RP 227(A)

MINING PROPERTIES AND DEVELOPMENT IN ABITIBI AND TEMISCAMINGUE COUNTIES DURING 1946 AND 1947

PROVINCE OF QUEBEC, CANADA

DEPARTMENT OF MINES

MINERAL DEPOSITS BRANCH

MINING PROPERTIES AND DEVELOPMENT IN ABITIBI AND TÉMISCAMINGUE COUNTIES DURING 1946 AND 1947

BY

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QUEBEC
1949

P. R. No. 227

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MINING PROPERTIES AND DEVELOPMENT

IN ABITIBI AND TEMISCAMINGUE COUNTIES

DURING 1946 AND 1947

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I N T R O D U C T I O N

During the field seasons of 1946 and 1947, the writers visited mining properties in Northwestern Quebec. If the same property was visited both in 1946 and 1947, the more recent account is the one included in this report. However, both originals are on file at the Mineral Deposits Branch of the Quebec Department of Mines. At the end of each property report will be found the initials of the writer, followed by the year in which the field inspection took place, viz.: (W.G.R. -47), (W.N.I. -47), or (S.H.R. -46).

Attention was confined to prospects and properties which were in the early stages of exploration, no attempt being made to record new developments at producing mines. In each case, the location, claim or lot numbers, means of access, geology, development work, and mineral deposits are briefly described.

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 freely consulted in the preparation of the following descriptions. One or more references to published information are cited with the reports. Specific reference to the property is indicated when the particular pages of any reference are noted, otherwise the reference is merely of a general character concerned with the area in which the property is located. Many of these publications contain additional or more detailed information on earlier development work.

The whole-hearted co-operation of the company officials, geologists, engineers, and prospectors in charge of operations at the properties is gratefully acknowledged.

Assay results given are taken from company records unless stated otherwise by the writer. All assays of samples taken by the writers were made in the Laboratories of the Quebec Department of Mines. All gold values given are calculated on the basis of $35 per ounce.

In the following reports of mining properties, the company names and description of claims were correct as of the date of inspection by the writers but in many cases may have since changed and will not always be those in force at date of publication.

Included in this report are a number of township plans showing the outlines of claim-groups held by companies at the date of revision shown at the top of the plan. These plans were compiled in the Mapping Division of the Quebec Department of Mines. It will be noted that in many instances there are discrepancies between the descriptions of the properties, as given in the report, and the outlines, as shown on the township plans. There is more than one possible explanation for these differences, quite apart from any errors that may have found their way into either the text or the drawings. In the first place, a company may have acquired or abandoned claims between the date of preparation of certain reports and the date noted at the top of the plan; secondly, it may happen that, in virtue of private agreements with the registered owners of the claims, a company may be doing exploration work on claims which are not registered in its name; finally, the same company may be the registered owner of more than one claim-group, whereas the report may be limited to only one of these.

In the descriptions that follow, the properties have been grouped in alphabetical order in their townships, which in turn are alphabetically arranged.

AIGUEBELLE TOWNSHIP

Aiguebelle Goldfields, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941.

This company was formed to develop a group of claims along the southern boundary and near the western boundary of Aiguebelle township. These claims were formerly held by Glidmac Mining Company and by Mentor Exploration and Development Company. They are numbered C.9883, claims 1 to 5; C.9884, claims 1 to 5; C.9885, claims 1 to 5; C.9886, claims 1 to 4; C.9887, claims 1 to 5; C.11153, claims 1 to 5; and C.24209, claims 1 and 2. A colonists road extends north from the village of Clericy and then east along the Cléricy township range-line IX - X, which is a mile from the southern boundary of the property.

Little bedrock is exposed on the claims, but from the regional geology they are believed to be underlain largely by volcanics with some sedimentary formations in the southwest corner. The Destor-Porcupine break is believed to strike at about S.70°E. across the southern part of the group. Nine holes drilled in the southeast part of the property passed through a mixed zone of highly altered talcose rocks and less altered lavas and pyroclastics, all of which have been intruded by dykes of syenite, aplite and lamprophyre. Two holes drilled along the western boundary of the group intersected pyroclastics and talcose rocks.

The highly altered formations are probably associated with the Destor Porcupine break. The rocks are soft and black and composed principally of talc, chlorite, and carbonate, though in places they are massive buff or green carbonate. Faint banding and relics of possible fragments suggest that they were once pyroclastics. In places, these formations are massive, elsewhere they form fissile schists. The alteration seems to die out in the lavas.

The drill holes penetrated three bands of pyroclastics from 100 to 300 feet in width. These contain angular and rounded light-grey and dark-green fragments up to 10 inches in diameter. Bedding is developed in places. Drill intersections indicate that these formations strike N.85°E. and dip 65° north. Though tentatively classified as pyroclastics they might be greywacke and conglomerate.

Pink and grey syenite and syenite-porphyry dykes up to 40 feet wide intrude the talcose rocks. These are probably related to the stock of aegerine syenite which outcrops southwest of the property. The altered rocks are also cut by aphanitic pink siliceous-looking dykes, some of which contain pyrite, chalcopyrite and specularite. Encouraging gold assays were obtained from one or more of these dykes, but similar-looking intrusives with comparable amounts of sulphides assayed nil and trace.

The first drilling was directed to cross-section the eastern part of the property. Hole 5 penetrated a fine-grained pink dyke which assayed 0.08 oz. of gold per ton over 40 feet. Hole 7 was spotted 100

feet to the west and cut similar dykes which assayed nil. Hole 8 was spotted 100 feet east of hole 5 and cut a similar dyke which averaged 0.147 oz. of gold per ton over 41.1 feet of core length. Hole 9, drilled farther to the east, was stopped in a similar dyke which might be the ore horizon. The four feet of core obtained from it contained 0.02 oz. of gold per ton. In hole 10, which was directed under hole 9, the first 542 feet were ground, and coring began in a 32-foot acidic dyke which contained disseminated pyrite and chalcopyrite and assayed from trace to 0.22 oz. of gold per ton. A 13.2-foot section of this dyke averaged 0.12 oz. of gold per ton. Hole 11 was drilled under hole 8 and cut 11 feet of similar dyke, which assayed from trace to 0.04 oz. of gold per ton. The four most encouraging intersections were all obtained at vertical depths of more than 380 feet. Assuming that they were in the same dyke, and neglecting wander of the holes, these indicate that the auriferous dyke strikes N.78°E. and dips 26° south. All above assay results were taken from company records.

The recent drilling program extended from May, 1946, to February, 1947, and was managed by J.R. Dallaire. (W.G.R.-47)

Destorbelle Mines, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941.

The property of this company, consisting of 27 claims in one block (including 2 claims in Destor township), is in the southwest corner of Aiguebelle township. A tote road of 1 mile, southeast from the east end of the Davangus road at the Aiguebelle-Destor township line, 27.3 miles from Noranda, leads directly to the camps in C.17696, claim 3.

The numbers of the claims are as follows: C.8458, claim 4; C.9924, claims 1 to 4; C.9925, claims 1 to 5; C.9933, claims 1 to 5; C.10033, claims 1 to 5; C.17696, claims 1 to 5; C.19898, claim 1; and C.24209, claim 3.

The property is underlain chiefly by the Blake River volcanics, consisting mainly of altered dacite fragmentals and bands of cherty rhyolite and rhyolitic tuff. The Destor fault, striking N.70°-80°W., crosses the southwest corner of the property in fragmentals, separating the Blake River group to the north from the Malartic volcanics and Kewagama sediments to the south. The fault zone is characterized by talc-chlorite alteration and compressed fragmental rocks cut by numerous carbonate-quartz stringers moderately mineralized with disseminated pyrite. The volcanics are intruded by numerous dykes and irregular bodies of diorite and albite- and quartz-albite-porphyry.

A band of rhyolite and cherty rhyolite tuffs, 500 feet wide, in contact on the south with agglomerate and breccia, is exposed on a prominent ridge north of the camps. The contact strikes slightly south of east and dips either vertically or steeply to the north or south. The rhyolite is overlain by pillowed andesite which faces north.

Diamond drilling to explore at depth several feldspar porphyry dykes, exposed in old trenches in the south part of claim 3, C.17696, began

in January, 1946. The fourth exploratory drill hole, drilled south near the north boundary of claim 4, C.9925, in altered fragmental and tuffaceous rocks cut by porphyry dykes and carbonate-quartz stringers, intersected 21 feet of brecciated and silicified fragmental and cherty tuff, mineralized with massive and finely disseminated pyrite (3-4%), which, according to company reports, assayed 0.24 oz. in gold per ton. This ore zone is fractured considerably and cut by numerous carbonate-quartz stringers. It is overlain by talcose, chloritic, fragmental rocks and lies above cherty, rhyolitic tuffs and graphitic schists. In addition to pyrite, some galena and sphalerite are also present.

The Destor "fault zone", cut by feldspar porphyry dykes, has been intersected in three diamond-drill holes along a N.-S. length of 800 feet. The feldspar porphyry dykes, which are often fractured and silicified, are usually well mineralized with pyrite but do not, as a rule, carry gold.

A total of 5,245.3 feet of diamond drilling in 9 holes, Nos. 1 to 9, had been completed at the time of the writer's inspection. W.R. MacQuarrie was in charge of operations. (S.H.R.-46)

BARLOW TOWNSHIP

Premier Chibougamau Mines, Limited

Ref.: Geol. Surv. Can., Mem. 185, 1935.
Geol. Surv. Can., Map 401A.

This company was undertaking exploration of the following claims: numbers C.18518, claims 1 to 5; C.18523, claims 1 to 5; C.18524, claims 1 to 5; and C.18525, claims 1 to 5, held under the name of M.P. Manolovici. This block of 20 claims comprises the peninsula and west shore of Gwillim lake, directly north of Sioux Bay in the southeast quarter of Barlow township, 10½ miles west of Cedar Bay, Chibougamau.

The property is underlain by a band of tuff or sediments, trending northwest, flanked on the south by rhyolite and andesite lavas and pyroclastics and on the north by gabbro interlayered with lavas. The tuffs are cut by acidic dykes and quartz and calcite veins mineralized with pyrite and occasionally chalcopyrite and tourmaline. The property is largely drift-covered and rock outcrops are rare.

A magnetometer survey of the property was completed by Hans Lundberg during the fall and winter of 1946. At this time, the claims were mapped geologically by W.R. Sutton.

A total of 1,985 feet of diamond drilling in two holes, numbers 1 and 2, drilled to investigate magnetic anomalies, located disseminated magnetite and narrow bands of magnetite enclosed in tuffs. Hole No. 1,

drilled S.35°W. from the claim-line separating claim 5 - C.18525 and claim 5 - C.18523, cut tuffs, intermediate in composition, intruded by quartz and calcite stringers mineralized with pyrite and occasionally chalcopyrite and tourmaline. Hole No. 2, drilled south in the west half of claim 5 - C.18525, cut barren tuffs and interbedded lavas.

R.J. Dionne was in charge of operations at the property at the time of the writer's inspection. Work on this claim group has been terminated. (S.H.R.-47)

BARRAUTE TOWNSHIP

Bargold Mines, Limited

Ref.: Que. Bur. Mines, P.R. No. 150, 1940, pp. 3-4.
Geol. Surv. Can., Map No. 529-A.

Bargold holds a group of 9 claims in one block in the east-central part of Barraute township. A waggon road leads south from a point on the settlers road on range-line VI-VII, near lot-line 48-49, for three-quarters of a mile, directly to the camp in the northwest corner of claim A.45303, south half of lot 50, range VI.

The 9 claims, which are numbered A.45298, A.45301-4, A.50674-5, and A.81842-3, comprise the south half of lots 45 to 53, range VI. Most of the work has been confined to the Jackson showing in claim A.45302, lot 49 and the Groslouis showing in claim A.50674, lot 46.

Seven claims were staked originally by A.J. Jackson in 1932 and two claims, numbers A.50674-5, south half of lots 46 and 47, were purchased from Bartec Mining Company in 1946.

The Jackson showing was explored by approximately 575 feet of X-ray diamond drilling in 4 holes Nos. 1 to 4, by Gilman Exploration Company, who optioned the Jackson claims in 1939.

Recent work begun in May, 1946, and continued to February, 1947, consisted of surface trenching, stripping, and sampling of the main showings. In addition, a magnetometer survey of the property and 14,174.5 feet of diamond drilling were completed. Company reports show that several encouraging assay results in gold were obtained, but these appear to be scattered occurrences over narrow widths. The magnetometer survey indicated the existence of two faults; the Laflamme River fault, striking N.25°E., lying directly west of the Jackson showing, and a N.-S. fault, one-third of a mile west of the Laflamme River fault, 200 feet east of the Groslouis showing.

The area is a clay plain broken by scattered rock exposures and ridges of sand and gravel. The claims are underlain mainly by sheared

Keewatin volcanics, acidic to intermediate in composition. An E.-W. band of highly altered tuffs and breccias, flanked on the north and south by andesitic lavas and dipping steeply to the north, underlies the central part of the property. The sediments and lavas are intruded parallel to the schistosity by numerous dykes and irregular masses of altered granodiorite and dykes of quartz and feldspar porphyry. The tuffs and breccias, which are generally considerably sheared and carbonatized, are cut by quartz veins and stringers mineralized with crystalline pyrite accompanied by gold. A N.-S., olivine-gabbro dyke, 80 to 90 feet wide, outcropping in the west section of the property in lots 45 and 46, is the youngest consolidated rock in the area. The Laflamme river fault, striking N.25°E., apparently crosses the property in lots 48 and 49, directly west of the Jackson showing.

A trail from the camp leads southwest for one-third of a mile, directly to the Jackson showing in claim A.45302, south half of lot 49, range VI. This showing is exposed in pits, cross-trenches and strippings for a length of 375 feet, varying in width from 25 to 125 feet. It consists of a band of altered, carbonatized tuffs, trending E.-W. and dipping steeply to the north, intruded parallel to the schistosity by granodiorite dykes. At the west end, where the zone terminates abruptly in a northeast-trending depression, which may be the Laflamme River fault, the tuffs are 60 feet wide. They strike N.75°W. and dip 75° to the north. The tuffs are cut by milky quartz veins mineralized with massive and coarsely crystalline pyrite and pyrite veinlets $\frac{1}{4}$- to $\frac{1}{2}$-inch in width. Also along the band of tuffs, massive sulphide zones attain a maximum width of 6 inches. About 250 feet to the east, where the schistosity changes abruptly to N.40°W. and the zone is strongly oxidized and silicified, the company reports assays ranging from $14 to $40 in gold per ton across 5 feet. The east end of the zone is exposed in a N.-S. trench 125 feet long. A cross-section from south to north consists of carbonatized tuffs - 30 feet, quartz - 10 feet, granodiorite - 30 feet, as well as mauve schists and altered tuffs - 55 feet. Bulk samples of the Jackson showing by the company averaged $7.19 in gold per ton; channel samples averaged $5.58 in gold per ton.

A.B. Carson was in charge of operations at the property which was inactive at the time of the writer's inspection. (S.H.R.-47)

Bar-Lan Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 206A, Fiedmont Sheet, 1929.
Geol. Surv. Can., Mem. 166, pp. 287-289, 1931.
Geol. Surv. Can., Map 47-9, 1947.

This company holds Mining Concession No. 231, comprising lots 11 to 16, range II, and lots 14 to 17, range III, in the southwest quarter of Barraute township. A waggon road on lot-line 13-14, leads south from the highway on range-line IV-V, for 7,000 feet, to the C.N.R. railway, which crosses the north half of the property. The camp and No. 2 shaft, where recent diamond drilling has been carried out, are directly south of

the track, $\frac{1}{2}$ mile to the east in lot 16, range III, and $4\frac{3}{4}$ miles west of the town of Barraute.

Initial work on the property began in 1925. Since that time, and prior to the formation of the present company in 1945, it has been incorporated successively as La Mine d'Or Venus, Consolidated Venus, and Consolidated Venus Gold Mines. In previous operations, No. 1 shaft, in the northwest corner of lot 14, range II, was sunk to a depth of 230 feet. No. 2 shaft, 230 feet south of the railway in lot 17, range III, was sunk to a depth of 220 feet and 4,200 feet of cross-cutting, drifting, and raising and 11,500 feet of diamond drilling were completed.

In recent work in 1945 and 1946, the area directly east of No. 2 shaft was explored at depth by diamond drilling.

The area is low, flat, and drift-covered. The property is underlain by Keewatin-type volcanics, chiefly sheared, pillow andesite and agglomerate intruded by quartz and feldspar dykes. The shearing strikes N.70°W. and dips 60° north. The pillows parallel the schistosity and face north. Locally, the volcanics are considerably carbonatized. They are cut by glassy, white quartz veins containing tourmaline, ferruginous carbonate, pyrite, and chalcopyrite accompanied by gold.

A total of 2,095 feet of diamond drilling in 12 holes, Nos. 1 to 12, drilled S.30°W. at 50-foot intervals, was completed along a length of 400 feet. Visible gold occurs in hole No. 1 at a vertical depth of 24 feet. The gold is associated with coarse pyrite in a quartz-carbonate, tourmaline replacement zone in sheared, carbonatized greenstone. In hole No. 4, a 2-foot section of mineralized greenstone, at a vertical depth of 83 feet assayed $10.29 in gold per ton. In hole No. 5, a 2-foot section of sheared, carbonatized, siliceous greenstone, heavily mineralized with pyrite, at a vertical depth of 68 feet, assayed $29.65 in gold per ton. In hole No. 6, at a vertical depth of 74 feet, a quartz-tourmaline vein, 3.5 feet wide, well mineralized with pyrite, assayed $23.10 in gold per ton. The above assays were reported by the company.

Philip Malouf, consulting engineer, was doing detailed geological mapping of the property at the time of the writer's inspection. (S.H.R.-47)

Big Game Mines, Limited

Ref.: Geol. Surv. Can., Map No. 529A.

This company holds a group of 13 claims in one block, one mile east of the village of Laflamme in the east-central part of Barraute township. The Laflamme river crosses the northeast corner of the property. The claims comprise the north half of lots 41 and 42, range VI, full lots 41 to 47, range VII, and the south half of lots 40 to 43, range VIII.

Most of the area is covered by overburden and rock exposures are uncommon. A narrow band of Keewatin-type tuff and breccia, flanked on the south by andesite and on the north by rhyolite and trachyte, which outcrops to the southeast on the Bartec property, trends northwest across this claim group. A N.-S., olivine gabbro dyke, 300 feet wide, outcropping in lot 46, directly north of range-line VI-VII, is the youngest rock in the area.

Diamond drilling to cross-section the property from north to south in an attempt to locate the northwest extension of the Bartec ore zone, began in November, 1946. A total of 5,399 feet of diamond drilling in 5 holes, Nos. B-1 to B-5, four of which were drilled south, had been completed up to July 9th, 1947, when diamond-drill operations were suspended. Albert Thompson was in charge of operations at the property. (S.H.R.-47)

Malbar Goldfields, Limited

The property of this company consists of a group of nine claims in the northeast quarter of Barraute township. The claims are in two groups touching at one corner and comprise the south half of lots 41 and 42, range VI; all of lot 43, range V; and the north half of lots 44 to 48, range V. A motor road passes along part of the east boundary of the property at a distance of four miles north of the town of Barraute.

Except for a few outcrops in the northeast part, the property is drift-covered. The north end of lots 46 to 48, range V, is underlain by the south margin of a band of schisted tuff striking N.70°W.; and this formation probably underlies lots 41-42, range VI. Andesitic lavas occur south of the tuff, and they appear to be characteristic of the main part of the claim group. A sill of altered pyroxenite is intruded along part of the contact between the lavas and tuffs at the north end of lots 45 and 46. The pyroxenite is cut by a late Precambrian dyke of quartz diabase striking north-south. The southward projection of the Laflamme river fault crosses the north boundary of the claims (range-line V-VI) in the vicinity of lot-post 47-48. Trenching in the north west corner of lot 47 exposes sheared, carbonatized tuff, locally mineralized with pyrite and containing zones of quartz stringers reported to give low gold assays.

During the period between December, 1946, and May, 1947, the company completed 2,277 feet of diamond drilling in six holes. These are distributed along 700 feet at the north end of lot 47, range V. The chief rock intersected was greenish, chloritic, carbonatized, more or less sheared, tuff. Most of the holes intersected sections of more intensely carbonatized and sheared rock with quartz stringers, scattered fine pyrite mineralization, and very low gold assays.

One series of intersections giving gold returns, which appear to be mutually related, were obtained in four of the holes along a strike length of 350 feet. The zone consists of greenish to pink carbonatized tuff with numerous quartz stringers in places, and erratic scant to abundant pyrite. Gold assaying of the core yielded results ranging from 0.02

oz. for 2.5 feet to 0.10 oz. of gold per ton for 5 feet, according to company reports.

J.C. Honsberger acted as consulting engineer for the company. (W.N.I.-47)

BEAUCHASTEL TOWNSHIP

Abenakis Mines, Limited

Ref.: Que. Bur. Mines, Min. Operations, 1928, p. 71.
Que. Bur. Mines, Ann. Rept., 1933, Pt. A, p. 93.
Que. Bur. Mines, Ann. Rept., 1934, Pt. A, p. 72.
Que. Bur. Mines, Ann. Rept., 1936, Pt. A, p. 51.
Que. Bur. Mines, Min. Ind. & Statistics, 1937, p. 52.
Que. Bur. Mines, Min. Ind. & Statistics, 1938, p. 55.
Que. Bur. Mines, Min. Ind. Que., 1939, p. 50.
Que. Bur. Mines, Geol. Rept. No. 7, 1941, pp. 17-23.
Que. Dept. Mines, P.R. 205, 1947, pp. 3-4.
Geol. Surv. Can., Prel. Map 41-7A, 1941.

Abenakis Mines control 49 claims in ranges VII and VIII of Beauchastel township. These comprise lots 25 to 37 and the northern portions of lots 38 to 43, range VIII, and the northern portions of lots 29 to 37, range VII. The shaft and mine buildings are in the northern part of lot 34, range VIII, and may be reached by a motor road from the Rouyn-Arntfield highway.

Prior to 1944, the property was controlled by Halliwell Gold Mines, Limited. It has been explored intermittently by surface work, geophysical surveys, diamond drilling, and underground operations since 1926. Diamond-drill holes were put down in 1926, 1928, 1933, 1934, 1936, 1937, 1939, 1945, 1946, and 1947. Electrical geophysical surveys were made in 1926 and 1928 and magnetic surveys in 1944 and 1946. In 1937 a gold-bearing deposit was explored by underground workings and a few thousand tons of ore was extracted and treated at a neighbouring mill. Descriptions of the geology, mineral deposits, and earlier explorations may be found in publications of the Quebec Department of Mines and will not be repeated in this report.

The orebody that was explored by underground workings occurred about 500 feet below the surface along the upper contact of a gently dipping aplite body with volcanics. In 1947, three vertical holes were drilled at points about 500 feet southwest of the shaft in order to explore this favourable contact. The holes passed through volcanics and penetrated the aplite at depths of 330 to 550 feet. No vein material of importance was intersected, and the highest assay from the core was 0.01 oz. gold per ton.

D.M. Giachino supervised the recent exploration. (W.G.R.-47)

Arntfield Mining Corporation, Limited

Ref.: Que. Bur. Mines, Ann. Rept., 1932, pp. 64-72.
Que. Bur. Mines, P.R. No. 116, 1936, p. 14.
Can. Min. Jour. Vol. 59, 1938, pp. 427-434.
Que. Bur. Mines, Geol. Rept., No.5, 1940, pp. 22-24.
Geol. Surv. Can., Paper 45-17, 1945, p. 22.
Que. Dept. Mines, P.R. 205, 1947, Part 1, pp. 4-7.

This company owns a former producing gold mine comprising 20 claim blocks at Arntfield, 12 miles west of Noranda, in the west-central section of Beauchastel township. The Nipissing Central railway and the Rouyn-Kirkland Lake highway both cross the centre of the property.

The claims are numbered: block 18 (south part); block 19 (north and south parts); block 21 (south part); block 157, and blocks H, J, K, L, M (north and south parts), N, O, (southeast part), P. Q, R, S, T, U, and V.

The property is underlain mainly by faulted and sheared bands of the Blake River volcanics, ranging in composition from andesite and andesite-flow-breccia to dacite, trachyte, and rhyolite, cut off on the south by the Cobalt sediments. Narrow bands and lense-like masses of basic and acidic fragmental rocks accompany the volcanics and are intercalated in them. The lavas and fragmentals, which dip steeply to the north and face north, are intruded by large, E.-W. trending, lenticular bodies, stocks and bosses, dykes and irregular masses of diorite, quartz-diorite, and quartz-feldspar-porphyry. The Horne Creek fault, trending N.70°E. and the Bouzan Lake-Larder Lake fault both cross the property.

During the operation of the mine, three inclined shafts, Nos. 1, 2, and 3, from west to east, were employed to develop the ore which is related to a north-dipping, E.-W. shear zone paralleling roughly the interformational contact of acidic and basic volcanics. The ore occurs in fractured agglomerate and tuff in the footwall of the Arntfield-Francoeur break. The ore zone appears to rotate clockwise with increase in depth and to bulge or widen to the east. The ore consists of quartz veins and silicified agglomerate and tuff breccia mineralized with pyrite mainly and some chalcopyrite. Carbonate alteration is common. The ore grade appears to be related to the presence of fine pyrite and fractures. In general, throughout the area, chalcopyrite is indicative of the gold content of the ore.

Recent development work has been confined to the No. 3 shaft area, called the No. 3 Ore Zone. According to company records, diamond drilling, in order to map and revise the surface geology and explore this ore zone at depth, began in May, 1944, and up to June of the following year, a total of 19,027 feet of drilling in 21 holes, Nos. 103-107, 109, 111-123, and Nos. S96 and S97, (which were deepened) was completed. From October 22, 1945, to April 1, 1946, a total of 9,662 feet of underground diamond drilling in 38 holes, Nos. 769 to 806, was carried out. This drilling indicated that the ore zone in the vicinity of No. 3 shaft extended below the 1,075-foot level, lengthening and widening with depth

down to the 200-foot sub-level horizon. Drifting east on the 9th (925 feet) and 10th (1,075 feet) levels cut ore sections 55 feet and 180 feet long, respectively.

In the summer of 1946, a 3-compartment, internal shaft or winze (No. 4 shaft) was begun on the bottom level at a depth of 1,075 feet, 200 feet northeast of No. 3 shaft, to explore the gold-bearing zones indicated by the diamond drilling. At the end of the year, the winze had been sunk to a depth of 235 feet and lateral work in the footwall of the ore zone had been carried out on two sub-levels, the 11th (1,175 feet) and 12th (1,275 feet).

Drifting east and west on the 11th level cut ore for a length of 100 feet, and on the 12th level, drifting in the ore zone was in progress at the close of 1946. The company plans to deepen the winze to 500 feet and establish three additional levels. Sinking operations were suspended when development work on the sub-levels began.

E.A. Hart was resident geologist and J.E. Ogilvie was mine manager. (S.H.R.-46)

Bazooka Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part B, 1931, p. 55.
Que. Bur. Mines, P.R. No. 116, 1937, p. 15.
Que. Dept. Mines, P.R. No. 190, Part I, 1945, p. 4.

This property, consisting of 18 claims in one group, is in the centre of the southeast quarter of Beauchastel township. The highway which follows Pelletier creek southwest crosses the east part of the property.

The claims are numbered C.5104, claims 1 to 3; C.5105, claims 1 to 4; C.5106, claims 1 to 4; C.6531, claim 1; C.6537, claims 1 to 4; C.6547, claims 1 and 2; comprising lots 49 to 56 and parts of lots 57 and 58, range IV.

The property straddles the Cadillac-Bouzan Lake fault zone, which, striking S.80°E., separates Blake River andesite and andesite-flow-breccia on the north from Temiscamian-type greywacke and Cobalt conglomerate to the south. The lavas strike E.-W. and dip 60°-65° to the north with their tops facing north. Near the fault zone they are overturned to the south. The Temiscamian-type sediments strike E.-W. and dip steeply to the north.

Exploration by means of diamond drilling, confined mainly to the southeast corner of the property, began in February, 1944, and up to the end of June, 1945, when operations were suspended temporarily, 10,988.6 feet of drilling in 14 holes had been completed. These holes, drilled north and south of the Pelletier river, cut several wide, parallel carbonate and talc zones in altered greywacke along an east-west length of 2,000 feet. The carbonate zones are commonly silicified and sparsely mineralized with

pyrite and sometimes arsenopyrite. The sulphides are usually accompanied by small amounts of gold, occasionally in visible grains.

Diamond-drill hole No. Ba-1, drilled north at a point 700 feet north of Pelletier river, intersected a carbonate zone, 40 feet wide, which contained visible gold and assayed, according to company reports, $9.80 in gold per ton across 4 feet.

Diamond-drill hole No. Ba-5, drilled north from a point 750 feet south of Pelletier river, cut two mineralized, carbonate zones, 140 and 100 feet in width. The company reports visible gold and assays up to $46.95 in gold per ton over 5 feet and $574.35 in gold per ton over 5 feet, respectively, from these two zones. A.W. Derby was in charge of operations at the property. (S.H.R.-46).

Despina Gold Mines, Limited

Ref.: Que. Bur. Mines, Rept. Min. Oper. 1927, pp. 107-108.
Que. Bur. Mines, Rept. Min. Oper. 1928, p. 80.
Que. Bur. Mines, Ann. Rept. Part A, 1935, p. 47.
Que. Bur. Mines, P.R. 116, 1936, p. 22.
Que. Bur. Mines, P.R. 135, 1938, pp. 20-21.
Que. Bur. Mines, P.R. 150, 1939, p. 40.
Geol. Surv. Can. Map 453A, 1939.
Geol. Surv. Can. Map 454A, 1939.
Geol. Surv. Can. Prel. Map 41-7A, 1941.

Despina Gold Mines has a block of 13 claims in the northwest corner of Rouyn township and the adjoining corners of Beauchastel, Dufresnoy and Duprat townships. The claims are numbered R.22429-34; R.24681-85; and R.25206-07. They may be reached by a wagon road which extends westward for 2½ miles from the Macamic highway.

The southeast corner of the property is underlain by rhyolites and the remainder of the group by andesites. Pillow structures indicate that the flows strike northeast and dip gently to the southeast. The basic flows are cut by a number of narrow but continuous quartz veins which strike north of east, dip steeply north, and have pyrite, chalcopyrite, and gold.

This property was previously worked by the Vickers-Porcupine Mines, Vickers Mines, Ceres Exploration, Eclipse Mining Company and Frobisher and has been explored intermittently by surface work and drilling since 1926. Nine holes were drilled in 1927, 43 in 1936-37, 16 in 1944-45, and 12 in 1946-47. Radiore and magnetometer surveys were completed in 1927 and 1946, respectively. Exploration of 11 of the narrow quartz veins indicated an erratic content of gold and copper. Individual assays were as high as 13 per cent copper and 7.45 oz. of gold per ton, but no commercial deposits were outlined.

In 1946-47, 12 holes were drilled totalling 10,552 feet. Five of these traced an altered zone in basic volcanics for 1,000 feet. This zone strikes N.75°E., has a maximum width of 250 feet, and narrows at its extremities to 32 and 45 feet. It straddles the Duprat-Dufresnoy township line about 1,400 feet north of the southern boundaries of those townships. The altered rocks are bleached, fractured, and contain scattered pyrite, chalcopyrite, and sphalerite. Samples from the core returned low assays in silver and copper and averaged about 0.50 per cent zinc. A similar zone, 70 feet in width, was intersected by a drill hole 1,300 feet to the east.

The recent exploration was supervised by P.R. Geoffroy and T. Koulomzine. (W.G.R.-47)

Elder Mines, Limited

Ref.: Geol. Surv. Can., Paper 41-7.
Que. Dept. Mines, P.R. 205, 1945, Part I, pp. 7-10.

This property, consisting of 14 claims in one block, straddles the north township line of Beauchastel township, and extends into the south of Duprat township. Ten claims, Nos. R.15967-76, comprise parts of lots 45 to 52, range X, Beauchastel township. Four claims, Nos. R.12490-3, include parts of lots 46 to 54, range I, Duprat township. A gravel road leads north from Evain, $6\frac{3}{4}$ miles west of Rouyn on the Rouyn-Kirkland Lake highway, for $3\frac{1}{4}$ miles, directly to the shaft in lot 49, range X, Beauchastel township, claim R.15969.

The claim group lies near the east margin of the Flavrian lake granodiorite batholith about $\frac{1}{2}$ mile from the greenstone contact. The claims are underlain mainly by sheared, altered granodiorite cut by mineralized quartz veins and stringers. A N.-S. quartz gabbro dyke, 125 feet wide, crossing the centre of the property, is the youngest rock in the area.

The property was originally held by O'Leary Malartic Mines Ltd., which completed a total of 3,384 feet of diamond drilling in 19 holes. Gold-bearing quartz veins mineralized with pyrite mainly and some chalcopyrite were encountered in this drilling.

Later, the property was optioned to Teck-Hughes Gold Mines Ltd., which completed 3,779.9 feet of diamond drilling in 16 holes. It was acquired by Elder Gold Mines Ltd., in 1944 and up to June 30, 1946, a total of 28,587.5 feet of diamond drilling in 88 holes had been completed by this company.

In the course of this diamond drilling, four veins, Nos. 1 to 4, were located, traced, and explored at depth. Nos. 1 to 3, parallel one another, striking N.50°E. and dipping 30 to 40 degrees to the southeast. They vary in width from 6 to 8 feet. No. 4, 5 to 25 feet wide, strikes N.10°W. and dips 32 degrees to the east.

According to company records, Vein No. 1 averaged 0.16 oz. of gold per ton across 8.4 feet, along an indicated length of 1,950 feet. Vein No. 2, from which favorable surface assays were obtained along a length of 125 feet and which has an indicated length of 2,000 feet, did not give encouraging results underground. Vein No. 3, averaged 0.16 oz. of gold per ton across 6 feet along an indicated length of 600 feet. Very little information was obtained was obtained concerning Vein No. 4.

A 3-compartment shaft, inclined 43 degrees at a bearing of S.13°E., begun in January, 1946, was completed to a depth of 640 feet in June, 1946, with 3 levels established at the 123-, 276-, and 440-foot horizons.

Underground work began in September, 1946, and up to February 28, 1947, 2,588.5 feet of drifting and 163.5 feet of cross-cutting had been completed. This lateral work established 560 feet of ore averaging 0.155 oz. of gold per ton across 7.4 feet on the 123-foot level; 562 feet of ore averaging 0.235 oz. of gold per ton across 8.3 feet on the 276-foot level, and 605 feet of ore averaging 0.153 oz. of gold per ton across 8.7 feet on the 440-foot level. The ore consists of quartz stringers and pyrite mineralization in sheared and altered granodiorite. Visible gold frequently occurs in open fractures in the quartz veins. No. 1 and No. 4 veins were encountered on all 3 levels. No. 3 vein, which was intersected in a diamond-drill hole drilled from the 440-foot level assayed 0.36 oz. of gold per ton across 5.2 feet. All the above assay results were obtained from company records.

The gold ore, which averages 72 per cent silica, was being shipped to the Noranda smelter at the rate of 200 tons per day. A.H. Honsberger, mine manager and consulting engineer, was in charge of operations at the property. (S.H.R.-46)

Four Corners Property

(See Montbray township)

Gan Copper Mines, Limited

Ref.: Que. Bur. Mines, Min. Oper. Que. 1928, p. 71.
Que. Bur. Mines, Ann. Rept. Pt. A, 1929, p. 101.
Que. Bur. Mines, P.R. 159, p. 7.
Que. Dept. Mines, Min. Ind. 1941, p. 36.

Gan Copper Mines holds a block of 14 claims in the northwest quarter of Beauchastel township, part of which were originally known as the MacDonell claims. The group includes lots 11 and 12 and parts of lots 13 to 16 of range VII and the claims are numbered C.1166, cls. 1 and 2; C.5121, cls. 2, 3, and 4; R.27616-20; and R.41247-50. The claims can be reached by a wagon road which extends northwest from the old Aldermac shaft.

The property is underlain by acidic and basic volcanics which have been intruded by quartz diorite, syenite, and younger diabase. The volcanics strike easterly, have tops to the south, and are believed to dip south. A band of quartz diorite about 1,100 feet in width trends easterly across the central part of the group. The eastern boundary of the claims is near the edge of the Aldermac syenite porphyry body and numerous related syenite dykes intrude the older formations. The dyke of younger diabase which passes near the former Aldermac orebodies extends northwest across the property and intrudes the syenite porphyry, quartz diorite, and volcanics.

An easterly trending fault is believed to underlie a valley along the northern edge of the band of quartz diorite. Drill holes on the Korby Gold Mines cut an extension of this fault to the east and the apparent displacement of the late diabase dyke indicates a right-hand movement with a horizontal separation of about 700 feet. Another fault in the western part of the group strikes N.15°E. and is believed to dip gently to the east and to be parallel to a fault along the western edge of the syenite porphyry and to a similar fault in the Aldermac mine workings.

In the southeast part of the property, a triangular area of volcanics shows intense alteration. This altered zone is bounded roughly by the diorite on the north, the syenite porphyry on the east, and the younger diabase dyke on the southwest. The rocks have been chloritized and in places have developed nodular spots of lighter material which resemble the dalmatianite alteration at the Waite-Amulet property. In a few places, seams of lighter material have been introduced along two sets of fractures resulting in a grid appearance. Small amounts of pyrite and chalcopyrite occur disseminated and in fractures in this zone. Much of the original character of the formations has been masked but in the northern part of the zone pillow outlines indicate that the rocks were basic flows and elsewhere breccia fragments suggest that some of the formations were flow or pyroclastic breccias.

The highly altered area has attracted considerable attention because of its similarity to the altered zones near some of the Waite-Amulet orebodies and the possibility that this zone might also be associated with bodies of massive sulphides. Trenches and test pits were put down in 1928 and 1929. Fourteen holes were drilled and a magnetometer survey was completed between 1940 and 1946. In 1947, seven more holes, totalling 5,993 feet, were drilled. Most of these explored the highly altered zone and showed that this condition continued to depth. Small seams of pyrite and chalcopyrite were cut but no ore zones were indicated. Samples of the sulphides taken from surface trenches and drill core assayed low in gold.

The recent drilling was financed by Howey Gold Mines and was supervised by George Salton. (W.G.R.-47)

Kekelac Gold Mines, Limited

Ref.: Que. Dept. Mines, Min. Ind. Quebec, 1941, p. 35.

