high and not infrequently spectacular. The only assay results available on the main shear at the time of the visit gave values in gold of 8.84 ounces per ton across 4 inches, 0.10 ounces across 18 inches, 8.33 ounces across 2 inches, and 0.19 ounces from a grab sample.

The main shear traverses a northeast trending porphyry dike and continues southward through an andesite flow. The quartz vein maintains a fairly persistent width of about 10 inches along the main shear, except at the southern end where it narrows down to a one inch stringer with the

shearing becoming considerably tighter. Of prominent interest in this trench is the occurrence of telluride mineralization in the quartz, mainly where the vein traverses the andesite. A grab sample taken from the telluride zone by the writer assayed 37.5 ounces of gold per ton. Another grab from the rusty quartz from the main shear in the porphyry dike assayed 0.12 ounces of gold per ton. In the southern part of the main shear little quartz is present. Other shears are somewhat erratically oriented and have returned only low values in gold.

In summary, the structures of the Farchell vein, though yielding spectacular returns in spots, are somewhat limited in scope and tend to be very erratic in pattern. (J.C. 48)

VASSAN TOWNSHIP

Norbenite Malartic Mines, Ltd.

Ref.: Que. Dept. Mines, P.R. No.190, Pt.III, pp.6-8; No.227, pp.101-03.

A group of 16 claims straddling the south end of the line between Malartic and Vassan townships constitutes the property of Norbenite Malartic Mines Ltd. It includes lots 1 to 5, range I, Vassan township; and lots 56 to 64, range I, Malartic township. A motor road leads north and west for $1\frac{1}{2}$ miles to the property from the Val d'Or-Rouyn highway, at a point 5 miles east of Malartic.

A thick mantle of overburden covers most of the property. Geological contacts projected laterally indicate it is underlain mainly by volcanic rocks, except for the south end of lots 56 and 57, where the north margin of a band of sediments occurs. The volcanic rocks are chiefly basic to intermediate flows but pyroclastics predominate in the southwest corner of the property immediately north of the sediments. The older rocks are intruded by numerous dikes or sills of diorite, peridotite, syenite, albitite and granodiorite. Drilling indicates that a body of granodiorite about 800 feet wide extends diagonally across the centre of the claims following the N.60° W. trend of the volcanic formations.

A number of years ago 5 diamond-drill holes were put down in the northeast corner of lot 2, but no record of the results are available. The present company began a drilling campaign in November, 1943, and before an exploration shaft was started in July, 1946, 66 holes totalling nearly 40,000 feet had been completed.

The first 13 holes cross-sectioned lots 63 and 64 in a direction N.19° W. In addition to several core lengths of up to 4 feet carrying 0.09 ounces of gold per ton in the central part of the cross-section, a gold-bearing area with better values and widths was discovered in the north part of the cross-section. The subsequent drilling of about 30 holes at various intervals has served to trace this zone along its strike of N.60° W. for a length of approximately one mile between lot 63, Malartic township, and lot 3, Vassan township.

A second auriferous zone, which is the northwest extension of that indicated in the northern parts of lots 3 and 4, Dubuissin township, on the Marbenor-Malartic property, has been traced by 15 drill holes along a N. 50° W. strike for some 3,000 feet. The zone is partly characterized by a diorite dike invaded by albitite dikes, the two attaining an average width of about 30 feet. They are followed in part by a quartz vein ranging up to 5 feet wide. The dikes are sheared and fractured, and are in a talc-carbonate shear in the volcanic formation. The distribution and grade of gold are quite erratic; a few holes yielding no assays, others varying from 0.09 ounces per ton across 5 feet to 0.40 ounces across 0.5 feet, and one return of 0.09 ounces for 17.7 feet of core.

The main zone lies 2,000 feet north of the above. Along the length of 1 mile, explored by drilling at intervals of 100 to 500 feet, there are probably several gold-bearing shoots. Earlier drilling in the northwest part indicated parallel lenses varying from a few feet to 30 feet wide, of shearing, alteration, and mineralization associated with dikes of basic syenite and diorite. Gold assays range from 0.25 ounces per ton for a core length of 3.7 feet to 0.10 ounces per ton for a core length of 22.3 feet. In general it is difficult to correlate the gold assays between drill holes, even where closely spaced, but in the central section (lots 1 and 2) a number of assays were combined to outline an auriferous shoot at least 900 feet long, averaging 24 feet wide, and grading approximately 0.20 ounces of gold per ton. In places sampling of the core gave lower gold returns across almost continuous widths ranging up to 118 feet.

The main structure is a strong north dipping zone of shearing, about 200 feet wide, lying between a wide sill of granodiorite on the south and a body of massive peridotite on the north. Undoubtedly the shear extends diagonally to the north and south boundaries of the property and beyond.

The shaft is in lot 2, range 1, Vassan township, 1,300 feet north of the township line, at the east end of the 900-foot section mentioned above. It was started late in 1946, and was completed at a vertical depth of 540 feet early in 1947. Stations were established at the 95-, 250- and 500-foot levels. In January, 1948, drifts had been driven along the main gold-bearing structure for 1,300 feet west and 650 feet east of the shaft on the 500- and 250-foot levels. A crosscut was driven from the shaft 400 feet north on the 500-foot level.

The shaft enters the north-dipping body of granodiorite a few feet above the 500-foot level station. Sheared volcanic rocks and diorites occur between the granodiorite and the 30- to 60-foot-wide dike of basic syenite, which is the main host rock of the gold mineralization. The dike is highly fractured and invaded by a network of quartz stringers and veinlets, both the vein material and the dike being mineralized with pyrite and minor chalcopyrite. Sphalerite is rare. Two types of vein quartz are present, one a pure white, sugary variety and the other a dull white, glassy type with some associated carbonate. Visible gold occurs at scattered points. The best assays are had where the quartz veinlets are most concentrated.

North of the dike the crosscut exposes chlorite and talc-chlorite schists derived from andesite, diorite, and peridotite. The ore dike is enclosed on both sides by intensely sheared zones several tens of feet in width. The dike is disturbed by many small cross slips and by drag folds, one of which has a strike separation of 100 feet.

East of the shaft the gold content proved to be below ore grade on the 250- and 500-foot levels, but the grade on the 500-foot level was higher than on the 250-foot level. Drilling below the 500-foot level gave ore intersections, which are further indicative of better grade at depth.

West of the shaft slightly over half a million tons, containing an average of 0.17 ounces of gold per ton, is indicated above the 500-foot level. This tonnage is comprised of 5 ore shoots on the 2nd level with an aggregate length of 665 feet and width of 17.8 feet, and on the 4th level an aggregate length of 605 feet and width of 22.4 feet. Underground operations were temporarily suspended at the mine early in February, 1948. (W.N.I. - 48)

VAUQUELIN TOWNSHIP

Boycon Pershing Gold Mines Ltd.

The property of this company consists of a group of 60 claims in the northeast corner of Vauquelin township. The claims cover an area 1 mile wide extending $3\frac{1}{2}$ miles west of the east boundary of the township. The Croinor motor road passes about 1 mile east of the east end of the property.

Outcrops in the west half of the property indicate that the northern part is underlain mainly by volcanic rocks and the southern section by sediments. Both formations trend east-west. They are intruded by dikes of diorite and porphyry. A small stock of altered biotite diorite intrudes the sediments in the southwest corner of the property.

Considerable surface trenching was carried out in the western part of the property before diamond drilling started in September, 1945. The surface work uncovered vein material in diorite and sediments, which is reported to carry visible gold.

Diamond drilling continued for two years and consisted of 52 holes with an aggregate footage of 37,414 feet. Five of the holes were drilled along the west boundary of the property in conjunction with The Mining Corporation of Canada Ltd. Seven holes were put down along the east boundary of the property in conjunction with Ansley Gold Mines Ltd. Most of the remainder were put down in the western part of the property to test diorite sills in the volcanic rocks and the north contact of the biotite diorite body in the sediments. Strong talc and carbonate shears were found in the volcanic rocks, and along the volcanic-sedimentary contact. Gold assay returns for the most part were low or nil in all the holes except two. One of these, located in C.7242, claim 3, intersected a quartz veinlet 6 inches wide which assayed 1.20 ounces of gold per ton. The other, located nearly 2 miles to the east in C.7883, claim 4, gave one assay of 0.97 ounces, also for a 6-inch length of core carrying a quartz veinlet.

J.H. Norrie acted as consulting engineer for the company.

(W.N.I. - 48)

VAUQUELIN TOWNSHIP

Insmill Mines Ltd.

The property of this company consists of a group of 23 claims in southwest Vauquelin township. The claims are numbered C.5499, claims 1 to 5; C.5643, claim 5; C.5665, claims 4 and 5; C.G.653, claims 1 to 5; C.G.654, claims 1 to 5; and C.G.655, claims 1 to 5. The south boundary of the township is the south boundary of the property, and it is adjoined on the east by the property of Chimo Gold Mines Ltd. Access is by a winter road extending 6 miles east and south from highway No. 58.

The property is drift-covered except for two small exposures of graywacke in C.G.653, claim 4 and C.G. 655, claim 4. Formation projections and a magnetometer survey carried out in 1941 suggest that the claims are underlain by interbedded volcanic and sedimentary beds trending a few degrees south of east.

During the period September, 1946, to July, 1947, 18 drill holes, totalling 13,262 feet, were put down. Fifteen of the holes are in the northeast corner of the property in C.G.654, claim 4, and C.5643, claim 5. These were distributed east-west over a length of 2,000 feet to explore the possible western extension of the Chimo auriferous zones. The rocks intersected were mainly interbedded tuffs and lavas, considerably schisted, and cut by a few porphyry and diorite dikes. Iron formation and graywacke were found in a hole in the north part of C.G.564, claim 4.

A continuous band of graphitic tuff and schist intruded by a discontinuous porphyry dike was traced along the drilled section, and showed disseminated pyrite, pyrrhotite, arsenopyrite and chalcopyrite mineralization. Visible gold was found in several of the holes, but assays obtained by the company gave mainly only low returns.

Three cross-sectional holes were drilled south of the main group of holes. One of these cut a dike of feldspar porphyry, 60 feet wide, partly mineralized with pyrite and arsenopyrite. A 5-foot section of this dike containing a quartz vein one foot wide yielded a gold assay of 0.22 ounces per ton, according to company records.

W.D. Hill and E.P. Davis logged the core for the company.

(W.N.I. - 48)

VILLEBON TOWNSHIP

Inspiration Mining and Development Co. Ltd.

Ref.: Que. Bur. Mines, P.R. 150, p.43

Inspiration Mining and Development Co. Ltd. holds a group of 18 claims straddling the western part of the Vauquelin-Villebon township

line adjacent to the east side of Villebon lake. The claims are numbered C.5664, claims 1 to 5; C.5665, claims 1 to 3; C.5666, claims 1 to 5; and C.5667, claims 1 to 5, in Vauquelin township, and in Villebon township they cover north half lots 15 to 19 and lots 20 to 30, range X.

Outcrops in the northwest part of the property indicate that it is underlain by graywacke which extends across to the south-eastern portion. The southwest area appears to be underlain by volcanic rocks, chiefly andesite. Both rock types are more or less amphibolitized and biotitized. The schistosity trends northwest-southeast, and dips steeply north. Stringers of white to buff carbonate and bluish quartz occur in some of the schisted graywacke. Sheared, sparsely pyritic conglomerate containing a quartz lens three inches wide is exposed in old trenches in the northwest corner of lot 30, range X, Villebon township.

Surface prospecting of the claims was carried out ten or fifteen years ago. In 1939 Inspiration Mining and Development Co. Ltd. did 1,200 feet of diamond drilling in the part of the property which then belonged to the McKinnon group. In 1947 one hole was drilled at 45° to a depth of 994 feet in a direction S.26° W. It was collared on the Vauquelin-Villebon township line at a point 2,300 feet west of mile-post III. The upper half of the hole intersected sediments and the lower part, volcanic rocks with a few porphyry dikes. (W.N.I. - 48)

VAUQUELIN TOWNSHIP

Oneonta Pershing Mines Ltd.

Oneonta Pershing Mines Ltd. holds a group of 27 claims in the southeast quarter of Vauquelin township. The south boundary of the township forms the south boundary of the claim group. The claims are numbered C.5549, claims 1 to 5; C.6739, claims 1 to 5; C.G.664, claims 1 to 5; C.G.666, claims 1 to 5; C.G. 670, claims 1 to 5; and C.G. 671, claims 4 and 5. The camp adjacent to the creek in the northern part of C.G.664, claim 4, may be reached by walking 3 miles northeast from the southeast arm of Villebon lake.

Following preliminary surface prospecting a magnetometer survey of the property was made during the summer of 1947. Early in 1948 an electrical resistivity survey of part of the property was carried out. Drilling started in April, 1948, and continued until February, 1949, when 11,139 feet were completed in 27 holes.

The property is underlain by a group of interbedded sedimentary and volcanic rocks trending slightly south of east and dipping mainly steeply to the north. From north to south across the property the formations encountered are:

Andesite, amphibolized	600 feet
Andesite, pillowed	200 "
Andesite, amphibolized	300 "
Tuff, amphibolized	300 "
Andesite, amphibolized	100 "

Graywacke, siliceous	2,500 feet
Iron formation and graywacke	500 "
Tuff and graywacke	200 "
Andesite, amphibolized	100 "
Tuff, amphibolized	800 "
Graywacke, micaceous	2,000 "

Total - 7,600 feet.

A zone of strong shearing, represented by a band of talc-chlorite schist 100 feet wide, strikes across the southern part of the property in the tuffs adjacent to the main southern band of greywacke. A second shear zone, marked by graphitic schist, trends across the northern claims in the tuff adjacent to the main central band of greywacke. In eastern parts of C.6739, claims 3 and 4, a zone of drag folding and contortion, trending N.10° W., disturbs the formations as much as 300 feet from their normal trend.

Two drill holes cross-sectioned the north band of volcanic rocks. Four holes explored the south part of the south band of volcanic rocks. Most of the remaining holes were distributed east-west for 1 mile along the strike of the iron formation, at the south margin of the main central band of sediments. The first hole to penetrate the iron formation, in C.6739, claim 4, cut a zone of quartz veinlets, silicified material, pyrrhotite and pyrite, carrying \$3.36 in gold per ton for 4.9 feet of core. Although visible gold was observed by the company geologist in 5 of the holes along the iron formation, the assay returns were mainly low, and no auriferous bodies of economic importance were outlined.

J.C. Honsberger directed the exploration programme.

(W.N.I. - 49)

VAUQUELIN TOWNSHIP

Quebec Explorers Ltd.

This company holds a group of 18 claims extending east from the southern part of Simon lake in Vaouelin township. The claims are numbered C.33010, claims 4 and 5; C.33009, claims 1 to 5; C.37889, claims 1 to 5; C.37888, claims 1 to 5; and G.2439, claim 1.

The property is drift-covered, except for a few small exposures of trachytic to andesitic volcanic rocks cut by narrow dikes of feldspar porphyry in the two most easterly claims. Most of the property appears to be underlain by these formations, with the exception of the southern claims, where tuff and agglomerate may be projected. A late Precambrian dike of diabase strikes N.75° E. across the north end of the property.

During 1949 a "Berg" magnetometer survey was made, which indicated interesting anomalies in the western part of the property. These were explored by 4 diamond-drill holes totalling 2,168 feet.

A vertical hole, drilled to a depth of 485 feet, was put

down in the southern part of C.33009, claim 1. It intersected chiefly andesite, in places carrying abundant magnetite, disseminated pyrite and a little chalconyrite. One 3-foot length of core yielded 0.01 ounces of gold per ton. Two slope holes were drilled in C.33009, claim 4. These penetrated volcanic breccias and a body of diorite. The fourth hole was located in the northwest part of C.37888, claim 5, beside the Marquis river, and cut mainly acidic to intermediate lavas and breccias. Several porphyry dikes were found, as well as minor shear zones, scattered pyrite, and quartz-tourmaline veinlets, but no mineralization of economic importance.