Kekelac Gold Mines was formed to acquire a group of claims along the northeast shore of Beauchastel lake in range III of Beauchastel township. The claims are numbered C.23175, cls. 1 and 2, and C.5124, cls. 1,

2, 3, and 4, and comprise lots 51 and 52 and the southern parts of lots 53 to 56, all in range III. The property can be reached by motor from Rouyn by going south along the Granada road for five miles and west along the range II-III road for $3\frac{1}{2}$ miles to Beauchastel lake.

Intermittently between 1934 and 1941, the claims were explored by trenching and short drill holes by Ed. Scott and associates, Doreva Gold Mines, Prospectors Airways, Dorreine Gold Mines, and Toburn Gold Mines. In 1947, Kekelac Gold Mines acquired the property, resampled some of the old trenches, and drilled five holes, totalling 2,585 feet.

The claims are underlain chiefly by greywacke and conglomerate formations which strike easterly and dip north at 30 to 45 degrees. A wide dyke of younger diabase cuts northeasterly across the southern parts of lots 55 and 56 and then swings sharply to the east. From the west side of the dyke to the lake-shore is a body of syenite porphyry which has been intruded by a smaller northerly-trending diabase dyke. Diamond drilling has indicated that the syenite porphyry is sill-like and dips about 30 degrees to the north. It has been faulted along its northern contact and the apparent displacement of the smaller diabase dyke indicates that the fault had a right-hand movement and a horizontal separation of 1,100 feet. The Pelletier creek fault also strikes toward the property and may pass under Beauchastel lake near and parallel to the east shore.

A quartz vein is exposed for a length of 60 feet in an old trench in lot 54 about 500 feet north of the road. The vein is irregular and its attitude is difficult to determine, but its general strike is westerly. It has masses of pink feldspar and some white mica and seems pegmatitic. The quartz is white, glassy, and barren-looking, but small amounts of pyrite and some free gold were seen along the walls. Kekelac Gold Mines drilled two holes under this vein, one from the north and one from the south. Neither hole intersected the equivalent of the surface vein, and both holes bottomed in greywacke.

About 1,000 feet farther to the east, a deep pit was sunk on another vein in the syenite. This vein strikes easterly and dips steeply to the south. Hole No. 3 was directed under this pit. The syenite in the core had scattered pyrite and chalcopyrite and small quartz stringers, one of which had a speck of free gold. This hole also bottomed in greywacke. Hole 4 was spotted north of the creek and was being drilled south toward the syenite when the property was visited in July.

W. Gamble supervised the exploration. (W.G.R.-47)

Nordis Gold Mines, Limited

Ref.: Que. Dept. Mines, Geol. Rept. 13, 1943, p. 16.

This property known as the Rainville group, covers lots 14 to 17, range X, Beauchastel township, and includes Twin Lake. A dirt road branching west from the Belfast Mines tote roads leads directly to the Rainville camps at the south end of lot 14, range I, Duprat township.

The claims are underlain by rhyolite chiefly, in part silicified, intruded by flat, sill-like bodies of diabase. The volcanics strike east-west and dip steeply to the south with their tops facing south.

A silicified zone in rhyolite, 5 feet wide and 25 feet long, well mineralized with fine, disseminated pyrite, occurs on lot-line 16-17, in the middle of range X, Beauchastel. It strikes northeast and dips gently to the northwest.

Surface exploration of the showing was carried out, first by Consolidated Mining & Smelting and later by Wright Hargraves Mines Ltd. The later company reported assays ranging from 0.44 oz. to 0.02 oz. of gold per ton across 5 feet.

Recent work, during January and February, 1946, consisted of 500 feet of diamond drilling in 8 short, vertical holes, Nos. 1 to 8, drilled at 20-foot centres. The best results were obtained from a mineralized section in hole No. 8, which assayed, according to company reports, 0.212 oz. of gold per ton across 10 feet at a vertical depth of 20 feet.

A bulk sample of the zone, tested by Noranda Mines, averaged 0.26 oz. of gold per ton and 65 per cent silica. D.M. Giachino was in charge of operations at the property. (S.H.R.-46)

Wasa Lake Gold Mines, Limited

Ref.: Que. Bur. Mines, Geol. Rept. No. 5, 1940, pp. 18-19.
Que. Dept. Mines, P.R. No. 190, Part I, pp. 11-14.
Que. Dept. Mines, P.R. No. 205, Part I, pp. 13-15.

This company holds a group of 30 claims in one block, in ranges V and VI in the centre of Beauchastel township. The Nipissing Central railway and the Rouyn-Kirkland Lake highway traverse the northwest boundary of the property. A gravel road leads southeast from a point on the highway, $9\frac{1}{2}$ miles west of Rouyn, for three-quarters of a mile directly to the shaft in the north part of lot 30, range V, claim R.29740.

The claims are numbered: T.432-5; R.26621-2; R.26974-5; R.26983; R.29287-8; R.29460-1; R.29739-46; R.29766; R.29782-4; and R.30977-9, and R.60999-61000. The ore zone, striking N.85°E., extends east from lot 27 to lot 34, range V.

The property is underlain chiefly by the Blake River volcanics, trending east and west and dipping steeply to the north, flanked on the south by Cobalt conglomerate and greywacke. The volcanics consist of bands of andesite and andesite-flow-breccia; dacite and trachyte; rhyolite tuff; and rhyolite. These bands, which are intruded by large bodies and dykes of quartz-diorite and diorite mainly, also quartz-feldspar-porphyry, are dislocated by transverse and longitudinal faults, and are heavily sheared, particularly at interformational contacts.

The Wasa Lake shear zone, which was discovered by diamond drilling in April, 1944, striking N.75°-85°E. and dipping 50°-60° to the north, lies within a narrow band of rhyolite tuff adjacent to its contact with andesite and andesite-flow-breccia to the south. It has been explored and traced east and west along the strike by diamond drilling for a length of 1½ miles averaging 140 feet in width. The zone, which consists of carbonate-talc-chlorite-amphibole alteration of intermediate to acidic volcanics, contains a number of gold-bearing, lenticular, siliceous replacement bodies mineralized with fine pyrite and occasionally chalcopyrite.

The two ore sections, referred to by the company as the Western or Main Ore Zone and the Eastern Area, are 1,000 feet apart. A potential ore section, 800 feet south of the Main Ore Zone, is called the South Area.

The Main Ore Zone, in the north part of lots 29 and 30, range V, claims R.29739-40, is 1,800 feet long and consists of two principal lenses, the longest one of which is 900 feet, and several minor ore shoots. Gold assays ranging from 0.137 oz. per ton across 42.3 feet up to 0.189 oz. per ton across 8.5 feet are reported by the company from this zone.

The Eastern Area, consisting of two lenticular orebodies, 750 and 550 feet long, averaging 20 feet in width, has a length of 1,600 feet. According to company estimates, the Main Ore Zone has five times as much ore as the Eastern Area.

The 3-compartment shaft, inclined 55° to the north, which was begun in June, 1945, was down to the 2nd level at a vertical depth of 389 feet, at the close of 1946. Drifting east and west at this horizon, for a total length of 265 feet, cut 19.3 feet of ore assaying $8.62 in gold per ton in the east drift, and 25.5 feet of ore assaying $6 in gold per ton in the west drift, according to company reports. The best results were obtained from the footwall of the shear zone.

In 1946, the diorite-andesite contact in the South Area was explored by 3,705 feet of diamond drilling in 7 vertical holes, Nos. 29 to 35. This drilling indicated the presence of a new, flat-lying orebody, probably related to the original gold discovery on the property made in 1937. J.E. Gill was consulting geologist, J.W. MacKenzie was mine manager, and E.A. Hart was resident geologist. (S.H.R.-46)

Wingait Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 190, Part I, p. 14.
Que. Dept. Mines, P.R. 205, Part I, p. 16.

The property of Wingait Gold Mines consists of lots 37 to 42 of range VI, also part of lot 37 and lots 38 and 39 of range V, Beauchastel township. The Arntfield-Rouyn highway passes close to the northwest corner of the claims and a motor road extends east from the highway along the range-line V-VI, crossing the group.

The claims are underlain predominantly by acidic volcanics with some basic flows and a few bodies of diorite. The Wasa shear zone extends across the group near the range-line V-VI. Acidic pyroclastics occur both north and south of the shear. The hanging-wall is rhyolite for a length of 400 feet from the Lake Wasa Mining Corporation boundary and thereafter is in pyroclastics. This change may have been occasioned by displacement along a cross fault. The Wasa shear averages about 150 feet in width, trends slightly north of east and dips 50° north. The rocks have been schisted, carbonatized, chloritized and silicified, and except for a few relatively unaltered islands of rhyolite, the original character of the formations cannot be recognized. The footwall is diorite for about 1,500 feet of its length and the remaining portion is chiefly pyroclastics. The Wasa shear has marked similarities to the Arntfield shear and may be a part of the same structure displaced by the Horne creek fault.

Diamond drilling started in 1944, and, in the spring of 1947, sixty-two holes had been completed. Two holes were drilled in the northern part of lot 37, range VI, to cut the supposed extension of the Horne creek fault. This structure could not be recognized in the core and is now presumed to be farther north. Nine of the initial holes traced the Wasa shear across the property, cutting it at 500-foot intervals, and some of these gave low assays in gold. Drilling in the southwest corner of lot 37, range VI returned encouraging gold assays, and over forty holes drilled at closely spaced intervals outlined an ore horizon in the hanging-wall and another in the shear.

The hanging-wall ore horizon is in a sheared and silicified rhyolite with abundant fine pyrite. It has been traced eastward from the Lake Wasa Mining Corporation boundary for 100 to 200 feet and has been tested to a vertical depth of 800 feet. It dips north parallel to the shear and appears to rake vertically. The ore horizon in the shear is in a silicified and carbonatized zone similar to those under development at the Lake Wasa Mining Corporation. It has been traced eastward from the boundary with that property for 500 to 600 feet and dips north with the shear. It has not been intersected below a vertical depth of 500 feet and may rake to the west. The management have calculated that the two zones have 193,900 tons averaging $6.30 in gold per ton to a vertical depth of 450 feet. A three-compartment vertical shaft has been collared in the hanging-wall of the shear in the southern part of lot 37, range VI, in preparation for underground development.

D. Giachino is in charge of the property. (W.G.R.-47)

BERRY TOWNSHIP

Lequin - Legault Claims

Ref.: Geol. Surv. Can., Map 352A, 1938.

This block of 6 claims comprises lots 14-19, range X, in the Gemini Hills in the northwest quarter of Berry township, 35 miles from Amos.

A motor road leads north on sand plains from colony 13 (6 miles west of St. Gerard de Berry) for 6 miles, to a small lake. The camp is in lot 14 at the east end of another small lake and may be reached by a trail leading east from the road, a distance of 3,000 feet.

The claims were staked by Leo Lequin and René Legault, both of Amos, in June, 1945, following a gold discovery in lot 17, range X. A second find in lot 15 was made the following year and 6 months later a third discovery was made in lot 19. Exploration work to date consists of stripping, trenching, and sinking test pits.

The area is an undulating plain underlain by clay and dotted by muskeg. A N.-S. ridge of sand and gravel, probably an esker, rises 50 to 150 feet above the general level. Outcrops of bedrock are few and, with the exception of St. Eloi and the Gemini Hills, are generally small.

The property straddles the syenite-greenstone contact on the south edge of the Gemini Hills. The greenstone south of the contact, which strikes northeast, is mainly andesite. Sulphide zones, disseminated sulphides, and quartz veins occur both in the andesite and hornblende syenite. The syenite also contains several large bodies of amphibolite.

The original find and main showing is in the extreme northeast corner of lot 17, range X, Berry township, about 100 feet south of the north township line. It consists of a shear zone, in amphibolitized syenite, striking N.20°W. The zone is exposed in a rock trench, 10 feet wide and 15 feet long, on the south edge of a hornblende syenite ridge trending northeast and southwest. The zone is intruded by narrow aplitic dykes and quartz veins. The veins, dykes, and amphibolite are well mineralized with coarse, well-crystallized pyrite (2 mm. to 6 mm. in diameter). Gold can be panned readily from the gravel and sand derived from weathering of these rocks. A grab sample, taken by the writer from this zone, consisting of a mixture of basic and acidic material well mineralized with coarse pyrite, assayed $13.62 in gold per ton.

The second or East showing is in lot 16, about 1,450 feet south of the north township line. Here, basic aplitic and pegmatitic facies of sheared hornblende syenite, mineralized with coarse, crystallized pyrite, are exposed in a fracture zone, 4 feet wide, striking N.65°E., for a distance of 30 feet. Scattered pyrite mineralization also occurs in shear zones in the syenite.

The third or West showing is in lot 15, approximately 900 feet west of the East showing. It consists of a quartz vein, 8 to 10 inches wide, cutting massive hornblende syenite. The vein, which is exposed in a stripping 30 feet long, striking N.30°E., pinches out abruptly to the northeast and disappears in overburden to the southwest. The syenite on either side of the vein is mineralized with disseminated pyrite over widths varying from 4 to 6 inches, but the quartz is barren.

The property was inactive at the time of the author's inspection. (S.H.R.-47)

BLONDEAU TOWNSHIP

Blondor Quebec Mines, Limited

Ref.: Geol. Surv. Can., Mem. 201, 1936.
Que. Bur. Mines, Ann. Rept., Part B, 1936.
Que. Dept. Mines, P.R. 190, 1945, Part II, pp. 10-12.
Que. Dept. Mines, P.R. 205, 1947, Part I, pp. 17-19.

This company holds a block of forty claims, thirty-eight adjacent to the Guillet-Blondeau township line west of lake Chevrier, in the northeast quarter of Blondeau township, and two adjoining in Guillet township. The Belleterre-Ville-Marie highway crosses the centre of the property north of the camp in claim No. 4, C.2881.

The claims are numbered: C.G-181, claims 1 to 4; C.G-454, claims 1 to 3; C.1335, claim 1; C.1724, claims 1 to 5; C.1725, claims 1 to 5; C.2577, claims 1 to 5; C.2881, claims 2 to 5; C.3110, claims 1 to 5; C.3148, claims 1 to 5; C.3270, claim 2; and C.5809, claims 4 and 5.

A large amount of diamond drilling has been done on the property since August, 1945. Fifty holes were put down at various places, nineteen of which were drilled on No. 3 vein.

This vein is associated with a tuff horizon which occupies the eastern limb of a large drag fold underlying the north-central part of the property. This drag fold is mostly composed of talc and chlorite schist and its eastern limb is more or less parallel to the contact of the granitic intrusive mass known to be present a short distance to the northeast of the property.

In the trenches, No. 3 vein is five inches to two feet wide. It strikes east-west and dips 70° south. It is composed of quartz with small amounts of sulphides. The vein occupies a series of fractures alongside the tuff horizon, except at the western end of the showing, where the vein is in the tuff band at the point where the band bends northwestward along the eastern limb of the drag fold.

Diamond drilling showed that the vein is about the same width at depth as at surface. The intersections in the drill core show the presence of some pyrite, galena, and sphalerite with some good assays in gold. The highest assay at surface was 1.8 ounces in gold per ton, according to company reports.

A large quantity of drilling was done elsewhere on the property. It was done for the purpose of exploration and did not reveal any orebody of economic importance. (P.E.Auger-46)

BOURLAMAQUE TOWNSHIP

Aumaque Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., 1934, Part B, p. 52.
Que. Dept. Mines, P.R. No. 190, 1945, Part I, p. 16.

Aumaque Gold Mines property is near the centre of Bourlamaque township. A motor road to East Sullivan Mines branches south at a point three miles east of Val d'Or from provincial highway No. 59. This road passes east of the Aumaque shaft, three-quarters of a mile south of the highway. The property consists of thirty-eight claims, and is bounded on the east by the north-south centre line of the township. The claim numbers are: A-84319-33; blocks 31-33; C.216; C.217; C.219; C.5251, claims 1 to 5 in each case.

The property is underlain by a series of volcanics trending east-west, except in the southeast area where their strike is deflected to the northeast by a syenite porphyry stock. A band of sericite and chlorite schists over 2,000 feet wide and containing masses of sheared diorite-porphyry extends across the northern part of the claim group. Outcrops in the central portion consist mainly of agglomerate, tuff, and breccia; and these are adjoined to the south by a group of acid to intermediate flow breccias and flows.

Details of previous development work by Herbin Lake Gold Syndicate, prior to 1934, and by Lamaque Contact Gold Mines, subsequent to that time, are given in the references cited above. This work consisted of trenching and diamond drilling mainly in blocks 31, 32, and 33, where several zones of more intense shearing contain narrow, auriferous veinlets of sulphides and quartz.

Aumaque Gold Mines was incorporated in September, 1943, in order to develop the property, and exploration drilling followed by underground work has been carried out continuously since February, 1944. In the programme of surface drilling, which was continuing when the writer was at the property in August, 1946, about fifty-five diamond-drill holes, totalling about 50,000 feet, had been completed. Thirty-five of the holes were put down in blocks 32 and 33, distributed at 50- and 100-foot intervals along 2,500 feet. Almost every hole intersected intensely sheared zones in the chlorite and sericite schists containing sulphides, chiefly pyrite, but also small amounts of sphalerite, galena and chalcopyrite, as well as gold. Most of the holes cut several gold-bearing sections at differing depths making lateral correlation difficult.

In general, there appears to be two overlapping auriferous zones trending N.65°E. Within each zone the gold occurs at various intervals across 200 feet, individual assays for the most part being low, although some high assays were obtained from narrow veinlets. About five per cent of the gold assays obtained from all the intersections in the two zones was above 0.20 oz. per ton.

The discovery of sulphide ores near the contact of the syenite porphyry stock on the East Sullivan property, adjoining Aumaque on the south, lead the company to explore this contact, which extends in a northeast direction for 6,000 feet across their southeast claims. About twenty holes had been put down at various intervals along the contact zone; and scattered sulphides with mainly low gold assays were found.

In July, 1945, a three-compartment shaft was started in north-central block 32 in order to explore the gold-bearing sections indicated by drilling in the main sericite-chlorite schist zone. Shaft sinking to a depth of 540 feet with stations at 125-foot intervals was completed in January, 1946. At the 250-foot level a cross-cut was driven south for 177 feet, and north for 318 feet. Drifts were run east for 694 feet and west for 782 feet from the north end of the cross-cut. At the 500-foot level a cross-cut was made north for 412 feet. At sections 200 feet, 290, feet, and 360 feet north of the shaft, total drift lengths east and west of the cross-cut were 330 feet, 262 feet, and 804 feet, respectively.

The west drift on the 250-foot level follows a strong shear in places containing a gouge-filled fault seam two inches wide. Five hundred feet west of the cross-cut, an oreshoot 75 feet long was developed, and, according to company reports, averaged 0.24 oz. gold per ton across a width of 4 feet. The ore consists of a 2-6 inch veinlet of bluish quartz adjoined by a 3-6 inch band of massive sulphides. These are contained in sericitic schist, silicified and traversed by other small stringers of sulphides and quartz. Most of the gold is confined to the narrow massive sulphide band, samples from which assay as high as four ounces gold per ton. Between the gold-bearing shoot and the cross-cut, other discontinuous, lenticular veins of quartz and carbonate pinch and swell over widths of one to three feet in the back of the drift. Some of the vein material forms stringers filling flat-lying tension fractures. Scattered pockets and stringers of massive sulphides are associated with the vein material and yield erratic gold assays from place to place.

A second ore shoot was encountered on the 500-foot level in the west drift which starts 360 feet north of the shaft. The shoot lies 200 feet east of the one at the 250-foot level. An average grade of 0.26 oz. gold per ton is reported by the company across an average width of 5.5 feet and a length of 93 feet. It is a massive sulphide vein normally about one foot or less in width, but widening up to 3 feet at one point, where the strike of the confining shear is gently curving. Lenticular masses of white quartz and carbonate are associated with the massive sulphide vein, but most of the gold is in the later material.

Subsequent to the writer's visit to the property another ore shoot is reported to have been found in the west drift on the 500-foot level. This auriferous zone is said to be 261 feet long, averaging 5.2 feet wide and has a gold content of 0.29 oz. per ton. It is thought to be the downward extension of the shoot on the 250-foot level, and its greater length is suggestive of continued lengthening of the shoot with depth.

W.E. Bennett was mine manager at the property, K. Lindsay, resident engineer, and J. Bichan, consulting geologist. (W.N.I.-46)

Droumaque Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part I, pp. 26-27.

The mining property of this Company consists of a group of twenty-two claims in the northeast quarter of Bourlamaque township. The claims are numbered C.2016, claims 1, 4, 5; C.2017, claims 3-5; C.2018-19, claims 1-5; C.2022, claims 1-4; C.2043, claims 1-2. Provincial highway No. 59 and the Canadian National railway cross the southern claims 7 miles east of Val d'Or.

The property is largely covered with drift. The few outcrops that may be seen are granodiorite of the Bourlamaque batholith. In the south claims, these contain included, small masses of volcanics vaguely outlined. The south margin of the batholith lies one to two thousand feet south of the south boundary of the property.

At the junction of the highway and the road to Golden Manitou Mines, an outcrop of granodiorite contains highly granitized and schisted inclusions of greenstone two to four feet wide, about 50 feet long, and oriented at N.80°W. A few stringers of barren, white vein quartz are associated. Surface work on a granodiorite outcrop a few hundred feet to the west, in claim C.2017, claim 2, exposes volcanic inclusions, quartz stringers and irregular patches of vein quartz sparsely mineralized with pyrite and chalcopyrite. A company sample from one trench in this outcrop area yielded an assay of 0.04 oz. gold per ton across 3 feet.

Electric and magnetic surveys were carried out on the property in 1936. During the period from September, 1945, to June, 1946, the Company completed a programme of 10,900 feet of diamond drilling in sixteen holes. All except two of the holes are collared in the two claims C.2017, claims 1 and 2, which occupy the southeast corner of the property. These holes indicate that near its south margin, the granodiorite of the batholith is variable in composition and texture, exhibiting a more basic facies in places and developing finer-grained and porphyritic zones. It is cut by narrow andesite dykes and contains numerous hybrid masses of greenstone. In some sections, shearing, accompanied by chloritization, silicification, and epidotization, is quite pronounced. Scattered patches of disseminated pyrite and minor chalcopyrite are of common occurrence in the core.

Six out of eight closely spaced holes in the southeast corner of claim C.2017, claim 1, yielded scattered gold assays mainly across very narrow widths. Individual returns vary from 0.05 oz. to 0.54 oz. gold per ton for core lengths of from one-half foot up to four feet. The better assays were obtained from sheared, well silicified and carbonatized granodiorite mineralized with disseminated pyrite and chalcopyrite. Two holes spaced 1,100 feet apart in southern claims C.2016, claim 5 and C.2017, claim 3, intersected a zone of strong shearing and alteration (striking N.75°E.) in the granodiorite. This yielded only very low gold assays, but 300 feet to the south, an area of fractured intrusive was cut in which a one-inch quartz stringer carrying sulphide was reported to contain 1.07 oz. gold per ton. (W.N.I.-47)

Formaque Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part B, 1934, pp. 55-57.
Que. Bur. Mines, P.R. No. 116, 1937, p. 63.
Que. Bur. Mines, P.R. No. 120, 1938, p. 18.
Geol. Surv. Can., Paper 43-2, pp. 7-8.

Formaque Gold Mines, Limited, holds a group of twenty-five claims straddling the north-south centre-line close to the north boundary of Bourlamaque township. The claims cover most of Herbin lake, which is drained by the Bourlamaque river. The property is reached from the road to New Bidlamaque Mines, which branches north from highway No. 59, at a point four miles east of Val d'Or. The New Bidlamaque motor road is followed for three-quarters of a mile northeast, then a bush road extends for one and one-half miles north to the camp at the south side of Herbin lake. An alternative means of access is by means of the Senneville road leading north and east from Val d'Or for eight miles to Colombière lake. From this lake the Bourlamaque river is followed for three miles to Herbin lake.

The claims of the property are numbered, A-35960-63, A-45649-58, A-47662-66, A-53397-98, A-10472 and blocks 49-51. Prior to 1929, the property was first explored by Green-Stabell Mines, Limited. Following this, La Reine Mines carried out some 2,000 feet of diamond drilling. The Herbin Lake Syndicate next held the claims until 1934, and, during this period, surface work was done by Northern Aerial Minerals Exploration under an option agreement. Payore Gold Mines, Limited, was incorporated in 1934. This company carried out surface trenching, 7,350 feet of diamond drilling, and sank a three-compartment shaft to a depth of 390 feet. Three levels were established containing 6,200 feet of lateral workings. In 1938, a 75-ton mill was installed and operated for several months, when work ceased and the equipment was sold. Sixteen thousand tons of ore was milled, which had a value of $4.50 per ton in gold, but it is reported that gold recovery amounted to only 65 per cent.

Payore Consolidated Mines, Limited, was formed in 1939, and, in 1941, Sylvanite Gold Mines, Limited, optioned the property. The latter company carried out extensive underground sampling, some lateral work and 2,000 feet of underground diamond drilling. In 1944, the present company, Formaque Gold Mines, Limited, was formed and has carried out 21,000 feet of surface drilling in a programme which is continuing. Since January, 1946, the company also has completed 2,500 feet of underground drifting and 4,000 feet of underground drilling.

The property lies near the west margin of the wide eastern part of the Bourlamaque granodiorite batholith, and most of it is underlain by this rock. The granodiorite exhibits both more basic and more acidic facies, and along the south side of Herbin lake there is a zone of porphyritic diorite. The main intrusive is cut by narrow dykes of aplite, syenite prophyry, albitite, andesite, and late Precambrian diabase. Some of the vein material is closely related to the dykes. Diamond drilling indicates that a narrow east-west horizon of hybrid rocks (highly altered greenstones and intrusive material) occurs beneath the southern part of Herbin lake. In the shaft

area, the granodiorite is transected by east-west trending fracture and shear zones. Some of the fractures are filled with quartz-tourmaline vein matter, and the shears contain disseminated sulphides. The fractures and shears dip both to the north and south at moderate to steep angles, and one series is more or less flat-lying. The vein material is characteristicly lenticular along the strike and down the dip. Individually the flat fractures are of small dimensions, although they carry high assays in gold. The best ore occurs along the margins of the quartz lenses and at localities where coarse-grained patches of massive sulphide are developed.

Company officials are of the opinion that 20,000 tons of ore-grade material has been blocked out by the underground operations, and in addition there is a substantial tonnage of possible ore.

The surface diamond drilling has intersected scattered sections with some gold content in claim A-35964. Along a distance of 350 feet extending west from the most westerly underground workings, four drill holes are reported to have yielded assay results such as 0.15 oz. gold per ton over 3.5 feet, and 0.42 oz. gold per ton over 1.7 feet. A series of vertical surface holes was drilled in claim A-10472, 1,300 feet east of the most easterly underground workings. Six of these holes, distributed east-west along 500 feet, have cut several zones of vein material of ore grade. This zone lies near the contact of porphyritic diorite and granodiorite, at a locality where the former protrudes southward, and on the strike of a northeast-trending zone of shearing exposed a few hundred feet to the southwest.

C. Hood was resident manager of the property, and N. Gillis, geologist. (W.N.I.-46)

Gale Claims

Ref.: Geol. Surv. Can., Paper 43-2, p. 12.
Que. Dept. Mines, P.R. 190, 1945, Part I, pp. 18-20.

The Gale property consists of a group of six claims in the northeast quarter of Bourlamaque township. The claims are numbered A-59170-71, and A-59893-96. Provincial highway No. 59 crosses the northern part of the property six miles east of Val d'Or. The power transmission line to Golden Manitou Mines extends across the central claims.

Outcrops in the two northern claims (A-59170-71) consist of granodiorite of the Bourlamaque batholith. Outcrops, stripping, and trenching in claims A-59893 and A-59895 expose agglomerate, chlorite schist, sericite schist, and chlorite-sericite schist. These are sheared in an east-west direction. Trenching and rock-blasting, close to the south boundary of claim A-59895, exposed a zone of 'en échelon' shearing striking N.80°W. The trench is 150 feet long and it contains several lenses of vein quartz up to 10 feet long and 2 feet wide. Some of these are well mineralized with chalcopyrite. Stripping across the strike of the zone 125 feet to the west shows sheared tuff and breccia, but no vein quartz.

In 1944, Consolidated Mining and Smelting of Canada, Limited, optioned the claims, and during the summer they completed seven diamond-drill holes. The main objective of the drilling was to explore the drift-covered area for the possible westward extension of the Golden Manitou zinc-lead-gold-silver-bearing structures. However, the holes did not encounter any noteworthy mineral deposits.

Two holes penetrated the south contact of the Bourlamaque batholith and established its location 200 feet north of the power transmission line in A-59895. The upper parts of these two holes and four other holes probed the greenstones for 1,500 feet south of the batholith. Vein material up to 4 feet wide and carrying low gold assays was found in and near the south margin of the granodiorite. To the south, the rocks intersected were mainly schisted fragmentals, with zones of more intense shearing, vein material, and low-grade disseminated sulphides. (W.N.I.-46)

Glenlivet Gold Mines, Limited

The property of Glenlivet Gold Mines consists of fifteen claims in the northwest part of Bourlamaque township. The claims are numbered C-5529, claims 1 to 5; C-5530, claims 1 to 5; and C-5543, claims 1 to 5. They may be reached by following a power line east for one mile from the Blouin Lake road. The power line crosses the road three-quarters of a mile north of the Canadian National railway at Val d'Or.

No outcrops of bedrock are known on the property. Between January and July, 1946, the Company explored the claims by means of thirteen diamond-drill holes. These indicate that the south margin of the Bourlamaque granodiorite batholith extends in broad curves across the south-central section of the property for a distance of 7,000 feet. South of the granodiorite, the rocks encountered were chiefly andesite, in places considerably brecciated or sheared. Minor horizons of acidic to intermediate volcanics were intersected and a few bands of tuff. The volcanics were found to be invaded by broad sills and dykes of peridotite, as well as dykes of feldspar porphyry.

Five of the holes were put down along a cross-section line extending from the north boundary of the property at C-5543, claim 4, to the south boundary at C-5529, claim 3. None of the drill holes of the programme yielded any gold assays of importance. (W.N.I.-46)

New Bidlamaque Gold Mines, Limited

Ref.: Geol. Surv. Can., Paper 43-2, p.8 and p. 12.

This company holds a group of 15 claims in north-central Bourlamaque township. The claims are numbered A-42998-43007, A-48638-40, A-52751-52. The camp in claim A-42999 is reached by means of a motor road extending north and west for 3 miles from provincial highway No. 59, at a point 4 miles east of Val d'Or.

The property lies immediately south of the south margin of the Bourlamaque batholith. The northern claims are underlain mainly by andesite. A band up to 500 feet in width of trachytic lava trends N.60°W. across the property and this in part is flanked to the south by a peridotite sill two to four hundred feet wide. The volcanics are intruded by dykes and small irregular masses of diorite, diorite porphyry, granodiorite and other bodies of peridotite.

Surface prospecting, including trenching and test pits, was started on the claims in 1935. During 1936-37, Mining Corporation optioned the present property and claims adjoining the north. At this time, 17,000 feet of diamond drilling in about 47 holes was completed. In 1938, Pamoray Development Company optioned the ground and put down two drill holes. New Bidlamaque Gold Mines Limited was formed in 1944 to succeed Bidlamaque Gold Mines Limited. Up to July, 1946, the new company had drilled fifty holes from surface, and sank a shaft to a depth of 390 feet with 295 feet of lateral workings on two levels. Since development work started on the property, about 30,000 feet of diamond drilling has been completed.

Chief interest in the property centres in two gold-bearing veins striking N.65°W. along 1,000 feet in claims A-42998-99. According to company records, this zone has been penetrated by over 50 drill holes indicating that the two main veins are lenticular in habit along both the dip and strike. The No. 1 vein lies at the north contact of a peridotite sill, and the No. 2 vein is about 200 feet to the north in volcanics. Both veins dip 50°-70° north. The vein widths and results of assays for gold obtained in this drilling were erratic. They range from $1.00 in gold per ton across 37 feet to a high of $45.00 in gold per ton across 2 feet. Seven samples out of forty-three, from various intersections of the No. 1 vein, assayed above $10.00 in gold per ton.

The No. 1 vein, where observed in 40 feet of drifting on the 375-foot level, consists of white quartz mineralized mainly with pyrrhotite, and minor pyrite or chalcopyrite. It is characterized by numerous inclusions of greenstone schist, some converted almost completely to actinolite. At this location the gold content amounted to $1.40 in gold per ton across 12.6 feet.

The No. 2 vein was opened up in 30 feet of drifting on the 150-foot level. Here, over a width of 1 to 2 feet, massive chalcopyrite and pyrrhotite are accompanied by very little vein quartz, but it is said that normally the proportion of quartz is much greater. Company sampling of the vein yielded analyses of 8 per cent copper and $28.00 in gold per ton.

Underground development of the property was continuing under the direction of P. Broadhurst as resident manager, and H.S. Wilson as consulting geologist. (W.N.I.-46)

Tasmaque Gold Mines, Limited

The Bourlamaque township property of this company consists of fifteen claims. These lie at the northwest corner of the northeast quarter

of the township. To reach the property, the motor road to New Bidlamaque Mines, which branches north from highway No. 59, four miles east of Val d'Or, is followed for three-quarters of a mile. A bush road then extends one and one-half miles north to the Formaque camp, and a trail leads east along a power line for one mile to the northern claims. The claims have the numbers C.628-29-30, claims 1 to 5 in each case.

Scattered outcrops occur throughout most of the property. All these consist of granodiorite, as the ground lies entirely within the Bourlamaque batholith, but not far from the western margin of its wider eastern part.

During the spring of 1946, three diamond-drill holes, totalling 2,597 feet, were put down. Each hole was directed north along a line in claims 2 and 5, C.628, to cross-section the area on the strike of the Formaque auriferous zones. Dykes of andesite, diorite, fine syenite, and hornblende-quartz diorite, as well as several altered greenstone inclusions, were found in the main granodiorite mass. Vein material, varying from narrow stringers to 3-foot wide zones of quartz, calcite, and tourmaline, was intersected, but proved to be barren of sulphides and gold.

G.L. Holbrooke, assisted by J. Beardsley, was in charge of the drilling for the company. (W.N.I.-46)

Wildor Gold Mines, Limited

The property of this company consists of twenty contiguous claims in north-central Bourlamaque township. The claims are numbered A-39109 to A-39121, A-39136, A-48833 and A-48834, A-53785 to A-53787, and A-53918. Provincial highway No. 59 and the Canadian National railway cross the claims five miles east of Val d'Or. The road to New Bidlamaque Gold Mines extends northward across the claims at the centre-line of the township.

The property is mainly covered by a thick mantle of overburden. A few small exposures of bedrock occur along the east boundary and near the south margin. The claims are underlain by a series of volcanic rocks lying between the Bourlamaque granodiorite batholith to the north and the 'Centre-post' syenite stock to the south. The volcanics are comprised of trachytic to andesitic flows and breccias, coarse agglomerates, and fine bedded tuffs. Toward the south they are intensely sheared and altered.

Early work, consisting of stripping and trenching, was carried out by Erie Canadian Mines in 1934. During November, 1936, to April, 1937, while under option to McIntyre Porcupine Mines, 5,000 feet of diamond drilling was completed on the property. The holes were laid out to cross-section the north part of the claim-group along the centre-line of the township. Several shear zones, and carbonatized, quartz-tourmaline veinlet zones were intersected and some were found to carry low gold assays. In one of the holes in northern claim A-48833, a four-foot length of core from a quartz stringer zone with pyrite, chalcopyrite, and pyrrhotite assayed $3.10 in gold per ton, according to company reports.

One of two holes, totalling 805 feet, put down in 1941 by Inspiration Mining & Development Company, 50 feet east of the above hole, returned low gold assays. The second Inspiration hole, at the east side of claim A-53787, cut numerous mineralized quartz veins also low in gold content.

The property was next optioned to Bidgood Kirkland Gold Mines, and this Company carried out 17,993 feet of diamond drilling in 1945 and 1946. Twenty-five drill holes were put down, one of which did not reach bedrock. These holes served to explore the entire property, except for the east-central section north of the highway. Several zones, more intensely sheared, carbonatized, and mineralized than the enclosing schists, were encountered in the southern section of the property. Most of these were found to be not gold-bearing, with the exception of two quartz stringers carrying pyrite and chalcopyrite, which yielded gold assays of $18.20 per ton for 1.0 ft. of core and $3.50 for 0.4 ft. of core.

A dyke of diorite porphyry, 100 feet wide, was traced in an east-west direction through the schists across the south claims. It was found to contain numerous quartz veinlets, but most of these proved to be barren of gold.

A hole in northern claim A-39116 cut a sulphide stringer in flow breccia, which is reported to have given a gold assay of $11.20 per ton for 0.3 foot of core. Sheared andesite, mineralized with pyrite in claim A-39121, assayed $1.75 in gold per ton for a core length of seven feet. Three hundred feet to the north, a five-foot wide zone of massive pyrrhotite, pyrite, and minor chalcopyrite yielded only traces of gold. Although six quartz veins ranging in width from 0.2 to 5.2 feet were intersected in a 75-foot wide dyke of diorite porphyry in claim A-39119, only one of these, the narrowest, was found to contain gold, which, by company reports, assayed $11.90 per ton.

Exploration of the property was carried out under the direction of G.E. Parsons, geologist. (W.N.I.-47)

BOUSQUET TOWNSHIP

Interprovincial Mining Corporation

Ref.: Que. Bur. Mines, Ann. Rept., Part C, 1929, pp. 61-63.
Que. Bur. Mines, Prel. Rept. No. 116, 1937, p. 31.
Geol. Surv. Can., Mem. 231, pp. 65-67.

This property, formerly held by Brown Bousquet Gold Mines, consists of 12 claims numbered A-166, and A-232 to 242, inclusive. It is situated in the eastern-central part of Bousquet township. The Val d'Or - Noranda highway and the power transmission line cross the property.

The southern part of the property is underlain by greywacke of the Kewagama group. To the north are volcanics and sediments of the Blake River and the Cadillac groups. The Cadillac 'break' crosses the northern part of the property from west to east.