Paul D'Aragn directed the exploration. (W.N.I. - 49)

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Bidgood-Doody Claims	62
Bordulac Mines Ltd	19
Boyson Pershing Gold Mines Ltd	67
Buffadison Gold Mines Ltd	42
Caron Malartic Gold Mines Ltd. (Beauchastel)	3
Caron Malartic Gold Mines Ltd. (Fournière)	35
Concord Mines Ltd	40
Consolidated Ansley Mines Ltd	32
Crangold Mines Ltd	62
Croinor Pershing Mines Ltd	53
Cross Fault Mines Ltd	18
Donalda Mines Ltd	55
Dubuisson Goldfields Ltd.	22
East Amphi Gold Mines Ltd	46
Elder Mines Ltd	4
Eldona Gold Mines Ltd	56
Prokar Gold Mines Ltd.	45

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Gan Copper Mines Ltd	5
Goldora Mines Ltd	10
Heva Gold Mines Ltd	36
Hosco Gold Mines Ltd	37
Insmill Mines Ltd	68
Inspiration Mining and Development Co. Ltd	68
Karpus Gold Mines Ltd	45
Kiena Gold Mines Ltd	23
Lake Opawica Mines Ltd	36
Lake Wasa Mining Corporation	6
La Roncière Gold Mines Ltd	38
Lepine Lake Gold Mines Ltd	32
Lynalda Gold Mines Ltd	58
Macdonald Mines Ltd	25
Macho River Gold Mines Ltd	63
New Marlon Gold Mines Ltd	58
New Norzone Mines Ltd	50
New Rouyn Merger Mines Ltd	60
New Thurbois Mines Ltd	21
Norbec Copper Mines Ltd	27
Norbenite Malartic Mines Ltd	65
Oneonta Pershing Mines Ltd	69
Ordala Mines Ltd	28
Orenada Gold Mines Ltd	12
Paranaque Mines Ltd	12
Quebec Explorers Ltd.	70

Quebec Manitou Mines Ltd.	13
Quesabe Mines Ltd.	33
Randona Quebec Gold Mines Ltd.	28
Ranrouyn Mines Ltd.	29
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Shawkey (1945) Mines Ltd.	24
Starcourt Gold Mines Ltd.	15
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Val d'Or Mineral Holdings Ltd.	15
Villa Lead Mining Corporation Ltd.	30
Vinray Malartic Mines Ltd.	49
West Wasa Mines Ltd.	9
Wiltsey-Coghlan Mines (Quebec) Ltd.	30
Workman Syndicate.	34

BARRAUTE

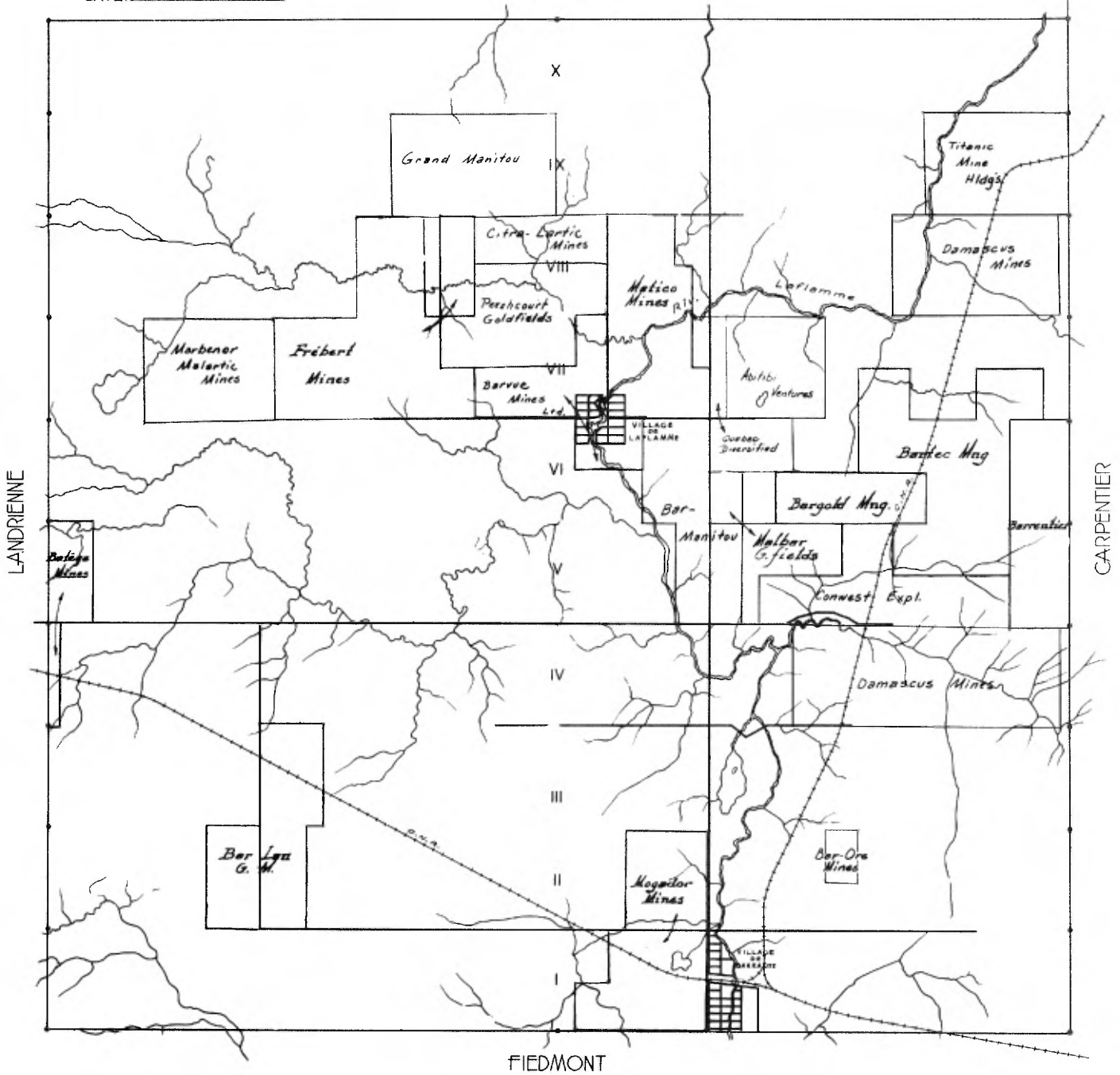
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-51

Milles 0 1 2 Miles

LAMORANDIÈRE



BARLOW

COMTÉ D'ABITIBI-EST

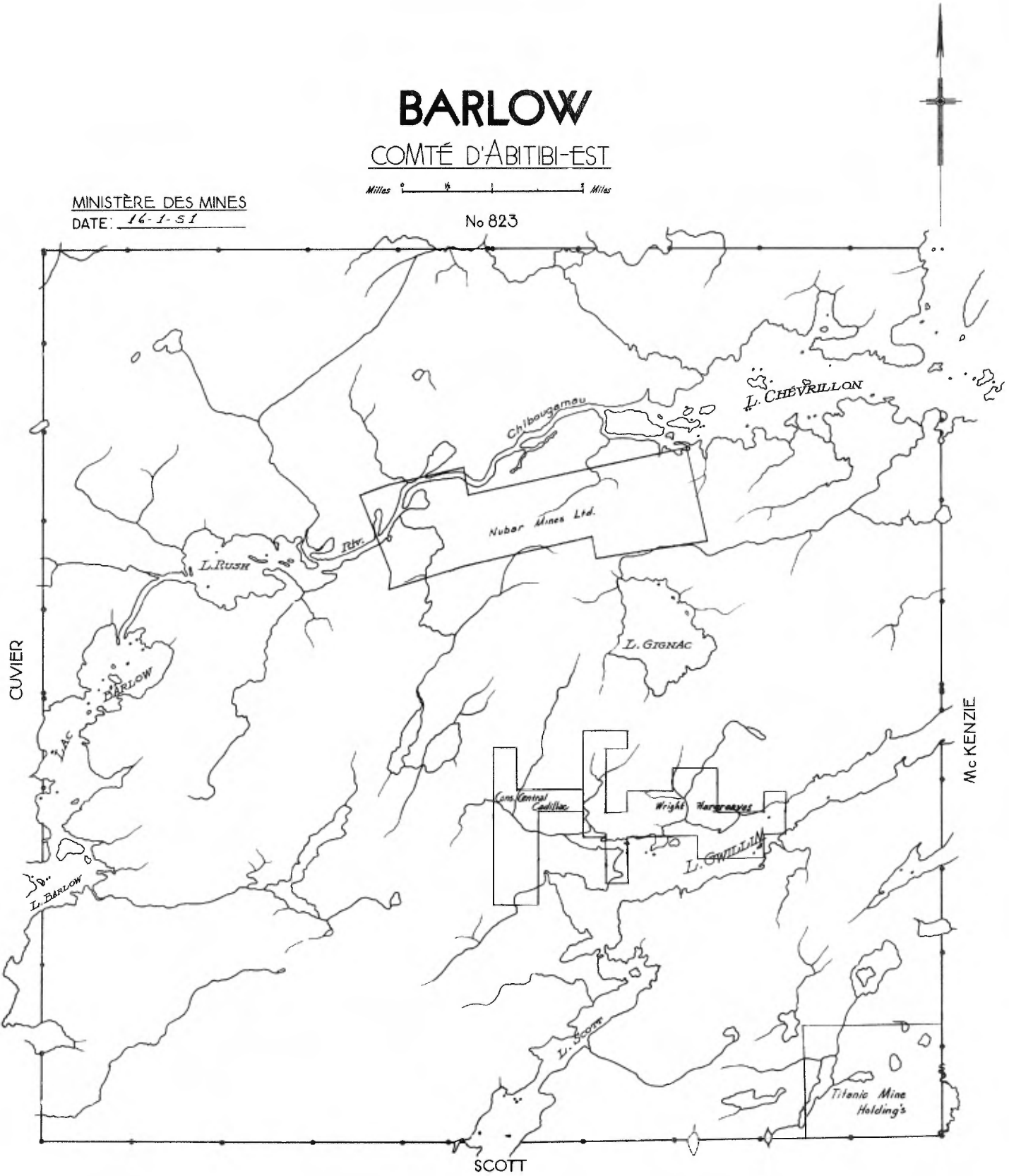
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DATE: 16-1-51

Miles 0 1 2 Miles

No 823

CUVIER



McKENZIE

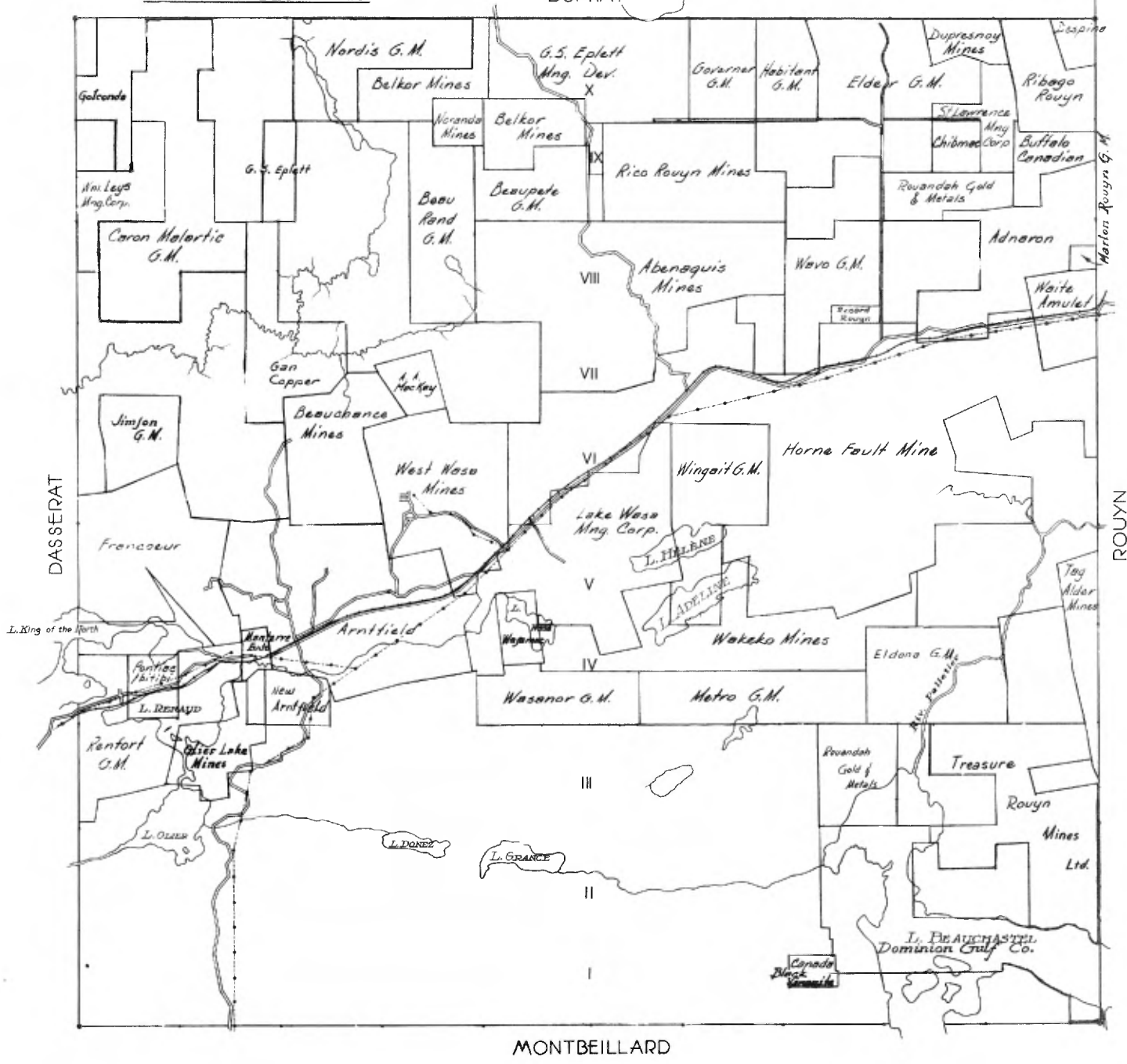
SCOTT

BEAUCHASTEL

COMTÉ DE ROUYN-NORANDA

DATE: 10.1.51
MINISTÈRE DES MINES

DUPRAT



BOURLAMAQUE

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

Date: 16-1-51

Miles 0 1/2 1 2 Miles

SENNEVILLE



SABOURIN

LOUVICOURT

BOUSQUET

COMTÉ DE ROUYN-NORANDA

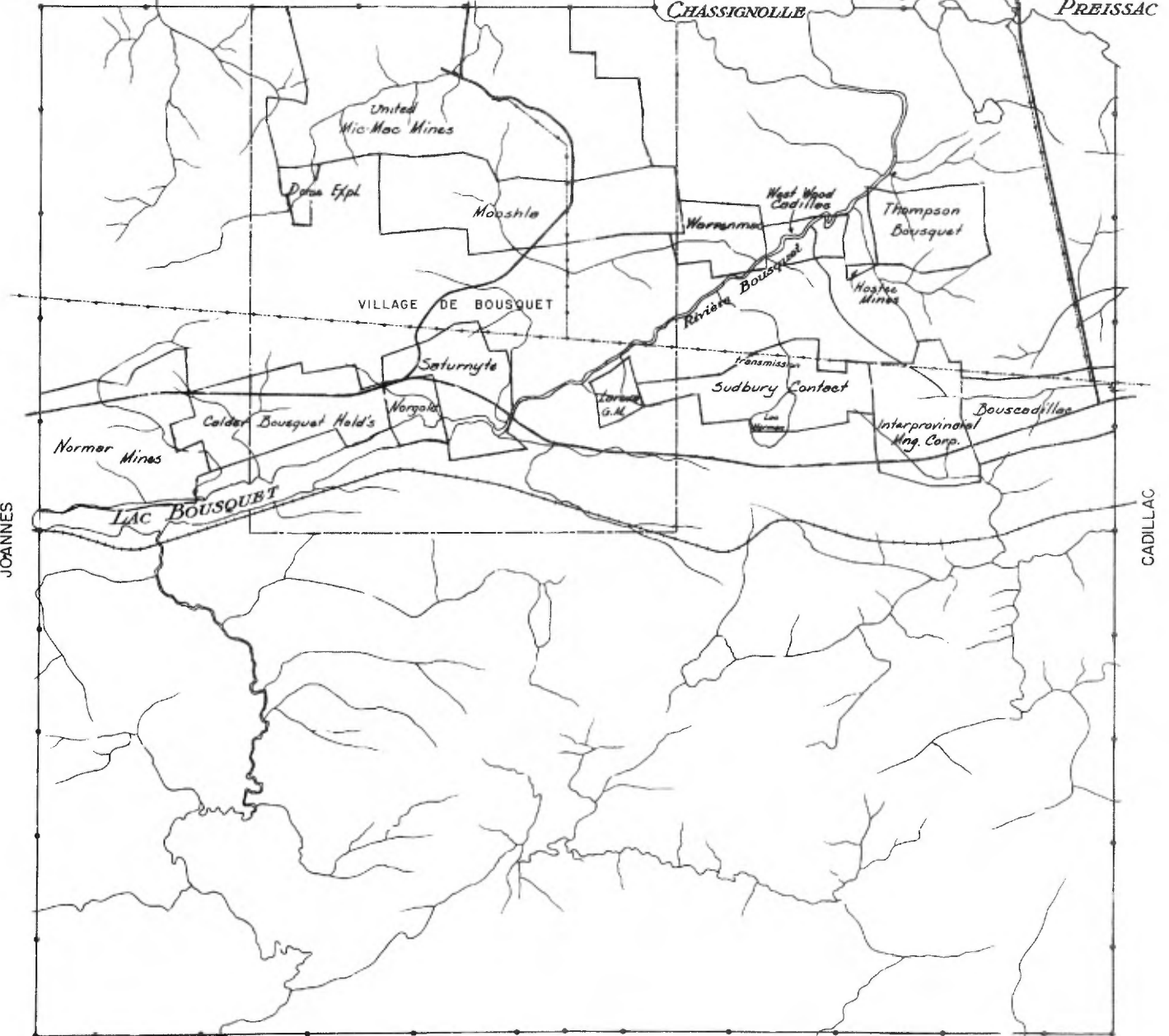
MINISTÈRE DES MINES
DATE: 16-1-51

Miles 0 1 2 3 4 Miles

LA PAUSE

LAC
CHASSIGNOLLE

LAC
PREISSAC



JOANNÉS

CADILLAC

MONTANIER

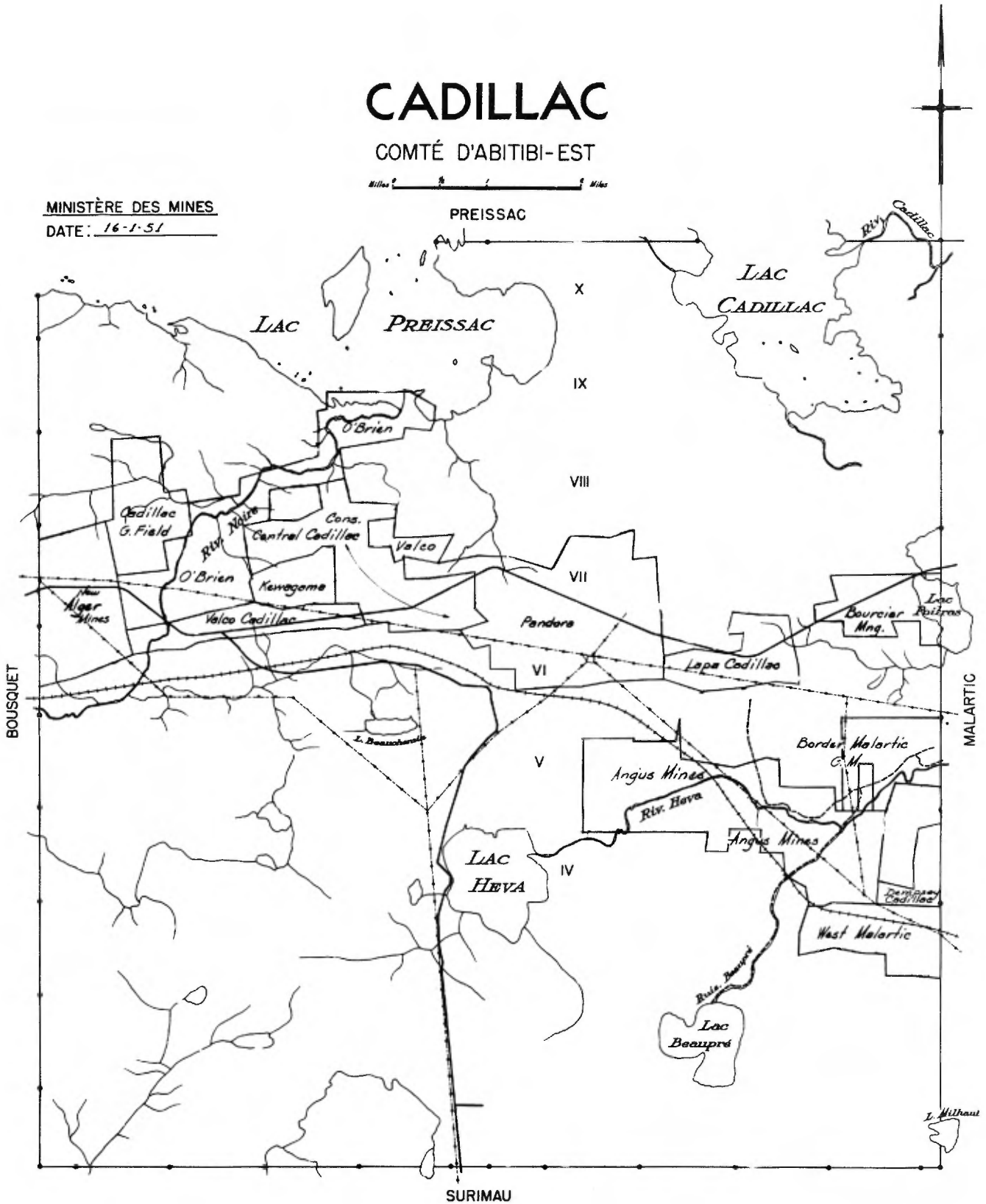
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COMTÉ D'ABITIBI-EST