In the fall of 1945, a magnetometer survey was conducted on the central part of the claims. A southern and a northern series of anomalies were indicated, both striking westerly across the property. Subsequent drilling has revealed that the southern boundary of the northern anomaly coincides almost perfectly with the southern edge of the Cadillac 'break'. The northern boundary of the same anomaly is about 100 feet north of the corresponding edge of the break. The southern anomaly overlies andesite and porphyritic andesite and apparently does not indicate any particular horizon.

After the completion of this survey, 18 holes, totalling 10,000 feet, were diamond-drilled in the zone immediately south of the Cadillac 'break'.

According to company records, low gold assays were obtained in many of the drill holes, but only one returned an intersection of ore grade. In hole No. 26, a five-foot width contained one ounce of gold per ton and the adjoining $2\frac{1}{2}$ feet assayed $13.65 in gold per ton. This intersection appeared to be in an altered tuff or andesite mineralized with arsenopyrite. Further holes in this vicinity failed to return corresponding results. Leo Brossard is consulting engineer. (W.G.R.-47)

Sudbury Contact Mines, Limited

Ref.: Geol. Surv. Can., Paper 38-24, 1938, p. 8.
Que. Bur. Mines, P.R. No. 161, 1940, p. 6.

This company holds a group of 17 claims in one block, south of the Bousquet river, bordering the north half of Norman lake, half a mile north of the Rouyn-Val d'Or highway, in the northeast quarter of Bousquet township. A tote road leads north from the highway, at a point 26 miles east of Rouyn, for half a mile directly to the property.

The numbers of the claims are as follows: A-37967, A-37970, A-38970-4, A-38979-80, A-59889-90, A-60096, A-83014 and A-83017-20.

The claims are underlain by an E.-W. trending band of volcanics, chiefly andesite, classified with the Blake River group, flanked on the south by older Kewagama conglomerate and on the north by younger Cadillac greywacke. The sediments strike east and west and dip either vertically or steeply to the south. The Cadillac-Lake Bouzan fault zone, striking east and west, crosses the northeast bay of Norman lake in the greenstone band. The fault zone has a maximum width of 300 feet and consists mainly of talc and chlorite schist.

A quartz vein, cutting a carbonatized shear zone in the volcanics south of the fault is mineralized with pyrite and arsenopyrite and has been traced east from the lake shore in cross-trenches for a length of 500 feet. It varies in width from a few inches to 10 feet. Prior to 1940, the vein and shear zone to the north were explored at depth by 10 diamond-drill holes drilled to the north along an east-west length of one mile and a third. Two of these holes, Nos. 8 and 10, cut gold-bearing, mineralized sections, now referred to as the "A" zone. Recent diamond drilling to extend this zone began in March, 1946, and up to the time of the writer's inspection, 2,902.6 feet of drilling in 6 holes, Nos. 11 to 16, had been completed.

As a result of this drilling, the "A" zone was traced along an E.-W. length of 135 feet assaying, according to company reports, 0.17 ounce of gold per ton across an average width of 10 feet. Hole No. 12, drilled directly east of No. 8, cut 50 feet of mineralized material corresponding to the "A" zone without commercial gold tenor, and a second gold-bearing section referred to as the "B" zone. Hole No. 13, drilled beneath No. 10, 100 feet east of No. 12, cut both "A" and "B" zones.

"B" zone lies close to, and apparently follows, the south contact of a band of silicified tuffaceous breccia with talc-chlorite schist. Gold occurs in fractured tuffaceous breccia, cut by bluish quartz veinlets, associated with arsenopyrite, pyrrhotite, and pyrite. The zone has been traced east and west by diamond drilling for a length of 300 feet, averaging 30 feet in width. The company reports visible gold and assays ranging from a 'trace' to 0.28 oz. of gold per ton across widths of 5 feet for a total core length of 40 feet through this zone. The "A" zone section of hole No. 13 cut visible gold and assayed 0.14 oz. of gold per ton across 5 feet, according to company reports.

B.C. Fillingham was in charge of operations at the property. (S.H.R.-46)

CHAZEL TOWNSHIP

Val d'Or Consolidated Mines, Limited

Ref.: Geol. Surv. Can., Sum. Rept., 1928, Part C, p. 41.
Geol. Surv. Can., Map 284A, Desmeloizes Sheet, 1933.

This company holds a block of 20 claims, surrounding Chazel lake in the southwest quarter of Chazel township, 70 miles from Amos. A trail east from the N.-S. road on lot-line 8-9, 3 miles north of St. Janvier, on range-line III-IV, leads directly to the west shore of Chazel lake, in lot 11. The showing is one quarter of a mile south of the range-line on the west shore of the lake in lot 11, range III.

The claims comprise lots 6 to 17, inclusive, range III, and the south half of lots 8 to 15, range IV. They were staked by Jos. Dionne and Arthur Lapointe in 1945.

Strongly sheared and carbonatized volcanic rocks of acidic and intermediate compositions outcrop in the vicinity of Chazel lake. At the showing, a heavily mineralized shear zone in highly altered volcanics is exposed in a prospect pit 30 feet south of the lake shore. The zone, which appears to strike N.80°E. and dip 80° to the north, is 25 feet wide. It consists of rusty schist and quartz stringers mineralized with massive and disseminated pyrite chiefly, and some pyrrhotite and chalcopyrite. A grab sample taken by the writer from the zone, consisting of rusty schist and quartz mineralized with massive pyrite and some pyrrhotite, assayed a trace of gold per ton. The zone has been explored at depth by 5,000 feet of diamond drilling in 12 holes, Nos. 1 to 9, 11, 12, and 13. These holes, bearing S.10°W., were drilled through the ice during the winter of 1947.

J.G. Baxter, vice-president of the company, is in charge of operations at the property, which was inactive at the time of the writer's inspection. (S.H.R.-47)

CLÉRICY TOWNSHIP

Claremont Mines, Limited

Ref.: Que. Bur. Mines, P.R. 116, p. 25, 1936.
Que. Bur. Mines, Min. Ind. Que., 1937, p. 62.
Geol. Surv. Can., Mem. 233, pp. 56-59, 1941.

Claremont Mines has a group of seven claims in range I of Clericy township. Six of these, numbered R.25913, R.25918, and R.26003-06, are contiguous and cover parts of lots 11 to 15. The seventh, R.26002, covers parts of lots 8 and 9. The mine buildings, including a headframe, cookhouse, and three bunkhouses, are in the northern part of lot 12. They can be reached by a wagon road which branches southeast from the motor road along the range-line III - IV at lot three.

The claims were first staked in 1935, and surface work, diamond drilling, and underground development were performed successively by O'Brien Gold Mines, LeRoy Mines, and Roybell Mines. The early exploration work, discovery veins, and geology are fully described in Memoir 233 of the Geological Survey of Canada. Claremont Mines acquired the property in 1945 and have completed geological and geophysical surveys of the claims and put down eleven diamond-drill holes.

The discovery veins occur near the west edge of the Clericy granodiorite dyke, in fine-grained green rocks that have been referred to as tuffs, andesites and chloritized rhyolites. The gradational contacts of

these rocks with the diorite as seen in the drill core suggest that they could be chloritized and sheared diorite. The veins occur as irregularly shaped quartz masses over widths from 20 to 100 feet and a length of 170 feet. They follow a shear which strikes N.64°E. and dips north at about 45 degrees. A northerly trending fault offsets the veins for a short distance with a right-hand movement. The bulges of the quartz bodies near the fault suggest that they occur in an old drag fold in the shear, and that the northerly trending fault was the final failure along this drag fold.

The vein material is white and vitreous with small amounts of tourmaline, pyrite, chalcopyrite, and some free gold. Sampling of the surface veins is reported by the company to have indicated 160 tons of ore per vertical foot with a cut grade of $5.45 and an uncut grade of $6.80 in gold per ton. Twenty-three diamond-drill holes from surface have cut average widths of 17.2 feet of vein and schist, which have assayed from nil to $56.40 in gold per ton across four feet. On the 125-foot level the vein in the cross-cut is referred to by the management as being of "ore grade". The cross-cut on the 250-foot level did not cut the vein, but may have been stopped short of the shear. No drifting was done on either level.

The recent exploration was directed by Carl Bischoff. (W.G.R.-47)

COURVILLE TOWNSHIP

Courtown Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part B, 1933, pp. 67 and 73.

Courtown holds a group of 16 claims, in one block, in the east-central part of Courville township, 60 miles from Amos. The east-west Pershing-Manitou road, 1,200 feet south of range-line VI-VII, leads directly to the mine office at the Pershing Manitou camp, in lot 34, range VI.

The group of 16 claims includes the north half of lots 32, 33, and 40 to 43, range VII, and full lots 34 to 39, range VII.

The property is underlain by Keewatin-type volcanics, chiefly acidic lavas and fragmentals, intruded by dykes and irregular masses of diorite mainly, syenite, granite, aplite, and lamprophyre. The fragmentals strike northwest and dip about 70° to the north. Most of the property is muskeg and low ground, and, with the exception of a few scattered outcrops close to range-line VI-VII, there are no rock exposures.

A granite dyke averaging 200 feet in width with a maximum width of 300 feet has been located by diamond drilling at the north end of lot 39, range VI, in Pershing Manitou ground and at the south end of lot 38, range VII, on the Courtown property, striking northwest. The dyke dips 70° to the northeast in Pershing Manitou ground and 85° to the southwest

in Courtown ground. Diamond drilling on the Courtown property was carried out in order to cross-section a zone which would be on the strike of the Eastville mineralization to the southeast and the granite dyke intersected by the Pershing Manitou drilling. The first 4 holes, Nos. CS-1 to CS-4, were drilled along a northeast-southwest base line. Six holes, Nos. CS-5 to CS-10, were drilled southwest across the granitic dyke at 200-foot intervals. Gold was present in the core of 5 of these holes and mineralization was indicated along a length of 1,300 feet. In hole No. CS-5, the gold occurred in quartz veins cutting acidic fragmental rocks. In hole CS-6, gold was present in the granitic dyke. An aplite dyke, 5 to 15 feet in width, was intersected in five of the diamond-drill holes. At the time of the writer's inspection, hole No. CS-13 was being drilled north in lot 38, range VII, in order to close the northeast-southwest section located northwest of the granitic dyke.

John C. Lyons was in charge of work at the property. (S.H.R.-47)

Eastville Gold Mines Company, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part B, 1933, p. 73.

This company holds 32 claims in 3 groups in the east-central part and southeast quarter of Courville township. The North group of 18 claims includes the north half of lots 41 and 42, range V; lots 40 to 43 and the north half of lots 44 and 45, range VI; and the south half of lots 40 to 45, range VII. The South group of 12 claims comprises the north half of lots 35 to 41, range III, and the south half of lots 35 to 39, range IV. Two claims, comprising the south half of lots 46 and 47, range VI, form the East group, which adjoins the North group to the southeast.

The settlers road on range-line VI-VII crosses the north section of the northern group. The discovery, consisting of three gold-bearing zones, was made by L.E. Berthiaume in June, 1946.

The claims are underlain by sheared, Keewatin-type volcanics chiefly lavas, sometimes brecciated, acidic to intermediate in composition, and tuffs. In general, the brecciated zones strike N.35°W., parallel to the schistosity, and dip steeply to the northeast. The volcanics are intruded by dykes and irregular masses of diorite and quartz porphyry accompanied by gold-bearing quartz veins mineralized with pyrite mainly and small amounts of galena, sphalerite, and chalcopyrite. In mineralized zones, the rocks are frequently silicified and carbonatized. A 'later' diabase dyke, striking northeast, cuts all the other formations and is the youngest rock in the area.

Three main showings, designated the South, Centre and East, have been explored by stripping, trenching, and sinking test pits.

South Showing.- This showing consists of three zones, Nos. 1 to 3, from north to south, 400 feet apart, in the southeast corner of claim 4, C.9182, south half of lot 43, range VI. The southernmost zone, No. 3, is the most

important and consists of a strong shear in silicified tuffs injected by quartz stringers and quartz porphyry dykes, which strike N.45-50°W. and dip steeply to the north. The tuffs and quartz stringers are well mineralized with sulphides and contain some visible gold. The zone, which exceeds 25 feet in width, is exposed at intervals in rock trenches for a length of approximately 320 feet. A 12-foot section of the zone, consisting of quartz and altered, silicified tuffs, is exposed in a rock trench, trending N.38°E., in the centre of the showing. Four grab samples were taken from this section by the writer. The first sample, taken at the north edge of the section, consisting of quartz and chloritized and silicified tuffs mineralized with pyrite, assayed $13.16 in gold and 26 cents in silver per ton. The second grab sample, taken 2.5 feet south, consisting of quartz and pyrite, assayed $9.87 in gold and 27 cents in silver per ton. The third sample, taken from the middle of the section, consisting of quartz, pyrite, and a few specks of galena, assayed $2.52 in gold and 8 cents in silver per ton. The fourth sample, taken at the south edge of the section, consisting of quartz and silicified tuffs mineralized with disseminated pyrite, assayed $13.23 in gold and 39 cents in silver per ton.

Visible gold was observed by the writer at three points in the zone, namely, 6 feet, 20 feet, and 25.5 feet south of the north edge of the section, in glassy, quartz stringers containing specks of galena. Visible gold was also observed by the writer in a second rock trench cutting the shear zone 100 feet northwest of the 12-foot section and in the westernmost trench 220 feet farther. At this point, visible gold occurs along fractures in quartz porphyry and flat-lying quartz stringers, one quarter of an inch in width. The company reports assays indicating $9.50 in gold per ton across 31 feet and $17.57 in gold per ton across 12.5 feet from the southeast trench, and $18.00 in gold per ton across 10 feet from the northwest trench. The zone was explored at depth by 6,082.9 feet of diamond drilling in 7 holes, Nos. S-1 to S-7, during the summer of 1946.

Center Showing.- This showing is at the north end of claim 4, C.9182, south half of lot 43, range VI, about 1,500 feet from the south showing. It consists of a silicified zone, 2 to 3 feet wide, in carbonatized volcanics cut by a quartz vein, mineralized with pyrite, and a quartz porphyry dyke. Gold is apparently associated with pyrite in the quartz vein and siliceous material near the quartz porphyry dyke.

East Showing.- This showing is 3,600 feet east of the south showing, in the south part of claim 2, C.10518, south half of lot 47, range VI. It consists of a quartz porphyry dyke, 8 feet wide, cutting altered fragmentals. The dyke, which strikes northwest and dips vertical, is exposed in a trench for a length of 23 feet and disappears in deep overburden at both ends. It contains numerous quartz stringers intruded along fractures, mineralized with pyrite and chalcopyrite. According to company reports, the dyke assays $15 in gold per ton across 8 feet for the total length.

L.E. Berthiaume was in charge of operations at the property. (S.H.R.-47)

DALQUIER TOWNSHIP

Edmond Carriere Claims

(See Trécesson township)

DASSERAT TOWNSHIP

Bordulac Mines, Limited

Ref.: Geol. Surv. Can., Mem. 166, 1931, pp. 234-5.
Que. Bur. Mines, P.R. No. 135, 1939, pp. 4-5.
Que. Dept. Mines, P.R. No. 205, Part I, pp. 40-44.

Bordulac holds a group of 22 claims, 6 miles northeast of the town of Cheminis, Ontario, on the Rouyn-Kirkland Lake highway. A lumber road leads north from Cheminis along the inter-provincial boundary for 3 miles to Labyrinth lake. From this point the property, which lies on the north shore of the lake, is reached after 2 miles of water across Labyrinth lake.

The property extends eastward from the Ontario boundary for 2½ miles (approximately) in ranges VII and VIII. The claims are numbered as follows: T.2103-5, T.2108-17, R.21395-99, R.21400-01 and R.25049-50.

The discovery vein is in lot 7, range VIII, claim T.2108, about 3,000 feet from the east boundary of the property. Most of the diamond drilling and exploration work of recent date have been confined to claim T.2104 in lot 3, range VIII.

The property, known as the "Russian Kid" claims, was staked by A.W. Balzimer and Mike Mitto in 1924. Since that time it has been optioned to several mining companies who tested the main vein by surface work and diamond drilling. The property was purchased by Bordulac Mines, Ltd., in June, 1945.

A large dyke of quartz diorite, averaging ½ mile in width, cutting andesitic lavas, crosses the property, striking N.80°E. The main ore discovery vein, striking N.73°E. and dipping 70° to 75° to the south, occupies a shear zone which follows closely the south margin of the dyke. It is exposed at intervals in test pits and rock trenches for a length of 350 feet along the strike, varying in width from 4 to 7 feet. The vein consists essentially of a series of quartz veins, lenses, and stringers and carbonatized schistose wall rock, well mineralized with coarse crystalline pyrite.

High gold assays obtained from surface samples were not duplicated at depth, when the vein was explored by diamond drilling, and attempts by diamond drilling farther east to intersect the eastern extension of the vein, which disappears abruptly in deep overburden, were unsuccessful.

A shear zone in diorite, exposed at the lake narrows in lot 3, range VIII, by stripping and trenching, has been explored at depth by 4,253 feet of diamond drilling in 10 holes, Nos. 29, 31, 33, 39-41, 43-44 and 46-47. Several good intersections were obtained from this drilling, but the results as a whole were not encouraging.

Following a geophysical survey of the property in the winter of 1946, a few exploratory diamond-drill holes were drilled in a magnetic anomaly south of the camp in lot 4, range VII, claim T.2111. No important information was obtained from this drilling.

To summarize, from October 17, 1945, to March 10, 1946, a total of 6,717 feet of diamond drilling in 12 holes, Nos. 35 to 46, was completed on the property. This work did not reveal anything of economic interest and operations were temporarily suspended in April, 1946.

Mr. Sadlo is caretaker at the property, which was inactive at the time of the writer's inspection. Logging of the diamond-drill core was done by A.F. Banfield. (S.H.R.-46)

Four Corners Property

(See Montbray township)

Gilmont Mines, Limited

Ref.: Que. Bur. Mines, P.R. 116, 1937, p. 3.
Que. Bur. Mines, P.R. 135, 1939, pp. 4-5.

This company holds a group of 13 claims in one block west of the centre line on the west shore of Dasserat lake, directly north of Renault bay in the central part of Dasserat township. The most direct route to the property is by water from Kanasuta Landing for 5 miles through Desvaux lake and across the south end of Dasserat lake.

The claims are numbered C.6219, claims 1 to 3; R.20447-51; and R.25277-81. The shaft is located in the north part of lot 30, range VI.

This property was formerly known as Monarch Mines Ltd., which was incorporated in 1934 to develop a gold-discovery on the Lusko-Eddie claim-group. A 56-foot prospect shaft, and a 2-compartment vertical shaft, 150 feet deep, were put down by Monarch mines in order to explore several narrow, gold-bearing quartz veins exposed on the surface in the northeast corner of lot 30, range VI. The quartz veins, striking N.6°E. and dipping practically vertically, were localized in the vicinity of the sheared contact of a 60-foot feldspar porphyry dyke striking N.44°W. and of rhyolite. Exploration of the dyke contacts underground by lateral work on the 125-foot level was not encouraging and as a result operations were suspended in 1938.

The present company began work in March, 1946. Diamond drilling began the following June and at the time of the writer's inspection, approximately 3,703 feet of drilling in 12 holes, Nos. G 1 to G 10, also S 9 and S 12, which were deepened, had been completed.

The area is characterized by strong relief. The claims are underlain by Keewatin-type volcanics, ranging in composition from dacite to rhyolite, occasionally exhibiting poorly developed pillow structure. The volcanics are cut by dykes of diorite and feldspar porphyry. In general, the bedding and schistosity strikes slightly south of east and dips gently to the south.

Five quartz veins, Nos. 1, 2, 3, 5, and the Shaft vein, have been explored by surface stripping, trenching, and diamond drilling. A description of these veins follows.

Vein No. 1, cutting agglomerate and trachyte, is exposed in a deep trench for a continuous length of 90 feet and at intervals in cross-trenches for a total length of 230 feet, in the northwest quarter of claim 20477, in the southeast corner of lot 30, range VII. The vein strikes N.85°W. and dips steeply to the south. It consists mainly of quartz veinlets and some rose-coloured calcite stringers mineralized with fime disseminated pyrite. This vein has been explored at depth by means of 6 diamond-drill holes, Nos. G 1, to G 5 and S 12, drilled N.6° to 11°E., along a length of several hundred feet.

Vein No. 3, following the north contact of a diorite dyke with tuff, striking northwest, has been tested at depth by 4 diamond-drill holes, Nos. G 6 to G 9, drilled southwest. It consists of a number of quartz veins intruding a shear zone in acidic lavas, sparingly mineralized with pyrite.

R. Petersen was in charge of operations at the property. (S.H.R.-46)

DESBOUES TOWNSHIP

Cartier-Malartic Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 352 A, 1938.

This company holds 12 claims in one block, approximately 1,200 acres, in the southwest quarter of Desboues township, comprising lots 21 to 26, in ranges I and II. The easiest means of access to the property is east along the south boundary of Desboues township from the Lequin-Legault claims to the west, which are 6 miles north of Colony 13. The main showing is in C.19239, claim 1, lot 21, range I.

The property is in the Gemini Hills on the east margin of a stock of syenite cutting sheared, altered volcanics, chiefly pillow andesite. The north-trending, syenite-greenstone contact crosses the southwest corner and western part of the claim-group.

The original discovery is in the greenstone 700 feet east of the contact in the north part of lot 23, range I. The New Find and Main showing is on the contact in the southwest corner of the property in lot 21, range I, 410 feet north of the township line and 400 feet east of lot-line 20-21. Here, the syenite-greenstone contact, striking N.30°E., has been stripped and trenched across a width of 35 feet for a length of 120 feet. Twenty-five feet north of the stripped area, a cross-trench, 6 feet wide, extends west from the contact 220 feet. A second cross-trench, 30 feet farther north, extends 180 feet west of the contact.

In the contact zone, the greenstone is fine-grained and basaltic in appearance. Locally, the greenstone is intruded along horizontal fractures by sills of pink biotite (hornblende)-syenite and aplite. Glassy quartz stringers, $\frac{1}{4}$ to 1 inch wide, mineralized with crystalline pyrite, intrude the syenite along fractures parallel to the contact. Pyrite also occurs in lenses $\frac{1}{2}$ to 1 inch wide and 2 to 4 inches long. The veins occasionally contain small amounts of galena. The following rock samples were taken by the writer.

A grab sample, taken from the first cross-trench at the syenite-greenstone contact, consisting of altered syenite, well mineralized with crystalline pyrite and some galena, assayed $7.59 in gold and 6 cents in silver per ton.

A second grab sample, taken from the same trench 30 feet west of sample number one, consisting of altered syenite well mineralized with coarse (3mm.) crystalline pyrite, assayed $6.61 in gold and 2 cents in silver per ton.

At the north end of the stripped area, altered syenite with some intercalated greenstone is mineralized with pyrite across a width of 13 feet. A chip sample taken at this point across a width of 10 feet of altered syenite and greenstone well mineralized with crystalline pyrite, assayed $3.04 in gold per ton.

A second chip sample taken from the middle of the stripping across 4 feet of contact rock consisting of syenite, aplite, and quartz mineralized with coarse pyrite, assayed $3.60 in gold per ton.

A grab sample, taken at the south end of the showing, consisting of altered syenite sparsely mineralized with crystalline pyrite, assayed $3.74 in gold per ton.

The property was inactive at the time of the writer's inspection. (S.H.R.-47)

DESPINASSY TOWNSHIP

Tommy Aldous Claims

(See Rochebaucourt township)

DESTOR TOWNSHIP

Destorbelle Mines, Limited

(See Aiguebelle township)

Double Strike Mines, Limited

Ref.: Que. Bur. Mines, P.R. 116, p. 7.
Que. Bur. Mines, Geol. Rept. No. 4, p. 25.
Geol. Surv. Can., Mem. 233, 1941, pp. 42-43.

This property, consisting of 10 claims in one block, is in the central part of the southeast quarter of Destor township, 2 miles west of Davangus station on the Rouyn-Taschereau branch of the C.N.R. The Davangus road and the Beattie spur line of the C.N.R. cross the centre of the property. A tote road leads slightly west of north from the Giroux farm in lot 42, range III, about $\frac{1}{2}$ mile, to the area being diamond-drilled in the south half of lots 41 and 42, range III.

The claims comprise the north half of lots 39 to 43, range II, and the south half of lots 39 to 43, range III. Diamond drilling has been confined mainly to the Thurbois-Double Strike boundary and the north half of the property.

The claim-group straddles the "Destor break", which, striking N.78°W., forms a fault contact with the Blake River volcanics to the north and the Kewagama sediments to the south. The volcanics consist mainly of andesitic pillow lavas and basic flows. They strike north of east and dip either vertically or steeply to the north with their tops facing north. They are intruded by numerous bodies and dykes of diorite, which resemble closely coarse basic lavas. The Kewagama sediments, chiefly greywacke and conglomerate, outcrop only in the south half of the property.

In an attempt to locate N.-S. striking veins of the Thurbois type, a total of 4,042 feet of diamond drilling in 9 holes, Nos. T.73, T.77, T.80, and D.S. 1 to 6, was completed along the mutual boundary of the Thurbois and Double Strike properties, from west to east, in the spring of 1946. Drilling south, to cross-section the property north and south, cut a series of narrow, mineralized quartz veins occupying E.-W. shears, in altered andesite and diorite, branching northward from the main fault zone to the

south. According to company records, minor amounts of gold assaying up to 0.25 oz. of gold per ton over narrow widths were cut in 4 holes, Nos. 4, 8, 9, and 14. Hole No. 17 intersected gold-bearing vein material of ore grade beneath an outcrop of diorite cut by a quartz vein.

The veins are offset by N.-S. fractures, resembling tension cracks, with split the parallel shear zones into blocks. This fracture system strikes slightly north of east. It had been explored along the strike for a length of 335 feet by 2,613 feet of diamond drilling in 8 holes (Nos. 17 to 24), with cross-sections north and south at 200-foot intervals, at the time of the writer's inspection. Closer drilling at 50-foot intervals had indicated a 150-foot ore zone apparently striking N.15°E. and dipping 65-70° to the east. The ore consists of quartz, carbonate, greenstone-breccia mineralized with fine disseminated pyrite.

Alan C. Lee is consulting engineer and W.R. MacQuarrie is in charge of operations at the property. (S.H.R.-46)

Duquesne Mining Company, Limited

(See Duparquet township)

Klondyke Destor Gold Mines, Limited

Ref.: Que. Bur. Mines, Min. Oper. Que., 1928, p. 104.
Geol. Surv. Can., Map 635A, Clericy Sheet.

This company holds a block of mining claims comprising lots 51 to 57 of range III, Destor township. The motor road from the Macamic highway to Davengus passes along the southern boundary of the group and the Noranda to Taschereau branch of the C.N.R. goes through the eastern part of the property.

In 1927 and 1928, Lepine Gold Mines held part of this group and did 2,000 feet of diamond drilling, but the records of this work are not available. In 1945, the property was acquired by Klondyke Yellowknife Gold Mines, and, in 1946, the name was changed to Klondyke Destor Gold Mines.

The writer examined core from the recent drilling but did not see the surface outcroppings on the property. These are shown on the Geol. Surv. Can., Map 675A (Clericy Sheet), as basic volcanics which strike easterly and dip to the north. The "Destor - Porcupine break" is about one-half mile to the south. Thirteen holes totalling over 10,000 feet were drilled between the fall of 1946 and the spring of 1947. The holes were all directed northeast or southwest and explored parts of lots 53 to 56. One or more bodies of granite porphyry were intersected in the southern parts of these lots. The porphyry has a length of over 2,000 feet, a maximum width of 1,000 feet and is elongated to the northwest. It is composed of feldspar phenocrysts up to one-half inch long in a groundmass of

feldspar lathes, small quartz eyes, and some mica. The border phase of the intrusive is greenish and the interior reddish. The porphyry cuts basic and acidic flows and some diorite and is intruded by small lamprophyre dykes. Fractured zones with a few quartz stringers, disseminated pyrite, and a little chalcopyrite were intersected in both the porphyry and volcanics. These returned a low tenor of gold, the best assay coming from a zone in the porphyry which contained 0.19 ounces in gold per ton over $2\frac{1}{2}$ feet, according to company reports.

The recent exploration work was directed by Chamberlain Mine Management. (W.G.R.-47)

Thurbois Mines, Limited

Ref.: Que. Bur. Mines, Geol. Rept. No. 4, 1940, p. 26.
Que. Dept. Mines, P.R. 205, 1945, Part I, pp. 47-49.

This property, consisting of 21 claims in one block, is in the east-central part of Destor township, 2 miles west of the Rouyn-Taschereau branch of the C.N.R. The most direct route to the property is by the Davangus road, on range-line II-III, which joins the Macamic highway on the east at a point 19 miles north of Noranda. A tote road leads north from the Davangus road at the Giroux farm in lot 42, range III, about $1\frac{1}{4}$ miles to the camp in the south part of lot 42, range IV.

The claims cover the north half of lots 39-43, range III; lots 38-43, range IV; and south half of lots 39-44, range V.

The region is characterized by rocky, elongated ridges and narrow intervening valleys, frequently with precipitous walls, bearing east-northeast, and paralleling the general structure and local shearing in the underlying rocks. The drainage is to the south through north- and northwest-trending valleys which cross the general structure. The valley floors are covered by glacial drift and clay or muskeg. The uplands, which are bare and rocky, change abruptly to low-lying swamp and clay-plain in the southern half of range III.

The claims are underlain by Keewatin-type rocks, namely, andesite, rhyolite, and diorite. The basic lavas, which are most abundant, are characterized by pillow structures and amygdaloidal textures but coarse-grained massive facies resemble closely many of the diorite intrusive bodies in the area. Rhyolite occurs both in the form of flows and in sill-like and dyke-like intrusions. The later, which is more prevalent in the north part of the property, is generally porphyritic and often contains quartz "eyes". Brecciation along diorite contacts is common. The predominant rock in the area is a diorite, the fine-grained facies of which strongly resemble coarse basic flows. Altered, fractured zones intruded by quartz and carbonate veinlets mineralized with pyrite are usually accompanied by gold.

The lavas strike N.70°E. and dip either vertically or steeply to the north with their tops facing north. The property apparently lies on the north limb of an anticline whose axis strikes slightly south of east. Fracturing and brecciation have had considerable control over ore deposition. Basic lava inclusions in diorite are apparently more elastic than the diorite and do not fracture as readily. Silicified rhyolite breccia is a favorable host rock for gold deposition.

Six gold occurrences, designated A. C, D, E, F, and G have been explored on the property.

"A" zone, in the southwest part of the property in lot 39, range III, consists of a silicified zone in diorite, dipping gently (35°) to the south. Good surface assays were not duplicated at depth from this zone.

"C", "D", and "E" zones, in the southern part of lot 42, range IV, consist of narrow quartz veins, a few inches up to several feet in width, striking N.15°-30°W., mineralized with pyrite mainly, specularite, galena, sphalerite, and chalcopyrite. "C-1" zone, branching off the "C" zone in the vicinity of hole T 32, strikes slightly west of south. Two diamond-drill intersections from this zone, 60 feet apart, assayed 0.124 oz. and 0.284 oz. of gold per ton across 6 and 7 feet, respectively, according to company reports.

"F" zone, the most important, which is in the southern part of lot 41, range IV, west of the previously described zone, has been traced by means of 15 diamond-drill holes for a length of 1,565 feet. It strikes N.20°W. and dips 70° to the west. The zone traverses diorite or rhyolite throughout most of its length except for a 315-foot andesite section near the centre, which though gold-bearing, does not make ore.

"G" zone, west of and parallel to the "F" zone, has been intersected in diamond-drill holes along a length of 140 feet. The ore consists mainly of silicified breccia mineralized with very fine-grained pyrite in dense bands and disseminations. Shearing is apparently absent.

According to company reports, mineralized material from the "F" zone assayed 0.21 oz. in gold per ton over 10.8 feet for a length of 665 feet. "F" zone, south of the andesite inclusion, assayed 0.24 oz. in gold per ton across 9.2 feet for a length of 585 feet, and "G" zone assayed 0.23 oz. in gold per ton over 7.8 feet for a length of 140 feet.

All assays were taken from a technical report written by Alan C. Lee, dated June 24th, 1946. Mr. Lee, consulting engineer, is in charge of operations at the property. (S.H.R.-46)

DISSON TOWNSHIP

Grosse Pointe Exploration Company, Limited

Ref.: Geol. Surv. Can., Map 298A, Macamic Sheet, 1934.

This company holds 14 claims in the southeast quarter of Disson township, Abitibi county, Quebec. The property is approximately 8 miles northeast of Authier North, 54 miles from Amos. A lumber road follows the north bank of the Macamic river east and north from Authier North for 5 miles to lot 26, range-line IX-X, Languedoc. Here, a good trail leads north for 2 miles, then east to the centre line of Disson, which is followed to range-line II-III. It stretches from this point along this range-line for a mile, finally swinging northward to the camp on the north shore of a small lake near the centre of lot 39, range III, a total distance by trail of 5 miles. A work trail northeast leads directly for one-third of a mile to the first showing in lot 40, range III.

The claims comprise lots 38 to 44, inclusive, in ranges II and III, Disson township.

The property is underlain by an east-west band of Timiskaming sediments, chiefly altered greywacke, tuff, and iron formation, flanked on the south by Keewatin-type lavas. The sediments are cut by barren-looking, bluish quartz veins and stringers. Considerable pyrite is associated with the iron formation. Chalcopyrite is occasionally present.

The first showing consists of thinly banded tuffs and iron formation, 4 to 7 feet wide, striking N.65-75°W. and dipping 75-80° to the north. The iron formation has been dislocated and displaced "en echelon" with offsetting to the north. The tuffs exhibit well developed drag folds. The iron formation and tuffs are cut by numerous bluish quartz veins and stringers. Chloritic bands of iron formation and nodules of chloritic material are well mineralized with pyrite and highly oxidized. A grab sample, taken by the writer, consisting of chloritized nodules and iron formation mineralized with pyrite, assayed 7 cents in gold per ton.

A second showing lies 550 feet east of the first showing, near lot-line 40-41. It consists of a N.-S. rock trench 310 feet long cutting bands of rusty iron formation, tuffs, and agglomerate, striking N.70-76°W. and dipping 75-80° to the south. The iron formation, which occurs in two separate bands, 4 feet and 11 feet wide, is cut by stringers and lenses of bluish quartz sparingly mineralized with coarse pyrite. A 20-foot band of tuff and interbedded iron formation, well mineralized with pyrite, occurs in the middle of the N.-S. section. A grab sample, taken by the writer, from a 2-foot rusty, mineralized band consisting of quartz and chert mineralized with pyrite and some chalcopyrite assayed a trace in gold per ton.

Additional surface work on the two showings and prospecting of the claims under the direction of Lloyd Almond, consulting engineer, were in progress at the time of the writer's inspection. (S.H.R.-47)

Jeanjacquet Claims

Ref.: Geol. Surv. Can., Map 298A, Macamic Sheet, 1934.

The four claims, registered in the name of Frederic Jeanjacquet in the southwest quarter of Disson township, comprise lots 7 to 10, inclusive, in range III. The route to the property follows a winter road north and northeast from the end of the highway at the southwest corner of Disson township for 2 miles to lot-line 3-4, range-line II-III. Thence east on the range-line 5½ lots to the middle of lot 9, where a trail leads north for half a mile directly to the camp and showing.

The area is low and swampy and outcrops are scarce. The property is flanked on the north by granite and on the south by Timiskaming sediments.

The showing consists of a shear zone, 75 feet wide, heavily mineralized with sulphides, in altered porphyritic dacite. The zone, striking N.75°W., is exposed in two intersecting rock trenches at the east end of a small rocky ridge, 240 feet long and 150 feet wide, trending northeast.

The mineralization consists of massive and disseminated pyrite and pyrrhotite mainly and some chalcopyrite. Several milky quartz veins, intruding the zone parallel to the schistosity are exposed in the northern trench. Two grab samples, taken by the author from this trench—one consisting of massive pyrite and pyrrhotite, the other made up of quartz and pyrite from a 3-inch quartz vein on the west wall—each assayed a trace in gold per ton. A third sample, taken by the writer at the west end of the south trench, consisting of massive pyrite mainly and some chalcopyrite, assayed a trace in gold per ton. A fourth grab sample taken by the author from the dump, consisting of massive pyrrhotite and altered greenstone assayed a trace in gold per ton.

The zone has been explored at depth by one diamond-drill hole drilled northwest at 70 at the intersection of the two trenches. Diamond drilling and rock trenching operations were carried out during the preceding winter months. The property was inactive at the time of the writer's inspection. (S.H.R.-47)

Molijevis Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 298A, Macamic Sheet, 1934.

This property, consisting of 14 claims in one block, is in the east-central part of Disson township. A rough work trail leading north from the Grosse Pointe Exploration camp and east along the Authier river follows lot-line 46-47, north to range-line IV-V. Five lots east, a good trail leads north in lot 52, for one-quarter of a mile directly to the camp. Another trail connects the camp to the main showing in the north end of lot 51, range VI, 800 feet south of range-line VI-VII.

The claims cover lots 50 to 56, inclusive, in ranges V and VI.

The area is an undulating, clay plain generally heavily wooded. The property is underlain chiefly by sheared, altered andesite intruded by bodies and irregular masses of diorite and lamprophyre dykes.

The main showing consists of a shear zone in altered lava, intermediate in composition, cut by quartz-tourmaline veins and stringers mineralized with pyrite. Barren-looking, milky quartz veins are also present. The shear zone, striking N.80°W. and dipping 80° to the north, is exposed in a rock trench 270 feet long varying in width from 5 to 15 feet. Near the east end where the zone attains a width of 15 feet, a 5-foot section of tourmaline and quartz is bordered on the south by 5 feet of iron formation and what appears to be sheared basic tuff. At the west end the zone contains barren-looking, lenticular, milky quartz veins up to 1½ feet in width cut by lamprophyre dykes. Milky quartz lenses and stringers cutting altered lava, sparingly mineralized with disseminated pyrite adjacent to the quartz contacts, are exposed in test pits and trenches 150 feet north of the main showing. A grab sample, taken by the writer, from one of the test pits, consisting of quartz and silicified greenstone mineralized with coarse pyrite assayed a trace in gold per ton.

Lloyd Almond, consulting engineer, is in charge of the property, which was inactive at the time of the writer's inspection. (S.H.R.-47)

St. Francis Mining Company, Limited (Disson group)

Ref.: Geol. Surv. Can., Map 298A, Macamic Sheet, 1934.

The company holds a group of 16 claims in one block, along the N.-S. centre line of Disson township, comprising lots 31 to 34, inclusive, in ranges I to IV. The Grosse Pointe Exploration trail north in lot 26, from the lumber road on the Macamic river, on range-line IX-X, Languedoc, crosses the St. Francis property, 2½ miles from the river.

The region is a gently rolling, clay-covered plain broken at intervals by rocky knolls and ridges. The property straddles the north and south contacts of an E.-W. band of Timiskaming sediments, 2½ miles wide, with Keewatin-type lavas. South of the sediments these lavas are intruded by granite. A prominent N.-S. ridge of Timiskaming greywacke, ½ mile long, outcrops on the centre line in range III. A post-Timiskaming diabase dyke, 125 feet wide, striking north and south and cutting the greywacke, is the youngest rock in the area.

A complete geophysical survey of the property was carried out from May 28 to July 24, 1946. This survey located two, E.-W. trending bands of iron formation, each approximately 200 feet wide, one in range III, the other in range IV. Deep overburden restricted exploration by means of trenching.

K.G. Honeyman, company geologist, was in charge of operations at the property which was inactive at the time of the writer's inspection. (S.H.R.-47)

DUBUISSON TOWNSHIP

Clarnor Malartic Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept. 1935, Part B, p. 56.

The property of Clarnor Malartic Mines consists of a group of five claims in the northwest corner of Dubuisson township. The claims are numbered A-39850-51-52-53 and A-51201. The claims are in range X, one-half mile north of provincial highway No. 59 and 8 miles west of Val d'Or. The camp is in claim A-39852, on the shore of Dubuisson lake, which forms the east boundary of the property. This group was formerly held by West Shore Gold Mines, Limited.

Bed-rock is exposed only in a small area in the southeast corner of the claim-group. Here the formations are andesite, peridotite and diorite striking east-west. Drilling indicates that tuffs and breccias occur under the southwest corner of the property. Other intrusives found in drill holes include syenite, granodiorite, and feldspar porphyry.

During the period between April, 1945, and March, 1946, the company put down twenty drill holes. Fourteen of the holes form a cross-section of drilling extending diagonally from the northeast part of the property to the southwest corner. Two gold-bearing zones were encountered in this work; one in claim A-39852, which is the extension of the Marbenor Malartic south zone, and one in claim A-39850, which is the extension of the Norbenite-Marbenor north zone. The zone in claim A-39852 is a chlorite schist with about 25 per cent vein quartz, sparse pyrite, and tourmaline. Gold assays obtained from four holes cutting it along 400 feet range from 0.48 oz. per ton to 0.03 oz. per ton in samples of 1.8 to 5.0 feet of core, according to company reports.

In the zone in A-39850, where talc-chlorite schists contain fractured and mineralized dykes of syenite, diorite, and granodiorite, low gold assays were obtained from three holes distributed along 400 feet. Three drill holes put down to explore the diorite exposed in the southeast part of the property did not encounter any important gold mineralization.

Exploration of the property was guided by E.A. Goranson, followed by J.C. Honsberger and W.R. Bacon. (W.N.I.-47)

Dubuisson Gold Mining Company, Limited

Ref.: Que. Bur. Mines, Ann. Rept. 1935, Part B.

Dubuisson Gold Mining Company Limited holds a group of thirteen claims in the northeast quarter of Dubuisson township. Provincial highway No. 59, and the Thompson river cross the property 4 miles west of Val d'Or. The claims are numbered A-25627 to 29; A.35662 to 65; A-2347-48; M.L.-1684; and C-4375, claims 1 to 3.

The claims appear to be underlain mainly by volcanic formations consisting of andesite, dacite, tuff, and agglomerate. These are intruded by dykes and sills of peridotite, diorite, and feldspar porphyry. The Cadillac fault zone transects the rocks not far south of the property. Shear zones paralleling the strike of the lavas, and cross-faults striking northeast and northwest occur in the volcanics east of the Thompson river. Outcrops of tuff in the northwest part of the property are highly sheared in a southeast direction.

One diamond-drill hole, 1,000 feet in length, was put down on the property in August, 1947. It was collared in claim A-35664, at the east shore of the river, and directed southwest to explore the rocks beneath the river bed. Except for a few feet of tuff at the bottom of the hole, the chief rocks intersected were intermediate lavas. A few dykes of diorite, feldspar porphyry, and peridotite were found. One zone of quartz veinlets and altered andesite sparsely mineralized with pyrite yielded very low assays across fifteen feet. (W.N.I.-47)

Marbenor Malartic Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept. 1930, Part C, p. 76.
Que. Bur. Mines, Ann. Rept. 1935, Part B.
Que. Dept. Mines, P.R. 190, 1945, Part I, pp. 39-41.

Marbenor Malartic Mines holds twenty-five claims, seventeen of which are in the northwest corner of Dubuisson township, and these are adjoined by eight claims in the northeast corner of Fournière township. In Dubuisson township, the claims cover lots 1 to 16 of range X, and in Fournière, lots 59 to 62 of range X North. The property lies immediately north of the Val d'Or-Rouyn highway, five miles east of Malartic. It is crossed by the motor road to Norbenite Malartic Mines.

The property is heavily drift-covered except for areas of outcrop in the central portion of lots 2 and 3, range X North, Fournière township. The northeastern part of the claim-group appears to be underlain mainly by peridotite and andesite cut by many dykes. This is flanked to the south by a band, about 3,000 feet wide, of northwest-southeast trending tuffs and agglomerates, which are intruded by numerous wide sills and dykes of diorite. The southwest part is underlain by Kewagama greywacke.

The discovery in lots 6 and 4 of two large boulders of highly auriferous diorite and albitite float instigated a diamond-drilling programme designed to explore the drift-covered areas north of them. In the fall of 1941 and spring of 1942, fourteen holes aggregating 8,553 feet were completed in lot 6. Ten of these form a cross-section line 100 feet west of lot-line 6-7 extending for 3,250 feet south from the north boundary of the township. The rocks intersected were mainly greenstones and peridotite with numerous carbonatized, talcose, and chloritic schist zones particularly near the southern end of the section line. About 900 feet at the north end of the section consisted chiefly of granodiorite. Gold was found in a schisted diorite dyke with quartz veinlets lying 2,300 feet south of the township line, and locally for 500 feet south of the dyke. According to company records, one 4-foot section of core assayed $13.30 in gold per ton and 0.75 per cent copper, and another 3-foot section had a gold value of $8.05 per ton. Other shorter core-lengths varied from 0.10 to 1.06 ounces of gold per ton. One hole 100 feet to the east and three holes 100 feet to the west established a length of over 200 feet for the gold-bearing zones.

In 1943, a second cross-section was drilled 2,500 feet west of the first one, extending in a direction S.10°E. for 1,000 feet from a point 400 feet west of the southeast corner-post of Malartic township. This cross-section consisted of ten diamond-drill holes, the southern ones cutting mainly diorite, and the others, volcanics and greenstone schists intruded by granodiorite and diorite dykes. Occasionally, gold in small amount was found, and it is reported that one core length of 1.5 feet carrying $3.85 in gold per ton was taken in a sheared diorite dyke. This dyke may be the extension to the north-west of the diorite zone intersected in lot 6. The surface projection of this intersection is 100 feet south of the Malartic-Fournière township line. Two of the four holes drilled to explore the southeastern strike of this zone cut narrow sections containing gold and extended the length to 600 feet. Two more holes drilled at this time in order to locate the northwest extension of the lot 6 gold-bearing zone did not provide any significant results. Altogether, ten holes totalling 6,801 feet were drilled in 1943.

A third drilling campaign was started in September, 1944, and continued until November, 1946. Sixty-seven exploration holes have been completed since drilling started in 1941. Nine additional vertical holes were put down in the central part of lot 8 through 50 feet of overburden in order to test its depth and character.

Eighteen of the holes of the 1944-46 programme are distributed at various intervals along 3,800 feet of the southeast strike of the auriferous zone discovered in the lot 6 cross-sectional drilling. The gold content of the lot 6-7 section is both scattered and variable. Assays were obtained at various intervals across 700 feet in places. Scattered assays above 0.10 oz. of gold per ton were obtained at intervals across 300 feet. Individual samples range in grade from very low to half an ounce of gold per ton and in width from 20 feet to 1 foot. The gold occurs in altered, fractured dykes of syenite or diorite, and talc-chlorite schists derived from volcanics and peridotite. One group of encouraging values

was outlined for a distance of 900 feet southeast of the original intersections of the cross-section holes.

Assays of commercial grade were obtained along 800 feet of the southeast continuation of the above zone in lots 8 and 9. Again correlation of several auriferous intersections in each hole with those in adjoining holes can not be made with certainty, but three or more shoots appear to be indicated. They are: 1.- a quartz vein shoot 500 (possibly 800) feet long, 3.6 feet wide, containing 0.53 oz. gold per ton when all assays above 1.0 oz. are cut to 1.0 oz.; 2.- a mineralized and fractured diorite shoot 400 feet long, 4.0 feet wide, containing 0.23 oz. gold per ton; 3.- a mineralized talc-chlorite schist shoot 400 feet long, 10.8 feet wide, containing 0.36 oz. gold per ton. These assay results are taken from company records.

Twelve of the holes of the 1944-46 campaign of diamond drilling were put down in northern lots 8, 9, and 10, along 2,000 feet of the southeast extension of the Norbenite Malartic main auriferous zone of schists, dykes, and veinlets. Gold assays varying from low to high were had throughout the explored length. One hole showed free gold in two places. A gold content of mineable grade and width is indicated in more than one section of several holes, but intervening low assays in adjoining holes make the ore possibilities extremely difficult to interpret.

E.A. Goranson was in charge of exploration of the property. (W.N.I.-47)

DUFRESNOY TOWNSHIP

Continental Copper Mines, Limited

Ref.: Que. Bur. Mines, Min. Oper., 1928, pp. 95-96.
Que. Bur. Mines, Ann. Rept. 1929, Part A, p. 122.
Que. Bur. Mines, Min. Ind. of Que., 1939, p. 59.
Que. Bur. Mines, P.R. No. 150, 1939, p. 21.
Que. Bur. Mines, P.R. No. 161, 1940, pp. 13-14.
Geol. Surv. Can., Mem. 233, 1941, pp. 39-42.

Continental Copper Mines have held and explored parts of ranges III, IV and V, of Dufresnoy township since 1938. The present holdings of the company have been reduced to lots 32 to 36, range IV, and the north half of lots 33 and 34, range III. The company has a core shack in the northern part of lot 35, range IV, that can be reached by a trail to the northwest from MacDonald Mines, or by a trail south from the Clericy road.

Most of the property is underlain by part of the Dufault granodiorite mass. The southern parts of lots 33 and 34 of range III are predominantly diorite, and the northern part of the property has altered acidic volcanics intruded by numerous bodies of granodiorite and diorite. The

volcanics have been highly altered, and many of their contacts with intrusives are of a gradational nature and cannot be defined within several feet.

The northern part of the property was once part of Gilbec Mines. In 1928 and 1929, this company explored a copper showing in the northern part of lot 35, range IV, by a geophysical survey, diamond drilling, and underground work on two levels. These operations have been described in reports of the Quebec Department of Mines and the Geological Survey of Canada. In 1946 and 1947, the present company drilled 16 holes in the vicinity of the old workings. These intersected a mixture of altered rhyolite breccia and diorite. Zones in the breccia were sheared, carbonatized, and had scattered pyrite and chalcopyrite. Assays indicated a low copper content in the core from several of the holes, but none of the intersections were of commercial grade.

Four holes were drilled to explore drift-covered areas in the northern parts of lots 33 and 34, range III. These penetrated granodiorite and altered rhyolite. Two other holes, drilled jointly with Tromac mines along the common boundary of the two properties, cut a mixture of diorite and altered rhyolite breccia. No favourable assays were obtained.

George E. Moody supervised the recent exploration and compiled a detailed geological map of the property. (W.G.R.-47)

Cyprus Mines, Limited

Ref.: Geol. Surv. Can., Map 635A.

Cyprus Mines has a block of claims in southeastern Dufresnoy township covering lots 44 to 46 and lots 48 to 51 of range I, lots 50 and 51, and the south half of lots 46 to 49 of range II, lots 50 and 51, and the south half of lot 52 of range III. The mine camp is at the south end of Cyprus lake in lot 48, range II. It can be reached by a wagon road which extends eastward along range-line I-II for $1\frac{1}{4}$ miles from the motor road to MacDonald mines.

The claims are lightly wooded and have a small proportion of rock outcrop. The underlying rocks are chiefly rhyolites in the south and west, and dacites and andesites in the north and east. Some of the rhyolites have been chloritized and are difficult to distinguish from the light green dacites and andesites. A few small bodies of diorite intrude the volcanics and some of the porphyritic rhyolites may be intrusive.

Twenty-four exploration holes were diamond-drilled between June, 1946, and June, 1947. Most of these were directed northeast or southwest to cross-section parts of the property with few rocks outcrops. Some weak shearings and barren white quartz veins were intersected, but no assays of commercial importance were obtained from the core.

John Campbell was in charge of the exploration and W. Gerrie made a detailed geological map of the property. (W.G.R.-47)

Despina Gold Mines, Limited

(See Beauchastel township)

Don-X Mines, Limited

(See Rouyn township)

Fresnore Mines, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941.
Geol. Surv. Can., Map No. 456A.

The property of Fresnore Mines Ltd., consisting of 12 claims in one group, borders on the west shore of Lake Dufault, extending east from the Macamic road to the lake, in the southwest quarter of Dufresnoy township. The Rouyn-Taschereau branch of the C.N.R. crosses the eastern margin of the property.

The claim numbers are C.14675, claims 1 and 2; C.14676, claims 1 and 2; and C.15389-92, claims 1 and 2.

The area is low, flat, and clay-covered. Most of the property is marsh. The claims are underlain almost entirely by the Lake Dufault granodiorite stock flanked on the south by andesite and rhyolite intruded by quartz diorite. An E.-W. fault through the valley of the Duprat river, near the south boundary of the property, has been explored by 3,674 feet of diamond drilling in 5 holes, Nos. F-1 to F-5.

In hole No. F-2, drilled north across the river, the shear zone accompanying the fault is 32 feet wide. Three holes, drilled east and west of No. F-2, did not intersect the fault. No mineralized sections were encountered in the drilling.

A.F. Banfield was in charge of operations at the property. (S.H.R.-46)

Gaymont Mines, Limited

Ref.: Geol. Surv. Can., Maps 456A and 635A.

Gaymont Mines, Limited, was formed to develop a group of 14 claims in the northwest quarter of Dufresnoy township. The group includes lots 23 to 32, range V, and lots 43 to 46, Macamic road, east range. The

Macamic highway forms the western boundary and the Clericy road crosses the northern part of the property. The Rouyn-Taschereau branch of the C.N.R. also crosses the property. The main camp buildings are 1,500 feet east of the Macamic highway in lot 46, and some of the drill core is kept in a shack in lot 25, about half a mile south of the Clericy road.

The published geological maps of this area show the western part of the property as underlain by diorite, the northeastern corner by granodiorite, and the intervening portion by predominantly acidic volcanics. The writer saw some outcrops of andesite and some of the drill holes cut basic volcanics. An outcrop of andesite in the northern part of lot 24 has poorly-developed pillows elongated to the southeast with tops to the north.

In 1946, an electrical geophysical survey was made of the property. Subsequently 28 holes, totalling about 14,000 feet, were diamond-drilled. Many of the holes were directed to explore the areas where geophysical anomalies had been obtained. Some surface prospecting was conducted during the summer of 1947.

Twelve holes were drilled in quartz diorite in the western parts of lots 45 and 46. The company reports that a zone of mineralization, 1,000 feet long, gave assays of about $\frac{1}{2}$ per cent copper and trace in gold. Core from three holes examined by the writer was found to be largely coarse-grained quartz diorite with some finer-grained dark grey sections that might be inclusions of volcanics. Coarse blobs of pyrrhotite with finer associated chalcopyrite were seen in parts of the coarse-grained diorite, and these did not seem to be associated with fracturing or alteration. Some pyrite was seen, particularly in the finer-grained sections. One hole cut two feet of massive magnetite with small particles of chalcopyrite.

Six holes were drilled to explore a geophysical anomaly in the southern part of lot 25. They were largely in diorite and two of them cut a soft schisted zone mineralized with pyrite.

Six holes were drilled in the northern parts of lots 29 and 30 near the contact of the granodiorite and basic volcanics. Two of the holes intersected the contact, three were in granodiorite, and one was in andesite. Weak shearings were seen in both the granodiorite and the andesite. No assays of importance were reported by the company.

The diamond drilling was directed by J.W. Storer. Surface prospecting was supervised initially by W.E. Gowan and later by Nelson Bidgood. (W.G.R.-47)

Gubby Mines, Limited

Ref.: Geol. Surv. Can., Map 626A.
Geol. Surv. Can., Map 635A.

Gubby Mines controls a block of claims in Dufresnoy township on the east side of Dufault lake. The claims comprise lots 41 to 43 and the

north half of lots 35 to 40, range I; lots 36 to 39, the south half of lots 40 to 45, and the north half of lot 35, range II. The motor road to MacDonald mines crosses the property and a wagon road along range-line I-II extends eastward from the road to the Gubby core shack in the southern part of lot 42, range II.

The property is underlain by acidic volcanics which have been intruded successively by diorite, granodiorite, and other minor intrusive bodies. Part of the Dufault granodiorite mass outcrops in the northern portions of lots 36 to 39, range II. In the western part of the property the outcrops are predominantly diorite with numerous inclusions of acidic volcanics. Many of the latter have been so "dioritized" by the intrusives that it is difficult to distinguish the two rock types. The eastern portion of the property has scattered outcrops of altered rhyolites, and a tongue of these extends northwest between the granodiorite and diorite.

From April, 1946, to October, 1947, the company drilled fifty-four holes totalling more than 39,000 feet. Twenty-five holes explored the tongue of acidic volcanics which extends northwest between the granodiorite and diorite. These penetrated altered rhyolites and small bodies of diorite with a few small quartz veins and a few narrow seams of massive sulphides. Core assays showed low contents of gold, copper, and zinc over narrow widths. The management reports that one vein assayed 4.25 per cent copper across seven inches.

A southeast-trending draw in the northern parts of lots 36 and 37, range I, was explored by eight drill holes. These penetrated diorite, acidic volcanics, and a few small bodies of quartz porphyry. Stringers and silicified zones in the diorite and rhyolites gave low assays in gold. One section assayed 0.18 ounces of gold per ton across two and a half feet. Exploratory holes drilled in other parts of the property failed to intersect bodies of commercial importance.

The exploration of the property was managed by members of the staff at MacDonald mines. Wm. Gerrie made a detailed geological map of the property. (W.G.R.-47)

Insco Mines, Limited

Ref.: Que. Bur. Mines, P.R. 150, 1940, p. 22.
Geol. Surv. Can., Mem. 233, 1941, pp. 44-45.

Insco Mines Ltd., holds a block of 67 claims, extending across the central part of Lake Dufault in ranges I and II of Dufresnoy township. Most of the property consists of water claims and small islands. The camps are located at Englands Landing, 3½ miles north of the town of Noranda.

The numbers of the claims are as follows: C.28150, claim 1; C.8084, claims 1 to 4; C.13197, claim 2; R.36539-43; R.37150-53; R.38358-62; R.38435-39; R.38466-68; R.38601-05; R.38611-16; R.38523-24; R.38621-22; R.38624-29; R.38664-76; R.38718; R.38867 and R.42923-25.

The property is underlain mainly by andesite and rhyolite of the Blake River group of Keewatin-type volcanics truncated on the northeast and east by a large, crescent-shaped body of diorite, quartz diorite, and gabbro. The volcanics strike northeast and dip to the southeast. Younger quartz and feldspar porphyry dykes and irregular masses intrude the diorite and adjoining formations. The Noranda north-south diabase dyke crosses the centre of the claim area. Several parallel fault zones, including the Area Creek and Héré Creek faults, striking northeast, apparently traverse the property.

In 1938, 1939, and 1940, 3,256 feet of diamond drilling in 17 holes was carried out in order to test several sulphide zones, explore structural conditions, and obtain geological information. Recently, diamond drilling has been confined to investigation of anomalies located by means of magnetometer and resistivity surveys.

Many short vertical diamond-drill holes were put down through the ice on Lake Dufault in order to penetrate the rock beneath the lake bed to a depth of 100 feet. The object of this drilling was three-fold, namely: to locate formations favourable for sulphide deposition, to detect the presence of rock alteration, and to obtain additional geological data. Considerable amounts of disseminated pyrite and chalcopyrite have been intersected in the course of this diamond drilling. In addition, the company plans to conduct a magnetometer survey in the east section of the property in an attempt to define the lower contact of a large sill-like body of diorite. A.F. Banfield is in charge of operations at the property. (S.H.R.-46)

MacDonald Mines, Limited

Ref.: Que. Bur. Mines, P.R. No. 150, 1939, pp. 23-24.
Que. Dept. Mines, P.R. No. 205, 1945, pp. 10-12.

This property consists of 35 claims in one block, including 7 water claims in the east bay of Lake Dufault in the southeast quarter of Dufresnoy township, and it extends east from the N.-S. centre line for 3 miles to within $\frac{1}{4}$ mile of the Kinojevis river. The Rouyn-Taschereau branch of the C.N.R. is 500 feet north of the northeast corner of the property. The most direct route to the property is by water, 4 miles east across Lake Dufault from Englands Landing and $3\frac{1}{2}$ miles north of Noranda.

The claims comprise the north half of lots 43 to 49, range II; south half of lots 32 to 34, range III, lots 35 to 49, range III; and the south half of lots 47 to 49, range IV.

The property takes in the eastern nose of the Dufault granodiorite which underlies the north halves of lots 35 to 40 and lots 41 to 43, range III. The granodiorite is cut off on the west by the Dufault diorite and quartz diorite which underlies a large crescent-shaped area crossing the eastern half of Dufault Lake. Thus a large area of acidic pyroclastic

breccias, a mile in extent, occurs as an island or roof pendant completely encircled by granodiorite, quartz diorite, and diorite.

The western contact of the granodiorite with volcanic rocks has been located by diamond drilling in lot 40, range III. Therefore, their known east-west extension is from lot 34 to lot 40, range III. East of the granodiorite, the rhyolite lavas, which strike N.40°W., are intruded by numerous irregular masses and dykes of diabase and gabbro. In this area, the regional shearing appears to parallel the strike of the volcanics namely, northwest and southeast.

Diamond drilling, in order to test magnetic anomalies obtained from a magnetometer survey of the property, began in April, 1944. Twelve holes, Nos. A1 to A12, drilled on anomalies, were unsuccessful. Hole No. A13, drilled N.18°W., to cross-section the pyroclastic breccias, cut 20 feet of slight to heavy pyrite mineralization accompanied by sphalerite and gold in altered feldspar porphyry breccia. Hole No. A14, drilled north of A13, cut over 100 feet of heavy pyrite mineralization accompanied by sphalerite, chalcopyrite, and gold in talcose, feldspar porphyry breccia. This hole was drilled in January, 1945. Diamond drilling to explore and extend the sulphide zone at depth has been carried on continuously up to the time of the writer's inspection. It totals 84,240 feet in 141 holes, Nos. A1 to A129, B1 to B9, and S1 to S3.

A geophysical survey (spontaneous polarization method) of the property was completed during the summer of 1945. The results of this survey indicated the presence of sulphide mineralization along a length of 2,000 feet, varying in width from 200 to 500 feet, with a 100-foot heavy sulphide concentration in the middle portion of the deposit.

According to diamond-drill results, the sulphide body, which is 2,000 feet south of range-line III-IV, astride lot-line 38-39, is 1,000 feet long and averages 300 feet in width, attaining a maximum width of 450 feet. The greatest horizontal dimensions of the body are at the surface and heavy sulphides have been cut at a depth of 350 feet. It lies in an east-west shear zone in feldspar porphyry breccia, apparently dipping 60° to 70° to the south, and is flanked on the north by granodiorite.

The greatest thickness of sulphides occurs at the north edge of the body. Disseminated sulphides lie to the south of the body and down the dip of the shearing. The sulphides present are pyrite, sphalerite, chalcopyrite and galena. In massive sulphide zones the gangue is mainly carbonate and silica with subordinate amounts of chlorite. In other sections of the feldspar porphyry breccia, epidotization is the characteristic alteration accompanying concentrations of pyrite.

A vertical, 3-compartment shaft, begun in March, 1946, was collared in feldspar porphyry breccia at the northwest end of the sulphide body, in lot 38, 1,800 feet south of range-line III-IV and 250 feet east of lot-line 37-38. It was down to a depth of 270 feet at the time of the writer's inspection. John Campbell was in charge of operations at the property. (S.H.R.-46)

Sepha Mines, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941.

This block of 11 claims, including 4 water claims, borders on the north shore of Lake Dufault in range III, in the south-central part of Dufresnoy township. The most direct route to the property is by water, northeast across Lake Dufault for $2\frac{1}{4}$ miles from Englands Landing and $3\frac{1}{2}$ miles north of Noranda. The camps are located on the east side of the narrows in lot 26, range III.

The claims are numbered C.7950, claims 1 and 2; C.7964, claims 1 to 4; and C.8033, claims 1 to 5.

The claims are underlain by the Dufault granodiorite flanked on the south by older Dufault diorite and quartz diorite. The diorite and quartz diorite are cut by dykes of diabase and gabbro. Narrow, biotite lamprophyre dykes, cutting both the diorite and granodiorite, appear to be the youngest rocks in the area.

Diamond drilling in order to explore the diorite-granodiorite contact, which trends roughly east and west across the south part of the property, began in April, 1946, and up to the time of the suspension of operations in July, 1946, 4,706 feet of drilling in 5 holes, Nos. S1 to S4 and S6, had been completed. Hole No. S1, drilled northwest across a northeast-trending shear zone exposed on the prominent point south of the camps, cut altered quartz diorite with some silicified sections mineralized with massive and disseminated pyrite. Hole No. S3, drilled northwest, 130 feet southwest of hole No. S1, cut silicified diorite well mineralized with massive pyrite, some chalcopyrite, and occasionally pyrrhotite. A.F. Banfield was geologist for the Company. (S.H.R.-46)

Tromac Mines, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941.

Tromac Mines has a block of claims in Dufresnoy township comprising lots 41 to 46 and the north half of lots 37 to 40, range IV, and the south half of lots 38 to 41, range V. The Rouyn-Taschereau branch of the C.N.R. crosses the northern part of the property. The camp buildings are in the northern part of lot 42, range IV, and can be reached by a trail north from MacDonald Mines, or by a wagon road which branches south from the Clericy motor road near the Alan farm.

A band of acidic volcanics, about half a mile in width, trends northwest across the property and is flanked on the south by part of the Dufault granodiorite mass, and on the north by basic volcanics. The contact with the latter formations is under a northwest-trending valley, 1,000 feet in width. G.S.C. Map 635A shows the volcanics as facing northeast, but a single pillow determination by the writer indicated tops to the

southwest. The volcanics have been intruded by small bodies of diorite and feldspar porphyry. The latter occur near, and are probably related to the granodiorite.

Since 1946, the company has explored its holdings by geological and geophysical surveys and by more than 43,000 feet of diamond drilling in sixty-one holes.

Wm. Gerrie made an excellent detailed geological map of the claims, and an electrical geophysical survey was carried out on the property.

In the first part of the drilling programme, most of the holes explored sections of the band of acidic volcanics and intersected lightly sheared, carbonatized and chloritized rhyolites and rhyolite breccias. More intense shearing was encountered near the contact with the basic volcanics. Scattered pyrite was seen in sections of the core and some of the holes cut small quartz carbonate veins which gave low assays in gold.

In the latter part of the exploration, twenty-five holes were directed to explore the formations near the granodiorite-volcanic contact in lots 41 and 42 of range IV. The margin of the granodiorite showed light shearing and fracturing with some sericitization and chloritization. A number of the holes intersected quartz carbonate veins with small amounts of tourmaline, pyrite, and chalcopyrite. According to company reports, some of the intersections assayed 0.44, 0.63, 0.97, and 1.94 ounces of gold per ton across narrow widths, but no continuity was established on the veins.

The exploration was directed by members of the staff of MacDonald Mines. (W.G.R.-47)

Wakita Quebec Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 635A.

Wakita Quebec Gold Mines, Limited, controls lots 33 to 35, range V, Dufresnoy township. The claims are held in the name of George G. Elliott and were formerly called Quedor Mines Limited. The company's core shack is in lot 33 on the south side of the Clericy road which crosses the northern part of the property.

The northwest corner of the group is underlain by granodiorite and the remainder by acidic to basic volcanics and minor bodies of diorite. Andesites predominate in the northern part of the property, and flow contacts and doubtful pillow determinations indicate that they strike northwest and face south. The volcanics in the central part of the property are of acidic, intermediate, and basic composition, and pillow determinations indicate tops to the northeast. Thus an axis of synclinal folding may cross the northern part of the property. A northwest-trending, linear depression in the northern part of lot 35 may be a fault-line valley.

In the winter of 1946-47, a magnetometer survey of the claims was completed and anomalies obtained up to 1,000 gammas. Seven holes totalling 3,500 feet were drilled, most of them directed to explore the areas where the anomalies were obtained. No intersections of commercial importance were reported by the company.

E.M. Dillman directed the magnetometer survey and the subsequent drilling. (W.G.R.-47)

DUPARQUET TOWNSHIP

Duquesne Mining Company, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part C, 1933, pp. 107-9.
Que. Bur. Mines, P.R. No. 116, 1936, p. 7.
Que. Bur. Mines, P.R. No. 150, 1940, pp. 25-6.
Que. Dept. Mines, P.R. No. 189, 1945, p. 16.

This company holds a block of 86 claims chiefly in range V in Duparquet and Destor townships, 5 miles east of Beattie Gold Mines. The property, which extends $5\frac{1}{2}$ miles east and west, is crossed by the Macamic road and the Beattie spur line of the Rouyn-Taschereau branch of the C.N.R.

The 15 claims in Duparquet township are numbered R.7802-8, R.8045-6, R.8056, R.8060, R.9237, R.11174-5, and R.11957. The 71 Destor claims bear the numbers R.8042-4, R.8047-50, R.8052-5, R.11179-88, R.11659-63, R.11767-76, R.12470-79, C.13331, claims 2, 3, 5, and 6; R.16286-90, C.22347, claims 2, 3, 4, and 5; R.22702, R.28168-73; and R.34933-37.

The property, which lies on the south limb of an easterly-plunging syncline, is underlain by Keewatin-type andesitic lavas flanked on the north by younger Temiscamian-type conglomerate and interbedded arkose. An E.-W. zone of composite shearing, 2,500 feet wide, consisting of 3 parallel shear zones linked by subsidiary shears, known as the "Destor break", crosses the property south of the conglomerate band. The northernmost shear, traversing a band of porphyry, forms a fault contact with sediments to the north and volcanics to the south. The dip of the rocks varies from 15° to 40° to the north. However, in the vicinity of faults much steeper dips are encountered.

The lavas are intruded by irregular masses and dykes of coarse grained gabbro and diorite trending E. and W. Lenticular bodies of younger quartz porphyry and quartz-feldspar porphyry, pinching and swelling both laterally and vertically, occur along the major shear zones and subsidiary fractures in the lavas and sediments. The porphyries are cut by narrow, irregular dykes of lamprophyre which are the youngest intrusives in the area.

Two large bodies of porphyry are present on the property. The northern one occurs as a narrow strip along the south margin of the conglomerate band. The southern mass lies directly west of the Macamic road in lots 28 to 30, range IV, in the southeast corner of the property. These bodies are considerably brecciated and sheared and carbonatization is widespread.

Exploration has been confined mainly to the porphyry-conglomerate contact and major E.-W. shear zones in the porphyry bodies. Gold, usually associated with fine-grained pyrite, occurs in or near brecciated zones in the porphyries or adjacent rocks.

In 1941, a 3-compartment, vertical shaft, collared in altered diorite, was sunk to a depth of 515 feet, just west of the Macamic road, in lot 28, range IV, claim R.12474. Approximately 2,000 feet of lateral work on the 375- and 500-foot levels, to explore the porphyry body north of the shaft, was completed before operations were suspended. Following the dewatering of the shaft in September, 1945, sinking operations were resumed. The shaft, deepened to 784 feet with additional stations cut at 250, 625, and 750 feet, was completed in February, 1946.

A total of 21,039 feet of diamond drilling in 24 holes, Nos. R.35 to 58, was completed in 1945. These holes were drilled along a strike length of 1,300 feet in order to explore the west extension of the porphyry body north of the shaft.

As a result of lateral work and underground diamond drilling, high gold values have been encountered on all 4 levels from the 375 to the 750 and several steeply dipping, high-grade ore shoots and lenses angling across narrow bands of porphyry have been discovered and explored.

The ore consists mainly of silicified, brecciated, and sheared quartz porphyry and quartz-feldspar porphyry, usually mineralized with fine pyrite and carrying fine, uniformly disseminated gold. Chalcopyrite, specularite and molybdenite may accompany the gold, and quartz-tourmaline stringers are occasionally present but none of these minerals are considered indicative of the gold content of the ore. Carbonatization is common but not significant.

At the close of the year, good progress was being made in the drifting and development work which was being advanced on all 4 levels and excellent results were being obtained from the underground diamond drilling.

Alan C. Lee is consulting engineer and P.S. Teare is superintendent in charge of operations. (S.H.R.-46)

DUPLESSIS TOWNSHIP

Bourcier-Kuntz Syndicate

Ref.: Que. Bur. Mines, Ann. Rept. 1935, Part B (Currie Area).
Geol. Surv. Can., Map 570A (Puskitamika Sheet).

In the summer of 1947, Gaston Lavallie made a gold discovery northeast of Burge Lake in Duplessis township and staked 105 claims for the Bourcier-Kuntz syndicate. These claims occupy an area about four miles long and a mile and a half wide in the central part of the township. At the time of the writer's visit in September, considerable trenching had been completed and gold had been found in three localities. Other important discoveries were reported to have been made later in the year. The Bourcier-Kuntz holdings have since been split into three groups of claims, and the central group with the gold finds has been purchased by O'Leary Malartic Mines.

The property is about 76 miles northeast of Senneterre and 15 miles east of the wagon road from Senneterre to Madeleine lake. The contemplated road from Bachelor lake to Kiask falls should pass in its vicinity. At present the easiest access is by air.

The geology of the area is described by G.S. MacKenzie in a report and map on the Currie Area in the Bureau of Mines Annual Report, 1935, part B. The north shore of Burge lake is shown as underlain by gabbro or diorite with a few outcrops of basic lavas and pyroclastics to the north. The claims are covered by Spruce swamp and green bush and only a few outcrops were seen by the writer. Diorite was observed 700 feet north of the east end of Burge lake and a few outcrops of andesite, rhyolite, and diorite were seen near the trenches.

The discovery showing is about 4,000 feet east and a few hundred feet north of the centre of the township. A trench exposes a shear with pyrite, one to two feet wide, in andesite. The shear strikes N.60°W. and dips steeply to the north but could not be discerned in trenches on either side along the strike. A chip sample taken by the writer across three feet of shear and wall rock assayed 0.062 ounces of gold per ton.

The number two, three, and four showings are about 4,000 feet east and 150 feet south of the centre of the township, and they are regarded by the writer as parts of the same structure. Six trenches expose a shear in quartz diorite for a length of 210 feet. It strikes N.70°W. and has quartz veins from eighteen inches to ten feet in width. In the most westerly and easterly exposures, the veins are ten feet wide and four feet wide, respectively. The quartz is grey and white and contains abundant fine pyrite and some free gold. Company records show that the veins have an encouraging, though erratic, gold content. A chip sample taken by the writer across ten feet in the most westerly trench assayed 0.056 oz. of gold per ton. Grab samples taken by visiting engineers assayed from trace to 0.72 oz. of gold per ton. (W.G.R.-47)

DUPRAT TOWNSHIP

Boulder Hill Mines, Limited

Ref.: Que. Bur. Mines, Ops. Que., 1927, p. 115.
Que. Bur. Mines, Ops. Que., 1928, p. 86.
Que. Bur. Mines, Ann. Rept. Part A, 1929, p. 117.

Boulder Hill Mines has a group of eight claims in range III of Duprat township covering lots 26 to 31 and the north half of lot 32. Access is by a motor road along range-line IX-X to lot 29 in Beauchastel township, and then by a wagon road which extends northward along the west side of Flavrian lake for 3½ miles to the property. The camp consists of five buildings including an office, bunkhouse and cookhouse and is located in the southern half of lot 28.

Most of the property is underlain by part of the Flavrian granite mass. The thin pendant of basic flows which extends northeast across the granite appears to terminate in lots 29 and 30 on the southern edge of the group. Farther north in lot 30, a band of diorite about 1,000 feet wide, which seems to intrude the granite, strikes southeast and dips at about 30° to the northeast. In lot 29 another dyke of diorite which intrudes the granite trends northerly and dips to the east.

In 1927-29, these claims were explored by Capital Rouyn Mines, Limited. A number of gold- and copper- bearing quartz veins were discovered and six holes were drilled totalling 2,000 feet. About 900 feet north of the present camp a vein from 1 to 3 feet wide with chalcopyrite and gold was traced for 300 feet. A shaft was sunk to 50 feet and 133 feet of drifting done on that level, but the results were reported to be disappointing.

In 1938 surface work done by A. Mondoux revealed a mineralized zone in lot 27 about 2,000 feet north of the range-line. Four trenches expose a northerly trending fracture zone in granite with quartz stringers and pyrite over widths of 20 feet for a length of 200 feet. Samples assayed from trace to 0.43 oz. of gold per ton, but the average was low. A picked sample of massive sulphides is reported to have returned 0.74 oz. of gold per ton. In 1946, Boulder Hill Mines drilled four holes into this zone. All intersected the vein material, but the assays were low, the highest being 0.09 oz. of gold per ton over 2.3 feet. The intersections indicate that the zone dips east at about 50 degrees.

In lot 29, about 2,200 feet north of the range-line, a quartz vein from 6 inches to 2 feet wide is exposed in diorite on the east bank of the creek. It strikes about N.60°E., dips easterly, and has coarse blobs of chalcopyrite. A single hole drilled under this vein in 1946 cut 6 inches of quartz which assayed trace in gold.