Miles 0 1 2 Miles

MINISTÈRE DES MINES

DATE: 16-1-51

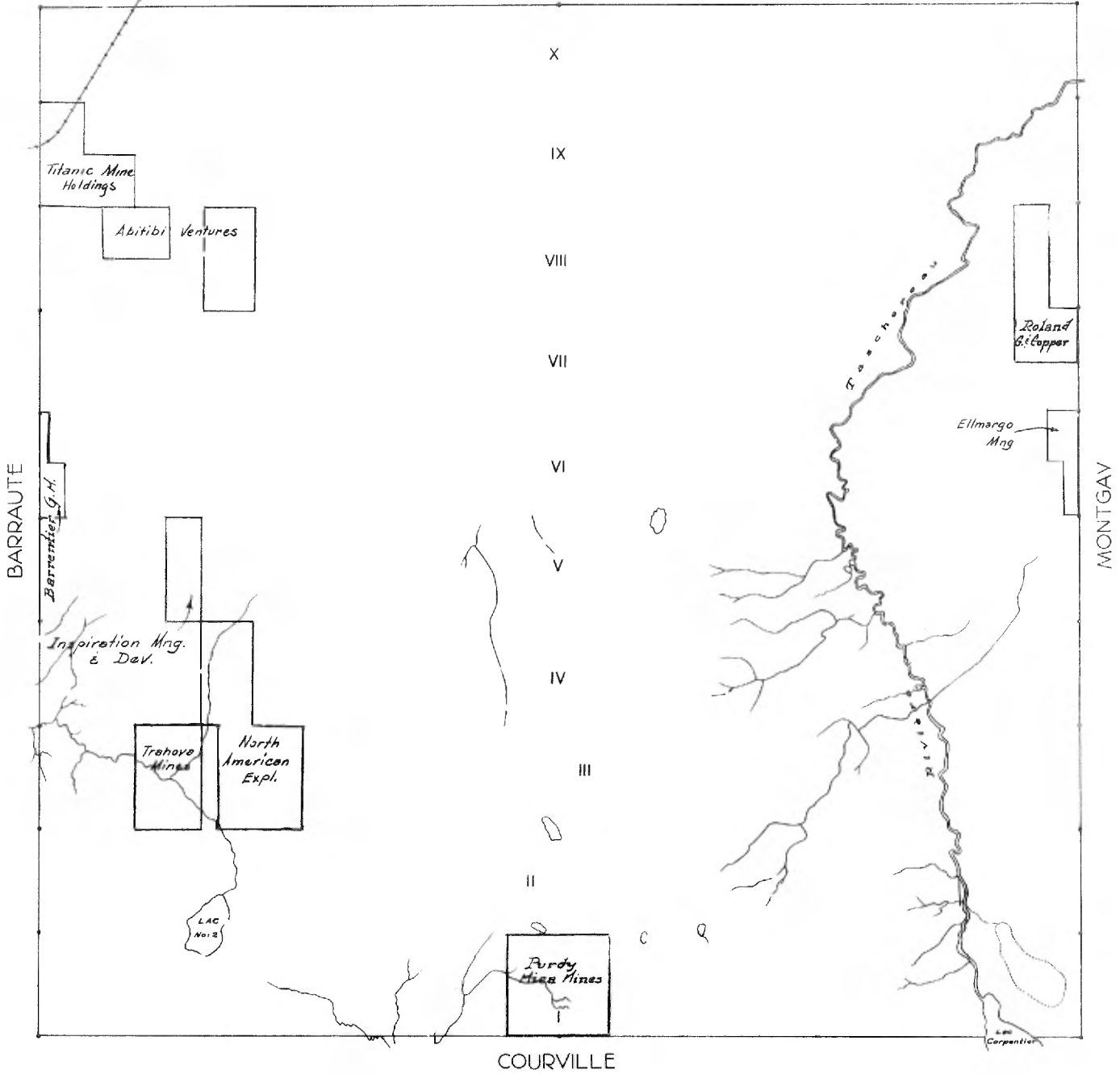


CARPENTIER

COMTÉ D'ABITIBI-EST

DATE: 10-1-51
MINISTÈRE DES MINES

ROCHEBEAUCOURT



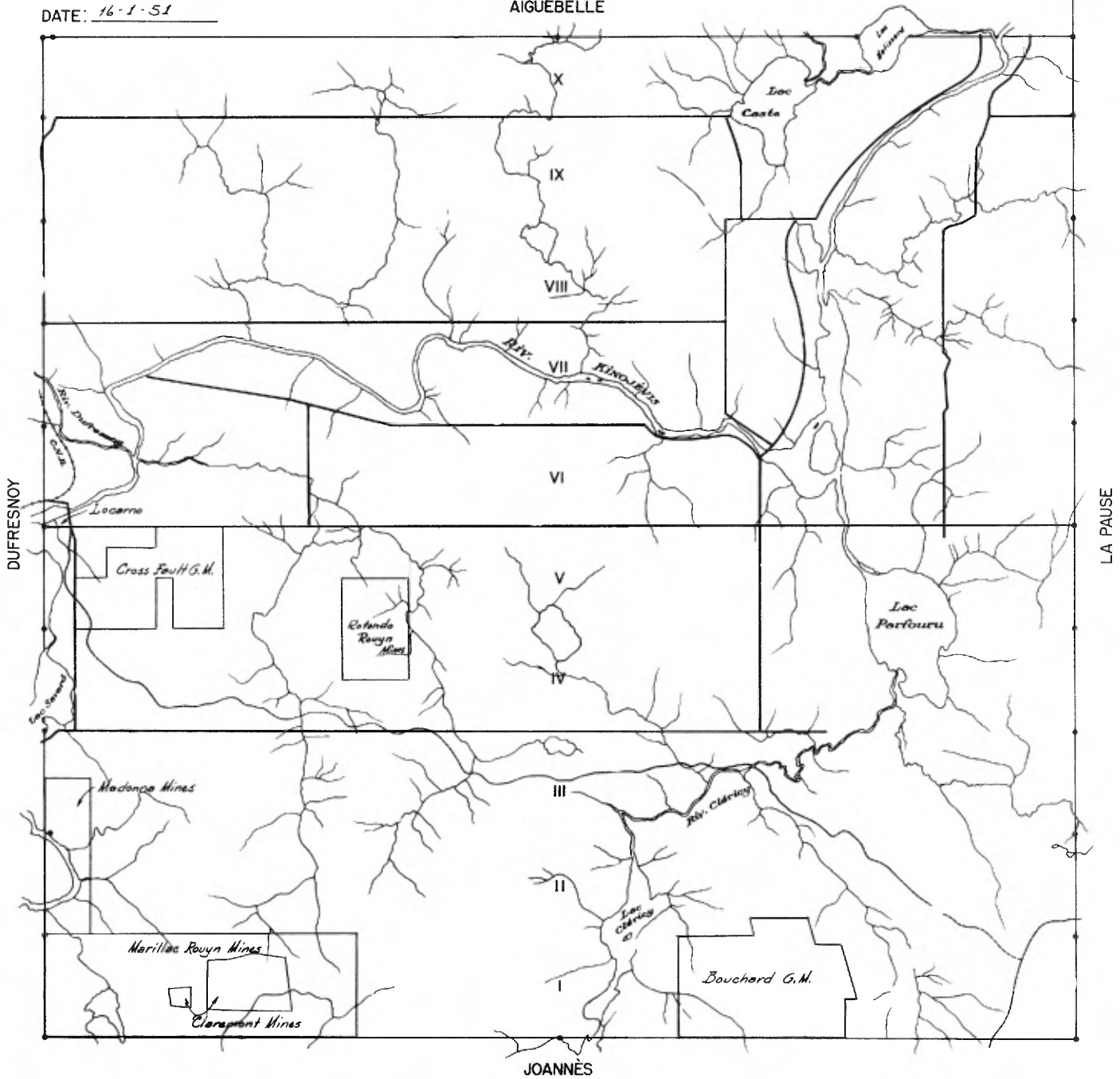
CLÉRICY

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES

DATE: 16-1-51

1/100 000
AIGUEBELLE



COURVILLE

COMTÉ D'ABITIBI-EST

Miles 0 1/4 1/2 1 Miles

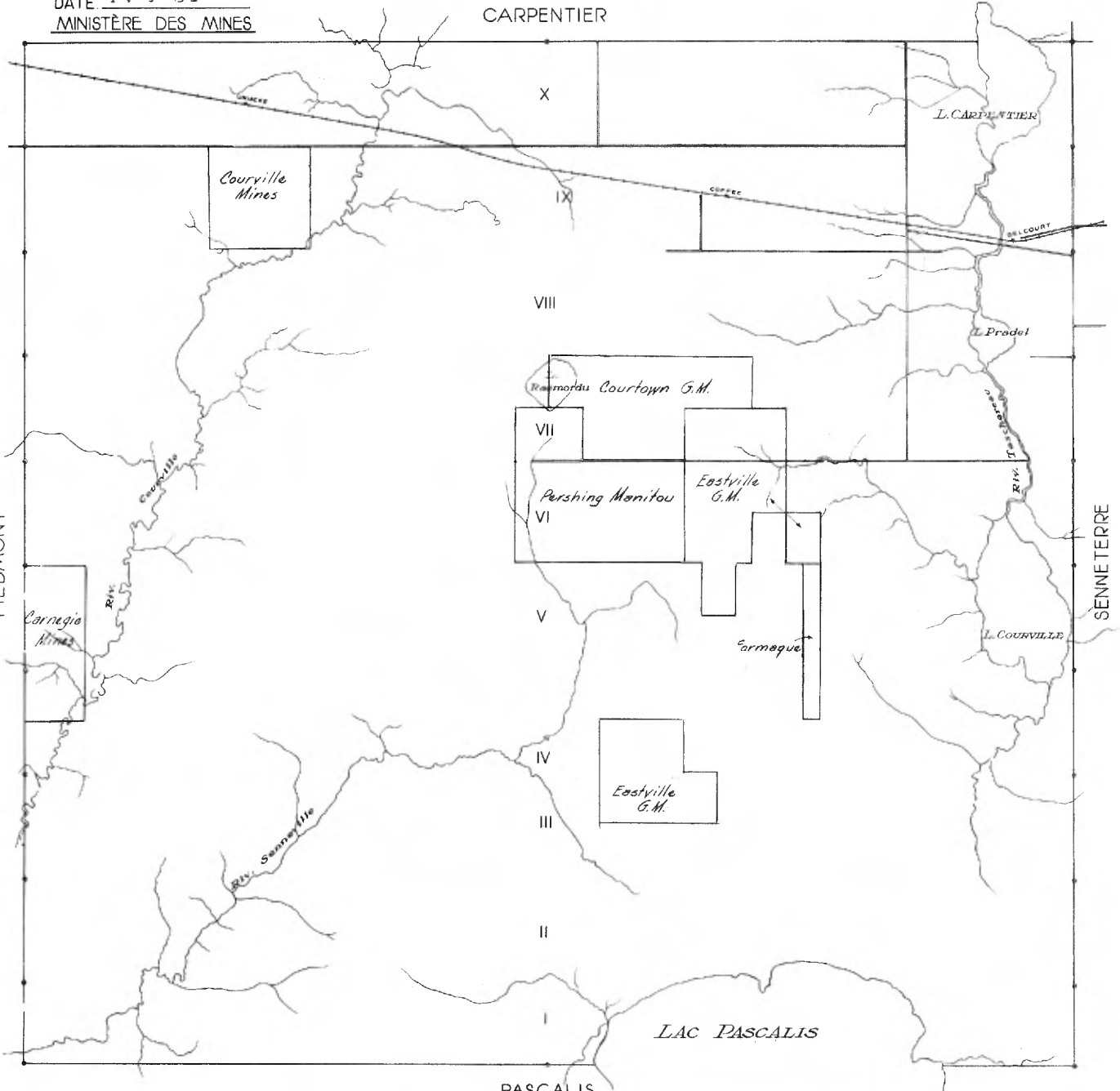
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MINISTÈRE DES MINES