About 300 feet north of this vein, another quartz vein mineralized with pyrite and 10 inches wide is exposed in a pit. It strikes about N.48°E. and dips 25° to the southeast. Three feet below it is more quartz

of undetermined width. Shearing between the two veins dips about 55° to the east. Samples from these veins gave good assays in gold and led to the recent drilling programme.

In 1946 and 1947, fourteen holes were drilled near these veins and most of them were directed toward the northwest. They did not appear to cut anything equivalent to the surface veins, but did intersect silicified zones with pyrite in granite and diorite, some of which showed a good tenor of gold. These intersections were scattered and were difficult to correlate, but five of those having the higher tenor of gold showed a rough alignment of N.45°W. and occurred between 230 and 290 feet below the surface. These five intersections gave average assays of 0.232 oz. of gold per ton over 21.5 feet; 0.196 oz. over 21.4 feet; 0.248 oz. over 9.5 feet; 0.133 oz. over 8.5 feet; and 0.25 oz. over 9.5 feet, respectively, all assay results being taken from company records. The holes passed through a mixture of diorite and granite and the mineralized zones may be related to shearings near the upper contact of the wide diorite band which seems to intrude the granite and dip gently to the northeast. A magnetometer survey of the property has been made and the recent drilling was supervised by P.J. Shanton. (W.G.R.-47)

Despina Gold Mines, Limited

(See Beauchastel township)

Elder Mines, Limited

(See Beauchastel township)

Four Corners Property

(See Montbray township)

Quesabe Mines, Limited

Ref.: Que. Bur. Mines, P.R. 116, 1936, p. 11.
Que. Bur. Mines, P.R. 145, 1940, pp. 4-5.

This block of 15 claims, is located on the south boundary of Duprat township, one mile west of Flavrian lake. Formerly known successively as the Birrell Property, Flavrian Gold Mines, and Payco Gold Mines Ltd., it was acquired by Quesabe Mines in 1945.

The claims, which are numbered C.8618, claims 1 to 5; R.11447-51; and R.15867-71, comprise parts of lots 19 to 28, range I, Duprat township. A rough trail branching west, from a point on the tote road 1½ miles north from lot 32, range IX-X, leads northwest for half a mile directly to the camp in the middle of lot 24, claim R.11448.

The property is underlain mainly by rhyolite intruded by dykes and irregular masses of quartz diorite, quartz and feldspar porphyry, and numerous narrow lamprophyre dykes, striking northeasterly. The volcanics strike east-west and dip steeply to the north. The western margin of the Flavrian Lake granite crosses the southeast corner of the claim block.

Exploration, in the early '30's, consisted of surface work, mainly stripping and trenching, on several quartz veins, and the sinking of a vertical, 2-compartment shaft to a depth of 325 feet on an east-west fault zone containing a large, mineralized quartz vein. Diamond drilling in the vicinity of the shaft in lot 25 and in a shear zone in lot 26, in the northeast corner of the property, was carried out by Ventures Ltd., which optioned the property in 1934. In the shaft area, 9 X-ray diamond-drill holes, drilled north at 45°, were put down at intervals of 40 and 60 feet along a length of 350 feet. The shear zone, 25 feet wide, striking northeast, occurs in dark, silicified rhyolite. It is intruded, across a width of 10 feet, by a series of narrow quartz stringers dipping steeply to the north which are exposed in an open cut for a length of 125 feet.

The shaft showing consists of an 8-foot quartz vein cutting fractures rhyolite, accompanied by numerous parallel quartz stringers, striking east-west, intruded across a width of from 5 to 10 feet north and south of the vein. It is exposed in rock trenches east and west of the shaft for a length of 300 feet.

A cross-section of the vein, from the fault plane to the south, consists of 5 feet of bluish quartz sparsely mineralized with pyrite, confined mainly to fractures, and 3 feet of silicified rhyolite and quartz. The north wall of the vein terminates in a narrow mud seam; the south wall is slickensided.

A magnetometer survey of the property, completed in January, 1946, located 5 magnetic anomalies, designated zones A to E. Diamond drilling, to the test these anomalies began May 1, 1946, and up to the time of the writer's inspection, a total of 9,500 feet of drilling in 21 holes, Nos. Q1 to Q21, had been completed.

Ten holes, Nos. Q1, 8, 9, 13, 14, 15, 17, 19, 20, and 21, were drilled N.20°W. in "B" zone, which includes the northeast shear zone (lot 26) and the shaft area (lot 25). No. Q1 cut 9 inches of silicified andesite assaying 0.20 oz. of gold per ton. One hole, Q2, was drilled south between "B" and "A" zones in order to obtain additional geological information. Six exploratory holes, Nos. Q6, 7, 10, 11, 12, and 16, were drilled south and southeasterly in "A" zone. One hole, Q18, which was drilled north to investigate a quartz vein striking E.10°S., was barren. "E" zone was explored by 3 holes, Nos. Q3, 4, and 5, drilled N.70°W. Hole Q5, collared in granite, terminated in altered greenstone.

Detailed geological mapping of the property by P. Moffette was in progress at the time of the writer's examination. Cecil W. Croskery, mine manager, is in charge of operations at the property. (S.H.R.-46)

Thorn Hill Gold Mines, Limited

Ref.: Que. Bur. Mines, Geol. Rept., 13, 1943.

Thorn Hill Gold Mines holds a block of 6 claims, in the southeast corner of Duprat township. The claims, numbered C.7399, claims 1 to 3, and C.7400, claims 1 to 3, comprise parts of lots 49 to 54, range I, Duprat township. A tote road leads north from Elder Gold Mines for half a mile directly to the camp.

The property lies on the wast margin of the Flavrian Lake granodiorite which is flanked on the east by acidic lavas, striking northeast and dipping steeply to the southeast and east with their tops facing east. The volcanics are cut by irregular masses and dykes of diorite and quartz diorite. Both the granodiorite and the adjoining rocks are intruded by bodies of quartz porphyry and aplite and later dykes of diorite and diabase.

Diamond drilling in order to locate the northeast extensions of veins, Nos. 1, 2, and 3, on the property of Elder Gold Mines to the south, began in April, 1945, and, up to the middle of May, 1946, when drilling operations were suspended, a total of 30,832.5 feet of diamond drilling in 63 holes, Nos. 1 to 63, had been completed. This drilling was confined to three zones, namely: the "Elder Extension Zone" (lot 51); the "Center Zone" (lot 50); and the "Northern (Dufresnoy) Zone" (lot 49).

The "Elder Extension Zone" consists of a fracture zone, 80 feet wide, in silicified granodiorite intruded by narrow diorite dykes, striking N.45°E. and dipping 30° to 45° to the southeast. Gold associated with disseminated pyrite occurs in well silicified sections. The zone, which appears to be an extension of Elder No. 1 vein, has been explored by 13 diamond-drill holes, Nos. 1 to 7, 9, 10, 11, 61, 62, and 63, drilled northwest along a length of 300 feet.

The "Center Zone", about one-quarter of a mile northwest of the "Elder Extension Zone", consists of a flat-lying quartz vein, 1 foot to 1½ feet wide, cutting altered, silicified granodiorite, striking N.60°E. and dipping 30° to 35° to the southeast. The zone, which has been tested by 17 shallow holes, Nos. 13 to 16, 19 to 21, 23, 24, 26, 28 to 30, 35, 36, and 40, drilled northwest along a length of 600 feet, contains gold erratically distributed.

The "North Zone", in the northwest corner of the property, consists of a fracture zone, 57 feet wide, in altered, silicified granodiorite and diorite containing a number of flat-lying quartz veins and a lamprophyre dyke, 2 to 5 feet wide, striking N.30°E. and dipping 27° to 32° to the southeast. The dip of the shearing varies from 55° to 60° to the southeast. The silicified bands are well mineralized with pyrite and occasionally chalcopyrite accompanied by gold, infrequently in visible grains. The zone has been investigated by 33 diamond-drill holes, Nos. 8, 12, 17, 22, 25, 27, 31 to 34, 37 to 39, and 41 to 60, drilled northwest along a length of 1,000 feet. F.E. Patton, mine manager, was in charge of operations at the property. (S.H.R.-46)

FABRE TOWNSHIP

Touton Mining and Exploration Company

Ref.: Que. Bur. Mines, P.R. No. 135, 1939, p. 16-17.
Que. Bur. Mines, P.R. No. 150, 1940, p. 28-30.
Que. Dept. Mines, P.R. No. 190, 1945, Part II, p. 3.
Que. Dept. Mines, Geol. Rept. "Mining Properties in Fabre Township", pub. 1947.

Touton Mining and Exploration Company holds 26 lots in ranges I to VI-S., Fabre township. Provincial highway No. 56, between Temiskaming and Arntfield, and several branching roads make all parts of the property readily accessible from Fabre village. Officers of the Quebec Department of Mines, particularly the writer, have previously examined and mapped various parts of the property. However, this report deals only with lots 7, 8, and 9, range V-N.

Rock outcrops occur in south-central lot 9, which are intermediate to acidic in composition and generally quite fine-grained. They resemble rhyolite or dacite, but are classified as rhyolitic-granodiorite because a short distance to the south, in range V-S., material of the same appearance is known to grade into coarse-grained granodiorite.

Relatively large areas of Huronian sediments are exposed along lot-line 7-8, range V-N. These consist mainly of impure quartzite containing beds up to 4 feet thick of conglomerate.

Occasionally, small, iron-stained-patches of sulphides occur in the diabase, which represent local segregations of its primary sulphide constituents. In the middle of lot 9 the contact of conglomerate and arkose, a few feet from the west contact of the diabase, is blasted out. A narrow shear striking N.5°E. is exposed containing sparse chalcopyrite mineralization.

The diabase belongs to the same series of intrusives as those associated with the silver-cobalt ores of Cobalt, South Lorrain, and the Montreal River districts. Some evidence that ore of this type may be associated with this particular mass is given by an exposure at the southeast corner of lot 6, range VI-N., where the rock is blasted out in a railway cut. Here several, thin, red, aplitic dykelets occupy slip planes in the diabase, which also contains a few stringers and small patches of white calcite, some of which contains pyrite, chalcopyrite, and galena. Three hundred feet to the northeast there is a small pit 3 feet deep in the diabase. The opening is largely filled with débris, except near the south end where a patch of quartz and calcite 10 inches wide is exposed. On the dump there are quartz-calcite veinlets sparsely mineralized with chalcopyrite and stained with cobalt bloom. (W.N.I.-46)

Touton Mining and Exploration Company

Ref.: Que. Bur. Mines, P.R. No. 135, 1938, p. 16-17.
Que. Bur. Mines, P.R. No. 150, 1939, p. 28.

(Note:- Further description of another section of this property is contained in following report by P.E. Auger from field work in 1947).

During the summer of 1947, the writer did the geological mapping of a group of claims owned by the Touton Mining and Exploration Company. These claims covered the south half of lots 5 and 6, range V-N; the north half of lots 6, 7, 8, and 9, range VI-S; lots 10, 11, and 12 of range V-S; and part of lot 31, range II.

The oldest formations of the area are Keewatin-type volcanics accompanied by tuff bands and fragmental volcanics. These are intruded by numerous intrusive rocks, the paragenesis of which is not very well established. They may be listed as follows: gabbro, andesite dykes, diorite, granodiorite, quartz diorite, and granite.

Sedimentary beds of Huronian formations overlie all the above-mentioned formations. They really surround them and it seems that the older Precambrian formations form, in this part of the area, an uplifted dome or a pre-Huronian hill, which has been stripped of its mantle of Huronian sediments by erosion. The Huronian formations are composed of arkose and angular conglomerate overlain by greywacke and conglomerate which are covered by a thick series of argillite containing conglomerate beds.

Post-Huronian diabase dykes and bosses intrude all the other formations in the southern half of range V-S and the northern part of range VI-S. Most of these are located along the continuation toward the south of a large dyke of diabase mapped by Ingham on lot 9, ranges V-N and V-S. It is possible that these are tongues or apophyses projecting from the mass of diabase which continues below the present surface.

The volcanic formations of range V-N have a strike of about N.60° to 85° with a tendency to swing toward the northeast at the eastern end of lot 6. They dip steeply to the south.

Intrusive rocks of different types, which show very little structure, form most of the outcrops on the southern part of lot 11 range V-S and in the northern half of lots 6, 7, 8, and 9 of range VI-S.

Very few mineralized showings were visible in the area concerned with the present study. One is situated in lot 5, range V-N, 300 feet south of the road and 275 east of the line between lots 4 and 5. A pit about 8 feet by 8 feet was excavated in basic volcanic formations to explore a fractured zone along the structure of the volcanic formations. Samples from the dump and from the parts of the zone which are visible above water show the presence of some pyrite, magnetite, specularite, and very small amounts of malachite and azurite. The magnetite is disseminated throughout the wall rock and concentrated along some of the fractures.

Pyrite and the copper minerals are with calcite in small veinlets. One specimen was found to contain a few grains of sphalerite. Small amounts of pyrite and chalcopyrite were seen at a few places in the intrusive rocks and in the Huronian sediments.

On lot 31, range II, along the shore of Lake Témiscamingue, there is a pit excavated in the diabasic phase of the diorite. At this place magnetite seems to be abundant along a narrow zone of fracture in the rock.

In other places in the same intrusive mass pyrite and chalcopyrite have been found disseminated in the rock or along narrow veinlets.

During the summer of 1947, an extensive programme of diamond drilling was undertaken by the company to explore the possibilities of a surface showing on lot 32, range III. The drill holes reveal that there are several zones of mineralization located in volcanic breccia and fragmentals. Some sections of core contained scattered sulphides (pyrite, chalcopyrite, sphalerite, and galena) over a length of more than 200 feet. In places the above-mentioned sulphides are more concentrated and are accompanied by smaltite. Two of those sections showed a good tenor of cobalt, nickel, and silver, over a length of approximately four feet. In hole No. 40, a band of massive sulphides 0.7 foot wide was intersected. It is composed of massive sphalerite and galena with about two inches of massive chalcopyrite.

Unfortunately most of the holes that were drilled during 1947 on lot 32 ended in a massive intrusive of diorite at a vertical depth of approximately 500 feet. Exploratory work is proposed to study the possibility of disappearance at depth of this intrusive along the strike of the showing toward the east or toward the west. (P.E. Auger-47)

FOURNIÈRE TOWNSHIP

Britt-Malartic Gold Mines, Limited

(See Malartic township)

Marbenor Malartic Mines, Limited

(See Dubuisson township)

GAND TOWNSHIP

Consolidated Mining and Smelting

(See La Roncière township)

Lake Opawica Mines, Limited

(See La Roncière township)

Opawica Island (Siscoe Gold Mines)

(See Lesperance township)

GUILLET TOWNSHIP

Blondor Quebec Mines, Limited

(See Blondeau township)

GUYENNE TOWNSHIP

Edmond Carrière Claims

Ref.: Can. Geol. Surv., Map No. 298A, Macamic Sheet, 1934.

This block of 6 claims, comprises lots 39 to 44, range III, in the southeast quarter of Guyenne township, 22 miles from Amos. A trail leads east 2,000 feet from a point on the Gallichamp road, on lot-line 38-39, 8½ miles north of the village of Launay, directly to the showing in the middle of lot 41, range III.

The area is heavily wooded and rock outcrops are rare. The only outcrop observed was exposed in the bottom of a gravel pit, 200 feet long and 50 feet wide. It consisted of a band of agglomerate and breccia, trending NW. and SE., flanked on the north by rhyolite.

The showing consists of a silicified shear zone in the agglomerate heavily mineralized with massive and disseminated pyrite. The zone, striking N.50°W., is 30 feet long and 27 feet wide. The pyrite, which is often well crystallized, occurs replacing the matrix of the agglomerate and in the form of lenses paralleling the schistosity. Three grab samples, taken by the writer from the zone at intervals of 10 feet, consisting of silicified agglomerate well mineralized with massive and disseminated pyrite, assayed a trace in gold and silver per ton.

The property was inactive at the time of the writer's inspection. (S.H.R.-47)

JOANNÈS TOWNSHIP

Bouzan Gold Mines, Limited

Ref.: Geol. Surv. Can., Paper 38-24, 1938.

This company holds 26 claims in 2 blocks, one-half mile apart, in the east-central part of Joannès township. The Rouyn-Senneterre branch of the C.N.R. and the Rouyn-Val d'Or highway cross near the centre of the property.

The west block, consisting of 22 claims, comprises the south half of lots 44 to 46, lots 47 to 51, and the south half of lots 52 to 55, in range VI, together with the south half of lots 47 to 51, range VII. Exploration work has been confined mainly to this claim block. The east block, consisting of 4 claims, comprises the north half of lots 59 to 62, range V.

The property is underlain by an east-west band of Timiskamian-type conglomerate with interbedded greywacke, 2,000 to 3,000 feet wide, flanked on the north by the Cadillac sediments and on the south by biotite schist and greywacke. The sediments strike east-west and dip steeply to the north. The "Cadillac-Bouzan Lake" fault zone, whose existence has been confirmed by diamond drilling, follows the north contact of the conglomerate band across the north part of the property, which is drift-covered, for a length of 4,280 feet. According to diamond-drill records, the fault zone dips 81° to the north.

The southern part of the property is underlain wholly by the Kewagama sediments, mainly greywacke and conglomerate, which occupy the south limb of the regional syncline. Greywacke, usually carbonatized and altered, is most abundant but sediments grading from argillite to impure quartzite and arkose are also present. Conglomerate occurs on the northern edge of the south limb of the regional syncline. A north-south diabase dyke, cutting the sediments occurs near the east boundary of the property. Several north-south faults of small displacement are present south of the Cadillac shear zone ("break"); others are indicated from diamond-drill results.

Diamond drilling to explore an old, gold discovery, "A" zone, in lot 51, range VI, 1,400 feet south of the Cadillac "break", began in April, 1945. The zone was tested, to a depth of 200 feet, by means of 2,561 feet of diamond drilling in 8 holes, Nos. 1 to 8, along a length of 500 feet. Gold, not in commercial quantities, appeared to be confined to the vicinity of a diabase dyke, extending 75 feet east and 100 feet west of the dyke contacts respectively.

Exploration in the "Cadillac Shear Zone" by diamond drilling began July 9, 1945, and up to April 15, 1946, when drilling operations were suspended, a total of 6,287 feet of diamond drilling in 9 holes, Nos. 9 to 19 and 10A (Nos. 10, 11, and 12 were abandoned), had been completed. These holes, drilled north and south along range-line VI-VII, intersected a gold-bearing zone directly south of the "break" along a length of 1,140 feet (1,600 to 2,740 feet west of the east boundary of the group).

The first hole, No. 9, drilled south, is located on range-line VI-VII, lot 49. The remaining holes were drilled east and west of No. 9 in lots 48 to 51.

The gold-bearing diamond-drill sections consist of silicified, carbonatized greywacke, cut by quartz veins, the whole mineralized with pyrite and needle-like crystals of arsenopyrite.

A.W. Jeckell, consulting engineer, is in charge of operations at the property. (S.H.R.-46)

Rouyn Merger Gold Mines, Limited

(See Rouyn township)

LA MORANDIÈRE TOWNSHIP

Daljo Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 529 A, 1939.

The 6 claims of this company, comprise lots 7 to 12, inclusive, range VII, of La Morandière township. The highway on range-line VII-VIII borders the north boundary of the property. A trail leads south from the highway in lot 9 for 2,000 feet, directly to the showing.

Work on Daljo began in the summer of 1946. Previous work by other companies consisted of stripping and trenching along quartz veins and stringers.

The property is mainly swamp interrupted by a few low scattered rock exposures of pillow andesite. The pillows trend N.75°E. and face north. Epidote and tourmaline have developed along pillow margins. Prominent fracturing of the lavas trends N.20°E. A few narrow, quartz-tourmaline veins mineralized with pyrite mainly, and occasionally chalcopyrite, intrude the lavas along fractures.

The main showing consists of a flat-lying, tourmaline-quartz vein, 6 inches wide, accompanied by several quartz stringers, cutting pillow andesite. The zone has been explored by trenching and stripping across 25 feet for a length of 60 feet. The vein is exposed for a length of 35 feet, striking approximately N.15°E. and dipping 25°E., but disappears abruptly at either end in swamp. The tourmaline-quartz vein and narrow quartz stringers ($\frac{1}{4}$-inch) are sparsely mineralized with crystalline pyrite, and chalcopyrite. Concentrations of fine-grained sulphides, mainly crystalline pyrite, occur in the wall rock adjacent to the veins over widths up to one inch and along pillow contacts. Some sulphide replacement or altered lava has also taken place.

Another flat-lying, quartz-tourmaline vein, 2 inches thick, is exposed cutting fine-grained cherty lava, in a stripping 60 feet southeast of the main showing. It strikes N.15°E. and dips 10°-12°E. The vein and adjacent altered lava are sparingly mineralized with fine-grained pyrite.

The company plans to explore the zone at depth by means of diamond drilling and preparations for this drilling programme were underway at the time of the writer's inspection.

Lloyd Almond is consulting engineer and Joe. Gilmet is in charge of operations at the property. (S.H.R.-47)

LA RONCIÈRE TOWNSHIP

Consolidated Mining and Smelting Company of Canada, Limited, The

Ref.: Geol. Surv. Can., Paper 39-2, 1939.

This company holds a group of 45 claims in one block, extending eastward from the north branch of Opawica lake to lac Relique in the southwest corner of La Roncière township, and the southeast corner of Gand township about 95 miles northeast of Senneterre on the C.N.R. The claims lie along an assumed fault zone striking N.75-80°E.

The numbers of the claims are C.14628; C.14652; C.17561; C.18918; C.G.1101; C.G.1157; and C.G.1159, C.G.1103, C.18920; claims 1 to 5, in each case.

There are 9 showings, Nos. 1 to 9, along the fault zone within a distance of $1\frac{5}{4}$ miles.

A good trail leads east from the Consolidated Camp, on the north bank of a small creek in claim 1, C. 14628, for one mile directly to the first showing, No. 4, in claim 4, C. 14652, and to the 8 other showings.

The property is underlain mainly by acidic and intermediate volcanics, namely: rhyolite, rhyolitic agglomerate and tuff, and dacite. These are intruded by lenticular bodies of diorite and quartz porphyry. The volcanics strike east and west and dip practically vertical. They outcrop in a series of long, narrow ridges separated by muskeg and swamp.

The showings, which consist of gold-bearing, carbonatized shear zones in rhyolitic agglomerate and tuff, are cut by bluish quartz veins and stringers, heavily mineralized with disseminated pyrite. They have been explored extensively by stripping and trenching. The individual zones, trending east and west, vary in length from 200 to 300 feet and average 15 feet in width.

No. 3 Showing is on the N.-S. claim-line, between claims 4 and 5, C. 14652, 420 feet south of the north boundary of the claims. It consists of a strong shear zone in rhyolitic agglomerate intruded, parallel to the schistosity, by a bluish quartz vein, 2.5 to 5 feet in width. The zone is well carbonatized, and, in part, it is silicified and heavily mineralized with disseminated pyrite accompanied by gold. Mariposite and sericite alteration are fairly common.

The zone is exposed at intervals in 7 rock trenches for a length of 275 feet, averaging 12 feet in width. A typical cross-section of the zone from south to north comprises: rhyolitic agglomerate, occasionally with pillow structure; carbonatized schists with transverse quartz stringers and disseminated pyrite (10 feet); strong shear (2 feet); bluish quartz vein with disseminated pyrite (2.5 feet); cherty carbonated schists heavily mineralized with pyrite (2 feet); sericite and mariposite alteration (10 feet); and rhyolitic agglomerate and volcanics intermediate in composition. Maximum shearing occurs south of and adjacent to the quartz vein. In general, heavy sulphide mineralization is associated with carbonatized schists. A chip sample, taken by the writer in trench E-3, 100 feet east of the claim-line, across 4 feet of carbonatized schists heavily mineralized with pyrite, assayed $2.27 in gold per ton. The company reports visible gold from No. 1 showing in claim 3, C.17561, and panned gold from No. 7 showing in claim 2, C.17561.

Exploration work and geological mapping carried on in 1946 were supervised by B.W. Marcotte and G.L. Henderson, engineer and geologist, respectively. The property was inactive at the time of the writer's inspection. (S.H.R.-47)

Lake Opawica Mines, Limited

Ref.: Geol. Surv. Can., Paper 39-2, 1939.

Lake Opawica Mines holds a group of 50 claims, in two blocks, in the southeast corner of Gand township and in the adjoining southwest corner of La Roncière township, 95 miles northeast of Senneterre. The property borders on the north shore of the east bay of the North Arm of Opawica lake.

The claims are numbered as follows: Gand township (28 claims)- C. 19166; C. 19167; C. 19168; C. 19169; C.19202; and C. 19354, claims 1 to 5 in each case; C.G. 1302, claim 5; and C.G. 1305, claim 5. La Roncière township (22 claims)- C. 19199-200, claims 1 to 5; and C. 19169, C.G. 1302; and C.G. 1305, claims 1 to 4 in each case. The property parallels an assumed fault, $\frac{1}{2}$ mile south, that strikes N.75°E.

A good trail leads northeast from the camp on the lake shore in claim 4, C.18920, for $\frac{1}{2}$ mile, directly to the main zone in claim 5, C.G. 1305.

The relief of the area is weak and rock outcrops are scarce. The property is underlain chiefly by acidic volcanics, mainly rhyolite, rhyolite breccia, and tuff, flanked on the south by lenticular bodies of anorthosite, gabbro, and diorite.

A narrow band of coarse conglomerate, striking N.80°E., is intercalated in the volcanics which trend slightly north of east. This rock is in contact with sheared, altered, acidic fragmentals to the south, the belt outcropping in the form of a narrow ridge which has been traced eastward on the property by stripping and trenching at intervals for a distance of 2 miles through claim 5, C. 19200.

The property was staked in 1946. Exploration work carried on during 1946 and 1947 consisted of stripping, trenching, and diamond drilling. During June and July, 1947, a geological map of the property, on a scale of 300 feet to the inch, was completed by Dr. Lees.

The main showing, in claim 5, C.G. 1305, consists of a strong shear zone, dipping steeply to the north, which appears to follow the conglomerate-fragmental contact striking N.80-85°E. The zone varies in width from a maximum of 90 feet at the east end, where it disappears abruptly in a swamp, to 15 feet at the west end on the west boundary of the claim. It has been exposed at 100-foot intervals by rock-trenches across the strike for a continuous length of 1,300 feet. The zone is characterized by a bottle-green coloured alteration, mariposite, and heavy carbonatization.

A cross-section of the zone, at the east end from north to south, consists of conglomerate with 2-inch quartz pebbles, mariposite, sericite schist, and sheared acidic fragmental. The mariposite zone, sericitic schist, and sheared fragmental are cut by narrow quartz stringers well mineralized with disseminated, crystalline pyrite. A grab sample, taken by the writer, consisting of sericite schist heavily mineralized with disseminated pyrite assayed $3.32 in gold per ton.

The zone has been explored at depth by 4,531.9 feet of diamond drilling in 15 holes, Nos. 1 to 15, drilled south at 45° from north of the showing.

G.R. Forbes, mining engineer, was in charge of operations at the property. (S.H.R.-47)

LAUNAY TOWNSHIP

Rochette Gold Mines Company, Limited

Ref.: Que. Bur. Mines, P.R. No. 120, 1937, pp. 7-8.
Que. Bur. Mines, Geol. Rept. No. 1, 1939, pp. 20-23.
Que. Bur. Mines, P.R. No. 161, 1941, p. 20.

This company holds a group of 49 claims, (1 claim in Privat township), in the southwest quarter of Launay township. An automobile road

leads south and east from Taschereau, on the C.N.R., for 6½ miles, directly to the mine.

The claims cover lots 7 to 18, range III; lots 1 to 18, range IV; south half lots 1 and 2 and lots 3 to 18, range V, in Launay township; also lot 62, range IV, Privat township.

The original claims were staked in 1934. Since that date, exploration work, consisting of diamond drilling and shaft sinking, and the erection of a small sampling mill have been carried on intermittently.

The original formations consist of Keewatin-type volcanics, chiefly andesite, but including volcanic tuffs and breccias and some acidic flows. The lavas are intruded by irregular bodies and dykes ranging in composition from granite to peridotite. The Robertson Lake granite batholith, occupying a large area to the northwest of the property, intrudes the volcanics forming a broad contact zone containing highly altered inclusions of Keewatin-type rocks.

The claims are underlain mainly by acidic lavas and fragmentals, in which pillow structures are fairly common, striking N.75-80°E. and facing south. They form a prominent ridge, trending NE. and SW., in the southern part of lots 7 to 12, range IV.

The volcanics are cut off on the north by a body of granite, related to the Robertson Lake mass, which outcrops on the northeast edge of the ridge in lot 12, range IV, and has been intersected in diamond-drill holes, Nos. 20, 27, and 28, ½ mile to the southwest.

No. 1 vein, the main showing, is in the southern half of lot 10, range IV, about 1,800 feet north of the range-line, on the south edge of the ridge. It consists of a milky quartz vein, 6 inches to 2 feet in width, striking N.53°W. and dipping 50° to the northeast. The vein is sparsely mineralized with disseminated pyrite, some chalcopyrite, and occasionally galena and sphalerite. Occupying a prominent fissure, it is exposed on surface for a length of 360 feet. It has been traced underground by diamond drilling for a length of 1,300 feet.

On surface, the vein is flanked on the hanging wall side by a quartz-porphyry dyke, averaging 5 feet in width. At depth, they are separate, as the quartz vein dips at a steeper angle. The footwall is a sheared, altered fragmental, mineralized with pyrite and chalcopyrite accompanied by gold.

In 1937, the vein was explored at depth by 2,000 feet of diamond drilling in 10 holes, Nos. 1 to 10. According to company records, visible gold was encountered in hole No. 2. Bulk samples taken from an open cut and the inclined shaft assayed, according to company reports, 0.347 oz. and 0.31 oz. of gold per ton. A 600-lb. bulk sample, tested by the Bureau of Mines, Ottawa, assayed 0.29 oz. of gold per ton. According to recent results, the highest gold assays are obtained from the quartz vein. Gold occurs in the quartz-porphyry in very small amounts.

Following a magnetometer survey of part of the property, diamond drilling began October 15, 1945, and, up to the time of the suspension of operations in June, 1946, 7,398 feet of drilling in 24 holes, Nos. 11 to 34, had been completed. Most of this drilling was confined to the shaft area where 8 holes, collared in andesite 100 feet east of the vein, were drilled southwest at 30-foot intervals, along a length of 170 feet. The results of this drilling were not encouraging. Four holes were drilled 120 feet north of the shaft in order to explore at depth a 25-foot section of the vein which assayed, according to company reports, from a trace to 0.37 oz. of gold per ton across 4 feet. These holes did not cut gold ore at depth.

Four holes were drilled along the northern extension of the vein zone, exploring a strike-length of 850 feet, and one was drilled northwest from the northeast edge of the greenstone ridge, all terminating in pink, hornblende granite. Exploration of the southern extension of the break was restricted, by the presence of very deep overburden, to one hole, No. 13, drilled 600 feet from the shaft.

C.M. Bartley was in charge of operations at the property. Operations were suspended at the time of the writer's inspection. (S.H.R.-46)

L'ESPÉRANCE TOWNSHIP

Consolidated Mining and Smelting (West group)

Ref.: Geol. Surv. Can., Paper 39-2, 1939.

This company holds three groups of claims in the Opawica Lake area of northwest Quebec. The West group is a block of thirteen claims in the northwest quarter of L'Espérance township. The claims straddle a portage between the north and south arms of Opawica lake. They are numbered C. 23154, claims 1 to 3; C. 23155, claims 1 to 5; and C. 23153, claims 1 to 5. The claims may be reached by plane from Senneterre, a distance of 110 miles.

Rock formations observed on the claims include acid to basic volcanics intruded by anorthosite, gabbro, and porphyritic diorite.

Preliminary surface prospecting during the summer of 1946 uncovered three small auriferous showings. Six hundred feet west of the southeast corner of C. 23153, claim 3, a quartz veinlet 3 inches wide is exposed in a trench along an east-west strike for 10 feet. The veinlet is mineralized with pyrite and chalcopyrite and carries visible gold.

About four hundred feet south of the above vein, a second veinlet, 3 inches wide, also strikes east-west and is exposed along 30 feet. It is well mineralized with pyrite and chalcopyrite and pans gold.

A small area of stripping in the extreme northwest corner of C.23153, claim 1, beside the portage trail, reveals a zone of fractured rhyolitic rock containing vein quartz stringers and scattered pyrite. A four-foot channel sample from the zone, taken by the writer, gave an assay of $1.50 in gold per ton. (W.N.I.-47)

Opawica Island (Siscoe Gold Mines)

Ref.: Geol. Surv. Can., Paper 39-2, 1939, p. 6.
Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 48-49.

This property, consisting of 71 claims in one block, is at the northwest end of Opawica lake and is in L'Espérance, Lesueur, and Gand townships, about 100 miles northeast of Senneterre.

Part, or all the property, was once held by Prospectors Airways, who discovered two of the mineral deposits now being explored.

The claims are numbered as follows: Lesueur township (15 claims)- C. 14259, claim 5; C. 14260, claims 1 to 5; C. 14261, claims 2 to 5; C. 14262, claims 1 and 2; and C. 12499, claims 3, 4, and 5. L'Espérance township (41 claims)- C.G. 813, claims 1 to 5; C.G. 814, claims 1 to 5; C.G. 864, claims 1 to 5; C. 11772, claims 1 to 3; C. 11773, claims 1 to 5; C. 12152, claims 1 to 3; C.12153, claim 1; C. 12154, claims 1 and 2; C. 12500, claims 1 and 4; C. 14258, claims 1 to 5; C. 14259, claims 1 to 4; C. 14261, claim 1. Gand township (15 claims)- C. 12499, claim 2; C. 12500, claims 2, 3, and 5; C. 12151, claims 1, 3, 4, and 5; C. 12153, claims 2, 3, 4, and 5; and C. 12154, claims 3, 4, and 5.

The geology of the district is shown on the G.S.C. Opawica Lake sheet, mapped by George Shaw in 1937. Opawica island is shown as underlain by volcanics with a small boss of acidic intrusive outcropping on either side of the narrows west of the island.

Geological mapping by Siscoe shows the southern part of the island as trachyte and andesite, with the northern part made up of syenite, feldspar porphyry, and diorite.

A dip-needle survey of the island indicated five easterly trending, magnetic zones. Trenching on the "C" zone has revealed an area of massive sulphides about 30 feet by 30 feet. The attitude of the body could not be determined. The sulphides were predominately pyrrhotite with some chalcopyrite. Sampling by Noranda Mines indicated an average content of less than 1 per cent copper and a trace in gold. A picked sample taken by the writer assayed 2.31 per cent copper and 0.026 oz. of gold per ton. The first hole is being drilled under this showing.

About 800 feet north of the sulphide showing, trenches put down by Prospectors Airways expose a fracture zone with quartz and carbonate stringers in a mixture of diorite and syenite. Nine X-ray holes were drilled under this zone. Surface sampling averaged $6.82 over a width of

4 feet for a length of 65 feet. The drill holes averaged $7.13 over a width of 4 feet for a length of 125 feet, open at both ends. A grab sample taken by the writer assayed 0.176 oz. of gold.

A geological map has been made of the property, and a new drilling programme is in progress. A.W. Derby is in charge of the exploration. (W.G.R.-47)

LESUEUR TOWNSHIP

O'Brien Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 570A, Puskitamika Lake, 1938.
Que. Dept. Mines, P.R. 198, 1946.

The property of O'Brien Gold Mines, consisting of 40 claims in one block, lies three-quarters of a mile southwest of Bachelor lake in the southwest quarter of Lesueur township, about 90 miles northeast of Senneterre.

The claims are numbered C. 25718-23, inclusive, C. 26794-95, claims 1 to 5 for all above licenses.

The property may be reached by travelling southwest up a small creek, which drains into the southwest bay of Bachelor lake, for $\frac{1}{2}$ mile, to the O'Brien dock. A good trail connects the dock with the O'Brien camp, 4,800 feet west. A second trail leads southward from the camp, for 5,000 feet, directly to the main showing on the east edge of a north-south rocky ridge in the southwest corner of claim 4, C. 25719, adjacent to the claim-line, 650 feet north of post No. 3.

The claims were staked in the autumn of 1946 following a gold discovery by J.R. Armstrong and J. Berry, O'Brien prospectors. Before the freeze-up, three cross-trenches were put down, on a base-line bearing N.45°W., at intervals along a length of 200 feet. Chip samples from these trenches assayed, according to company reports: 0.50 oz. in gold per ton across 21.5 feet; 1.03 oz. in gold per ton across 8.2 feet; and 0.30 oz. in gold per ton across 9 feet. Surface work was resumed March 25th, 1947. A magnetometer survey of a small section of the property, in the vicinity of the showing was completed in the spring of 1947. At the time of the writer's inspection, a crew of 8 men, in charge of Guy Lafleur, was engaged in trenching and sampling the showing with the aid of an X-ray drill.

The region is characterized by low relief and deep overburden. It is underlain chiefly by a belt of Keewatin-type volcanics and interbedded sediments, 4 to 6 miles wide, trending northeasterly, and flanked on the north and south by pink biotite granite. The volcanics consist mainly of massive and fragmental lavas intermediate in composition. They are intruded

by small lenticular bodies of granite and occasionally syenite. Conglomerate and highly altered sediments are present in varying amounts.

The showing consists of a fracture zone, 5 to 25 feet wide, in altered, acidic, tuffaceous, fragmental rocks intruded by numerous veins and stringers of milky quartz and red jasper well mineralized with massive and disseminated crystalline pyrite accompanied by gold.

The zone, which has been explored by 9 cross-trenches, Nos. 1, 1A, 1B, 1C, 2, 2A, 3, 3A, and 4 (numbered from south to north), along a length of 300 feet, appears to strike northwest and southeast, pinching out to the north and disappearing abruptly in deep overburden to the south.

The main gold-bearing zone, varying in width from 6 to 20 feet, has been traced in cross-trenches at intervals for a length of 300 feet, striking N.45°W. It consists of veins and stringers of quartz, jasper, and heavily mineralized, altered, and silicified wall rock. The alteration zone which flanks the main vein system is also gold-bearing. It consists chiefly of dark, red to black, dense, homogeneous, siliceous rocks having a flinty appearance. They are cut by narrow veinlets of jasper and occasionally quartz, which are sparingly mineralized with disseminated pyrite.