CARPENTIER

FIEDMONT

SENNE TERRE

PASCALIS



CURRIE

COMTE D'ABITIBI-EST



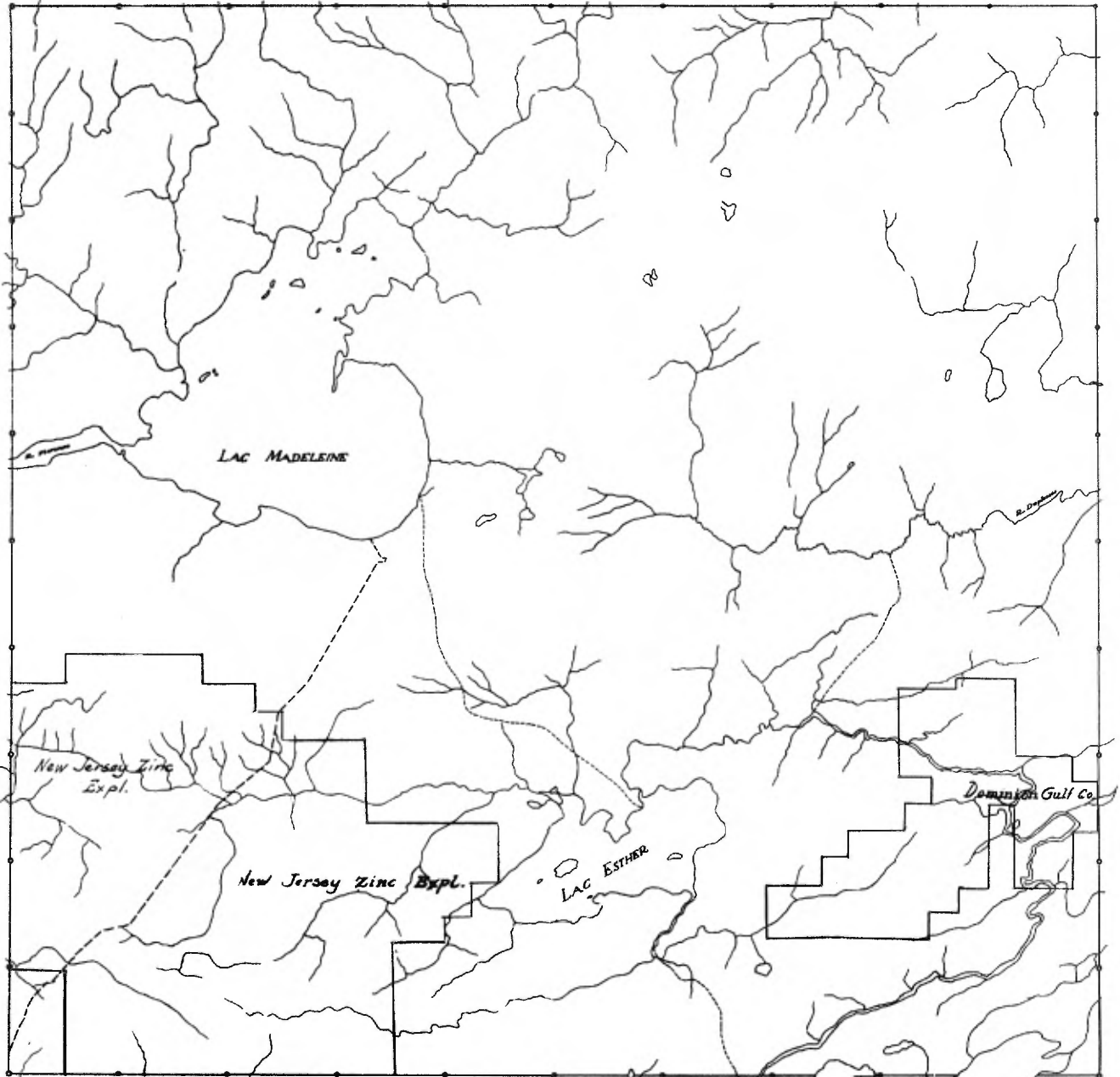
MINISTÈRE DES MINES
DATE: 16-1-51



BERGÈRES

DES JARDINS

DUPLESSIS



GREVET

DASSERAT

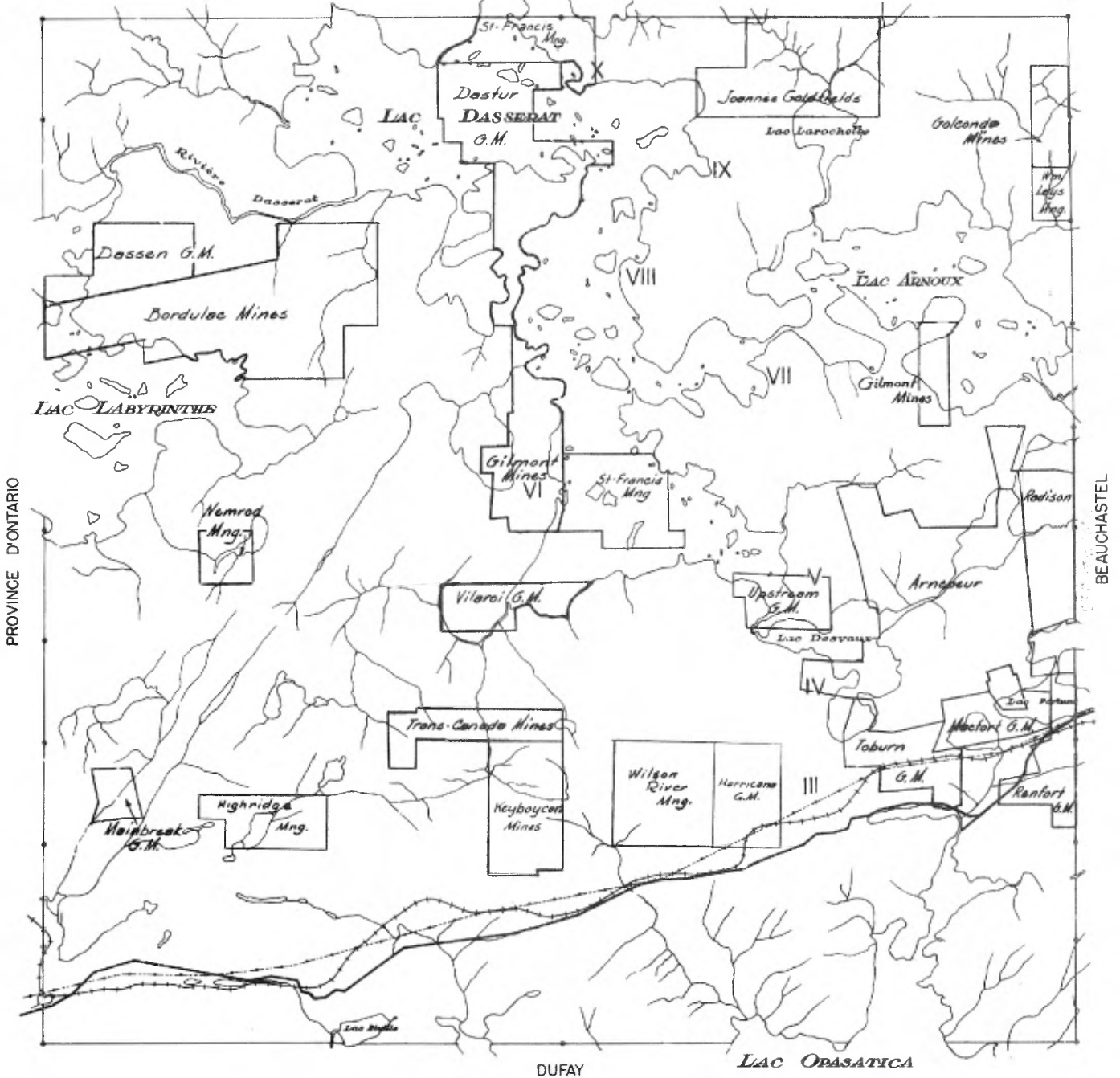
COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2

MONTBRAY



PROVINCE D'ONTARIO

BEAUCHASTEL

DUFAY

LAC OPASATICA

DESJARDINS

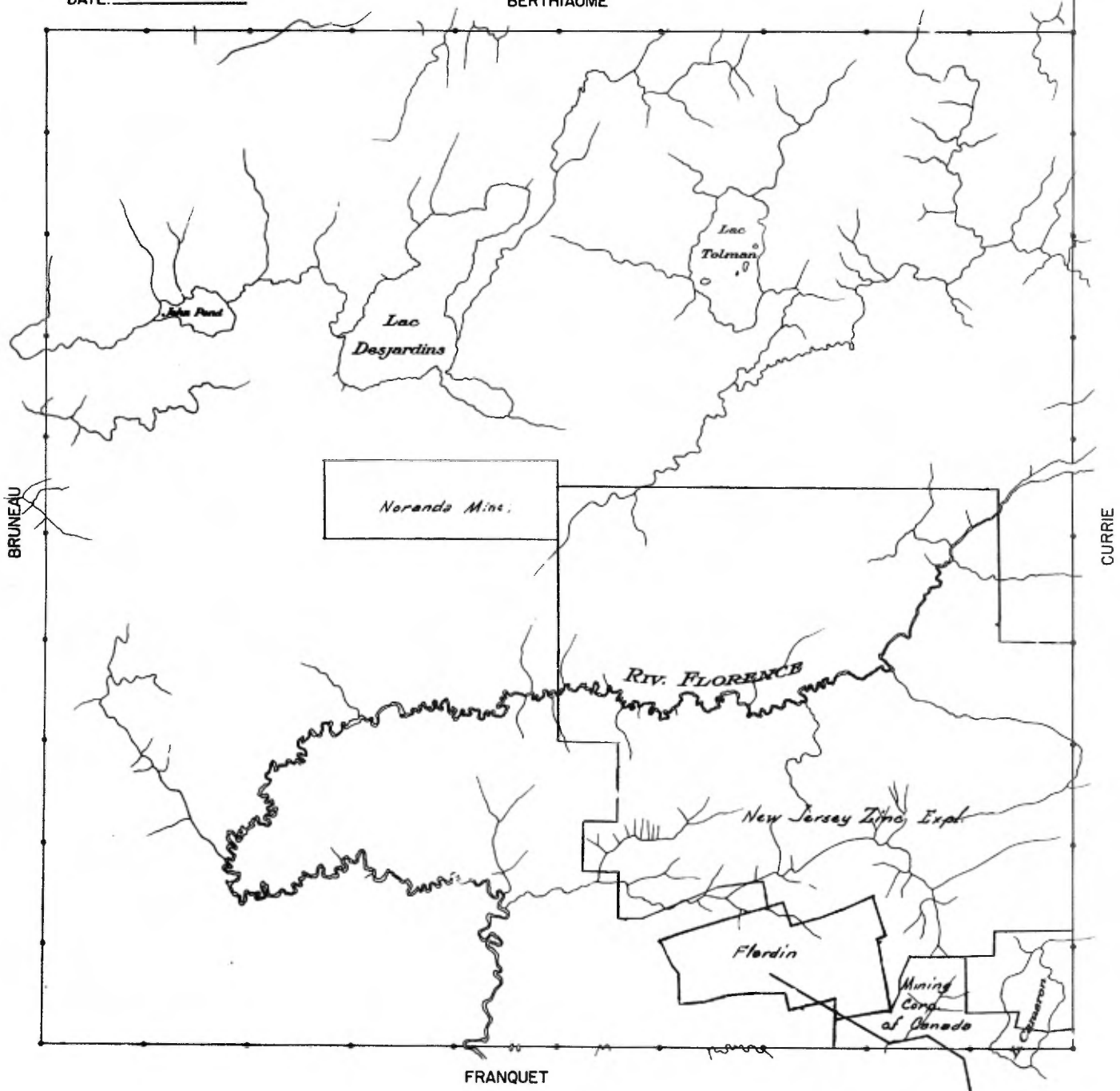
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MINISTÈRE DES MINES

DATE: 16-1-51

0 1 2 Miles

BERTHIAUME



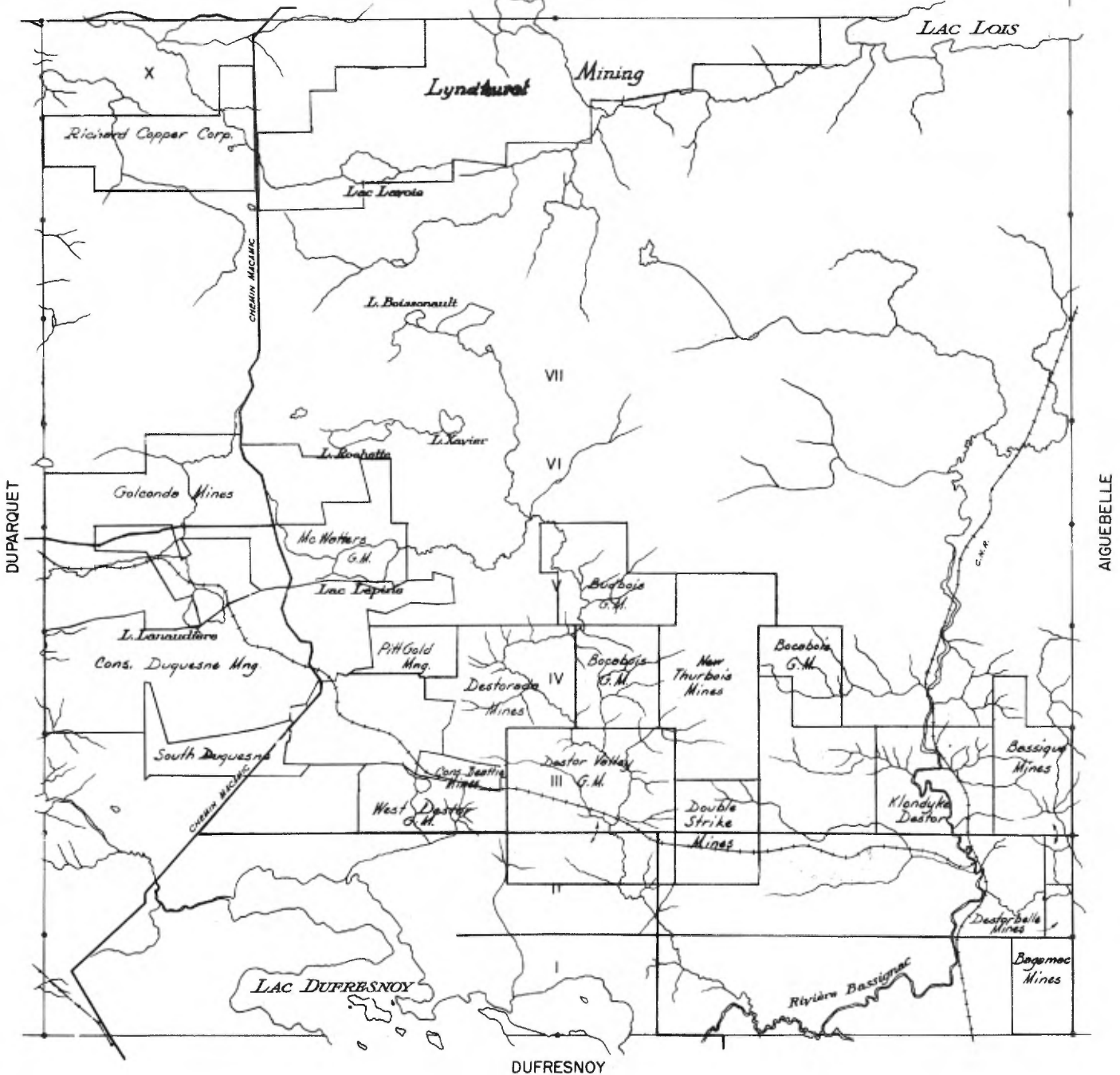
DESTOR

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 16-1-51

Miles 0 1 2 3 4

POULARIÈS



DUBUISSON

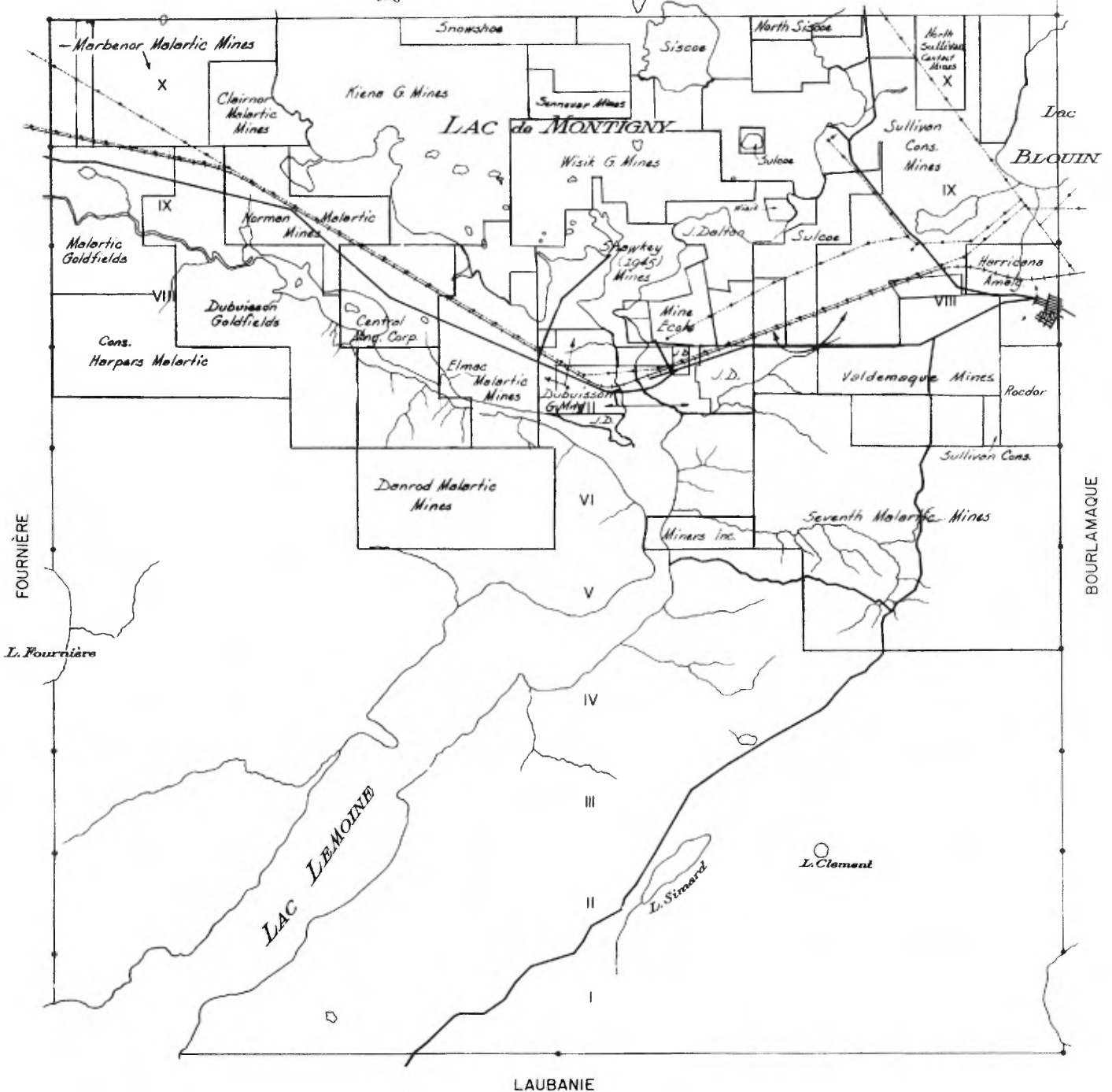
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2 Miles