A chip sample, taken by the writer in trench No. 2, across 6 feet of well mineralized quartz, jasper, and silicified material, assayed $44.41 in gold per ton. A grab sample, taken by the writer from the same trench, consisting of glassy quartz and sparse pyrite assayed $56.70 in gold per ton. A second chip sample, taken by the writer in trench No. 1, across 6 feet of quartz, and red silicified schist well mineralized with pyrite, assayed $17.60 in gold per ton.

A small body of buff-coloured syenite, several feet in diameter, outcrops 50 feet northeast of the north end of trench No. 3. It is cut by quartz stringers mineralized with coarse pyrite and flourite.

Guy Lafleur is in charge of operations at the property. (S.H.R.-47)

Opawica Island (Siscoe Gold Mines)

(See L'Espérance township)

St. Francis Mining Co. Ltd. (Hewett Option)

Ref.: Geol. Surv. Can., Map 570A, Puskitamika Lake, 1938
Que. Dept. Mines, P.R. No. 198, 1946.

This property, consisting of 18 claims in one block, lies 2 miles southwest of Bachelor lake in the southwest quarter of Lesueur township, 90 miles north of Senneterre.

The numbers of the claims are C. 23916, claims 1 to 3; C. 23920, claims 1 to 5; C. 23921, claims 1 to 5; and C. 25239, claims 1 to 5.

A trail leads south and southwest, from the O'Brien camp on the creek about one mile west of the southwest bay of Bachelor lake, for $1\frac{3}{4}$ miles, directly to the showing in the southwest corner of claim 2, C. 23920.

The property was staked for St. Francis Mining Company following the discovery of gold-bearing quartz vein by Ed. Erickson in September, 1946. During September and October, this company explored the vein by stripping, trenching, and sinking test pits. Later, the property was optioned to F.V.C. Hewett.

The area is underlain mainly by a band of Keewatin-type volcanics and intercalated sediments, 4 to 6 miles wide, trending northeasterly. The volcanics are flanked on the north and south by large masses of pink to grey, biotite granite. They consist chiefly of massive and fragmental lavas intermediate in composition. Small, irregular bodies and dykes of granite, syenite, and acidic intrusives cut the volcanics in all directions.

The vein, striking N.80°E. and dipping 62° south, occupies a fracture zone in fragmentals and is exposed at intervals in 6 prospect pits along a length of 350 feet. It is 13 inches wide at the east end where it terminates abruptly against massive and fragmental lavas trending northeast. The vein pinches out gradually to the west. The fracture zone parallels several stream courses and ravines, which may correspond to regional jointing or lines of weakness branching from a well-defined structural (fault) valley to the east which trends N.20°E. and is occupied by a muskeg. The alteration zone, varying in width from 5 to 25 feet, but narrowing to the west, consists of dark-red to black cherty material (jasper) cut by quartz veinlets and mineralized with disseminated pyrite. Assays from a trace up to 0.2 oz. of gold per ton across 2 feet of the vein are reported by the company.

Dark, dense rhyolite, sparingly mineralized with pyrite, is exposed in a cross-trench at the edge of a ridge 220 feet north of the vein.

Exploration and prospecting was being carried out by Jim Ball at the time of the writer's inspection. In the autumn, Denis Agar was in charge of this work. In October, 1947, Hewfran Gold Mines was formed to explore the property and at the same time an option agreement was entered into with Dome Exploration for 10,000 feet of diamond drilling. (S.H.R.-47)

LIGNERIS TOWNSHIP

Ligneris Goldfields, Limited

Ref.: Geol. Surv. Can., Map 298A, 1934.

This property, consisting of 13 claims in one block, is one mile east of Authier lake in the east half of the northwest quarter of Ligneris

township, about 35 miles northwest of Amos. The most direct route to the property is by air via Authier lake. A trail leads east from Authier lake on range-line VII-VIII for 2 miles to the camps on the south shore of Brown Sugar lake, lot 32, range VIII. An alternate route follows the N.-S. centre line north from the northwest bay of Chicobi lake for $5\frac{1}{2}$ miles, directly to the camp.

The claims cover lots 26 to 31, range VII, and lots 25 to 31, range VIII, Ligneris.

The property was staked in June, 1945, by Joe Lavoie and Arthur Germain following a gold discovery in lots 28 and 29, range VIII. The 'find' consisted of a carbonatized shear zone cut by quartz stringers well mineralized with pyrite and some chalcopyrite. The claims were optioned to Dome Mines Ltd., in September, 1945. Exploration of the zone by Dome, consisting of surface work and 1007.5 feet of diamond drilling in 11 holes, Nos. 1 to 11, was directed by H. Bambrick. Assays ranging from $0.90 to $29.60 in gold per ton across 1.5 feet were reported by this company.

A magnetometer survey of approximately 500 acres of the property in range VIII was completed by Quebec Gold Mining Corporation in 1946. In June, 1946, the property was optioned to Continental Diamond Drilling Co. Diamond drilling in charge of G.H. Dumont, consulting engineer, commenced November 30, 1946, and, when drilling operations were suspended the first week in June, 1947, approximately 9,500 feet of diamond drilling in 11 holes, Nos. L-1 to L-11, had been completed along an E.-W. length of 2,770 feet.

Most of the property is low and swampy. The rocks are poorly exposed and outcrops are not abundant. The claims straddle the E.-W., Keewatin-Timiskaming contact for a distance of one mile. They are underlain mainly by sheared, altered, carbonatized lavas and fragmentals flanked on the south by Timiskaming-type sediments, chiefly greywacke. The volcanics strike E.-W. and dip steeply to the north. A rusty, carbonatized shear zone, trending east and west occurs in what appears to be a band of porphyritic, fragmental and tuffaceous lava. This band lies north of coarse-grained basic lavas and grades into lavas intermediate in composition to the north. The zone, varying in width from 50 to 100 feet, has been explored by trenching at intervals and diamond drilling along a length of 3,000 feet. Quartz and quartz-carbonate lenses, veins and stringers well mineralized with pyrite accompanied by gold, intrude the zone parallel to the schistosity.

The 'West Section' of the zone, lots 26 and 27, trending slightly south of east, has been explored by 4 X-ray diamond-drill holes, Nos. 4, 7, 8, and 9, along a length of 800 feet. Assays as high as $29.30 in gold per ton across 1.5 feet are reported by the company from this zone. The 'East Section' of the zone, lots 28 and 29, trending slightly north of east, has been explored by X-ray diamond drilling along a length of 400 feet. According to company reports, diamond-drill hole No. 5 cut a quartz-carbonate section one foot long, heavily mineralized with pyrite assaying $19.50 in gold per ton.

A wet, swampy trail leads west from the camp on Brown Sugar lake for ½ mile, to the 'East Showing' in lots 28 and 29 at the east end of the zone, 700 feet north of range-line VII-VIII. A shear zone in rusty, carbonatized volcanics, intermediate in composition, cut by milky quartz stringers mineralized with pyrite, 10 to 30 feet wide, is exposed in trench No. 1 (numbering from east to west) for a length of 30 feet. A X-section from south to north across the centre of the zone consists of rusty, sericitic schists mineralized with disseminated pyrite over 50 feet in length, and contorted lava over 30 feet. The schistosity strikes N.70°E. A grab sample, taken by the writer, consisting of silicified lava well mineralized with pyrite assayed $0.14 in gold per ton.

Barren-looking, quartz stringers, 1 inch to 6 inches wide, cutting rusty, altered volcanics, the schistosity of which strikes N.55°E., are exposed in trench No. 2, 800 feet west of trench No. 1, along a length of 50 feet. Coarse-grained andesite cut by barren, quartz stringers is exposed in trench No. 3, 250 feet west of No. 2.

The 'Middle Showing', in lot 27, is exposed in trench No. 4, 330 feet west of No. 3. It consists of quartz lenses mineralized with pyrite in cross-fractures striking N.15°W., in a rusty, sheared fragmental rock. The schistosity of the fragmental strikes N.80°E. and dips 70° to the north. The zone, trending N.35°W., is about 100 feet wide.

The 'West Section', in lot 26, is exposed in trench No. 5, 170 feet west of No. 4. It consists of stockworks of quartz veins, 8 to 10 feet wide and 40 feet long, striking N.85°E.

The westernmost showing, in trench No. 6, 640 feet west of No. 5, consists of an E.-W. band of quartz stringers 10 to 12 feet wide cutting rusty schists.

The property was inactive at time of inspection. (S.H.R.-47)

LOUVICOURT TOWNSHIP

Buffadison Gold Mines, Limited

Que. Bur. Mines, Ann. Rept., Part B, 1931, pp. 97-8.
Que. Bur. Mines, Ann. Rept., Part B, 1932, pp. 15-19.
Que. Bur. Mines, P.R. 116, 1936, p. 67.
Que. Bur. Mines, P.R. 126, 1939, p. 2.
Que. Dept. Mines, P.R. 205, 1945, Part II, pp. 34-36.
Geol. Surv. Can., Prel. Map No. 45-10, 1945.

This company holds a group of fourteen claims in the northeast quarter of Louvicourt township. The claims are numbered A-87511 to 18 and A-87953 to 58. They comprise parts of lots 35 to 43, range VII. Provincial

highway No. 59 passes close to the north boundary of the property, seventeen 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 intrusive is enclosed in altered. schistose volcanics, and is cut by dykes 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 carried out surface exploration during 1932. Louvre Gold Mines, Limited, was incorporated in 1934 to develop the property. Subsequently options were held successively by Premier Gold Mines, Teck Exploration, and Madison Gold Mines. The present company, started a programme of exploration drilling early in 1945.

In August, 1946, twenty-three drill holes totalling about 20,000 feet had been completed by the company. These, and about eighteen 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 northern lots 40 to 43, range VII.

Although gold assays were secured throughout the length of granodiorite explored, their scattered distribution and erratic value were not diagnostic of a continuous orebody. Most of the better gold assays were taken in the eastern section of the zone extending for 1,000 feet west of the Bevcourt boundary. Here, a south and a north auriferous zone have been outlined in a general way. In the south zone gold occurs at various intervals across 200 feet. Lateral correlation of the individual intersections is not apparent. The company reports one ore shoot in the zone having a length of 800 feet with an average grade of $21.70 over 3.4 feet. About 300 to 400 feet to the north the second zone also has yielded several commercial assays, which may prove to constitute mineable ore shoots.

As indicated by the drill core the gold-bearing zones consist 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. The pyrite and, consequently, the gold tenor are of erratic distribution, making the deposit difficult to evaluate by means of drilling.

In July, 1946, the company started to sink an exploration shaft to a depth of 1,000 feet in northern lot 42, 1,200 feet south of range-line VII-VIII.

Andrew Robertson was general manager, and Paul Gravel was resident engineer. Geologists from the interested companies compiled the drilling data. (W.N.I.-46)

Courtmont Gold Mines, Limited (Louvicourt)

Ref.: Que. Dept. Mines, P.R. 205, 1945, part II, pp. 38-39.
Geol. Surv. Can., Prel. Map No. 45-10, 1945.

The property of this company consists of fifteen claims in the northeast quarter of Louvicourt township. The claims cover lots 42 to 47 and west half lot 53, range IX; south half lots 46 and 47, and south quarter lots 48 to 53, range X. Provincial highway No. 58 passes one-half mile east of the property, 20 miles east of Val d'Or. One camp is located at the south end of lot 52, range X, and the other near the south end of lot 46, range IX.

Information from diamond-drilling and projected geological contacts indicate the drift-covered property is underlain by three main rock formations. These trend N.60°-80°W. and dip more or less vertically. The central section of the claim group is occupied by a band of predominately tuff and agglomerate, 3,000 feet in width. To the north of this band of volcanics, greywacke and tuffaceous sediments are found attaining a width of approximately 3,000 feet. The southern part of the property is underlain by a succession of andesitic lavas and tuffs, which contain a complex series, 1,500 feet wide, of chlorite and talc schists, peridotite sills, granodiorite and diorite dykes, and quartz-carbonate, auriferous vein zones. This group of rocks extend across the property for a length of one mile. A late Precambrian dyke of quartz diabase strikes N.20°E. across lots 52 and 53, range X.

Development work began on the property in July, 1945, when diamond-drilling of the northeast section was started. Eleven holes were completed mainly near the centre of lot 53. These were directed to explore the assumed western end of a small body of altered quartz diorite. It was found, however, that the diorite did not extend to the west, the only rocks intersected being tuffaceous sediments and the northeast-striking dyke of quartz diabase.

A magnetometer survey was carried out on the property late in 1945. In October, 1946, twenty-one more drill holes had been completed. These are distributed at various intervals across the south end of lots 42 to 47, range IX. They indicate this section is underlain by a zone of schisted volcanics invaded by numerous irregular bodies of peridotite, as well as dykes of granodiorite and diorite. Some of the dykes and the schists contain quartz-carbonate veins and stringers mineralized with fine- to coarse-grained euhedral pyrite. In other places pyrite-bearing quartz-carbonate veins ranging from one foot to several feet in width occur singly and in groups. The auriferous content of the stringer zones and the veins is moderate, most assays varying between 0.01 and 0.15 oz. of gold per ton. A hole in lot 45 yielded two high assay returns, namely, 0.80 and 0.61 oz. gold per ton for core lengths of 2.2 feet and 3.1 feet, respectively, according to company reports.

Exploration of the south zone was directed by F.J. Sugden, and Colin Johnston supervised the earlier drilling on the northeast part of the property. (W.N.I.-46)

Dikor Mines, Limited

Ref.: Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

This company owns a group of fifteen claims in the southwest quarter of Louvicourt township. The claims are numbered C. 46611-13, claims 1 to 5 in each case. They were formerly held by Norgold Mines Limited. The rough, motor road to O'Baska Lake Mines from the Vicour road passes half a mile west of the property.

The western claims are covered by the east side of a sand ridge. Except for a few small exposures of coarse-grained andesite and spherulitic intermediate lava in C. 4612, claim 4, the property is drift-covered.

During 1944, Norgold Mines, in conjunction with Lapaska Mines, put down five cross-sectional holes near the common boundary. These intersected mainly andesite with intercalated bands of tuff, and intermediate, partly spherulitic lavas cut by feldspar porphyry dykes toward the north end of the cross-section. A few very low gold assays were obtained.

Dikor Mines completed a programme of six holes drilled between May and August, 1946. Two holes in C. 4611, claim 2, cut several diorite dykes and a feldspar porphyry dyke invading the volcanics. A gold return of 0.30 oz. per ton for 1.1 feet of core was obtained in the volcanics south of the dykes. Two holes in C. 4612, claim 4; one in C. 4611, claim 1; and one in C. 4613, claim 2, explored chiefly andesite flows with narrower bands of dacite and tuff. No gold assays of importance were taken from these four holes.

S. Farquharson directed the exploration drilling. (W.N.I.-46)

Jocor Mines, Limited

Ref.: Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

This company holds a group of six claims near the centre of Louvicourt township. The claims are numbered C. 1057, claims 1 to 5, and C. 3453, claim 5. The property is readily reached from the motor road leading to the Lapaska property, which branches southwest from the Vicour road fifteen miles east of Val d'Or.

No outcrops of bedrock occur on the claims, but diorite is exposed in trenches in northern C. 1057, claim 3, and volcanics on the east boundary of C. 1057, claim 4. The Consolidated Mining and Smelting Company of Canada, Limited, optioned the claims during 1945 and completed six diamond-drill holes totalling 5,000 feet. These holes were drilled along north-south lines to cross-section C. 1057, claims 2, 3, and 5. The chief rocks intersected were volcanics consisting of tuff, agglomerate and intermediate lavas. Two dykes of diorite, 400 and 500 feet wide, were penetrated by four of the holes. Low assays for gold were obtained, but the

drilling did not encounter any mineralized zones of commercial significance. (W.N.I.-47)

Mining Corporation of Canada, Limited, The

(Northeast Louvicourt Township Claims)

Ref.: Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

This company holds a group of five claims in northeast Louvicourt township. The claims are bounded on the west by provincial highway No. 58, two miles north of the junction with highway No. 59, and 19 miles east of Val d'Or. The five claims cover lots 56 and 57, range X, lots 54, 55, and west half of 56, range IX.

No outcrops of bedrock are known on the property. Geological contacts projected laterally indicate it is underlain mainly by a band of tuffaceous greywacke striking a few degrees south of east, and it is nearly 3,000 feet wide at this locality. The sediments are adjoined on the immediate south by tuff and agglomerate, and similar volcanics lie to the north.

Following a magnetometer survey, in August, 1946, the company put down two diamond-drill holes. These are drilled north from collars 1,000 feet east of the highway in western lot 56. The holes encountered mainly tuff intruded by numerous dykes of diorite. Many of the dykes are considerably altered by the development of secondary hornblende, chlorite, biotite, and quartz. Some of these contain veinlets and stringer zones of barren-looking quartz. One three-foot dyke of minette was observed in the core. Tuffaceous greywacke, with cherty and slaty beds, was intersected approximately below lot-line 55-56. (W.N.I.-47)

Regcourt Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 38-39.
Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

Regcourt Gold Mines holds a group of 25 claims straddling the Louvicourt-Vauquelin township line at range VII. The ground held includes lots 52 to 57, range VII; lots 56-57, range VIII, Louvicourt township; and six claims adjoining in Vauquelin township numbered C.5845, claims 1 to 5; and C. 6846, claim 1. The junction of provincial highways No. 58 and 59 is at the west boundary of the property, 19 miles east of Val d'Or. One-half mile north of this junction a motor road leads one mile southeast to the shaft.

The property is underlain predominately by volcanic rocks consisting of andesite, dacite, tuff, and agglomerate. For the most part these are severely sheared. The eastern end of an elongated plug of granodiorite occurs in lots 53 to 56, range VII. A short distance to the west this

intrusive contains auriferous veins on the Bevcourt and Buffadison properties, but a series of drill holes in the Regcourt section did not encounter any significant amounts of gold. A second body of granodiorite, irregular in outline and about 1,000 feet in diameter, intrudes the volcanics underlying the claims in Vauquelin township. It is medium-grained, chloritic, sheared, and broken by fractures filled with gold-bearing quartz and pyrite.

During previous years a few surface trenches were put down in the north-central and eastern parts of the property, and a geophysical survey was carried out on the western claims. The present company started a diamond-drilling programme in the spring of 1944, and in March, 1946, forty-two holes had been completed. These total 36,875 feet.

About thirty of the drill holes are in or near the granodiorite intrusive in the eastern part of the property. Ten of these have outlined in a very general way an area approximately 450 feet long and 250 feet wide, which has yielded numerous gold assays of erratic grade and distribution. This area lies in the northwest part of the intrusive and is a fractured, silicified, and carbonatized section invaded by quartz veinlets and veins mineralized with pyrite and tourmaline. Individual auriferous zones, indicated by drilling, vary from narrow, high-grade sections some of which are adjoined by substantial widths of low-grade material, to wide and narrow intersections with a low gold content. Complexity of the fracture pattern and erratic occurrences of free gold make correlation between drill holes impossible, and evaluation of the deposit difficult.

In view of the several promising, although inconclusive, drilling intersections obtained, it was decided to sink a three-compartment, vertical shaft to a depth of 500 feet in about the centre of the gold-bearing area.

Geological exploration of the property was under the direction of H.S. Wilson. (W.N.I.-46)

Tasmaque Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part II, p. 50.
Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

The property of this Company in Louvicourt township consists of twelve claims comprising lots 52 to 59, range V. The east boundary coincides with the east township line. Provincial highway No. 58 crosses the property 21 miles east of Val d'Or.

Rock outcrops are limited to a few small exposures beside the road in lots 54 and 56. The property appears to be underlain mainly by a band 3,000 feet wide of tuff, agglomerate, and lavas intruded by bodies of diorite trending N.60-80°W.

Three drilling attempts in 1944 to penetrate the deep overburden to bedrock proved unsuccessful; the deepest hole being abandoned at an inclined depth of 190 feet in drift. Late in 1945, drilling was resumed and two holes, collared 200 feet west of the highway in central lot 54, were put down. The holes were directed north and south, respectively, for an aggregate of 1,944 feet. The former intersected agglomerate and tuff cut by quartz diorite and feldspar porphyry dykes. The quartz diorite occurs in two main bodies nearly 100 feet wide. It contains scattered, coarse, pyrite cubes and numerous quartz-tourmaline stringers in silicified zones, but no important assays in gold were obtained. The rocks in the south hole were interbanded fragmentals and basic lavas. Many of these are porphyritized, and, locally, shear zones are mineralized with patches of sulphides. Some of the flows are spherulitic with a mottled appearance caused by closely packed, bluish, siliceous nodules replacing and enlarging amygdules.

G.L. Holbrooke, assisted by J. Beardsley, was in charge of the diamond drilling. (W.N.I.-46)

Zakor Gold Mines, Limited

Ref.: Geol. Surv. Can., Prelim. Map No. 45-10, 1945.

The property of this company consists of a group of thirteen claims in Louvicourt township at the north-south centre-line of the township, astride provincial highway No. 59, 14 miles east of Val d'Or. The camp, at the northeast corner of a small lake in claim C. 5645, claim 5, is reached by means of a road leading one-half mile southeast from the highway. The claims are numbered C. 5644, claims 1 to 3; C. 5645, claims 1 to 5; and C. 5646, claims 1 to 5.

The western claims are buried by part of a broad esker of sand and gravel, and no outcrops occur on the eastern claims. Projected geological contacts indicate the property is underlain mainly by schisted volcanic rocks.

A diamond drilling programme was started to explore the claims in October, 1945, and fourteen holes had been completed in July, 1946. The first two holes were drilled north and south along the west boundary of claim C. 5644, claim 1. They intersected mainly sheared volcanics, flows, and fragmentals, cut by a few dykes of diorite and feldspar porphyry. The best gold assay, 0.07 oz. per ton for 2.3 feet of core, was found below the north end of the claim-line. The next three holes cross-sectioned north-south the rocks underlying the small lake at the boundary of Zakor and Orcour Gold Mines, Limited. Sericite and chlorite schists containing sheared dykes were the main formations intersected. One section of core, 1.9 feet in length, in a silicified carbonatized zone with sulphides, according to company records, assayed 0.17 oz. gold per ton. In dioritic rock adjacent to the north edge of the lake narrow quartz carbonate stringers were reported to have an average gold tenor of 0.13 oz. per ton for a core lenght of 7.0 feet. Many of the stringers were oriented parallel to the drill core.

Five additional holes were directed to probe the east and west extension of the south zone along 1,800 feet. One of these yielded 5 feet of core containing sparse pyrite and was reported to contain 0.17 oz. gold per ton. The other four holes yielded very low assays. Very low assays also were obtained in two holes drilled into the possible eastern extension of the north zone below the camp.

Holes Nos. 13 and 14 cross-sectioned north-south claim 5645, claim 2. Here, the volcanics were found to be predominately acidic tuff and agglomerate, all more or less porphyritized and invaded by numerous fine- to coarse-grained porphyry dykes. Considerable pyrite with chalcopyrite mineralization was encountered, but no gold deposition of importance was found.

Drilling was continuing under the direction of J.K. MacFarlane (W.N.I.-46)

MALARTIC TOWNSHIP

Adele Malartic Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940, pp. 71 and 95.

The property of this company consists of north half lots 31, 32, and 35 to 42; and lots 33, 34, range II; lot 30 and south half lots 31 to 42, range III, Malartic township. Provincial highway No. 59 passes a few hundred feet west of the west boundary of the claim group, two miles north of the town of Malartic.

Rock outcrops are scarce on the property. A few exposures occur in northern lots 31 to 34, and northeast lot 42. The claim group is underlain by a group of volcanic and sedimentary rocks striking N.60°-80°W. These formations are deformed by large drag-folds and are all more or less sheared and altered. From northeast to southwest across the property the succession of rocks is andesite and dacite; greywacke, andesite, tuff, and diorite; greywacke and conglomerate.

Most of the property was covered by a magnetometer survey carried out in 1945. A number of years ago, Wright-Hargraves Mines drilled three holes in the central band of volcanics in northern lots 34 and 35. The present company started a drilling programme in April, 1946; and before operations were suspended in October, eleven holes were completed.

The first two holes were put down along the north-central part of lot-line 42-43, to probe for the possible western extension of the Vinray property gold-bearing diorite zones. Two more holes were drilled 1,600 feet west of these in the west end of a magnetic anomaly. None of the holes intersected diorite and only one low gold assay was obtained in the

volcanics. The remaining seven holes were directed to probe the central band of sheared volcanics in lots 34, 35, 36, and 38. These penetrated several zones of quartz veinlets and mineralization carrying small amounts of gold.

The drilling was carried out under the direction of W.R. Bacon. (W.N.I.-46)

Bradnor Malartic Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940.

The property of this company consists of a group of sixteen claims in the southwest corner of the southeast quarter of Malartic township. The claims comprise lots 40 to 44, range I, and south half lots 35 to 45, range II. They may be reached by a wagon road leading two miles northeast from the town of Malartic.

A few outcrops occur in the southern part of the property, but virtually none are known in the northern section. Surface geology and diamond-drill core indicate that the claims are underlain by successive bands of volcanics and sediments striking N.50°-70°E., and dipping steeply north. A section from northwest to southeast across the property includes a width of 2,000 feet of volcanics and diorite, 1,700 feet of greywacke, 700 feet of andesite and basic tuff, 1,300 feet of amphibolitized and chloritized greywacke, and 2,200 feet of conglomerate and greywacke.

A programme of exploration drilling was carried out during the summer of 1946. The first two holes were drilled immediately south of the lake in lot 43, range I, to cross-section the south band of volcanics. Several zones of shearing with silicification, carbonatization, quartz veinlets and pyrite mineralization were found, but these yielded either no gold or only very small assay returns.

Eight additional holes, aggregating 4,917 feet were put down in the northeast corner of the property in central lots 43, 44, and 45. One hole in eastern lot 43 cut mainly andesite, and yielded three gold assays of note in silicified andesite mineralized with pyrite and pyrrhotite. According to company reports these assay results were as follows: 0.36 oz gold per ton for 5.0 feet of core; 0.11 oz. gold per ton for 2.2 feet; and 0.09 oz. gold per ton for 3.9 feet. Five holes, spaced 100 feet apart near the lot 44-45 boundary, were put down in the southeastward extension of the auriferous diorite zones of Vinray Malartic Mines. The centre three of these gave four interesting gold assays in silicified diorite cut by quartz-tourmaline veinlets and showed scattered pyrite, pyrrhotite, and chalcopyrite. The reported assays were 0.16 oz. gold per ton for 3.3 feet, 0.18 oz. gold per ton for 3.5 feet, 0.10 oz. gold per ton for 20.0 feet, and 0.22 oz. gold per ton for 2.6 feet. Two holes were drilled along lot-line 45-46 covering 1,300 feet south from the centre of the line. These produced a few very low gold assays in andesite, tuff, and diorite.

The drilling was carried out under the direction of W.R. Bacon, R.W. Dempsey and K. Thomson. (W.N.I.-46)

Britt-Malartic Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part II, pp. 52-54.

This company holds a group of claims straddling the Malartic-Fournière township-line and the Malartic centre-line. The property includes lots 32 to 39, range I, Malartic township, and six adjacent claims numbered A-60208-60213 extending south and east in Fournière township. A waggon road leads northeast from the town of Malartic for three-quarters of a mile to the camp in claim A-60213.

Outcrops are scarce on the property except for an area at the north end of lots 35 and 36. The property appears to be underlain mainly by conglomerate, and to a lesser degree by greywacke, of the Cadillac group. The southern part of a band of sheared Blake River volcanics may cross the northeast corner of claim A-60212.

A veined and mineralized zone is exposed in greywacke in western claim A-60212. It has been traced for 1,100 feet along a strike of N.60°W. From fourteen channel samples taken across the zone by the Company, the best assay obtained was 0.06 oz. in gold per ton for 4.5 feet.

During the spring and summer of 1945, the Company carried out a programme of diamond drilling. Nine holes were started, of which two, Nos. 2 and 7, were lost in overburden, and seven, totalling 5,014 feet, entered bedrock. The rocks intersected consisted entirely of Cadillac conglomerate and greywacke.

Drilling was resumed on the property in February, 1946, and a total of 4,215 feet in seven holes, numbered 10 to 16, was completed in May, 1946. Most of the rock intersected was conglomerate with a few interbedded layers of greywacke. Three of the holes near the centre of lot 38, one drilled 200 feet west of the cross-section line, and two with a slope overlap, penetrated a zone of a strong shearing, moderate silicification, light pyritization, and quartz veinlets. This zone is about 10 feet wide and the indicated strike is N.60°E. with a dip of 85 degrees south. Although a speck of visible gold is reported in the core, only very low gold assays were obtained from the three intersections. Another zone of sheared, veined, pyritic conglomerate, 15 feet wide, was found in a hole at the north end of the cross-section, 200 feet north of the Malartic river in lot 39. One sample from the zone representing 2.8 feet of core showing pyrite and chalcopyrite was reported to assay 0.12 oz. gold per ton. Thirty-six feet deeper in the hole, a second gold return of 0.09 oz. per ton for 0.4 foot of core was obtained.

J.C. Honsberger directed the 1945 drilling, and E.L. McVeigh acted as consultant during the 1946 exploration. (W.N.I.-46)

Charlebois & Bélanger Property

Ref.: Geol. Surv. Can., Memoir 222, 1940, p. 93.

This property, formerly known as La Salle Gold Mines, is in the northwest quarter of Malartic township, adjacent to the southwest shore of Malartic lake. It consists of parts of lots 15 to 25, range VII, and six water claims in the lake numbered A-74688, A-67416-18, and A-67704-05. A motor road leads east from Heva Corner for three miles to the camp in southern lot 19.

The property is underlain chiefly by volcanics trending northwest and consisting mainly of basic to intermediate flows in the southwestern area, and tuffs in the central section. Greywacke and conglomerate are exposed across 500 feet in lot 21 in a relatively narrow zone, which appears to be an infolded and faulted wedge in the volcanics. Sills of granodiorite invade the volcanics north of the sediments, and numerous acidic porphyry dykes intrude the tuffs. The latter are severely sheared, and the dykes are frequently fractures and mineralized with disseminated sulphides. Gold-bearing quartz veins occur a short distance to the southeast in lot 21 on the adjoining Malartic Lakeshore property.

While under option to Tanaur Yellowknife Mines ten drill holes, totalling 6,110 feet, were put down on the property between March and June, 1946. Four of the holes cross-sectioned lot 19 between the road and the lake, and four are distributed to the northwest and southeast of the cross-section in lots 18 to 20. The holes intersected the sedimentary band and strong zones of shearing, carbonatization and granitization with scattered mineralization in the tuffs on each side of the sediments. Several wide, heavy shear zones marked by carbonatization, silicification, chlorite, talc, and pyrite occur up to 1,000 feet south of the sediments. One narrow quartz vein was traced along 1,400 feet in the drilling, but it yielded only low assays in gold, the best assay reported being 0.05 oz. gold per ton. In spite of considerable sulphide mineralization and severe fracturing in the dykes invading the schisted volcanics, no commercial gold tenor was obtained.

One hole was drilled northeast from the southwest corner of lot 22, across the projected strike of the Malartic Lakeshore veins. The last one to be drilled was directed northeast to cut small cross-faults exposed on the shore of Malartic lake in lot 22. Neither of them yielded any important gold assays.

G.F. Flaherty acted as consulting geologist during the drilling, and he was assisted by Denis MacCartney. (W.H.I.-46)

Citralam Malartic Mines, Limited

Ref.: Que. Dept. Mines, P.R. 190, 1944, Part III, pp. 3-4.
Que. Dept. Mines, P.R. 205, 1945, Part II, pp. 50-52.

Citralam Malartic Mines holds a group of twenty-four claims forming a block straddling the Malartic-Vassan township line. The claims cover

lots 56, 57, and the south half of lot 58, range III; lots 56 to 64, range II, Malartic township; and lots 1 to 7, range II, Vassan township. The property may be reached by a motor road extending two miles north from provincial highway No. 59, at a point 5 miles east of the town of Malartic.

Except for a few outcrops in the western claims, the property is almost completely drift-covered. The present company started a diamond-drilling programme in the spring of 1944 and put down seventy-seven holes before operations were suspended in May, 1947.

The main auriferous zone of Norbenite Malartic Mines trends northwest toward the adjoining Citralam ground. This northwest extension has been explored with seventeen holes distributed along 6,500 feet to the west boundary of the property. Two of the holes, one in lot 58 and the other in lot 60, are reported to have cut gold-bearing sections assaying 0.20 oz. gold per ton for 4.5 feet, and 0.18 oz. gold per ton for 5.0 feet of core. Holes put down close to these failed to provide similar results. Numerous low assays in gold were had from most of the other fifteen holes of the group.

Five holes distributed along 400 feet in the northwest corner of lot 56 were used to test the possible eastern extension of a gold-bearing zone on the adjoining Hugh Malartic property. The holes intersected low-grade mineralization, the best assays obtained being 0.11 oz. gold per ton in 3.0 feet of talc-carbonate-chlorite schist and 0.05 oz. gold per ton in 3.5 feet of silicified fractured syenite.

Following a magnetometer survey, in 1946, the company began work on the eastern part of the property to explore magnetic anomalies, and to search for the possible northwest extension of gold-bearing formation on the Malartic property adjoining on the southeast. Holes numbered 59 to 77 were completed during this programme.

A three-hole cross-section of southern lot 5, range II, Vassan township, encountered andesite and peridotite and derived chlorite and talc schists invaded by a host of acidic dykes. The dykes vary from a foot to 200 feet in width, and include granodiorite, feldspar porphyry syenite, diorite, and aplite. Strong shearing was observed in 75 feet of core from below lot-line 4-5, 100 feet north of range-line I-II. At a point 700 feet north of the range-line in lot 5, a section of vein quartz, 30 feet in core length and containing a 5-foot dyke of mineralized aplite, was discovered. Eleven feet of the vein was reported to have a gold content of 0.12 oz. per ton. Five holes covering the area for 300 feet northwest and 400 feet southeast of the vein failed to establish a significant length of persistence of the gold content, but other interesting assays were obtained across narrow widths of silicified and mineralized portions of acidic dykes.

A second three-hole cross-section was drilled from the west side of Vassan lake diagonally across lot 3. The rocks probed were mainly andesite intruded by numerous dykes of granodiorite, diorite, and syenite. Four other holes were put down in lots 3 and 4 between the two cross-sections and another penetrated below the north end of Vassan lake in lot 4.

Granodiorite bodies ranging to 400 feet wide were found, as well as scattered sulphides, narrower silicified dykes, and mineralized shear zones, but most of the gold assays obtained were low.

E. Goranson and J.P. Norrie, followed by W.R. Bacon and J.C. Honsberger directed the exploration of the property. (W.N.I.-47)

East Amphi Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940, p. 65-67.
Que. Bur. Mines, P.R. 161, 1941, p. 25.

East Amphi Gold Mines, Limited, was incorporated in 1942 to develop two claim groups in Malartic township. The two claim groups are in the southwest quarter of Malartic township and are separated by four lots held by Parbec Malartic Gold Mines. The groups are part of large holdings formerly held by the Amphi Gold Syndicate. The West group is comprised of 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 C.N.R. Senneterre-Rouyn line 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 one and one-quarter miles to the new shaft site in lot 20.

The dominating geologic feature of the area is the Cadillac fault zone, which crosses both groups in a northwest-southeast direction. Six thousand 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 volcanics 2,000 to 4,000 feet wide, known as the Cadillac belt. Numerous dykes, sills, and irregular bodies of quartz-feldspar porphyry, diorite, syenite, and albite-granite occur in the schists of the fault zone and formations adjacent to the south. The gold mineralization is closely associated structurally with these intrusives and areas of drag-folding.

South of the Cadillac volcanics belt the rocks are mainly greywacke of the Kewagama group. North of it, interbedded sediments of the Cadillac group consisting of conglomerate and greywacke extend for one and one half miles.

Prior to 1937, Amphi Gold Syndicate carried out preliminary surface work on the West group and did some drilling on the north half of lots 8 and 9, range II, on the south side of the Cadillac belt. In 1937, International Mining Corporation optioned this group and did surface exploration along the Cadillac belt of volcanics. While under option to Howie Gold Mines and Associates during 1940-41, eight drill holes totalling 5,017 feet were put down in the West group and near the same Cadillac belt. No gold mineralization of importance was discovered by this development work.

Early exploration on the East group of claims was carried out by Laurentian Gold Mines during 1923 to 1927. This work was done mainly in southern lots 16 and 17, 1,500 feet south of the Cadillac fault, where a small body of mineralized albite granite and numerous dykes intrude the Kewagama 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 northwest of the fold, is invaded by a large number of veins, veinlets, and irregular patches of white quartz. Some of the vein quartz is sparingly mineralized with pyrite, chalcopyrite, and galena. In 1928, Cartier Malartic Gold Mines carried out diamond drilling, and sank a shaft in the veined intrusive in southern lot 17 to a depth of 100 feet followed by over 100 feet of lateral drifting. The writer has no information on the results of this development work, and apparently no work has been performed on the zone since operations ceased in 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 optioned the East group and before the agreement lapsed in 1938, they put down eighteen drill holes aggregating 13,000 feet, also two holes drilled jointly with Parbec Gold Mines totalling 1,070 feet. Early in 1939, Canadian Malartic Gold Mines next optioned the groups and completed 5,540 feet of drilling in seven holes. In the spring of 1940, both groups were optioned to Howie Gold Mines, which completed thirty-two holes totalling 15,651 feet on the East group before operations were suspended in 1941. About twenty holes were put down during 1944-45 by the present company. A shaft was started early in 1946, in southeast lot 20, and in August, 1946, 200 feet of the 500-foot depth objective had been reached.

Ten of the drill holes form three cross-sections of the favourable Cadillac volcanic belt. One cross-section is at the Parbec boundary (lot-line 15-16); 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 volcanics. This exploration was not productive of important gold assays.

Some fifty drill holes are distributed across southern lots 16 to 23, range I, at different intervals along 7,500 feet of the south part of the Cadillac belt of volcanics. They indicate this drift-covered length is a zone of intense shearing and alteration invaded by a group of acidic porphyries and dioritic bodies of irregular outline. Gold was found in almost every drill hole, but, except for a significant section in lots 20, 21, and 22, most of the assays were below mineable grade. From lot 20, for 3,800 feet to the west boundary of the property (lot 16), most of the drill holes are widely spaced, so that the ore-bearing possibilities are not completely tested. In lots 20 to 22, thirty drill holes directed to the main fault zone have indicated several auriferous shoots occuring intermittently along 3,000 feet. Plotting of the core assays shows sufficient alignment in some places to suggest continuous ore shoots, such as one at the west side of lot 20, where four intersections, representing a length of 300 feet which varies in width from 5 to 18 feet, contain gold returns

ranging from $2.10 to $21.85 per ton. Other gold assays, which cannot definitely be correlated, were obtained for an additional 2,000 feet southeast of the above shoot. They occur at various intervals across a width as great as 400 feet, and probably are diagnostic of a series of parallel and overlapping, or overlapping, shoots.