VASSAN



DUFRESNOY

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES

DATE: 16-1-51

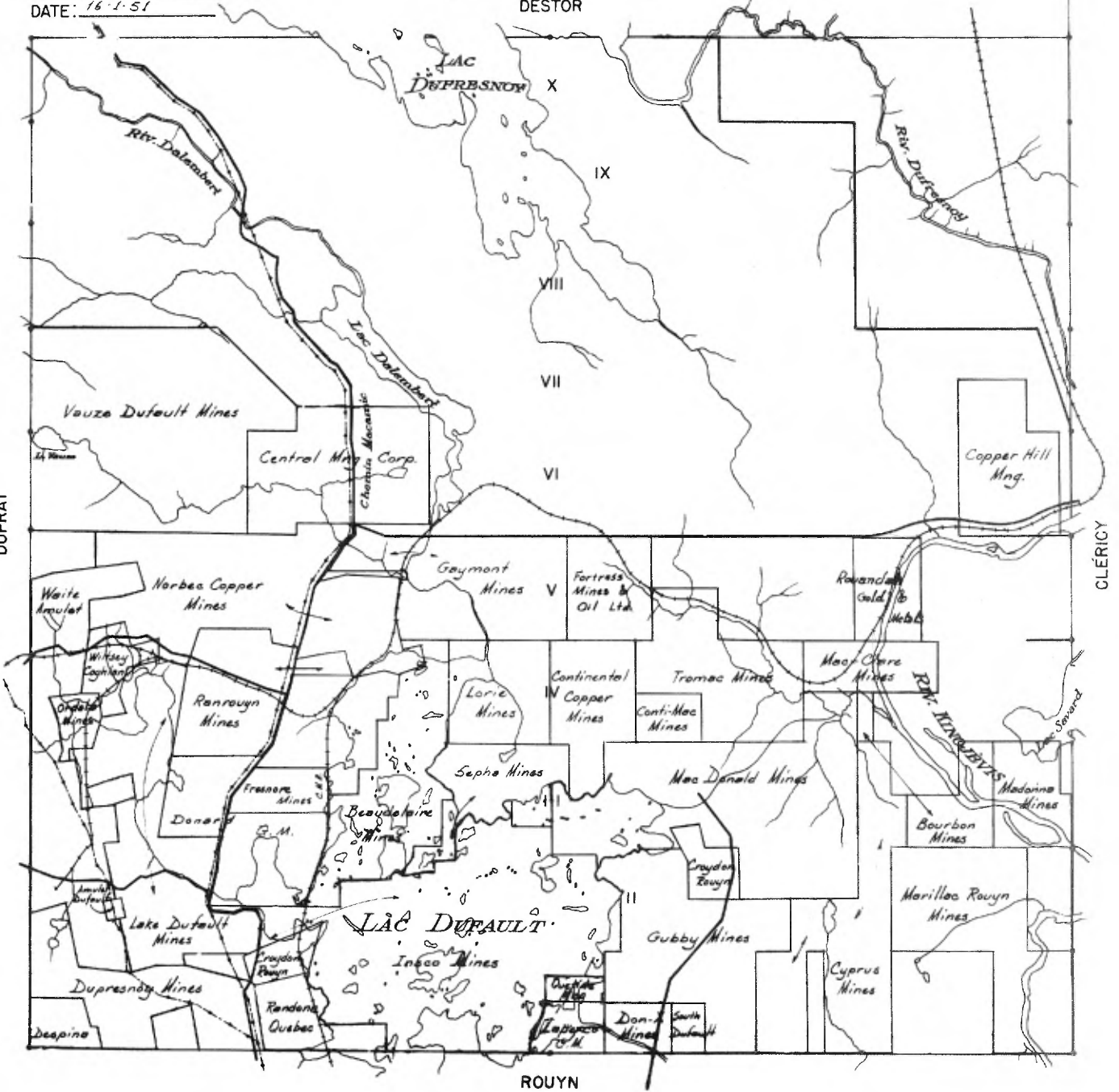
Miles 0 1 2 Miles

DESTOR

DUPRAT

CLÉRICY

ROUYN



FIEDMONT

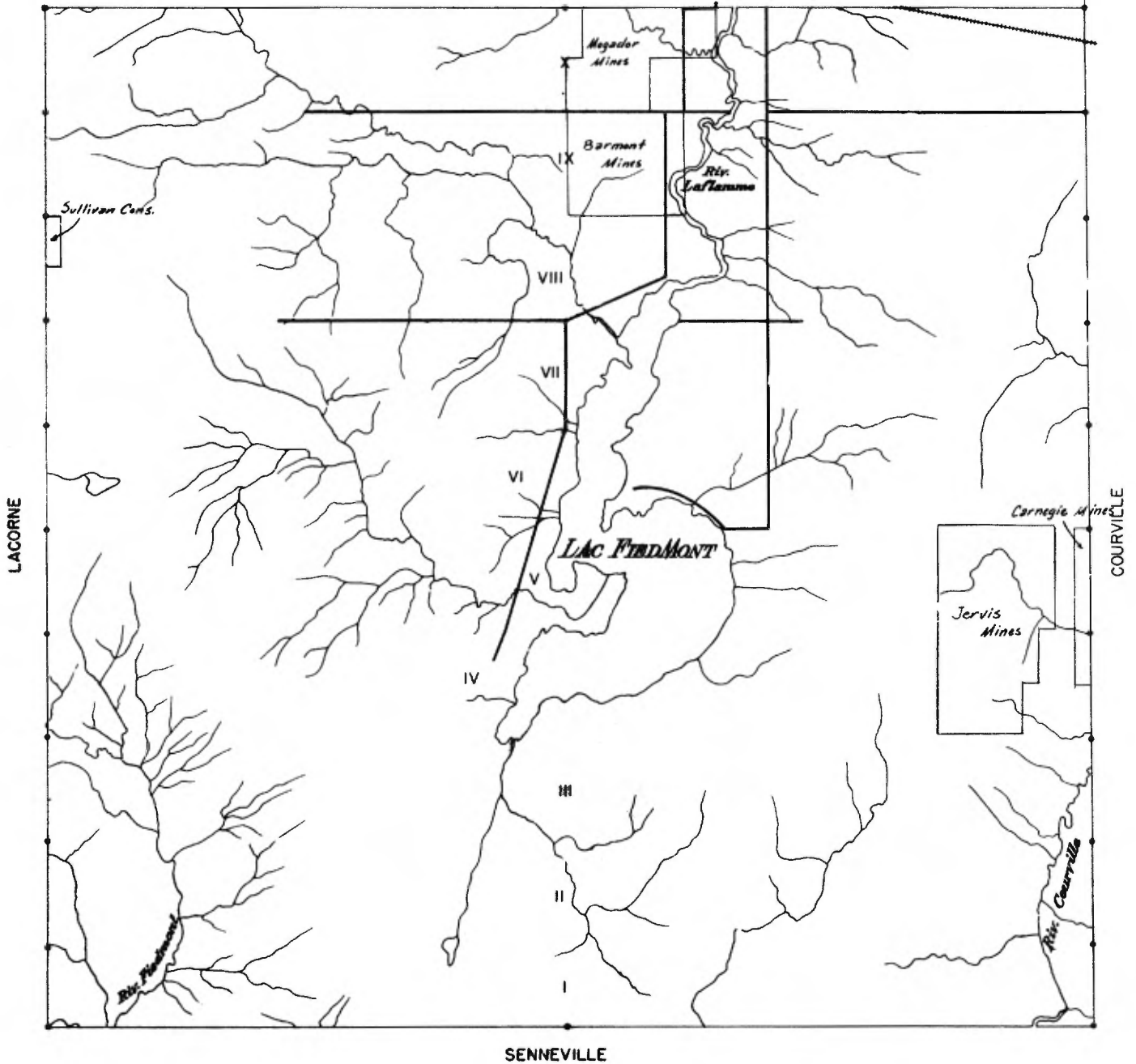
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MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1/2 1 2

BARRAUTE

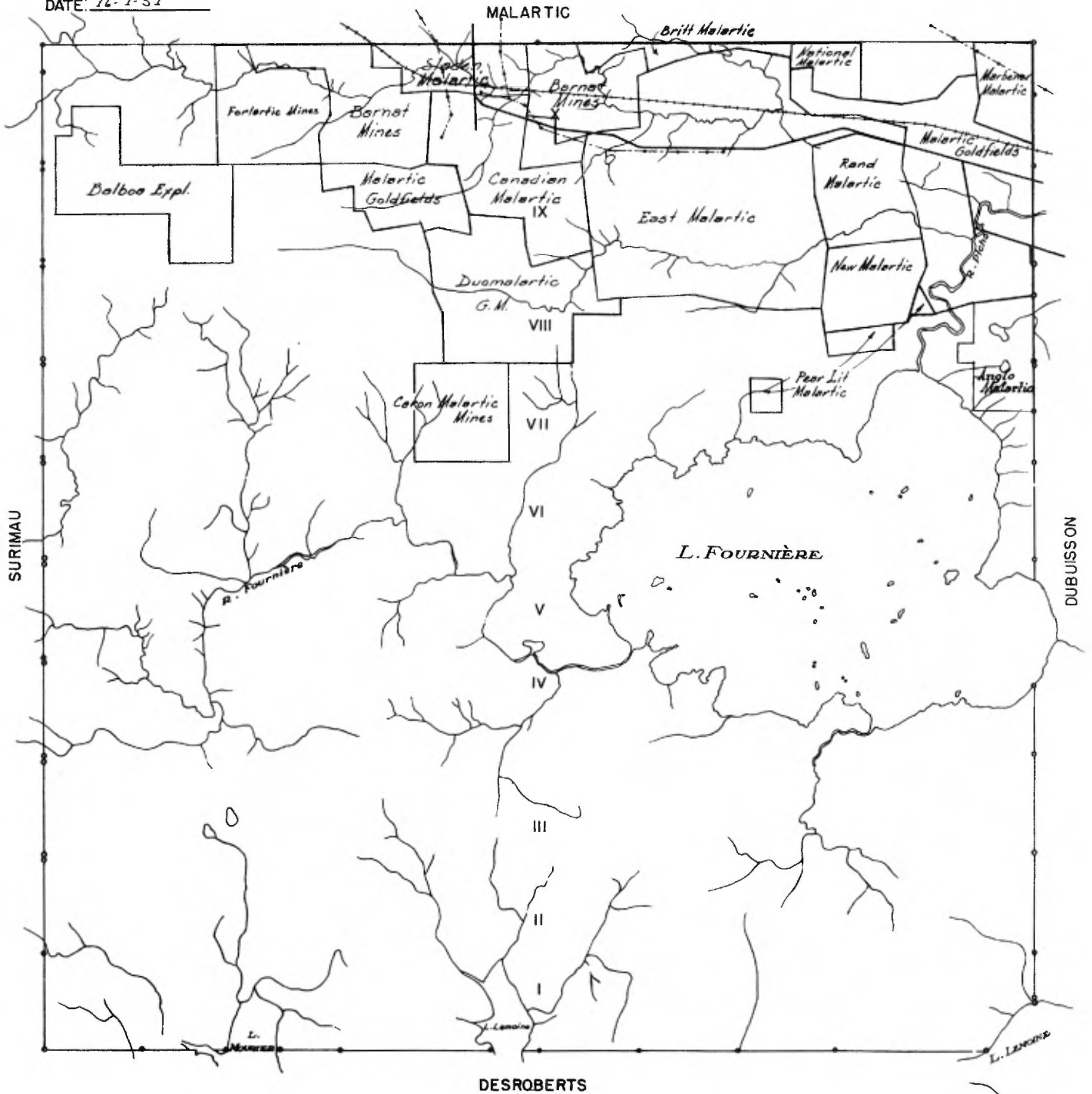


FOURNIÈRE

COMTÉ D'ABITIBI - EST

MINISTÈRE DES MINES

DATE: 16-1-51



GAND

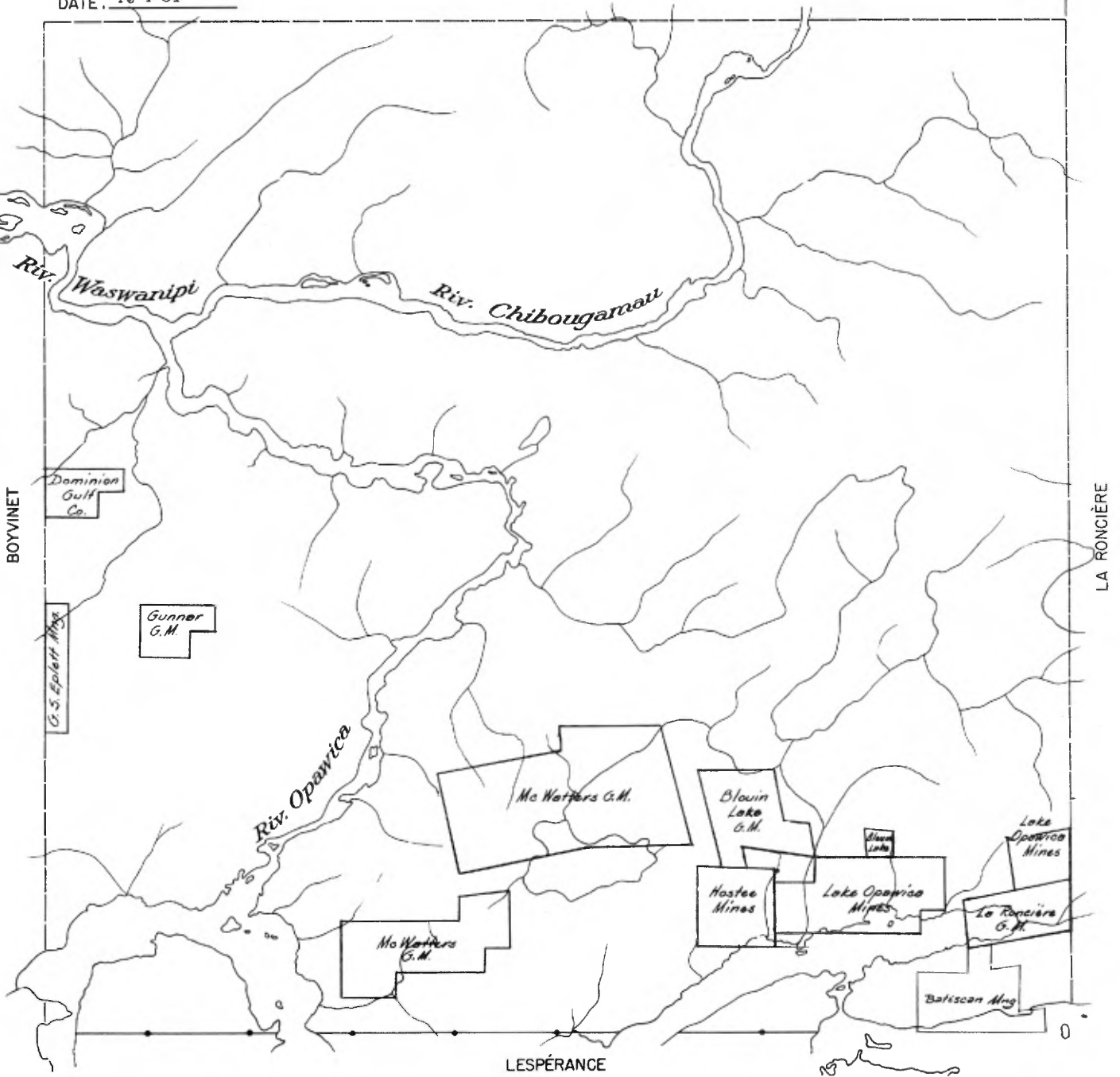
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MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2 Miles

KREIGHOFF



GUILLET

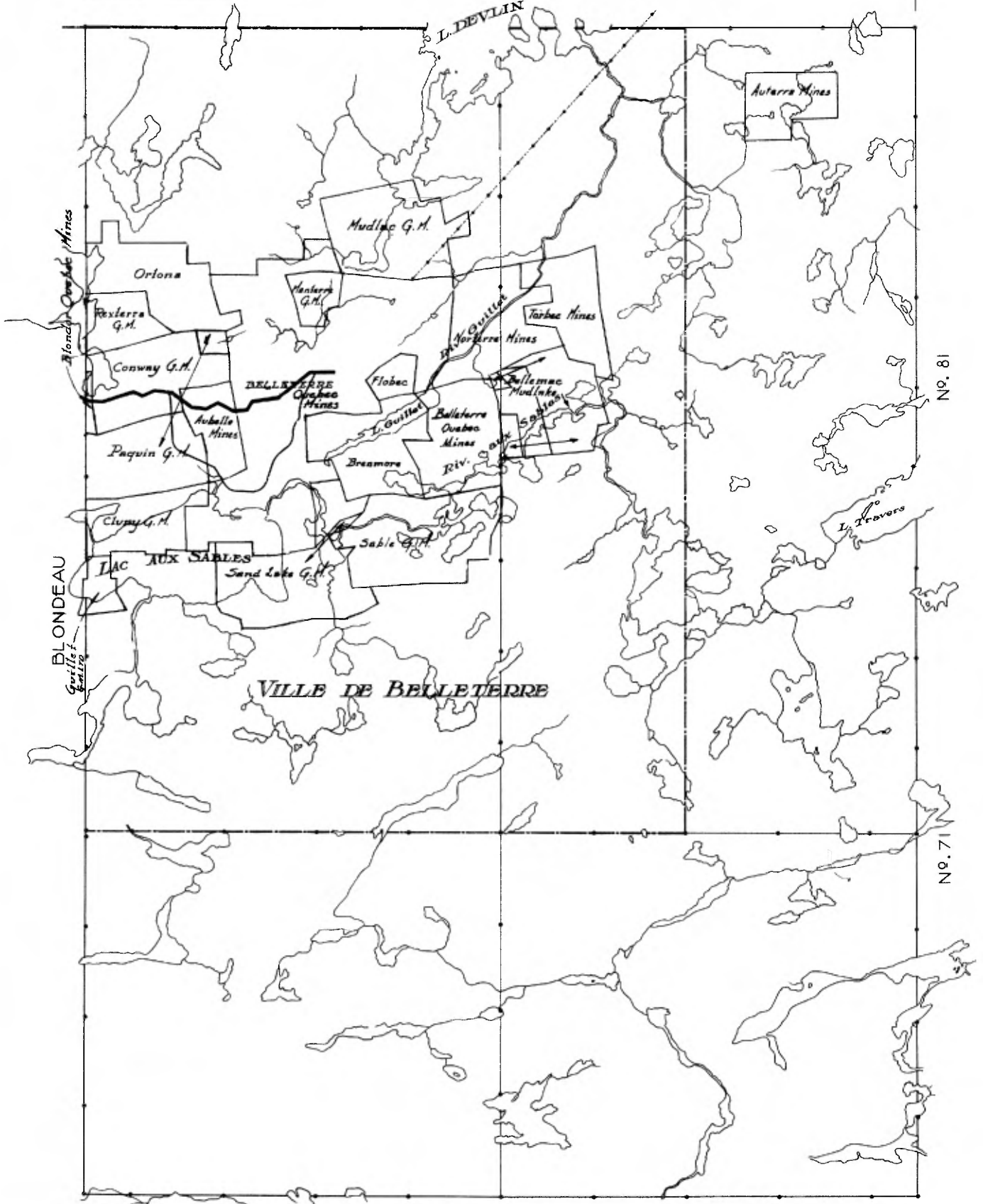
COMTÉ DE TÉMISCAMINGUE

16-1-51

Miles 0 1/4 1 2 Miles

MINISTÈRE DES MINES

DEVLIN



BELLEFEUILLE

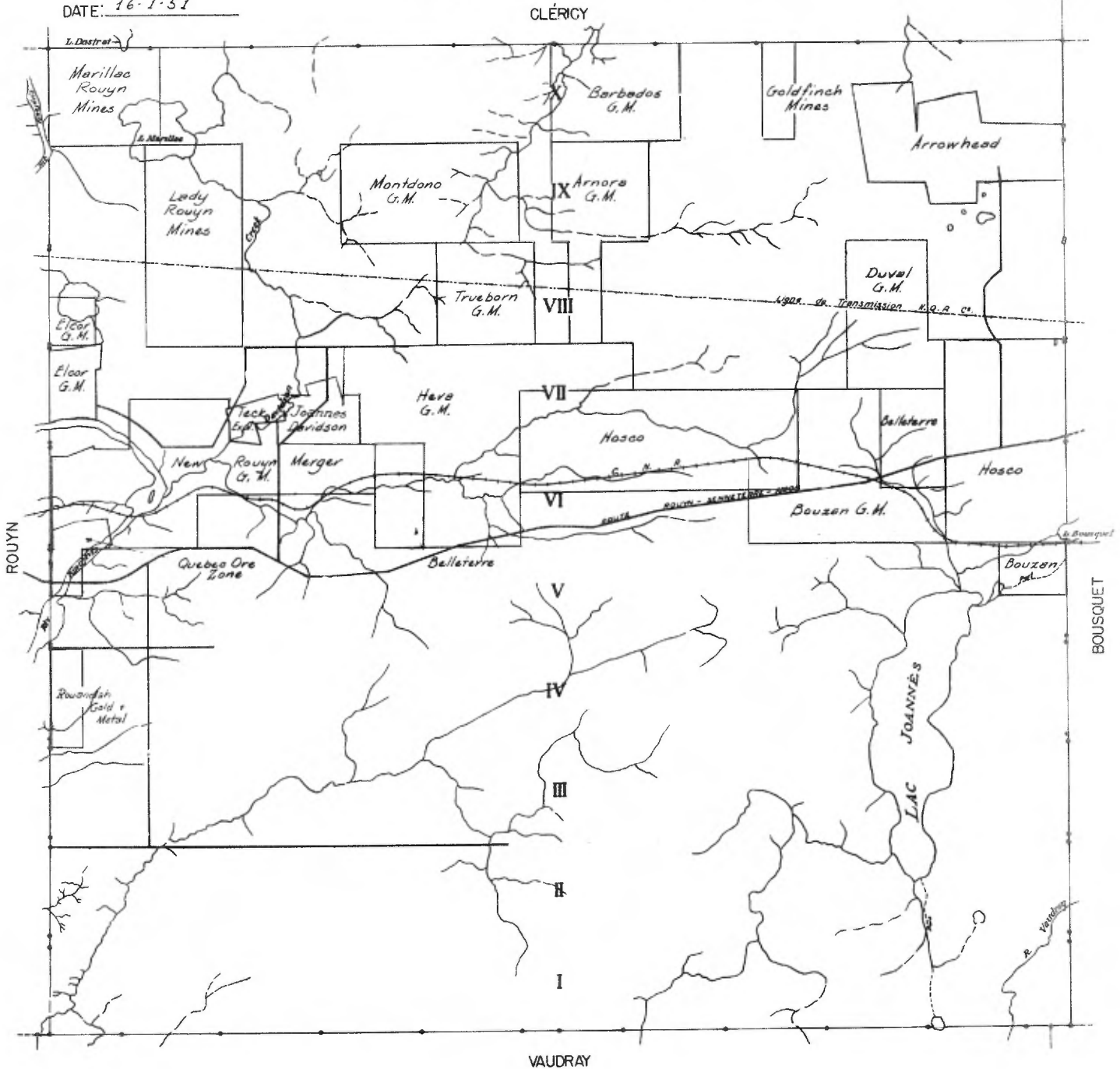
JOANNÈS

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2 3 4 5 Miles



LANDRIENNE

COMTÉ D'ABITIBI-EST

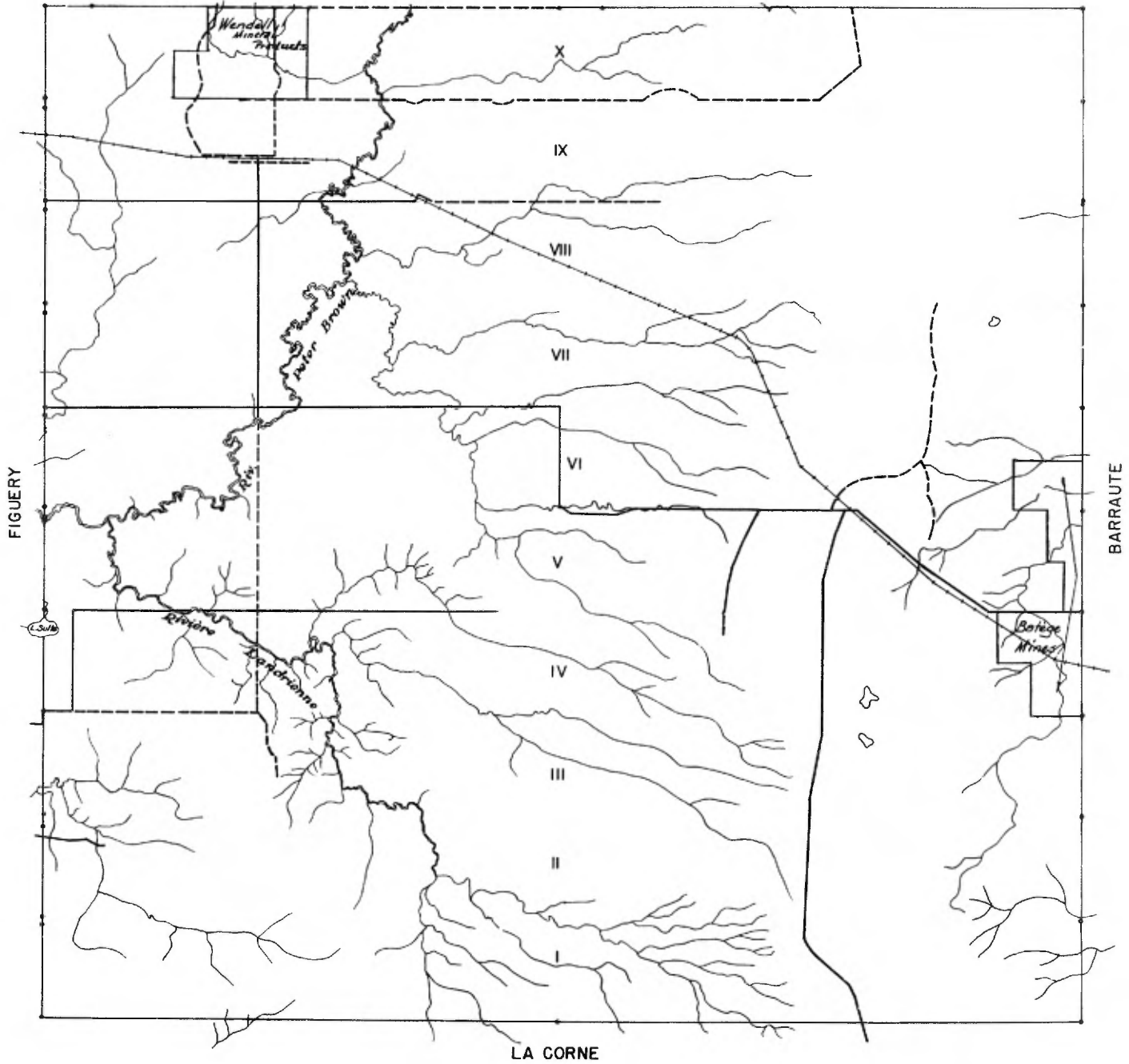
Miles



MINISTÈRE DES MINES

DATE: 16-1-51

DUVERNY



LA RONCIÈRE

COMTÉ D'ABITIBI-EST

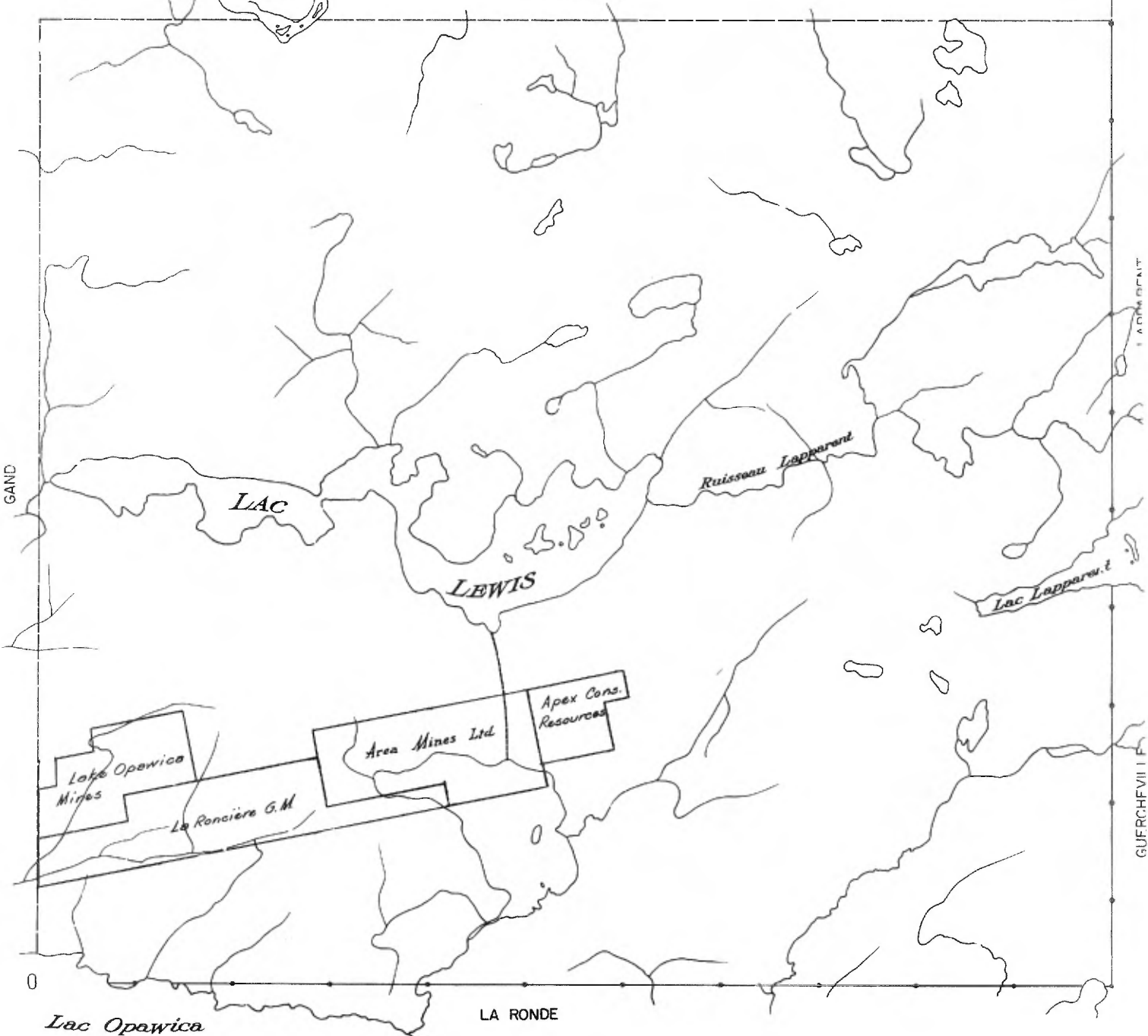
MINISTÈRE DES MINES

DATE: 16-1-54

Miles 0 1 2 Miles

LA RIBOURDE

Riv. Chibougamau



Lac Opawica

LA RONDE

ADM. DIST. GUERCHÉVILLE

LESPÉRANCE

COMTÉ D'ABITIBI-EST

Miles 0 1 2 Miles



MINISTÈRE DES MINES

DATE: 16-1-51

GAND

Batiscon Mag

Siscon
G.M.

Siscon G.M.

Harricana
G.M.

Consolidated
Mag.