Technical development of the property was directed by Howie Gold Mines, whereas B. Basserman, manager of the Sladen Malartic Mine, was supervising the contract shaft sinking and lateral underground work. (W.N.I.-47)

Hugh Malartic Mines, Limited

Ref.: Que. Bur. Mines, P.R. 116, 1936, p. 43.
Geol. Surv. Can., Mem. 222, 1940.
Que. Dept. Mines, P.R. 190, 1944, pp. 4-6.

This company holds a group of twenty claims in the southeast quarter of Malartic township. The Malartic-Fournière township line forms the south boundary of the claim-group and it extends for three miles north with a width of four and five lots. The claims cover lots 52 to 55, range I; lots 52 to 55, and south half lot 51, range II; lots 51 to 55, range III. A trail leads north for two miles to the camp in central lot 56, range II, from highway No. 59 at a point four miles east of Malartic town.

The northern section of the property appears to be underlain mainly by andesite. Peridotite sills and lenses predominate in the central area. Towards the south the claims are underlain by a series of intercalated tuffs and diorites 3,000 feet thick. These strike N.70°W., but are foliated in an east-west direction. Projected geological contacts indicate the southwest corner of the claim-group is underlain by greywacke. The volcanics are invaded by syenite, feldspar-porphyry, and granodiorite bodies, in addition to the peridotite and diorite. Geophysical magnetic work suggests that the east nose of a large drag fold lies in the north-central part of the property.

Part of the property was formerly held by Ascot Gold Mines and, in 1936, this company drilled a north-south cross-section of six holes. These explored 2,100 feet of ground along the south part of lot-line 55-56, range II. Three short holes and one long hole were also drilled at this time in southern lots 54 and 55, range II. It is reported that some of the holes yielded low gold assays.

The present company started a drilling programme early in 1944, and, before operations were suspended in April, 1947, sixty holes were completed. Several groups of cross-sectional holes in range II, explored southern lot-line 50-51, central lot 54, northern lot 55, and the central part of lot-line 55-56. One cross-section in range III, tested the southern section of lot 55.

Twelve holes were put down west of the cross-section in northern lot 55. These extend as far west as lot 53. Scattered gold assays, ranging

up to 0.30 oz. per ton for five feet of core, were found in association with acidic dykes in talc-chlorite shear zones.

Twenty-five holes were drilled in central lot 55. These were put down to explore the area west and south-west of a gold assay of $15.00 per ton for 7.2 feet of core obtained in the north hole of the cross-sectional series along central lot-line 55-56 (east boundary of the property). Five of the holes outlined an auriferous zone, which appears to strike N.25°E., for a length of 225 feet. The width of the zone varies from 2 to 14 feet and the average grade is approximately 0.20 oz. gold per ton, according to company reports.

The remaining holes were directed in various directions in central lot 55 to explore the ground in the vicinity of an early intersection of 29 feet of core, with an average gold content of $4.50. Numerous gold-bearing intersections were obtained near and in a small diorite plug, diorite dykes, and syenite dykes. The intrusives were often well mineralized and invaded by quartz-carbonate veinlets, but most of the better gold assays were over narrow widths, and in general it was impossible to correlate the assays from hole to hole.

Exploration of the property was under the direction of J.C. Honsberger and afterwards by W.R. Bacon. (W.N.I.-47)

Malartic Lakeshore Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, p. 96, 1940.
Que. Bur. Mines, P.R. 150, p. 36, 1940.
Que. Bur. Mines, P.R. 116, 1936, p. 43.

Malartic Lakeshore Gold Mines holds a group of eight claims in the northwest quarter of Malartic township. The claims cover lots 19 to 24, range VI, and south half lots 20 and 21, range VII. A motor road leads east from Heva Corner for 3 miles to, and beyond, the camp in central lot 21, range VII.

The property is underlain mainly by basic lavas and tuffs, and these are intruded by numerous porphyry dykes. A wide dyke-like body of coarse-grained diorite is exposed in lots 19 and 20, with a trend parallel to the northwest strike of the enclosing volcanics. Sills of peridotite invade the greenstones to the north of the diorite in the same lots. Sedimentary rocks, consisting of greywacke, impure slate and conglomerate, are exposed across 500 feet in central lot 21. This band appears to be an infolded and faulted wedge within the greenstones. Granodiorite sills occur north of the sediments. The formations outcropping and drilled in the range VII part of the property are severely sheared or brecciated and are diagnostic of a strong zone of fault movements in a northwest-southeast direction.

The main showings, in lots 20 and 21, range VII, are described in detail in the references cited above. Numerous quartz veins, varying

in width from a few inches to 20-foot lenses, have been opened up in rock trenches excavated in 1936 and prior to that time. On surface the veins attain lengths of up to 450 feet. They are sparingly mineralized with pyrite, small amounts of chalcopyrite, sphalerite, and galena, and variable amounts of gold and silver.

In the earlier development work over 3,000 feet of trenching, and 3,000 feet of diamond drilling in six holes were carried out. Moreover, a shaft was sunk to a depth of 30 feet in lot 21, near the road. In the drilling programme started in 1946, 14 holes had been completed when the writer visited the property in July. These were directed to explore the area of main showings in southern lots 20 and 21. Five of the holes were drilled along 1,100 feet of the favourable zone giving a NE.-SW. cross-section. The remainder were drilled at various points along 700 feet of the NW.-SE. strike of the veins. Although considerable high-grade vein material was reported from the earlier surface sampling, for the most part, the intersections of the veins at depth were narrow and the assays low. A few core lengths containing up to 0.17 oz. gold per ton for 1.0 foot were obtained, according to company reports.

George Moody was acting as consulting engineer for the company. (W.N.I.-46)

Malartic River Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940.

The property of this company consists of a group of sixteen claims in the southeast quarter of Malartic township. The claims form two blocks of ground touching at one corner. They cover lots 43 to 50, range III, and lots 36 to 43, range IV. A motor road, branching from highway No. 58 at a point 4 miles north of the town of Malartic, leads east for one and one-half miles ending at the Malartic River in the northwest part of the property.

Bedrock crops out at numerous places on the claims. The northwest portion of the property is underlain mainly by a series of volcanic rocks comprised of basic to acidic lavas and pyroclastics trending NW.-SE. The volcanics are intruded by several sills of diorite and peridotite, as well as dykes of quartz-porphyry, feldspar-porphyry, syenite, and granodiorite. In the southeast area of the property the volcanics and diorites are bent around the northeast nose of a large drag fold.

Prior to diamond drilling, the company carried out surface trenching at various localities on the claims, prepared a geological map of the outcrops, and conducted a magnetic survey. During the period from January to May, 1946, seventeen diamond-drill holes, totalling 12,585 feet, were completed. Three of these explored the south end of lot 36, range IV, and five were drilled on a section across the southern and central part of lots 40 and 41, range IV. The remaining nine holes cross-sectioned in three places the complex area of diorites and volcanics in central and southern

lots 45 to 49, range III. Most of the holes yielded numerous low gold assays ranging between $0.17 and $1.05 per ton. One of the holes at the south end of lot 36, range IV, produced 1.5 feet of core said to contain $3.88 in gold per ton, and another 1.0 foot, $3.50 in gold per ton, from well mineralized and silicified andesite. A hole drilled north from rangeline III-IV into lot 49, intersected nine feet of sheared diorite near the north margin of a folded sill several hundred feet wide. The zone carries pyrite, pyrrhotite, and arsenopyrite mineralization, and a core length of 2.0 feet assayed $4.20 in gold per ton, according to company reports.

The exploration of the property was carried out under the direction of Paul D'Aragon. (W.N.I.-46)

Norbenite Malartic Mines, Limited

Ref.: Que. Dept. Mines, P.R. 190, 1944, Part III, pp. 6-8.

A group of sixteen claims straddling the south end of the line between Malartic and Vassan townships constitutes the property of Norbenite Malartic Mines. 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 one and one-half miles to the property from the Val d'Or-Rouyn highway, at a point five miles east of Malartic.

A thick mantle of overburden covers most of the property. Geological contacts projected laterally indicate it is underlain mainly by volcanics, except for the south end of lots 56 and 57 where the north margin of a band of sediments occurs. The volcanics 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 dykes 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 volcanics.

The company began a drilling campaign in November, 1943, and before an exploration shaft was started in July, 1946, sixty-six holes totalling nearly 40,000 feet had been completed.

The first thirteen holes cross-sectioned lots 63 and 64 in a direction N.19°W. In addition to several core-lengths of up to four feet carrying 0.09 oz. of gold per ton in the central part of the cross-section a gold-bearing area with a higher tenor and greater widths was discovered in the north part of the cross-section. Subsequent drilling of some thirty-seven holes at various intervals has served to trace this zone along its strike of N.60°W., for a length of about 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 northern lots 3 and 4, Dubuisson township, on the Marbenor Malartic property, has been traced by fifteen drill holes along a

N.50°W. strike for 3,000 feet. The zone is partly characterized by a diorite dyke invaded by albitite dykes, the two attaining an average width of some 30 feet. They are followed in part by a quartz vein ranging up to five feet wide. The dykes are sheared and fractured, and they occur within a talc-carbonate shear in the volcanics. The distribution and grade of gold is quite erratic. Intersections in a few holes carry no gold, others vary from 0.09 oz. per ton across five feet to 0.40 oz. per ton across half a foot, and one return of 0.09 oz. per ton for 17.7 feet of core was reported.

The main zone lies 2,000 feet north of the above. In exploration by diamond drilling at intervals of 100 to 500 feet for a mile in length, there are probably several gold-bearing shoots. Earlier drilling in the northwest section indicated parallel lenses varying from a few feet to thirty feet wide of shearing, alteration, and mineralization in, and associated with, dykes of basic syenite and diorite. Reported gold assays range from 0.25 oz. per ton for a core-length of 3.7 feet to 0.10 oz. 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 they are closely spaced. However, in the central section (lots 1 and 2) a number of assays have been mutually related which appear to outline an auriferous shoot at least 900 feet long, averaging 23 feet wide, and grading approximately 0.20 oz. of gold per ton. In places sampling of the core gave lower gold returns across almost continuous widths ranging up to 118 feet.

This main structure is a strong north-dipping zone of shearing some 200 feet wide lying between a wide sill of granodiorite on the south and a horizon of massive peridotite on the north. Undoubtedly it extends diagonally to both the north and south boundaries of the property and beyond.

The shaft is in lot 2, range I, Vassan township, 1,300 feet north of the township line, at the east end of the 900-foot section mentioned above. It was sunk to a depth of 500 feet with levels established at 250 feet and 500 feet. In August, 1947, the main gold-bearing structure had been drifted along for 500 feet west and 500 feet east of the shaft on the 250-foot level. On the 500-foot level, west drifting had reached a distance of 500 feet, and work east of the shaft extended for 400 feet. Also a cross-cut had been driven north for 400 feet from the shaft on this level.

The shaft enters the north-dipping body of granodiorite a few feet above the 500-foot level station. Sheared volcanics and diorites occur between the granodiorite and the 30- to 60-foot wide dyke of basic syenite, which is the main host-rock of the gold mineralization. The dyke is highly fractured and invaded by a net-work of quartz stringers and veinlets, both the vein material and the dyke being mineralized with pyrite and minor chalcopyrite. Sphalerite is of rare occurrence. 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, and the best assays are obtained where the quartz veinlets are most concentrated.

North of this dyke the cross-cut exposes chlorite and talc-chlorite schists derived from andesite, diorite, and peridotite. The ore-dyke

is enclosed on both sides by intensely sheared zones several tens of feet in width. The dyke has been displaced by many small cross-slips and by several cross-faults in which the west side moved north for distances ranging from a few feet to 75 feet.

The drifts on both levels follow in or near the ore-dyke, and sampling of these, along with short horizontal drill holes directed into the dyke in places were it is faulted away from the drift, indicates that most of it is below ore-grade, except for one section 250 feet in length located 180 feet west of the shaft. However, east of the shaft the results of surface drill holes were not high and it was not expected that much commercial material would be found underground. West of the shaft the drifting had so far extended only half way along the favourable section indicated by surface holes.

M.D. Isbister is mine manager and E.A. Goranson is consulting geologist. (W.N.I.-47)

Parbec Malartic Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940, pp. 107-109.
Que. Bur. Mines, P.R. 116, 1936, p. 43.
Que. Bur. Mines, P.R. 150, 1939, p. 37.

This company, formerly known as Partanen Malartic Gold Mines, holds a group of seventeen claims in southwest Malartic township. The claims comprise lots 7 to 15, range I, south half lots 8 to 11 and lots 12 to 15, range II. The Senneterre-Rouyn branch of the C.N.R. crosses the property diagonally from southeast to northwest. The camp in central lot 11, range II, may be reached by walking one and three-quarter miles northwest along the railway from the East Amphi shaft. This shaft is one and one-half miles by motor road from the town of Malartic.

The property lies astride the Cadillac fault zone for approximately 6,000 feet along a N.60°W. strike underlying lots 10 to 15, range II. The fault is marked by intense shearing across several hundred feet and lies within a band of basic volcanics 2,000 feet wide, known as the Cadillac belt. The shearing is most pronounced along the south margin of the volcanics. Numerous dykes, sills, and irregular bodies of quartz-feldspar-porphyry and diorite ranging in width from a few feet to 150 feet occur in the schists of the fault zone and adjacent formations.

The rocks south of the fault zone are Kewagama greywacke intruded by small masses of syenite-porphyry and albite-granite, particularly in the southeast section of the range-I portion of the property. North of the volcanics the rocks are greywacke and conglomerate.

Prospecting and trenching carried out as early as 1926 in lots 11 to 14, range II, revealed schistose, pyritic, greywacke and porphyry cut by quartz-tourmaline veinlets and containing a few patches of native gold. The main showing, called the "discovery zone" is in lot 13, in the

north edge of the sediments adjacent to the Cadillac fault zone. Other early surface work was carried out by Precambrian Holdings, Limited. Drilling started in 1934 and was sponsored by Read-Authier Mines and by Ascot Mines. Partanen Malartic Gold Mines, Limited, was formed in 1936 and, before work was suspended in 1938, forty-eight drill holes were put down. Following geophysical work three more holes were drilled. Toburn Gold Mines, Limited, held an option on the property during 1941, during which time they completed twenty-four drill holes and deepened two old holes. In 1944, Parbec Malartic Gold Mines, Limited, acquired the property from Parbec Gold Mines, Limited, which had been formed in 1938 as a subsidiary of Partanen Malartic Gold Mines, Limited. During 1944 to the spring of 1945, fifteen more holes were bored. A total of about one hundred drill holes, aggregating about 43,500 feet, have been put down on the property. In July, 1946, a shaft was started in lot 11, 400 feet south of the railway. It was sunk to a depth of 50 feet when operations were suspended in September, 1946.

Eleven of the drill holes are distributed along four parallel, northeast-southwest, cross-sections of the Cadillac volcanic belt adjoining north of the Cadillac fault zone. Seven holes were drilled between the cross-sections. The majority of the gold assays recorded are 0.16 and 0.14 oz. gold per ton in two holes 1,000 feet apart.

About eighty of the holes are distributed at various intervals along 600 feet in or near the Cadillac fault zone along the south contact of Cadillac volcanics and Kewagama greywacke. They have outlined in a general way three gold-bearing zones and have intersected other scattered gold occurrences within the fault zone. These are designated the No. 1 or camp zone, the No. 2 zone, and the No. 3 or discovery zone. The camp zone lies below the railway in lot 11. It is localized in the northern part of the main fault zone, which here reaches a maximum width of 500 feet and transects a drag-folded area. The gold is closely associated with irregular bodies of porphyry and diorite lying in the greenstone schists. Scattered gold assays of possible commercial importance were obtained for a length of 600 feet and across a width of 5 to 100 feet. Within this area individual gold returns were erratic in distribution, grade, and width.

The No. 2 zone lies below lot-line 12-13, a few feet north of the railway line. The gold occurs in siliceous syenite, feldspar-porphyry and diorite in the northern part of the main fault zone. Nine drill holes have been put down in this section, and, according to Company reports, two gold-bearing shoots each 50 feet long are indicated. One of these is said to average $7.00 in gold per ton across a core width of 3.1 feet; and the other $13.00 in gold per ton across a core width of 2.4 feet.

The No.3 or discovery zone is in lot 13, 2,000 feet southeast of the camp zone. Although gold has been indicated at various intervals across a 400-foot square area, the majority of the better assay returns are closely related to the northwest end of a body of siliceous porphyry in volcanic and sedimentary schists of the Cadillac fault zone. This porphyry is approximately 100 feet wide and probably contains several auriferous shoots, but the erratic distribution of the assays makes it impossible to correlate the drilling results. About twenty drill holes in the zone giving intersections at various depths have yielded assays varying from nil to $42.00 in gold per

ton. The uncut, unweighted average of twenty-two gold returns, all above 0.10 oz., is 0.25 oz. per ton across an average core width of 4 feet, by company records.

The consulting engineer for the company was R.D. Hoffman. (W.N.I.-47)

Vinray Malartic Mines, Limited

Ref.: Geol. Surv. Can., Mem. 222, 1940.

The property of Vinray Malartic Mines, Limited, consists of nine claims in the southwest quarter of Malartic township. The claims cover the north half of 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 two miles north of Malartic and going east along range-line II-III to the Malartic River and then southeast for a total distance of two and one-half 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 limited 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.

During the period between January and July, 1945, the company put down ten drill holes. Seven of these form a north-south cross-section along lot-line 50-51, extending for 3,400 feet south of range-line II. The group of holes intersected chiefly andesite, minor intermediate volcanics and tuff, narrow peridotite sills, granodiorite dykes, and dykes of albitite and siliceous syenite. Near the north end of the cross-section assaying of the core from one hole yielded a gold tenor of 0.04 oz. per ton for six feet, consisting of diorite intruded by quartz-carbonate stringers and sparsely mineralized with pyrite. Two holes were drilled in northeast lot 51. These cut mainly basic lavas, tuff, and peridotite. A few samples, very low in gold content, were obtained. One hole was drilled south along lot-line 49-50 at a point 550 feet south of range-line II. Seven and one half feet of silicified, carbonatized volcanics from this hole gave an average gold assay of 0.03 oz. per ton.

Following a magnetometer survey during the summer of 1945, diamond drilling was resumed in January, 1946, and twenty holes has been completed in June, with drilling continuing. Most of the holes were located in northern 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 this fold were characteristically low, the best results in this section reported

by the company being 13.8 feet at $4.97, 5.0 feet at $4.23, and 3.0 feet at $5.39 in gold per ton. No lateral extension was found for these intersections in holes drilled 100 feet to the east and west.

If an approximately east-west trend is assumed for the gold-bearing sections (this is suggested to some degree by the distribution of intersections) an auriferous zone has been outlined by drilling at 50-foot intervals for a length of 400 feet in the southern part of the diorite nose. Company reports show that the gold content along this 400 foot length is erratic in grade and width ranging from 1.4 ft. at $3.08 to 33.5 ft. at $8.47 in gold per ton. The normal average is probably about 5 feet wide and the grade too inconsistent to estimate. There are indications of a second gold-bearing shoot 100 feet north of the above. Here the average width of mineralization is 6 feet and the grade, as calculated from 5 intersections along 350 feet, is $2.85 in gold per ton.

Two holes drilled 250 feet and 300 feet east of the above group of holes each intersected several gold-bearing horizons, but again lateral corelation is not apparent. Five feet of core from one of the holes, which contained a two-inch vein stringer carrying visible gold, is reported to have assayed $266.18 in gold per ton. At a corresponding depth in the adjoining hole 3.3 feet of core assayed $3.85 in gold per ton.

Three holes spaced at 650-foot intervals have been directed to explore the north limb of the drag fold. Two of these produced no significant results, and the third, located 1,800 feet northeast of the nose of the fold, in north-central lot 45, had an intersection of 2.7 ft. at $6.54 in gold per ton from a zone of well mineralized diorite intruding tuff.

Exploration of the gold-bearing zones was continuing under the direction of J.C. Honsberger as consulting engineer, W.R. Bacon as geologist, and K. Thompson as resident engineer. (W.N.I.-46)

McKENZIE TOWNSHIP

Gabriel Fleury Claims

Ref.: Que. Bur. Mines, Ann. Rept. 1936, Part A, p. 95.
Geol. Surv. Can., Mem. 185, 1935.

This property, consisting of 4 claims, C. 7621, claims 3 to 5 and C. 8968, claim 1, is midway between Gilman and Antoinette lakes in the southwest quarter of McKenzie township. The claims may be reached by following a portage trail northwest from Cedar Bay for $1\frac{1}{4}$ miles, to the southeast bay of Gilman lake. A good trail (Antoinette Lake Portage) leads west from the west shore of Gilman lake, for one and one-third miles across sand plain, to the camps in the southwest corner of claim 5, C. 7621, 200 feet south of a small creek. An alternate route exists connecting the property

with Coleman bay for 3¼ miles, to the southeast. A trail along the west bank of the creek leads directly to the shaft in claim 3, C. 7621, ½ mile northeast of the camps.

The property was worked first by Central Chibougamau in 1936. After building 4 camps, diamond drilling, and sinking a single-compartment, vertical shaft to a depth of 40 feet the company went bankrupt. The ground was re-staked by Gabriel Fleury in the spring of 1944.

The claims are underlain mainly by gabbro. A quartz vein, 5¼ feet wide, intruding a strong shear zone, is exposed in the shaft and prospect pits for a length of 200 feet. It terminates abruptly 90 feet west of the shaft and disappears in low ground 100 feet to the east. It strikes S.85°E. and dips 55° to 65° to the south.

The vein and shear zone, which north of the shaft is 12 feet wide, are well mineralized with coarsely crystalline and massive pyrite accompanied by calcite and gold. In the shaft, where the vein is exposed to a depth of 30 feet, it exhibits a lenticular structure pinching and swelling rapidly with depth. A chip sample taken by the writer from the east wall of the shaft, across one foot of quartz and massive pyrite, assayed $2.97 in gold per ton. A grab sample taken by the writer from the hanging wall of the vein, consisting of quartz, calcite, and coarse pyrite, assayed $11.58 in gold per ton. A chip sample, taken by the writer across 10 feet of the rusty shear zone, consisting of ferruginous quartz and pyrite, assayed $4.41 in gold per ton.

The property was inactive at the time of the writer's inspection. (S.H.R.-47)

Gwillim Lake Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 185, 1935, pp. 60-62.
Que. Bur. Mines, Ann. Rept. Part A, 1936, pp. 92-94.

This property, consisting of 15 claims (Q. 16158-72), is in the southwest corner of the northwest quarter of McKenzie township extending east from the Barlow-McKenzie township line 6,500 feet to Gwillim lake. The discovery, in the east half of claim Q. 16169, is ½ mile east of the Barlow-McKenzie township line and 2,000 feet northwest of the northwest shore of Gwillim lake. A short trail leads directly to the showing, north of the camp which is located at the head of the narrow bay north of the E.-W. centre line.

The find was made jointly by Peter Wilson and Walter Rangely in the fall of 1934. The mineral zone was explored at depth by shallow diamond drilling successively by McIntyre Porcupine Mines in 1935 and Mining Corporation in 1936. The present company was formed by Leta Exploration in 1945. From December, 1945, when work began, until September, 1946, when operations ceased, 20,933 feet of diamond drilling in 35 holes (Nos.

G 1 to G 35) was completed under the direction of R.A. Findley, resident engineer.

The claims are underlain by massive, fine-grained andesite with minor amounts of gabbroidal rocks and quartz and quartz feldspar porphyry dykes. Strong jointing and shearing occur in the volcanics.

The main showing is exposed in a series of N.-S. rock trenches and prospect trenches along an E.-W. length of 500 feet. It consists of a sheared zone in massive, fine-grained andesite containing large quartz veins, 3 to 6 feet wide, and narrow carbonate stringers, $\frac{1}{4}$- to $\frac{1}{2}$-inch wide, both well mineralized with massive and disseminated pyrite, chalcopyrite, and occasionally sphalerite. The zone, varying in width from 10 to 20 feet, strikes slightly south of east and dips about 85° to the north. The quartz stringers dip about 50° to the north.

According to company reports, the main zone has been explored by diamond drilling and trenching along a length of 5,000 feet, the results of this work indicating an ore shoot 400 feet long and 9 to 10 feet wide to a vertical depth of 300 feet. Assay returns give a reported estimate of $8 to $10 in gold per ton.

A chip sample, taken by the writer from a large pit 170 feet west of the east boundary of claim Q. 16169, across 15 feet of quartz and chlorite schist consisting of quartz (50%), carbonate stringers, and schist well mineralized with sulphides, assayed $5.74 in gold per ton. A second chip sample, taken by the writer from a rock trench 110 feet east of sample No. 1, across 4 feet of quartz and chlorite schist well mineralized with pyrite and chalcopyrite, assayed $30.55 in gold per ton. A third chip sample, taken by the writer from a large pit 270 feet west of sample No. 1, across 3 feet of quartz and carbonate stringers and heavily pyritized chlorite schist, assayed $28.84 in gold per ton.

J.L. Hough is consulting engineer for the property which was inactive at the time of the writer's inspection. (S.H.R.-47)

Norbeau Mines (Quebec), Limited

Ref.: Geol. Surv. Can., Mem. 185, 1935, pp. 65-69.

This company holds a block of 24 claims, south of Bourbeau lake, on the E.-W. centre-line in the east part of McKenzie township. A portage road leads northward from Cedar Bay, on Doré lake, for 6 miles, directly to the Norbeau camp, in claim Q. 10460, on the south shore of Bourbeau lake.

The claims are numbered Q. 10459-65, Q. 12648-57, Q. 13758-60, Q. 14018-20, and Q. 14022.

In 1930, a gold-bearing quartz vein cutting diorite was discovered by H.F. Gilligan and W.D. Mahoney on claims held by Gilligan, Mahoney, and Coffin directly south of Bourbeau lake. These claims were optioned to

Noranda Mines in 1933. Systematic trenching and 15,000 feet of diamond drilling in 45 holes, Nos. 1 to 45, by this company, indicated an ore shoot 800 feet long and 4½ feet wide to a vertical depth of 500 feet, plunging 45° to the east. The ore shoot is reported to contain 0.35 oz. in gold per ton. In 1937, Noranda Mines exercised its option and formed the present company. In 1939, the Sharpe ground, adjoining Norbeau to the east, which was being explored by diamond drilling, was acquired by the company. The property has been inactive since that date.

The property is underlain by basic sill-like intrusions trending east and west and dipping 60-75° to the north. The rock succession southward from the lake, east of the vein, consists of fine-grained diorite with greenstone inclusions, quartz diorite (1,000 feet), massive gabbro, and sheared gabbro altering to pyroxenite and serpentine.

The vein, which occurs in a strong shear zone or fault cutting across the sill-like masses in a northeasterly direction, lies 1,800 feet east of the narrows at the head of the southwest bay of the lake. It borders the western edge of a high ridge rising abruptly several hundred feet above the south shore of Bourbeau lake. The vein is exposed in 20 cross-trenches for a length of 1,300 feet, varying in width from 2.5 to 8 feet. It strikes N.30°E. and dips 50-55° to the southeast. The vein is stronger and higher in gold content to the north where it cuts the diorite and quartz diorite. To the south, it becomes schistose and lenticular in the basic, altered gabbro. The vein consists of greasy, bluish-white quartz sparsely mineralized with crystalline pyrite and occasionally arsenopyrite. The sheared and carbonatized wall rocks, especially the footwall of the vein, are impregnated with pyrite. A chip sample taken by the writer from the silicified footwall of the vein in the northernmost trench, consisting of siliceous schist mineralized with disseminated pyrite and arsenopyrite, assayed $8.54 in gold per ton. The property was inactive at the time of the writer's inspection. (S.H.R.-47)

MONTBEILLARD TOWNSHIP

Norzone Rouyn Mines, Limited

Ref.: Que. Bur. Mines, P.R. No. 135, 1939, pp. 14-15.

This property, consisting of 10 claims in one block, lies ½ mile east of the N.-S. centre-line in the north part of Montbeillard township, 12 miles southwest of Rouyn. The claims, comprise lots 35 to 37 in range IX, and lots 34 to 38 in range X. A gravel road branching from the highway 13 miles west of Rouyn, leads west on range-line IX-X for one mile, to the base of operations in lot 36, range IX. From here a tote road leads slightly west of north, for four-fifths of a mile, directly to the camp, about 4 miles south of the Cadillac-Bouzan Lake fault zone.

The property, which was formerly owned by Peter Firlotte and A.E. Goyette, both of Noranda, was optioned to William Peacock, prior to 1938. In 1942, Siscoe Gold Mines tested the north end of the main quartz showing by means of 13 diamond-drill holes, Nos. S 1 to S 13, drilled east. The present campaign of diamond drilling began in July, 1946.

The district is characterized by strong relief with prominent rocky hills rising 100 feet or more above clay-filled valleys. The consolidated rocks consist mainly of Temiscamian-type greywacke, altered to mica schist, striking east-west and dipping gently to the north.

A lenticular, massive quartz vein, 40 feet wide and 1,400 feet long, striking N.4°W., dipping steeply to the east, and cutting buff-coloured greywacke, is exposed as a prominent ridge, disappearing abruptly in overburden at the north and south, in the north part of lot 36, range IX. It is accompanied by several narrow, parallel quartz veins.

A sulphide zone associated with strong shearing and fracturing and secondary quartz and feldspar in the form of stockworks, traversing the vein irregularly, has been traced for a length of 1,200 feet.

Massive, well crystallized, and finely disseminated sphalerite and galena with subordinate amounts of chalcopyrite and occasional pyrrhotite accompanied by small amounts of silver and gold occur in the fracture zone. At the north end of the quartz vein, where massive sphalerite and galena have been mined, the mineralized zone is exposed in a rock trench 8 to 10 feet wide and 15 feet deep for a length of 150 feet. Innumerable vugs are present in the trench walls. Slickensides on the west wall indicate post ore movement in the fracture zone. Anastomosing fractures which cross the vein at small angles appear to account for concentrations of sulphides.

At the south end of the quartz vein, heavy sulphide mineralization is exposed in a rock trench, 5 feet wide and 7 feet deep, for a length of 30 feet. This showing, 700 feet south of the north zone, is apparently displaced to the east.

Diamond drilling to the west from a N.-S. base-line at 50-foot intervals, in order to explore and extend the north sulphide zone, was begun July 20, 1946. A total of 1,696.5 feet of drilling in 8 holes, No. 1 to 8, had been completed and 2 holes, Nos. 9 and 10, were being drilled at the time of the writer's inspection. This drilling, according to company reports, cut high-grade zinc ore along a length of 600 feet.

A 3-compartment, vertical shaft, begun in October, 1946, was completed to a depth of 300 feet in March, 1947. A cross-cut driven east on the 150-foot level cut the ore zone 190 feet from the shaft. Surface diamond drilling in the north and south zones is continuing.

Nelson Bidgood was in charge of operations at the property. (S.H.R.-46)

Shearzona Mines, Limited

Shearzona Mines has a group of 6 claims in Montbeillard township. It comprises lots 38 to 40 of range VIII, and lots 38 to 40 of range IX, excepting the northwest corner of lot 38. The property is 13 miles southwest of Rouyn and is traversed by a motor road along range-line VIII-IX.

The claims are underlain by greywacke with local alteration to mica schist. A northerly trending quartz vein, somewhat similar to the vein under development at New Norzone Mines, was discovered north of the small lake in lot 38, range VIII. In 1947 it was explored by 15 diamond-drill holes over a length of 1,500 feet. The holes are from 190 to 465 feet long and were drilled westward at 45 degrees. Hole No. 12 was located 150 feet south of range-line VIII-IX and is 1,000 feet north of the other holes. It was drilled due west but was not long enough to cut the projection extension of the vein.

The vein strikes N.15°W., dips steeply east, and averages about 30 feet in width. It is composed of 30 per cent to 80 per cent white quartz which surrounds brecciated fragments of greywacke and has minor amounts of sphalerite, galena, and chalcopyrite. The best core assays obtained were 2.14 per cent copper over 2 feet and 1.74 per cent zinc over 2 feet.

Holes 18 to 24 explored a parallel vein for a length of 1,000 feet in the central part of lot 38, range IX. The results were not encouraging, the best core assay being 3.46 per cent zinc over 1 foot. Hole 25 explored east of this vein but did not cut any parallel structures.

Paul Gagnier was in charge of the exploration work. (W.G.R.-47)

MONTBRAY TOWNSHIP

Four Corners Property

(Claims of Antoine Gauthier et al.)

Ref.: Que. Bur. Mines, P.R. 15Q, 1940, pp. 38-39.

This property, consisting of 7 claims in one block, straddles the four adjoining corners of Montbray, Dasserat, Duprat, and Beauchastel townships. The claims, which are numbered R. 36792-98, comprise the south half of lots 61 and 62, range I, Montbray; south half of lots 1 and 2, range I, Duprat; north half of lots 60 and 61, range X, Dasserat; and the north half of lot 1, range X, Beauchastel.

The best means of access to the property is by water from Kanasuta Landing northward through Desvaux, Dasserat, and Arnoux lakes to

Larochelle lake and up Hunter creek to the first rapid. At this point, a trail leads eastward along the Montbray-Dasserat township line, for one and one-eighth miles, directly to the camp in lot 62, range I, Montbray township.

Exploration of a mineralized shear zone in chloritized rhyolite, in the southeast corner of lot 62, range I, Montbray township, was first carried out by Coniagas Mines Ltd. The zone, striking N.35°W. and dipping vertically, has been traced on surface for a length of 160 feet and attains a maximum width of 25 feet. It was explored at depth by 1,835 feet of diamond drilling in 6 holes, Nos. 1 to 6, by Consolidated Mining & Smelting Company, which optioned the property in 1939. A magnetometer survey of the property in recent years located magnetic anomalies, which later proved to be diorite dykes.

The claims are underlain by Keewatin-type volcanics, mainly andesite, rhyolite, rhyolite breccia, and tuff. The volcanics are cut by irregular bodies and numerous dykes of quartz diorite. A north-south diabase dyke, averaging 100 feet in width, crossing the centre of the property, is the youngest intrusive in the area.

The property was optioned to Noranda Mines, Ltd., in the summer of 1945. This company diamond-drilled a copper showing in the northeast section, ½ mile east of the camp.

A lenticular body of andesite, trending northeast and flanked by rhyolite breccia and tuff, outcrops on lot-line 1-11, range I, Duprat township, 700 feet north of the township line. The rhyolite-andesite contact is clearly exposed striking N.15 E. and dipping 78° to the east. Farther west the tuff bands dip 48° to the southeast. Quartz diorite dykes cut the andesite and fragmental rocks in all directions. Along the contact, massive and disseminated pyrite replacing rhyolite breccia, but not andesite, over widths ranging from 2 to 3 feet, is exposed at intervals in cross-trenches for a length of 800 feet.

A massive sulphide zone occurs in a tongue-shaped body of rhyolite, 30 feet wide, at the north end of the rhyolite-andesite contact. The zone, striking N.40°E., is exposed in an open-cut for a length of 45 feet, averaging 10 feet in width. It consists of chalcopyrite, pyrite, and magnetite. The zone has been explored at depth by 800 feet of diamond drilling, with an X-ray drill, in 9 holes, Nos. 1 to 9, drilled southeast along the rhyolite-andesite contact for a length of 180 feet.

No massive sulphides were cut at depth. According to information derived from diamond-drill holes, Nos. XR 1 to XR 3, massive chalcopyrite on surface grades into disseminated pyrite and magnetite at depth. Holes, Nos. XR 4 and XR 8, indicated a flattening of the rhyolite-andesite contact to the north. Hole No. XR 9 cut a 5-foot section of silicified rhyolite-breccia, well mineralized with disseminated pyrite at a core length of 55 feet.

A.D. Carmichael was in charge of operations at the property at the time of the writer's inspection. (S.H.R.-46)

OBALSKI TOWNSHIP

Obalski (1945), Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part D, 1929, pp. 60-62.
Que. Bur. Mines, P.R. 111, 1936, p. 16.
Geol. Surv. Can., Mem. 185, 1935, pp. 70-74.
Que. Bur. Mines, P.R. 120, 1937, pp. 37-38.
Que. Bur. Mines, Ann. Rept. Part A, 1936, pp. 95-96.

The Cacheé Bay group of this company, consisting of 25 claims in one block, borders upon the north boundary of Obalski township north of Cacheé bay, Doré lake. One claim, Q. 1215, is in McKenzie township, north of the Obalski-McKenzie township line. A tractor road, 2 miles long, following the northeast shore of Cacheé bay connects the mine to the camp on the north shore of the entrance to the bay in claim Q. 885. The workings may also be reached by tractor road northwest, for two-thirds of a mile, from the landing on the west shore of Cacheé bay.

The claim numbers are Q. 881-5, Q. 1152-3, Q. 1211-17, Q. 3258-62, Q. 3283-4, Q. 3287-9, and Q. 3291. The shaft is in claim Q. 1213.

The Chibougamau Mining Company did the early work on the property in 1928. The following year, Obalski Mining Corporation, which succeeded this company, prospected the property and diamond drilled some of the claims. Diamond drilling was resumed in 1936 and shaft sinking, begun late in the year, was continued until operations were suspended in the fall of 1937. A new company, called Canadian Properties Ltd., formed in 1938 to explore the property, was unsuccessful and failed after 2 months in existence. Timmins Exploration diamond drilled the claims from February to September, 1939. The property was reopened in January, 1946. The shaft was deepened to 277 feet with levels at depths of 125 and 250 feet. Approximately 800 feet of drifting, mainly in "D" vein on the bottom level, was completed before the mine shut down December 15, 1946. The property was inactive at the time of the writer's inspection.