LAC OPAWICA

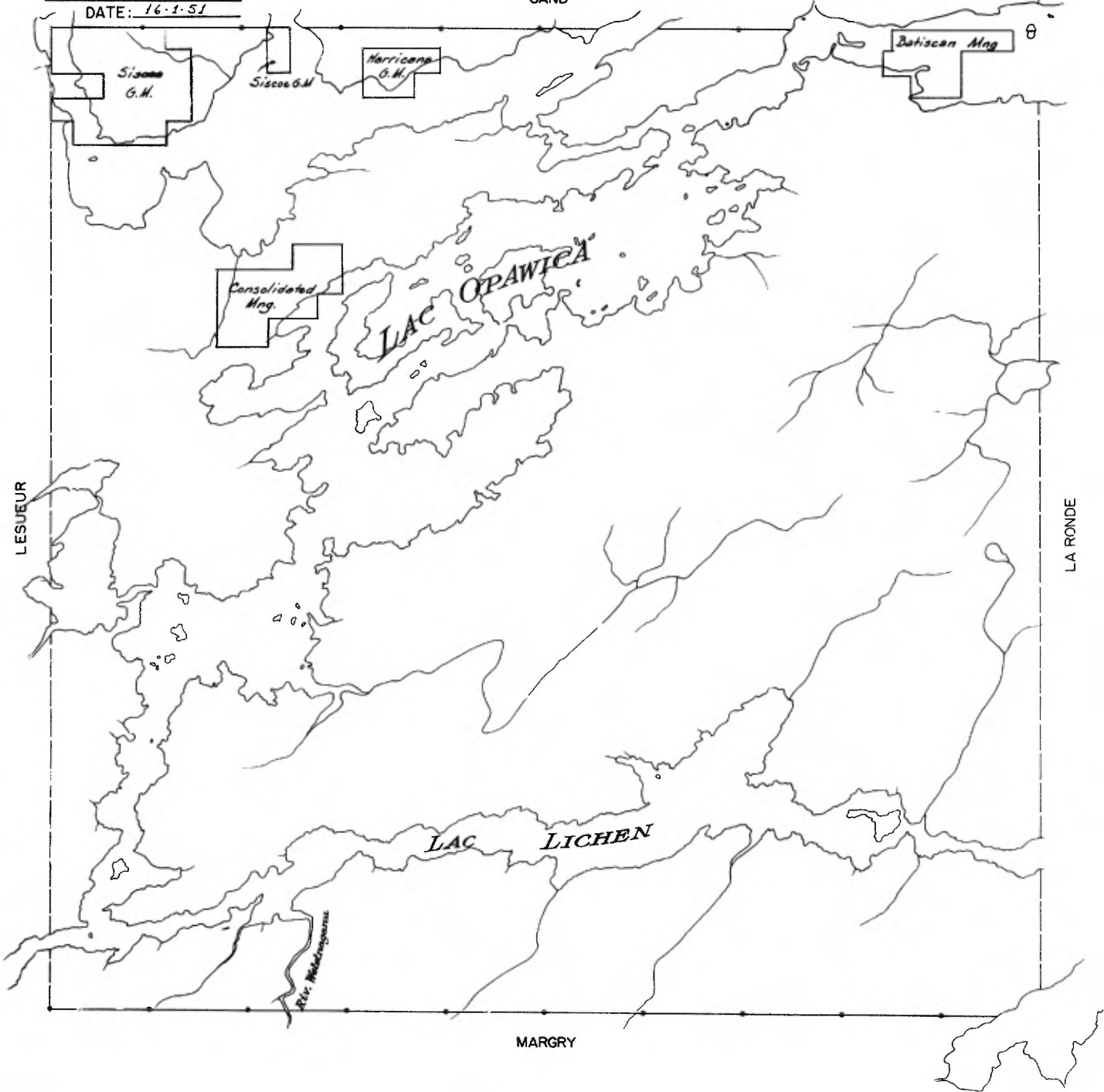
LESJEUR

LA RONDE

LAC LICHEN

Riv. Malouin

MARGRY



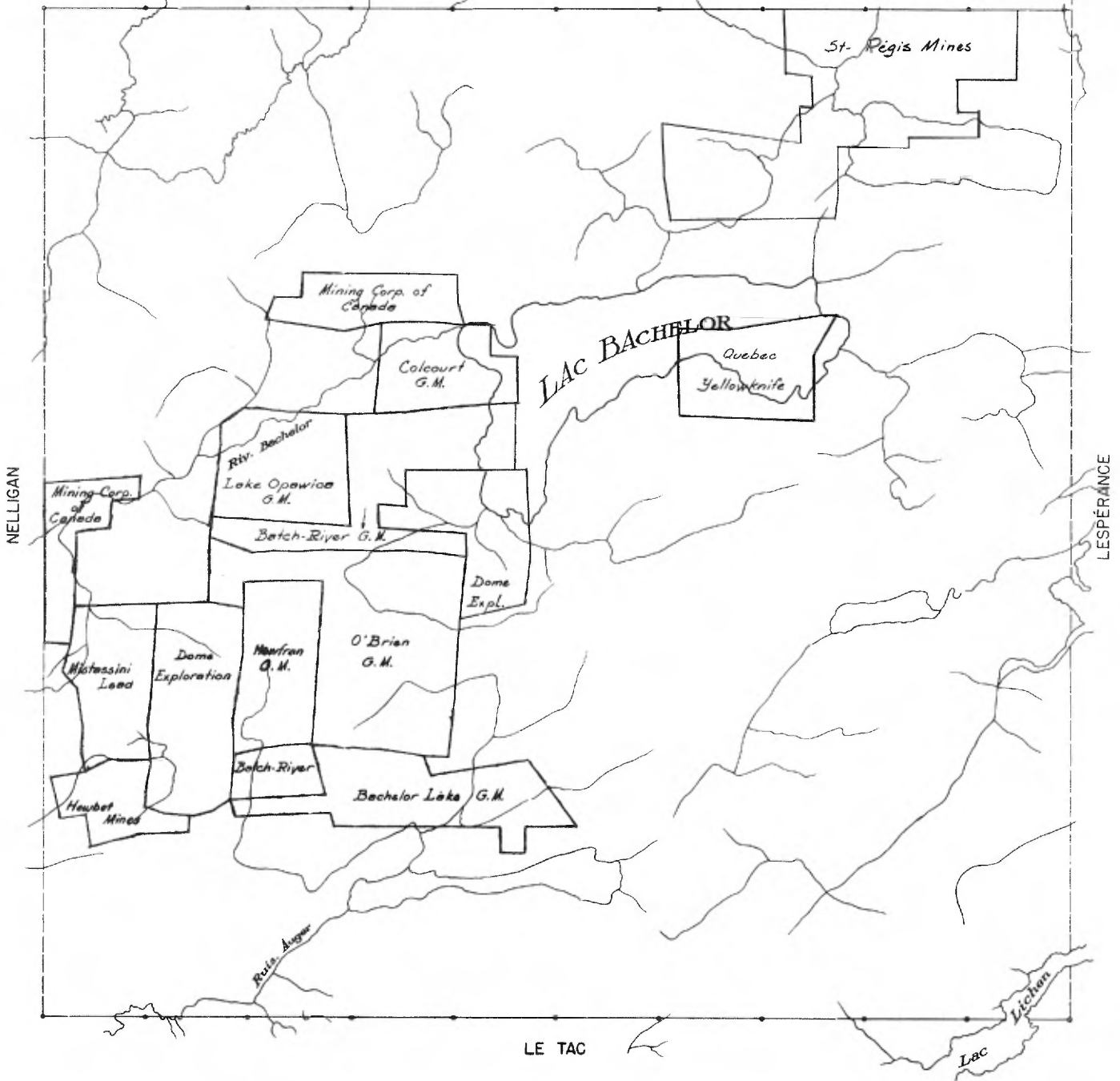
LESUEUR

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2 Miles
BOYVINET



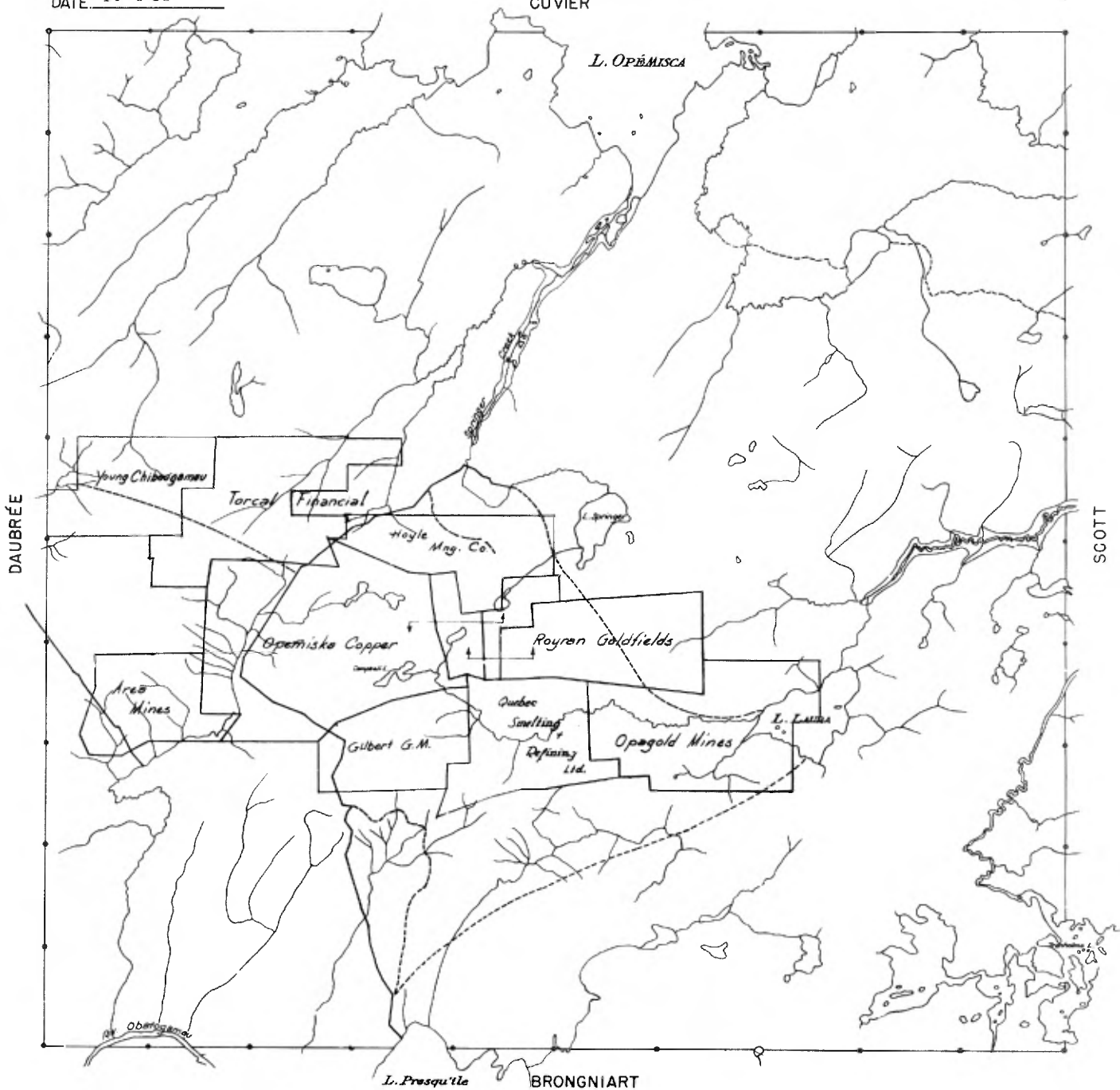
LÉVY

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 16-1-51

1:50,000

CUVIER



LOUVICOURT

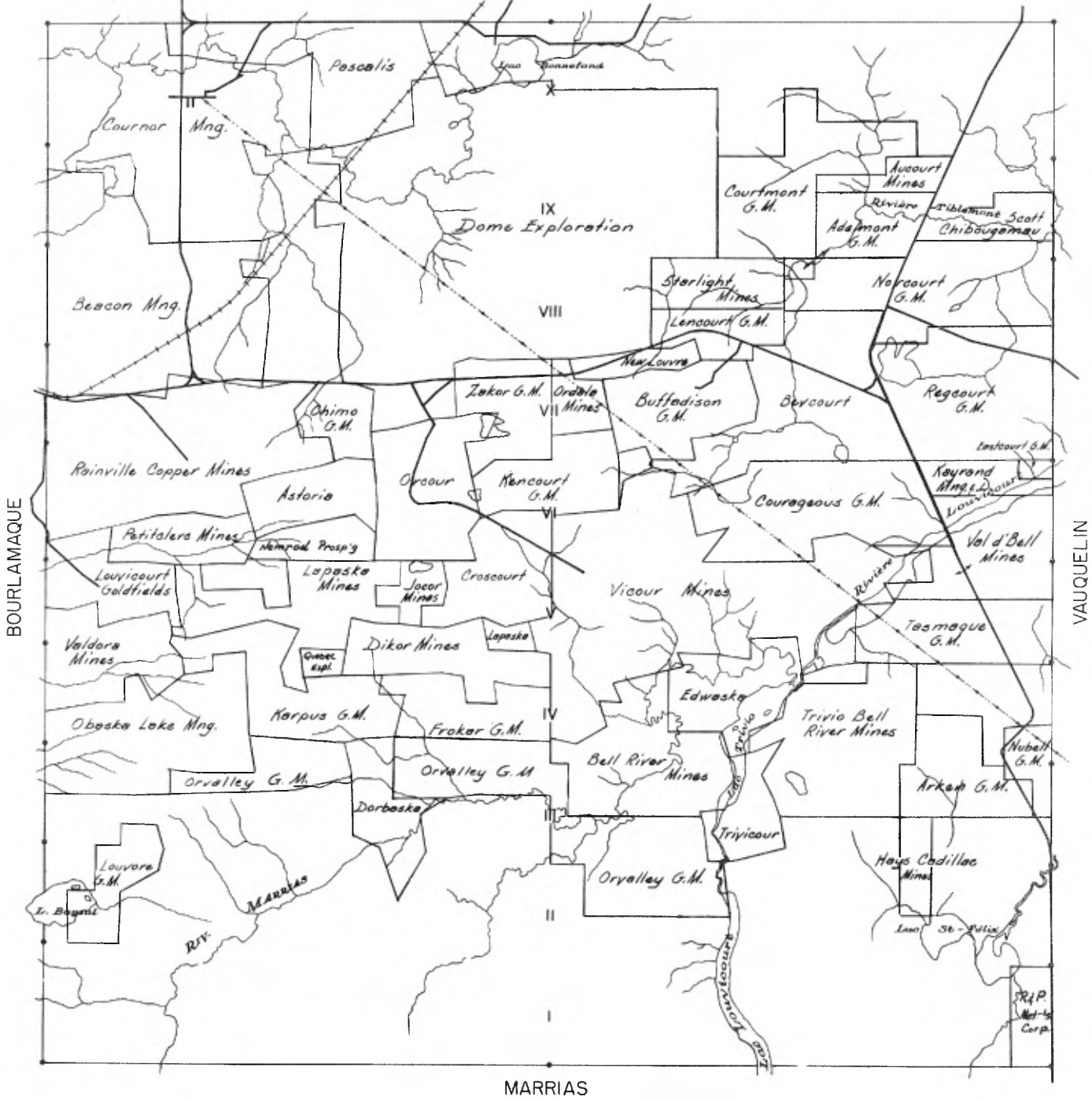
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 10 1 51

Miles 0 1 2 Miles

PASCALIS



BOURLAMAQUE

VAUQUELIN

MARRIAS

McKENZIE

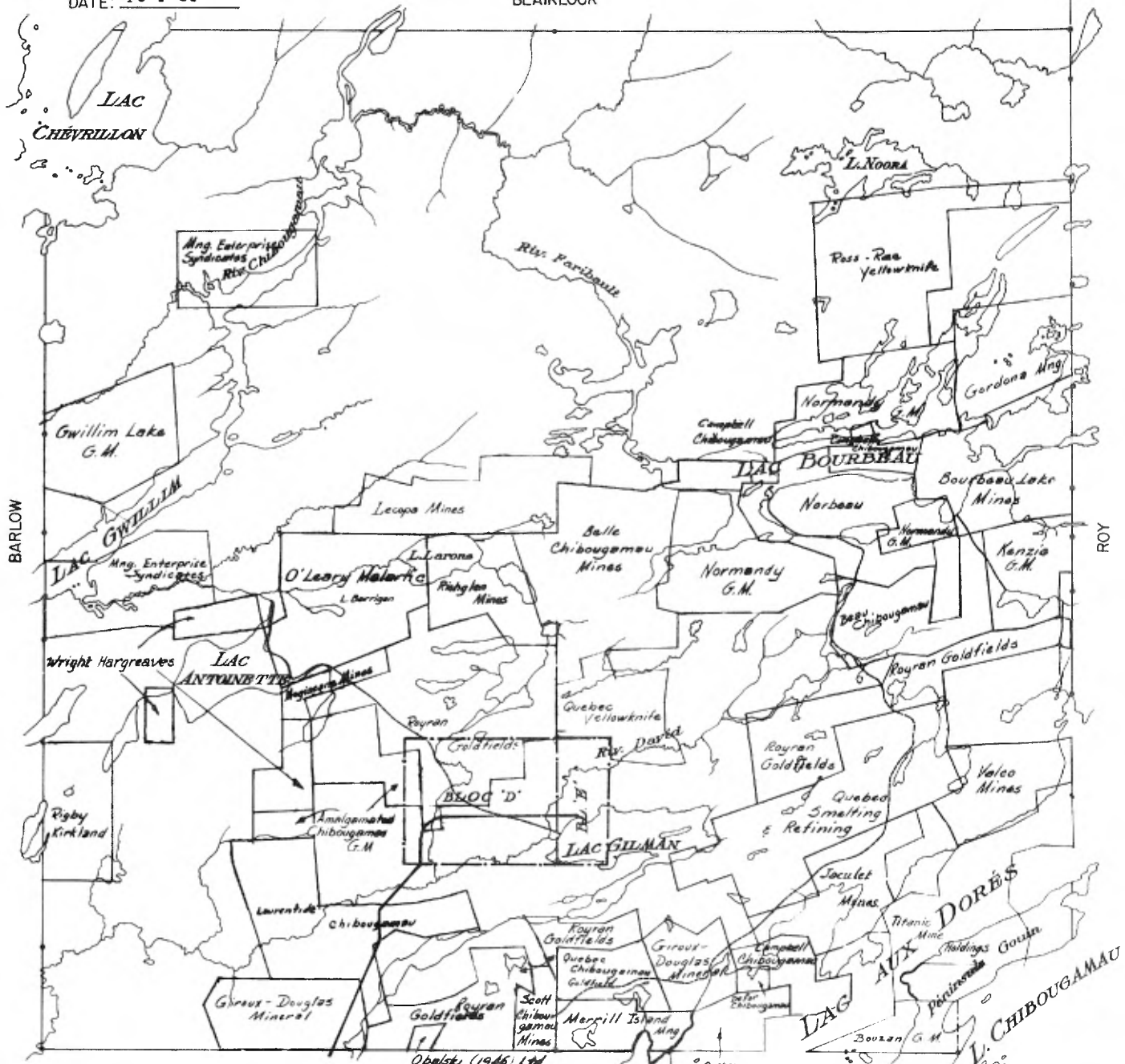
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-3-51

10 Miles

BLAICKLOCK



Obalst. (1946) Ltd

OBALSKI

Quebec Chibougamau Goldfield

L. CHIBOUGAMAU

PERSHING

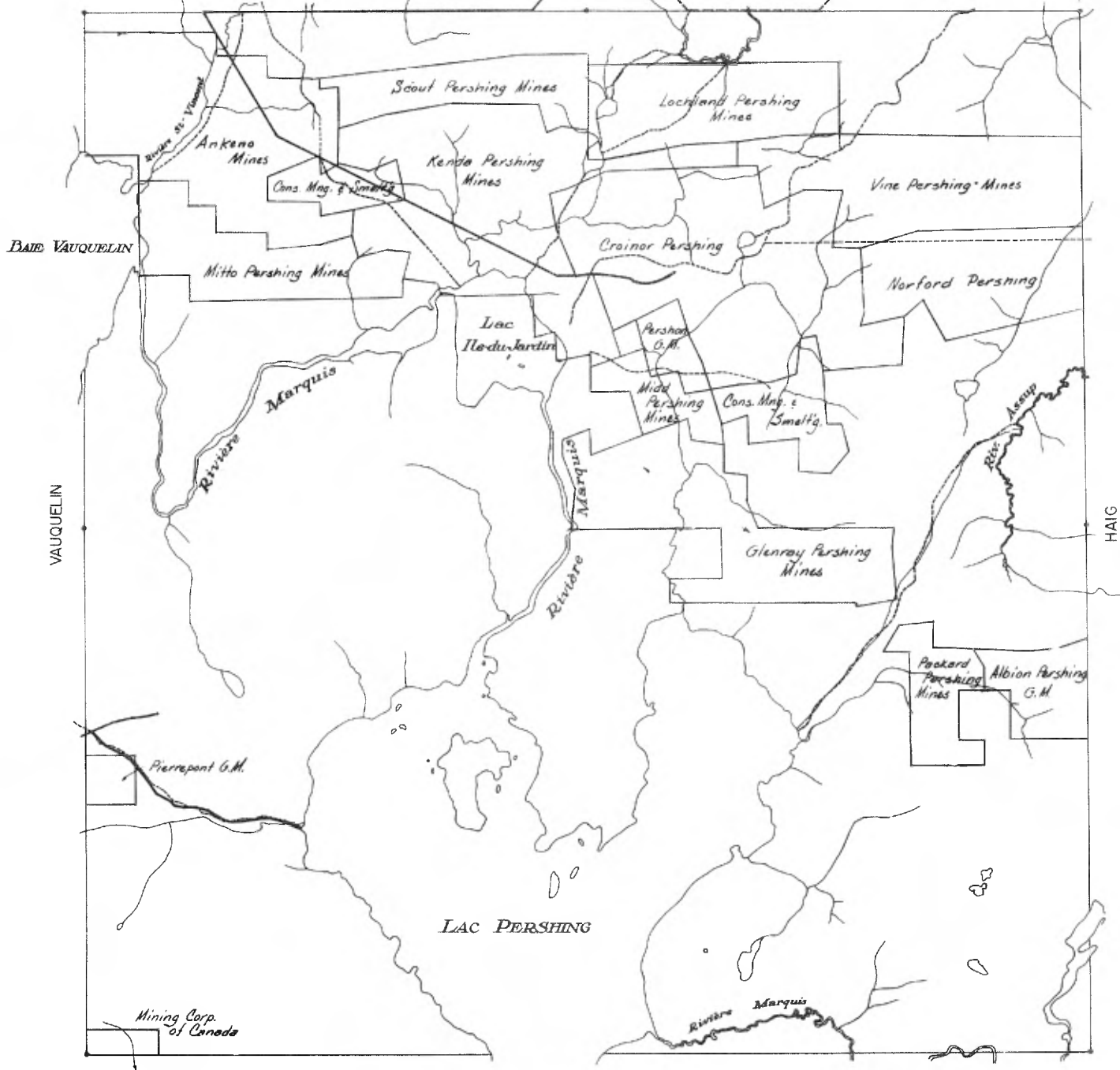
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1 2 3

TAVERNIER



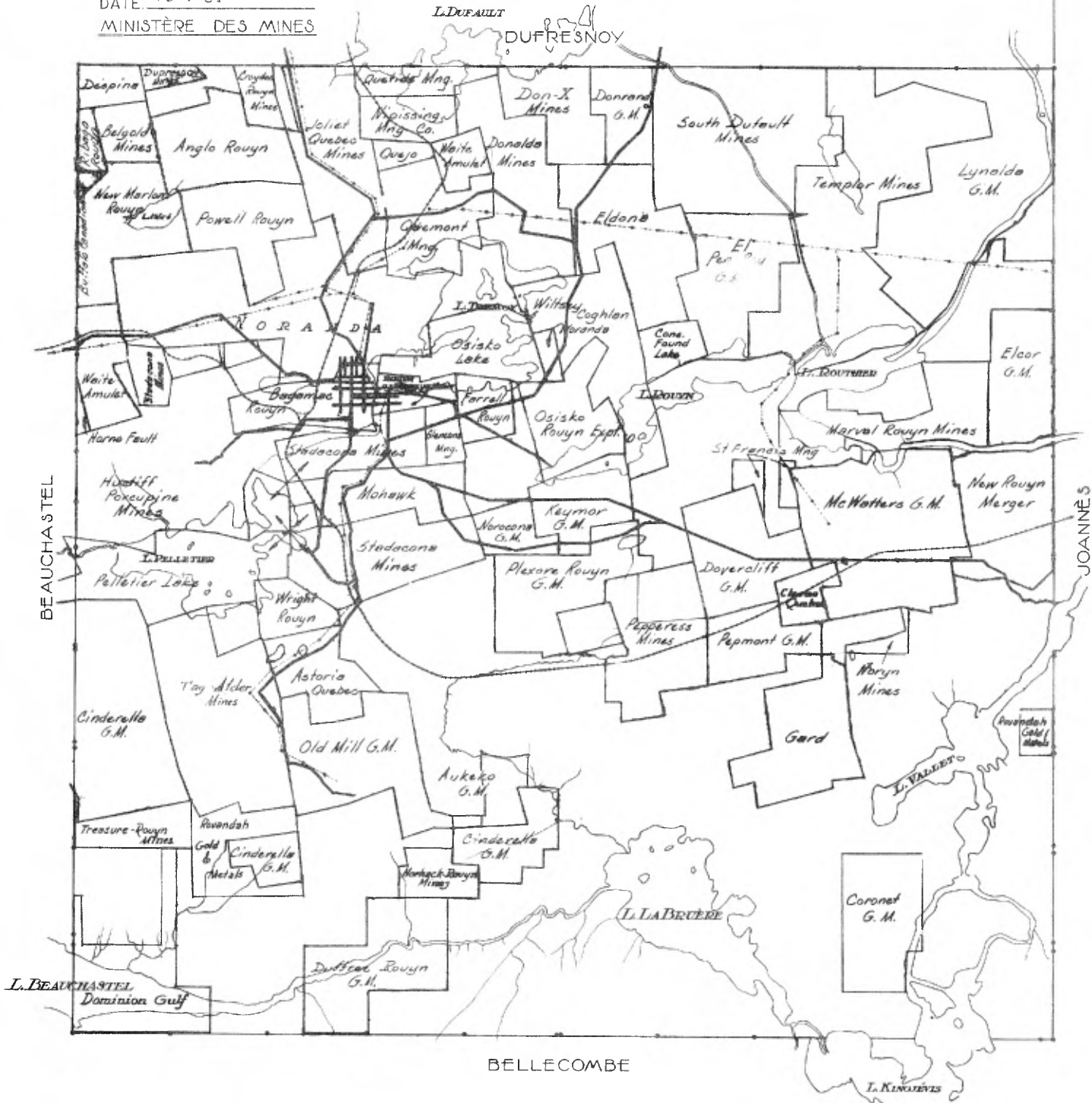
DENAIN

ROUYN

COMTÉ DE ROUYN-NORANDA

DATE: 16-1-51
MINISTÈRE DES MINES

Scale: 0 1/2 1 2 Miles



ROY

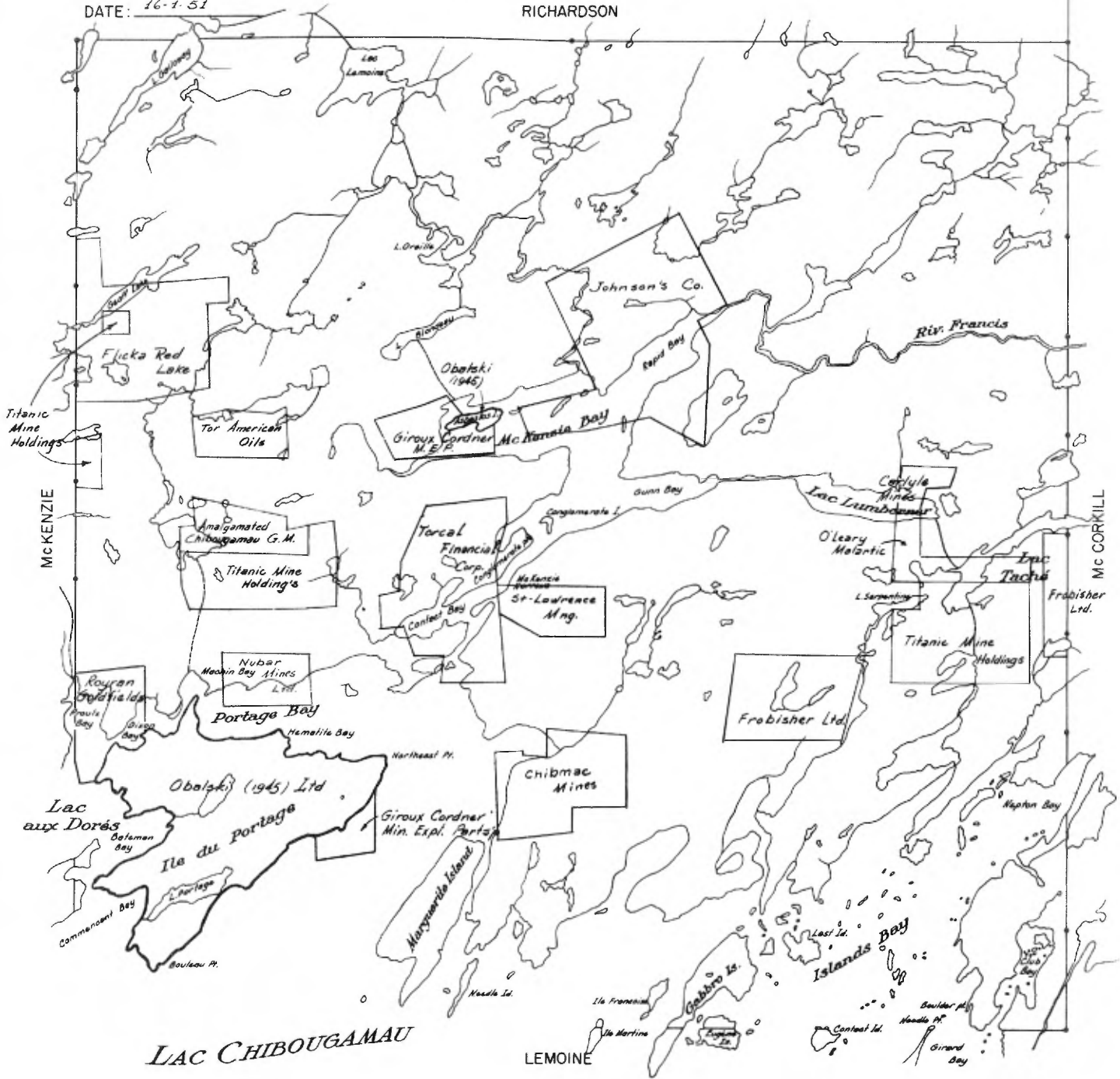
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-51

Miles 0 1/4 1 2 Miles

RICHARDSON



LAC CHIBOUGAMAU

LEMOINE

URBAN

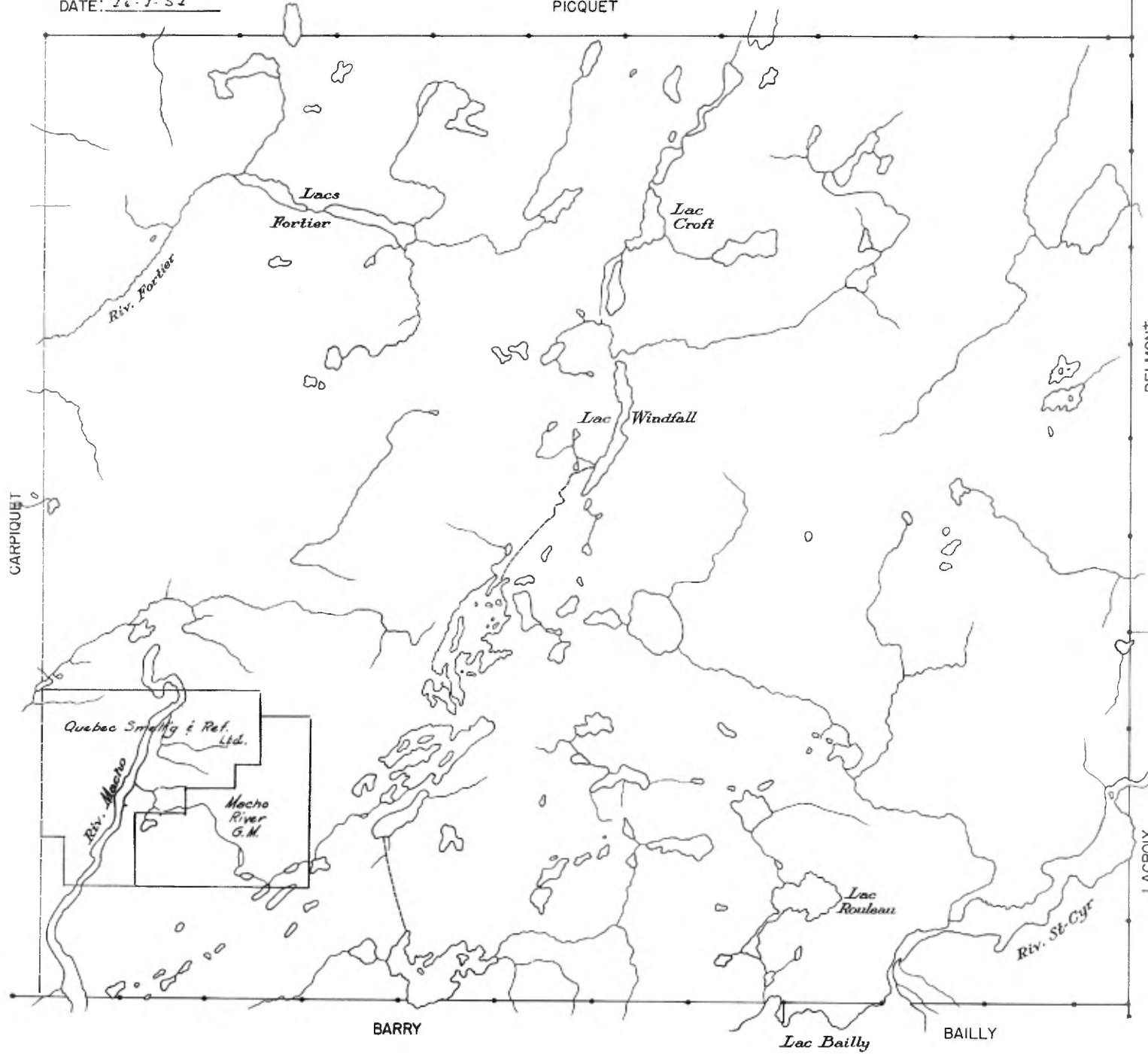
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-52

Milles 0 1 2 3 4

PICQUET



CARPIQUET

PICQUET

BAILLY

Quebec Smelting & Ref. Ltd.

Riv. Macho

Macho River G.M.

BARRY

Lac Bailly

BAILLY

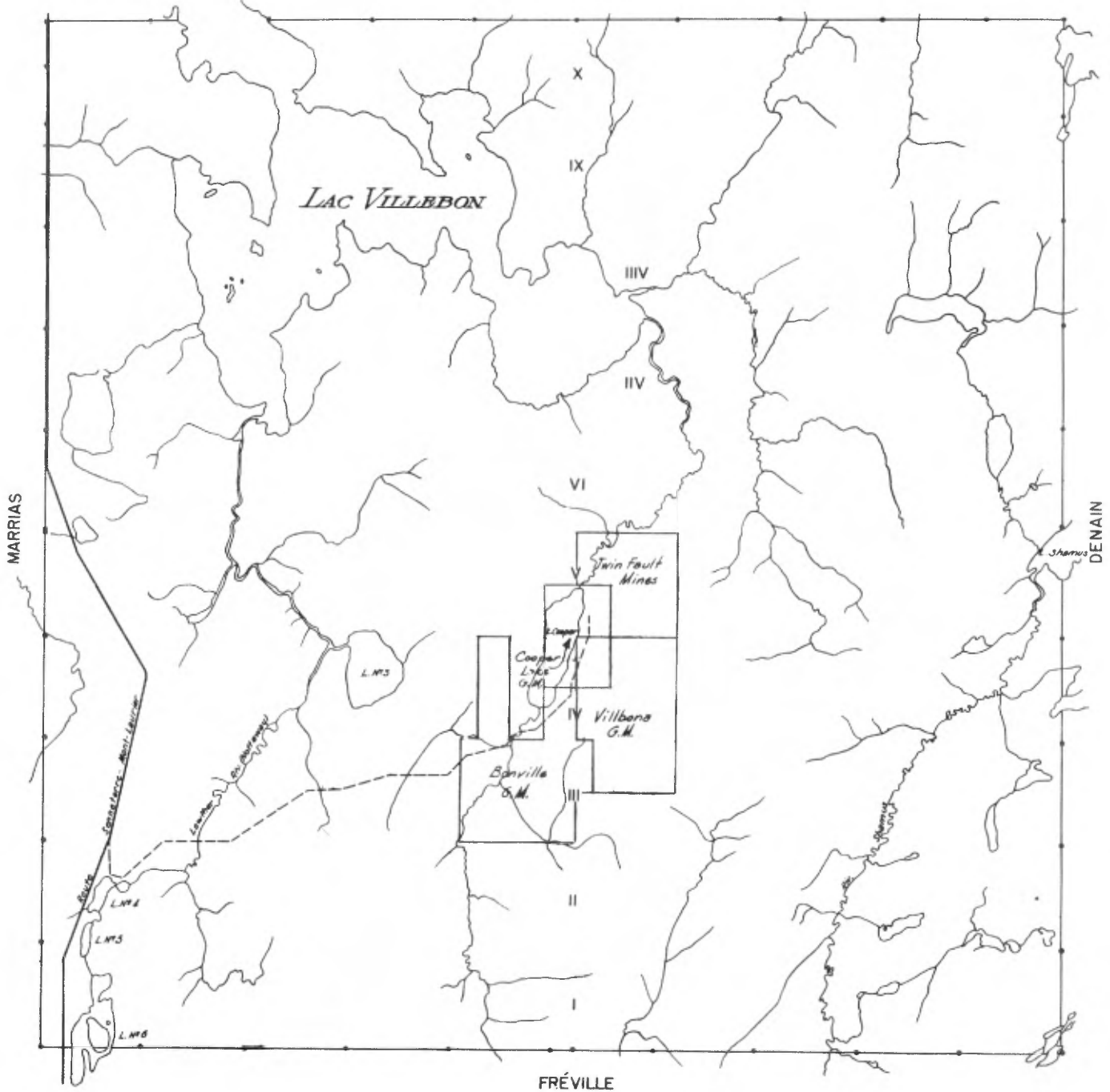
VILLEBON

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 16-1-55

VAUQUELIN



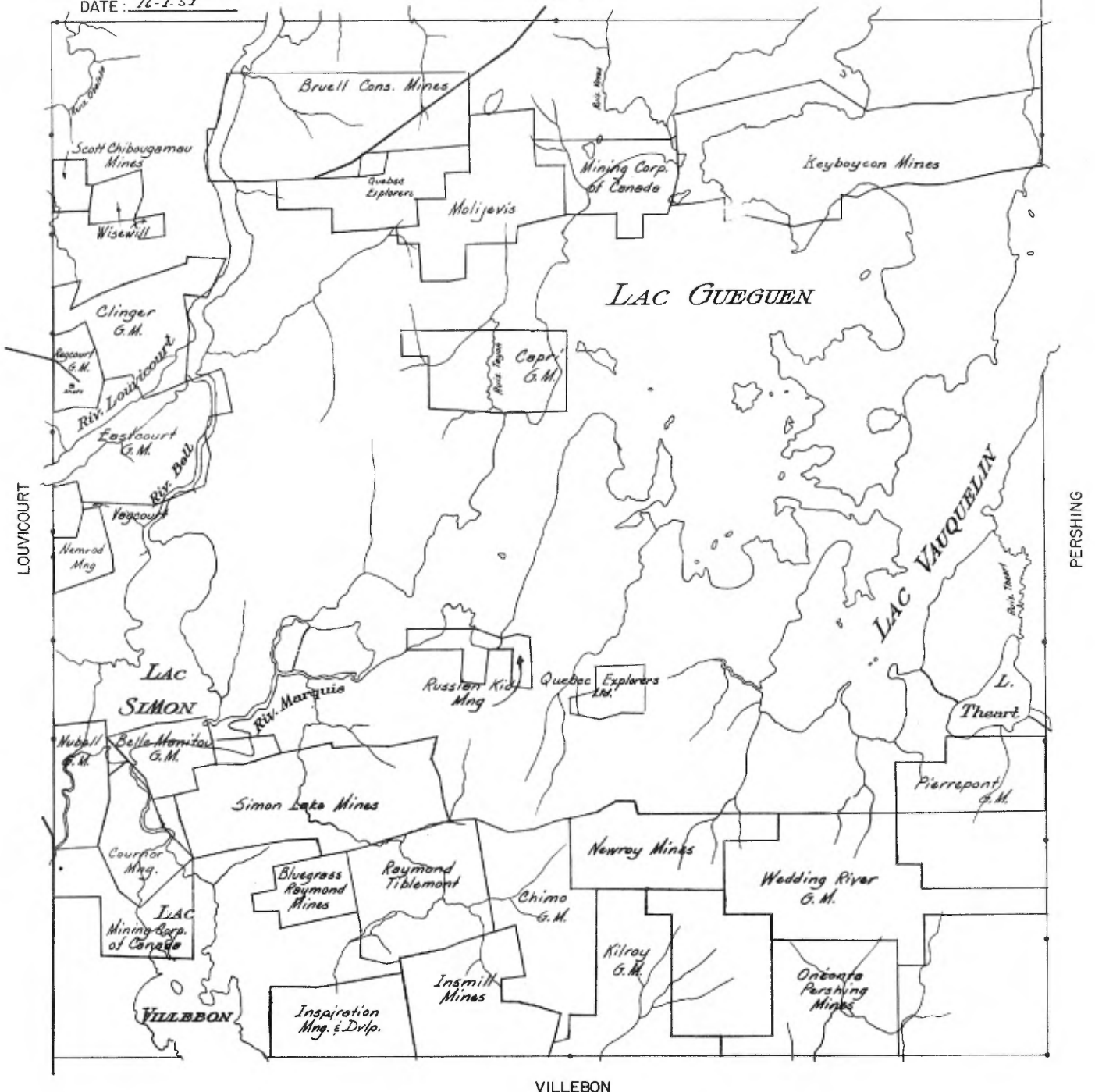
VAUQUELIN

COMTÉ D'ABITIBI-EST

Miles 0 1/2 1 2 Miles

MINISTÈRE DES MINES
DATE: 16-1-51

TIBLEMONT



VILLEBON

PERSHING

LOUVICOURT