The southeast section of the property is underlain by anorthosite flanked on the west by an irregular band of the Cacheé Bay complex, 2,300 feet wide, consisting of quartz-rich granodiorite and diorite. A large body of gabbro outcropping west and south of the Cacheé Bay complex cuts both the complex and the anorthosite. The northwest corner of the claim group is underlain by volcanics, mainly andesite. Shearing of the rocks in an east and southeast direction is common but wide shear zones are absent. Exploration has been confined mainly to the high, rocky ground in the centre of the group (claim Q. 1213) along the anorthosite-Cacheé Bay complex contact.

Five mineralized zones, Nos. 1 to 5, have been explored by trenching and diamond drilling.

Zone No. 1, The "D" vein, 3 to 4 feet wide, is exposed in a rock trench for a length of 700 feet, strikes N.80°E., and dips 75° to the south. It consists of sheared, chloritized diorite containing quartz lenses mineralized with massive and disseminated, crystalline pyrite, and some chalcopyrite. A chip sample, taken by the writer, across 2 feet of milky quartz mineralized with massive and disseminated pyrite and chalcopyrite assayed $44.62 in gold and 4.6 per cent copper per ton. A second chip sample taken by the writer, 300 feet west of the first, across 6 inches of milky quartz mineralized with massive and disseminated pyrite, assayed $111.44 in gold per ton.

Zone No. 2, The "C" vein, averaging 3 feet in width, is exposed in rock trenches for a length of 800 feet, strikes S.65°E., and dips 60° to the south. It consists of a sheared, diorite-like phase of the Cacheé Bay complex with narrow lenses of milky quartz mineralized with massive and disseminated pyrite, pyrrhotite, and chalcopyrite. A chip sample taken by the writer, across 3.7 feet of quartz and well mineralized wall rock, assayed 24 cents in gold per ton. A second chip sample, taken by the writer, 350 feet east of the first, across 10 feet of milky quartz and schist heavily mineralized with pyrite, assayed $1.19 in gold per ton. A grab sample, taken by the writer from the shaft dump, consisting of milky quartz and some chlorite schist mineralized with pyrite and chalcopyrite assayed $15.54 in gold per ton. (S.H.R.-47)

PERSHING TOWNSHIP

Midd Pershing Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 7-8.

The property of Midd Pershing Gold Mines consists of 27 claims straddling the north-south centre line of Pershing township at Garden Island Lake. The claims are numbered C. 7101, claims 2 to 5; C. 22481, claims 1 to 5; C. 9119, claims 1 to 4; and C. 9606-08, claims 1 to 5 (except 9606, cl. 4, annulled). The camp was at the southeast corner of Garden Island lake, $\frac{1}{2}$ mile south of the Croinor Pershing Mines camp, which can be reached by driving 30 miles southeast from Senneterre.

A band of sedimentary rocks $\frac{1}{2}$ mile in width flanks the north margin of the Pershing-Vauquelin granitic batholith. The property is elongated northwest-southeast along this horizon of sediments, which consists of greywacke, impure quartzite, and narrow beds of conglomerate.

A preliminary programme of development work, consisting of cutting picket-lines and excavating trenches, was carried out during the summer of 1945 (see above reference).

The company began a diamond-drilling programme in June, 1946, and four holes had been completed when the writer visited the property in July. The holes cross-section claims C.5503, claim 1, and C. 7101, claim 2, which form the northeast corner of the property. The holes established the southeast continuation of a dyke-like body of feldspar-porphyry about 700 feet wide. The dyke is enclosed mainly in altered and injected tuff 500 to 700 feet north of the band of greywacke. Although several shear zones and brecciated, altered, sections of porphyry dykes, as well as quartz veins up to 5 feet wide, were encountered, the gold content of these proved to be low in general.

Drilling was continuing under the direction of D. Parent and H. Parliament. (W.N.I.-46)

PRIVAT TOWNSHIP

Trojan Gold Mines, Limited

Ref.: Geol. Surv. Can., Sum. Rept., Part D, 1932, pp. 22-35.
Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 14-17.

The Trojan property, consisting of 22 claims in one block, lies directly east of Chavigny lake and north of Bazin lake in the south central part of Privat township. The Roupn-Taschereau branch of the C.N.R. is located two-thirds of a mile west of the property. A motor road leads south for 3 miles from highway 45 at the Laferté turn, to lake Chavigny, hence east for $1\frac{1}{2}$ miles on range-line IV-V, then south one mile on lot-line 38-39, directly to the camp in lot 39 just south of range-line III-IV.

The claims, comprise lots 33 to 42, range IV; the north half of lots 39 to 42, and lots 35 to 38, range III.

The Privat band of fine-grained, thinly bedded tuffs, $\frac{3}{4}$ mile in width, trending N.53°W., crosses the centre of the property. It is flanked on the north and south by pillow lavas with their tops facing south. A strong shear zone in highly altered tuffs, averaging 170 feet in width, striking N.58°W., and dipping either vertically or steeply to the south, has been traced by stripping, trenching, and diamond drilling for a length of 2,000 feet across the property.

The east end of the zone is intruded parallel to the schistosity by aplite dykes varying in width from 5 to 50 feet and accompanied by lenticular quartz veins and stringers along a length of 800 feet. The altered, carbonatized tuffs and quartz veins are usually well mineralized with fine to coarse (3 mm.), crystalline pyrite, and tourmaline. Most of the exploration work has been confined to the west end of the zone where the vein system, averaging 20 feet in width, is exposed at intervals in rock trenches for a length of 400 feet. Here, visible gold asscciated with well

crystalline pyrite in quartz-tourmaline veins and stringers cutting altered, carbonatized tuffs, is exposed on the surface at two points, 140 feet apart. It is also reported in diamond-drill holes for a length of 1,000 feet.

Visible gold was observed by the writer in diamond-drill core from holes Nos. 13 and 20; in trench No. 5, 170 feet east of lot-line 40-41 and 630 feet north of range-line III-IV, at 5 points across a width of 10 feet; and 4 feet from the south end of trench No. 2, 140 feet east of No. 5. It always occurs in narrow, vitreous quartz stringers accompanied by coarse crystalline pyrite and often tourmaline, either parallel to, or cutting across, the schistosity of the altered tuffs.

In general, the visible gold appears to be more common in quartz stringers occupying vertical fractures angling across the schistosity than in those parallel to it. In trench No. 2, considerable visible gold occurs in quartz veinlets and stringers cutting a 4-foot band of rusty, carbonatized tuff. In some cases the gold appears to surround pyrite crystals. Visible gold is reported by the company in 11 diamond-drill holes, Nos. 1, 2, 3, 5, 6, 13, 18, 20, 25, 28, and 29. (S.H.R.-46)

ROCHEBAUCOURT TOWNSHIP

Tommy Aldous Claims

Ref.: Geol. Surv., Can., Map No. 553A, Rochebaucourt, 1939.

The Aldous property, consisting of 36 claims, straddles the Despinassy-Rochebaucourt boundary line, 3 miles north of the village of Rochebaucourt. The claims comprise lots 26 to 40, range I, Despinassy township, and lots 20 to 40, range X, Rochebaucourt township.

The easiest means of access to the property is by water down the Laflamme river for 5 miles from the village of Rochebaucourt and 48 miles from Amos. The right-of-way of the Barraute-Kiask Falls branch of the C.N.R. crosses the eastern part of the property.

The area is a plain of muskeg and clay, interrupted by scattered rock outcrops and low ridges of sand and gravel. Most of the property is covered by overburden and rock exposures are confined to the Laflamme river in range X. Here, the consolidated rocks consist mainly of andesite and basic lavas trending slightly north of east and dipping steeply to the north.

The showing is on a small island at a chute in the Laflamme river in the north part of lot 32, range X, Rochebaucourt. It occurs in a chloritized shear zone, approximately 200 feet wide, striking N.70°E. and dipping 60-70° to the north. The zone has been intruded, parallel to the schistosity by lenticular, dyke-like bodies, highly siliceous in composition. Narrow, bluish, quartz stringers and lenses of granular white quartz

cut the altered, carbonatized schists and siliceous material. The siliceous zone, which varies from 6 to 21 feet in width, is exposed continuously for a length of 180 feet. Gold-bearing mineralization of the zone is mainly fine, disseminated, pyrite and minor chalcopyrite. The narrow, glassy, quartz veins in the schist are mineralized with small amounts of chalcopyrite and tourmaline.

Five samples of the vein material and mineralized wall rock were taken by the writer at intervals along a length of 140 feet.

The first sample was taken at the falls where the zone is 6 feet wide. A chip sample across 2 feet of granular quartz and silicified, sericitic, schists mineralized with well crystallized, disseminated pyrite and tourmaline, assayed $2.48 in gold per ton.

Sixty feet east of the falls, where the zone is 6.5 feet wide, the hanging wall contains lenticular quartz stringers well mineralized with fine (1 mm.) disseminated pyrite. A chip sample across 2 feet of granular quartz well mineralized with finely disseminated pyrite assayed $18.72 in gold per ton.

The third sample was taken 140 feet east of the falls where the zone attains a maximum width of 17 feet. At this point, granular quartz and cherty material, intruded, parallel to the schistosity, is cut by glassy quartz stringers. A 7-foot chip sample taken from the south edge of the zone, well mineralized with finely disseminated pyrite, assayed $2.38 in gold per ton.

The fourth sample was taken at the east end of the island 'showing', 180 feet east of the falls, where the zone is 14 feet wide. A chip sample from the north edge of the zone across one foot of granular quartz and silicified schists well mineralized with disseminated pyrite, assayed $5.56 in gold per ton.

The fifth sample was taken on the east shore of the river, 135 feet east of the island 'showing'. At this point, the shear zone is exposed in a cross-trench 40 feet long. It consists of chloritic schists cut by a granular quartz vein 8 inches wide mineralized with coarse pyrite and tourmaline. The vein, which is intruded parallel to the schistosity, dips 60° to the north.

A chip sample, taken across the vein, assayed 63 cents in gold per ton. The shear zone disappears in deep overburden 15 feet east of the cross-trench.

Tommy Aldous is in charge of operations at the property. (S.H.R.-47)

ROUYN TOWNSHIP

Anglo-Rouyn Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept. 1934, Part A, p. 82.
Que. Bur. Mines, P.R. No. 135, 1938, p. 22.
Geol. Surv., Can., Mem. 229, 1941, pp. 132-135.
Que. Bur. Mines, P.R. No. 161, 1940, p. 29.

This company holds a group of 6 patented claims, blocks 34 to 39, formerly known as Pontiac Rouyn Mines, in the northwest corner of Rouyn township. A gravel road leads west from the Macamic road, 2½ miles north of Noranda for 6,000 feet, directly to the mine in blocks 35 and 38.

The property is underlain by Keewatin-type volcanics, chiefly andesite and rhyolite, striking northwest, and dipping steeply to the northeast. The volcanics, which lie on the north limb of the Noranda anticline, are intruded by lenticular bodies and dykes of diorite. The Powell diabase dyke, striking north and south, and the Héré Creek fault, trending northeasterly, cross the property.

The main ore zone, 8 feet wide, consists of a series of gold-bearing quartz veins. No. 1 vein striking N.26°W. and dipping 60° NE., was explored by means of an inclined shaft sunk to a depth of 272 feet by the original company in 1939. According to diamond-drill records, the vein has a surface length of 1,200 feet and a vertical range of 900 feet.

Since March, 1944, when the present exploration campaign began, a total of 32,453 feet of diamond drilling in 45 holes, Nos. 47 to 91, has been completed. Hole No. 68 located the extension of No. 1 vein displaced 800 feet to the east by the Héré Creek fault. Fourteen additional holes, Nos. 69 to 82, drilled to explore the vein along a length of 800 feet and to a depth of 500 feet, resulted in company estimates of 0.25 oz. in gold per ton across an average width of 4.5 feet. Nine holes, Nos. 83 to 91, drilled east of the north-south diabase dyke, intersected a flat-lying lenticular, gold-bearing, copper replacement deposit in rhyolite, 350 feet long and 40 feet thick. No. 89, the last hole drilled near the shaft, cut 19 feet of massive pyrite and chalcopyrite and No. 90 cut 60 feet of well mineralized material.

A vertical, 3-compartment shaft (No. 2), begun in August, 1945, was completed to a depth of 579 feet with stations cut at the 275-, 400-, and 525-foot horizons, in January, 1946. Two cross-cuts driven west at the 400- and 525-foot levels cut the No. 1 vein 895 feet and 820 feet from the shaft, respectively. In October, the faulted component of this vein was intersected on the 525-foot level in a crosscut 900 feet north of the shaft. At the close of the year, the company reported that underground exploration of the No. 1 vein had developed a length of 140 feet of ore averaging 0.35 oz. in gold per ton across drift width on the 400-foot level and 260 feet of gold-bearing rhyolite assaying from 0.05 oz. to 0.47 oz. in gold per ton,

on the 525-foot level. On the faulted extension of No. 1 vein, 500 feet of drifting had been completed on the 525-foot level.

At a later date, the company plans to connect the new workings to the old levels and inclined shaft completed by Pontiac Rouyn Mines.

C.L. Hershman was consulting geologist and W.F. Chisholm was mine manager for the company. (S.H.R.-46)

Astoria Quebec Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept. Part B, 1931, pp. 45-46.
Que. Bur. Mines, P.R. 116, 1936, p. 22.

This company holds a group of 5 claims, numbers T. 313, T. 329-330, R. 10229, and R. 15520, straddling range-line IV-V, between lots 13 and 18 in the southwest quarter of Rouyn township. The Bellecombe road crosses the north part of the property three miles south of Rouyn.

The property lies astride the fault contact of the southern belt of Blake River volcanics, chiefly andesite, andesite flow breccia and rhyolite, with Temiscamian-type greywacke and interbedded conglomerate to the south. The fault zone, called the Cadillac-Lac Bouzan fault, striking practically east-west, represents an overthrust fault on which the rocks on the north side have been thrust upward and eastward over a syncline to the south. The rocks to the south, which all face north, represent the south limb of a major syncline whose north limb has been cut off by the fault. North of the fault the rocks also face north, indicating that the entire south limb of an anticline to the north has been truncated by the fault.

The volcanics, which form a belt four-fifths to two and three-quarters of a mile wide, trending east-west and dipping 65° to the north, face north. The sediments form an east-west belt from one to two miles wide in which a southern conglomerate band, one-third to one mile and a half wide, predominates. The dip of the conglomerate and greywacke averages about 60° to the north.

Two branches of an olivine diabase dyke, striking N.70°E., and a later N.-S. quartz diabase dyke which cuts them at the fault contact, divide the mineralized area into 4 zones, namely, A. B, C, and D.

"A" zone, striking NE., which lies west of the olivine diabase dyke and north of the fault, occurs in conglomerate and greywacke. "C" zone, 1,800 feet long, lying east of the N.-S. dyke, occurs in the talc-chlorite schist zone on the north wall of the fault. "B" zone lies between the two branches of the olivine diabase dyke in a talc-chlorite schist zone north of the fault. "D" zone, 700 feet long, lies between the east branch and the N.-S. dyke.

"D" zone is subdivided into: (a) north-section, 100 feet wide, in the north wall of the talc schist zone in silicified and carbonatized greywacke; and (b) south-section, in the south wall of the talc schist zone of the Cadillac-Lac Bouzan fault.

The B and D zones, which were being tested by underground diamond drilling at the time of the writer's inspection, are mineralized with arsenopyrite mainly, pyrite, occasionally chalcopyrite, and rarely pyrrhotite.

Early work on the property consisted of sinking a vertical shaft to a depth of 250 feet with development work on the 125-foot and 407-foot levels. Recent work, under the supervision of T.G. Woodcock, mine manager, began in September, 1943. From this date, a total of 40,000 feet of surface diamond drilling in 69 holes, Nos. 121 to 187, was completed. Twenty-nine holes, Nos. 121 to 148 and 154, totalling approximately 12,267 feet, were drilled in the "A" zone, and 5 holes, Nos. 149 to 153, approximately 3,760 feet, were completed in the "B" zone. In addition, approximately 2,000 feet of drifting and crosscutting was carried out on the 400-foot level in the course of exploring mineralized zone B and D and drifting toward zone C.

Since April, 1946, exploration and testing of the property has been under the supervision of Chamberlin Management Corporation Ltd. A geological survey of the surface was completed, surface drill holes were re-surveyed, and underground workings were sampled, surveyed, and mapped. A total of 11,680 feet of underground diamond drilling in 57 holes, Nos. U 1 to U 57, was carried out and twenty additional diamond-drill holes, Nos. S 189 to S 208, approximately 6,848 feet, were drilled from the surface.

These latest operations did not yield encouraging results and all work on the property was suspended in October, 1946. (S.H.R.-46)

Cheskirk Mines, Limited

Ref.: Que. Bur. Mines, Rept. Min. Ops. 1925, p. 133.
Que. Bur. Mines, Ann. Rept., Part A, 1934, p. 81.
Geol. Surv. Can., Mem. 229, pp. 146-147.

Cheskirk Mines have blocks 8 and 9 in the northwest quarter of Rouyn township. These blocks include the south shore of Osisko lake and are partly occupied by the town of Rouyn. The property was explored with trenches and pits by Dasserat-Rouyn Goldfields in 1924 and with 8,373 feet of diamond drilling by Norlake Mining Corporation in 1934-35.

Surface outcrops and drill core indicate that the Bagamac fault extends eastward across the property with rhyolites on the south and diorite on the north. On the adjoining Bagamac property this fault dips steeply to the south. The diorite body is 300 to 500 feet wide and is intruded on the north by a parallel band of albite-granite which is about 300 feet wide. Outcrops of similar granite on the Bagamac property to the west are probably part of an extension of this body. North of the granite are acidic flows

with minor amounts of andesite and diorite. The north-trending diabase dyke which cuts the Noranda orebodies passes through the central part of the group.

From 1945-47, Cheskirk Mines drilled 53 holes with an aggregate of about 29,000 feet. Most of the drilling was in block 8 and the majority of the holes were directed north and south to explore the granite and the acidic flows on the north. Gold-bearing veins were intersected in both formations. The values were erratic but some were of ore and near ore-grade. Among the intersections reported by the company were average gold contents of 0.14 oz. per ton over 7.51 feet, 0.24 oz. over 3.0 feet, 0.27 oz. over 7.51 feet, and 0.32 oz. over 2.0 feet.

The drilling was directed by A.W. Jeckell. (W.G.R.-47)

Cinderella Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept. 1931, Part B, pp. 50-52.

This company holds 19 claims in 2 groups in the southwest quarter of Rouyn township, about 4 miles south of the city of Rouyn. The larger group, which was once part of Rubec Mines, Ltd., borders on the Rouyn-Beauchastel township line. It consists of 14 claims, numbered M.L. 1819-20; M.L. 1853-4; M.L. 1974; T.325; T.341-2; T.366; and T.1971-75, extending along the Rouyn-Beauchastel boundary from the north half of range III to the south half of range V. Diamond drilling has been carried out along the south boundary of claim M.L. 1854 in range IV of Beauchastel and Rouyn townships. From the highway, a gravel road leads east on range-line IV-V for three-quarters of a mile, directly to the property.

The second group, consisting of 5 claims, lies 3,000 feet southeast of the northern block on range-line II-III, lots 11 to 15. The claim numbers are R.4577 to 81.

The property straddles the Cadillac-Bouzan Lake fault zone which, striking practically east and west, forms a fault contact with the Blake River pillow-andesite and andesite-flow-breccia to the north and the Temiscamian-type greywacke to the south. Directly south of, and in contact with, the fault, the sediments dip steeply to the north and face north forming the south limb of a major syncline. North of the fault, the volcanics dip steeply to the north and face north, thus representing the north limb of an anticline whose entire south limb has been cut off by the fault. The rocks on the north side of the fault have been thrust up and moved eastward with respect to those to the south.

Diamond drilling was started in June, 1946, in order to explore east and west along the Cadillac-Bouzan Lake fault at the greywacke-andesite contact, in an attempt to locate the eastern extension of a gold-bearing zone on the Durbar property to the west. At the time of the writer's inspection, a total of 3,108.5 feet of drilling in 6 holes, Nos. 1 to 6,

drilled south in greywacke along an E.-W. line at intervals of 300 to 400 feet for a distance of 1,600 feet, had been completed.

According to the diamond-drill logs, the fault zone has an average width of 175 feet and consists of chlorite-talc schist and green carbonate. Gold assays up to 0.13 oz. per ton over narrow widths were reported. The gold occurs associated with pyrite and small amounts of arsenopyrite. Chalcopyrite, which is occasionally present, is not indicative of the gold content of the mineralized sections.

The company plans to continue exploration of the Cadillac-Bouzan Lake fault zone by additional diamond drilling eastward. A.F. Matheson was in charge of operations at the property. (S.H.R.-46)

Despina Gold Mines, Limited

(See Beauchastel township)

Don-X Mines, Limited

This company holds 14 claims, in two groups (4 claims in Dufresnoy township and 10 in Rouyn) straddling the Rouyn-Dufresnoy township line. The Dufresnoy group comprises the south half of lots 35 to 38, range I; the Rouyn group, lots 31 to 34, range X-S and lots 28 to 33, range X-N. Dufault creek crosses the south part of the Dufresnoy block. The Rouyn claims border on the southwest bay of Lake Dufault. The most convenient route to the property is by water, three and one-third miles across Dufault lake directly to the camps on Dufault creek.

The property is underlain by massive rhyolite, rhyolite-breccia, and andesite, correlated with the Blake River group of Keewatin-type volcanics, intruded by large irregular masses and dykes of gabbro. The rhyolite lavas in the northwest corner of the Rouyn claim-group, south of Dufault lake, are cut by a large body of quartz diorite. The volcanics are also cut by small bodies and dykes of quartz-porphyry and lamprophyre. The lavas and basic intrusives contain narrow quartz veins and stringers mineralized sparsely with pyrite, pyrrhotite, and occasionally chalcopyrite.

The Rouyn group has been explored by stripping, trenching, and diamond drilling. From July, 1945, to June, 1946, a total of 11,578.6 feet of diamond drilling in 20 holes, Nos. 1 to 20, was completed on the group. These holes were drilled in order to test anomalies located by means of a magnetometer survey in 1944. An electrical survey was carried out during the months of November and December, 1945. The results of this diamond drilling were not encouraging.

John Campbell is in charge of operations at the property which was inactive at the time of the writer's inspection. (S.H.R.-46)

Dovercliff Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part C, 1933, pp. 44-47.
Que. Bur. Mines, P.R. No. 150, 1939, p. 39.

The property of Dovercliff Mines Ltd., consisting of 4 patented mining claims, D.L. 2911 and D.L. 10506-8, straddles the east-west centre-line in the eastern part of Rouyn township. The Rouyn-Val d'Or highway crosses the centre of the property and the Rouyn-Senneterre branch of the C.N.R. passes 500 feet from the south boundary.

The claim-group was known originally as the Kinojevis Mining Company. In 1936, it was succeeded by Bowes Gold Mines, Ltd. The present company was organized in 1944. In 1928, a 2-compartment shaft was sunk in altered greywacke to a depth of 130 feet in order to explore a narrow quartz vein containing visible gold exposed on the surface. Results obtained from cross-cutting north and south at a depth of 100 feet were not encouraging.

A band of Temiscamian-type greywacke and conglomerate, 700 feet wide, trending northeast, flanked on the north by older andesite and andesite-flow-breccia and on the south by agglomerate and tuff, crosses the south part of the property. The Cadillac-Bouzan Lake "fault" is represented by a "crushed zone", 50 to 150 feet in width, which follows the south contact of the greywacke, striking N.52°E. It consists of carbonatized talc and chlorite schists cut by quartz stringers.

The sediments strike northeasterly, dip steeply to the north, and have been explored by diamond drilling as follows: thirteen holes were drilled by the Consolidated Mining & Smelting Company in 1932; Dome Exploration completed 25 holes in 1939; and during 1944 and 1945, 6 holes were drilled by Dovercliff. The present campaign of exploration confined mainly to the southeast claim (D.L. 2911), began in March, 1946, and up to the time of the writer's inspection (July 10, 1946) 14,445 feet of drilling in 20 holes, Nos. 45 to 64, had been completed.

The recent diamond-drill holes, collared in the sediments, were drilled southeast, between those previously drilled, along the greywacke-greenstone contact for a length of 1,500 feet. Bands of altered tuffs and agglomerate, cut by syenite-porphyry dykes and quartz-tourmaline veins mineralized with pyrite, small amounts of chalcopyrite, and occasionally arsenopyrite, were intersected in the drilling. Gold, which occurs well distributed in the volcanics, in silicified tuffs, and quartz-tourmaline veins, is apparently independent of the sulphide mineralization. The crushed and carbonatized zones are generally not gold-bearing.

H.M. Butterfield, consulting geologist, is in charge of operations at the property. (S.H.R.-46)

Eldona Gold Mines, Limited

Ref.: Geol. Surv. Can., Mem. 233, 1941, pp. 52-3.
Que. Bur. Mines, P.R. No. 190, Part III, pp. 29-31.
Que. Dept. Mines, P.R. No. 205, 1945, Part III, pp. 22-26.

The property of this company, consisting of 20 claims in one block, lies 3 miles northeast of Noranda in the northwest corner of the northeast quarter of Rouyn township, extending east from the N.-S. centre-line for one and one-third miles. A rough trail leads east along the transmission line from the Noranda Gold Club for 2 miles directly to the camp.

The numbers of the claims are: T.289-291; T.1940-1942; T.2806-2809; C.6500, claims 1 to 6; and C.7482, claims 1 to 4. Part of the property of Eldona Gold Mines, which was incorporated in 1944, was acquired from La Compagnie Minière.

The claims are underlain mainly by the Blake River volcanics consisting chiefly of rhyolite, rhyolite-breccia and rhyolitic tuffs. These volcanics, which strike E.-W. and dip steeply to the south, are intruded by numerous dykes and irregular masses of quartz-feldspar-porphyry, diorite, and dykes of lamprophyre. A quartz-diabase dyke, 100 feet wide, striking N.65°E., which crosses the central part of the property, is the youngest rock in the area. The Horne Creek fault traverses the south section of the property.

Diamond drilling in order to test geophysical anomalies in the northern section of the property began in 1944 and up to April, 1946, when surface drilling operations ceased, a total of 53,856 feet of diamond drilling in 95 holes, Nos. 1 to 95, had been completed. The last two holes of this drilling (Nos. 94 and 95) were confined to exploration of the west extension of a sulphide zone indicated by previous diamond drilling by Mining Corporation (holes M. 1 to M. 13). Three holes, Nos. 89 to 91, were drilled in order to test and explore at depth several fault zones, in the west part of the property.

According to company reports, detailed diamond drilling in the "A" zone, directly north of the quartz diabase dyke, indicated the presence of several lenses of gold ore, in an area approximately 400 feet long and 175 feet wide.

These lenses, consisting of siliceous zones in rhyolite, rhyolite-breccia, and tuff are mineralized with pyrite mainly, sphalerite, chalcopyrite, and some galena accompanied by gold and silver. The ore zone apparently plunges steeply to the east. The host rock is considerably sheared and silicified. South of the quartz diabase dyke, gold has been intersected in diamond-drill holes at vertical depths varying from 550 to 930 feet. North of the dyke, the ore lies between the 95 and 620-foot horizons.

Hole C-58 cut 14 feet of ore assaying, according to company reports, 0.18 oz. gold per ton, 2.69 oz. silver per ton, 0.67 per cent copper,

and 16.7 per cent zinc. Hole C-59 cut 21 feet of ore assaying 0.28 oz. gold per ton, 2.7 oz. silver per ton, and 3.3 per cent zinc. Twenty-four diamond-drill intersections averaged 0.19 oz. gold per ton across 9.2 feet.

A 3-compartment vertical shaft, located just south of the quartz diabase dyke, was completed in November, 1946, to a depth of 527 feet, with levels at 378 and 502 feet. Cross-cuts driven north through the dyke in these two levels in order to explore the "A" zone had cut ore, and underground diamond drilling was in progress on the bottom level, according to company reports issued in March, 1947. Chamberlin Management Corporation Ltd. is in charge of the underground work. (S.H.R.-46)

Joliet-Quebec Mines, Limited

Ref.: Que. Bur. Mines, Min. Oper. 1925, p. 133.
Que. Bur. Mines, Min. Oper. 1926, p. 111.
Que. Bur. Mines, Min. Oper. 1927, p. 98.
Que. Bur. Mines, Ann. Rept. Part A, 1929, p. 102.
Que. Bur. Mines, Ann. Rept. Part A, 1930, p. 66.
Que. Bur. Mines, Ann. Rept. Part A, 1931, p. 86.
Que. Bur. Mines, Ann. Rept. Part A, 1933, p. 95.
Que. Bur. Mines, Min. Ind. Que. 1937, p. 54.
Que. Bur. Mines, Min. Ind. Que. 1938, p. 56.
Que. Bur. Mines, P.R. 116, 1936, p. 19.
Que. Bur. Mines, P.R. 150, 1939, p. 41.
Que. Bur. Mines, P.R. 161, 1940, p. 28.
Que. Bur. Mines, Min. Ind. Que. 1940, p. 42.
Geol. Surv. Can., Mem. 229, p. 144.
Que. Dept. Mines, P.R. 205, 1945, p. 26.

Joliet-Quebec Mines controls 22 blocks and claims in the northwest quarter of Rouyn township. These are numbered block 98; C.4564, claims 5-8; R.27357-27370, inclusive; and M.L. 1768 and 1787. The latter claim was purchased from Dunford Rouyn Mines in 1946. The Macamic highway traverses the length of the group.

Brownlee Gold Mines acquired this property in 1925 and explored it intermittently between that year and 1938 with trenches, deep pits, and over 20,000 feet of diamond drilling. In 1937, an inclined shaft was sunk to 169 feet and lateral work was done on the 80 and 160 foot levels. In 1939 the name was changed to Joliet-Quebec Mines and the property was optioned to American Smelting and Refining Company, which completed over 8,000 feet of diamond drilling. The following year the property was optioned to Toburn Gold Mines, which performed a like amount of drilling. Geophysical surveys were made in 1926 and in 1939.

The claims are for the most part underlain by acidic volcanics with minor bodies of diorite. Some of the rhyolitic rocks are of pyroclastic origin and others are porphyritic and may be intrusives. In the eastern part of block 98 a band of rhyolite-breccia has been traced in a semi-circle indicating an anticlinal fold, the axis of which strikes

easterly and pitches to the east. The Héré Creek fault, if projected, would cross the northern part of the property, and drilling has indicated another northeast fault near the Macamic highway in the southern part of the group.

Diamond drilling revealed a copper-bearing zone in rhyolite-breccia near the northern boundary of block 98. In 1945-46, a shaft was sunk to 600 feet and the zone was explored by lateral work and drilling from the 300- and 600-foot levels. From this work the management have estimated an orebody of 687,600 tons averaging from 0.98 per cent to 1.55 per cent copper.

In 1947, four holes were drilled to explore the rhyolite-breccia zone near the eastern boundary of block 98. One of these holes was spotted on the Quemont boundary and drilled vertically to 1,470 feet. An old vertical hole on the southern boundary with Noranda Mines was deepened from 1,500 to 2,447 feet. No intersections of commercial importance were reported from this drilling.

The exploration was managed by Frobisher Limited, and the recent work was supervised by J. O'Neil. (W.G.R.-47)

Marlon Rouyn Gold Mines, Limited

Ref.: Que. Bur. Mines, P.R. No. 116, 1936, p. 19.
Geol. Surv. Can., Mem. 229, 1941.

The Marlon Rouyn property, formerly known as Rouyn Reward Gold Mines, consisting of 3 claim-blocks, Nos. 6 and 204 in Rouyn and No. 160 in Beauchastel, is in the NW. corner of Rouyn township. An auto road leads NW. from the Powell mine for 1½ miles directly to the shaft on the north shore of Rosebury lake.

The southern part of the property is underlain almost wholly by the Powell albite-granite flanked on the north by a band of Keewatin-type volcanics consisting mainly of rhyolite and andesite. The Powell granite near Rosebury lake, within the property, is highly chloritized and altered and intruded by dykes of andesite, rhyolite, and quartz-diorite. Its composition does not differ greatly from the rhyolite, and intermediate facies similar to granodiorite are present. The granite is intersected by east-west trending shear zones paralleling the Horne Creek fault. The volcanics, lying on the north limb of the Noranda anticline, strike NW. and face NE.

The Héré Creek fault, which underlies the Héré creek depression, striking N.55°E., intersects the rocks to the east and presumably crosses the property just north of Rosebury lake. A fracture zone, 2,100 feet long, related to diastrophism within the Powell granite, striking N.15°W. and dipping 70° east, has been located by diamond drilling directly northwest of Rosebury lake in block 204, Rouyn township.

Diamond drilling began in June, 1944, and up to June, 1946, when drilling operations ceased, a total of 31,211 feet of drilling in 55 holes, Nos. 1 to 57, had been completed. The majority of these holes were drilled in a southwest direction.

Hole No. 1, drilled S.66°W. at a dip of 50° in order to explore at depth a narrow quartz vein striking N.15°W. and exposed on the surface. It cuts 3.1 feet of chloritized rock containing quartz-carbonate stringers mineralized with fine pyrite and chalcopyrite, assaying, according to company reports, $8.90 in gold per ton. With the exception of Nos. 22, 23, 24, 37, 43, and 44, which were drilled to test magnetic anomalies located by a magnetometer survey, the remaining holes were drilled in order to enlarge and explore the original discovery.

In the fracture zone, gold occurs in quartz veins and quartz-carbonate stringers mineralized with pyrite mainly and minor amounts of chalcopyrite. In general, gold-bearing sections usually occur in sheared, chloritized, and carbonatized rhyolite and granodiorite and appear to be related to adjacent narrow basic dykes.

Correlation vertically of diamond-drill intersections of gold ore is difficult. However, lateral correlation of vein sections has been accomplished. Accordingly, by means of 28 diamond-drill intersections, the zone has been estimated by the company to have a length of 900 feet, and to extend to a vertical depth of 450 feet, assaying $7.10 in gold per ton across an average width of 6.3 feet.

A vertical, 3-compartment shaft, located near diamond-drill hole No. 8 in block 204, was down to a depth of 100 feet at the time of the writer's inspection. The company intends to sink to 500 feet, establishing levels at 150-, 250-, 350-, and 450-foot horizons. Cross-cuts run west will connect the shaft to north-south drifts.

A.W. Jeckell is consulting engineer and Alec Teeple is in charge of operations at the property. (S.H.R.-46)

Norocona Gold Mines, Limited

Norocona holds a block of 4 claims and 5 fractions, in the centre of Rouyn township, in range VI-south, lots 26 to 31. The claim numbers are as follows: C.G. 499, claims 2 to 5; C.11927, claims 2 and 3; C.14682, claim 6; and C.17621, claims 1 and 2. The Rouyn-Val d'Or highway crosses the south border of the property 2 miles from the town of Rouyn.

The claims are underlain chiefly by the Blake River series of volcanics consisting of andesitic pillow lavas, rhyolite, agglomerate, and tuff, intruded by irregular bodies and dykes of diorite and quartz-diorite. The volcanics, which strike E.-W. and dip steeply to the north facing north, belong to the north limb of an anticline whose south limb has been cut off by the Cadillac-Bouzan Lake fault to the south.

A magnetometer survey of the property was completed in February, 1946. Diamond drilling in order to test a magnetic anomaly, assumed to be a fault, was begun the following May. A total of 3,232 feet of diamond drilling in 4 holes, Nos. 1 to 4, indicated the anomaly to be due to the presence of a diorite dyke.

A.F. Matheson was in charge of operations at the property. (S.H.R.-46)

Old Mill Gold Mines, Limited

Ref.: Que. Bur. Mines, Rept. on Min. Oper. 1927, p. 101.
Que. Bur. Mines, Rept. on Min. Oper. 1928, p. 75.
Que. Bur. Mines, Ann. Rept. Part A, 1929, p. 104.
Que. Bur. Mines, Ann. Rept. Part A, 1930, p. 66.
Que. Bur. Mines, Ann. Rept. Part A, 1931, p. 87.
Que. Bur. Mines, Ann. Rept. Part A, 1932, p. 75.
Que. Bur. Mines, Ann. Rept. Part A, 1933, p. 96.
Que. Bur. Mines, Ann. Rept. Part A, 1934, p. 75.
Que. Bur. Mines, Ann. Rept. Part A, 1935, p. 47.
Que. Bur. Mines, Ann. Rept. Part A, 1936, p. 52.
Que. Bur. Mines, Ann. Rept. Part B, 1931, pp. 26-43.
Que. Bur. Mines, P.R. 116, 1936, p. 22.
Que. Bur. Mines, Min. Ind., 1937, p. 55.
Geol. Surv. Can., Prel. Map 43-7B, 1946.

Old Mill Gold Mines owns block 191 in ranges III and IV of Rouyn township. This block was explored intermittently from 1922 to 1941 by Granada Rouyn Mining Corporation, Granada Gold Mines, and Granabec Gold Limited. Gold-bearing veins were developed by two shafts and lateral workings to a depth of 1,300 feet. A mill was operated from 1930 to 1935 and produced gold valued at over a million dollars. The block is about three miles south of Rouyn and can be reached by a motor road which passes along the western boundary. All of the mine buildings have burned or they have been moved.

The property is immediately south of the Cadillac-Bouzan Lake break and is underlain by greywacke and conglomerate. These formations strike easterly, dip 50 to 60 degrees north, and are intruded by small bodies of granite and syenite and by diabase dykes. At least six veins were explored in the underground workings. These strike easterly, dip north at 50 to 55 degrees and are offset by northerly trending faults. All production came from the number 2 vein.

In the summer of 1947, 3,721 feet of diamond drilling was done in six holes. These holes were directed southerly and roughly cross-section the area 500 to 1,500 feet west of the underground workings. They intersected ten sheared and silicified zones from 2 to 40 feet wide with quartz stringers, pyrite, and arsenopyrite. Most of the assays from these zones were low, but two intersections had gold contents of 0.72 oz. per ton over $2\frac{1}{2}$ feet and 1 foot, respectively.

R. Dionne supervised the drilling. (W.G.R.-47)

Osisko Lake Mines, Limited

Osisko Lake Mines holds blocks 11, 12, 40, 126, 188, and 189 in the northwest quarter of Rouyn township. Much of the property is covered by Lake Osisko but the group includes parts of the east and west shores.

Outcrops and core from the drill holes indicate that the property is underlain chiefly by acidic to basic volcanics which have been intruded by small bodies of diorite. The northerly trending diabase dyke which cuts through the Noranda orebodies passes through the western part of the claims.

In 1927, an electrical geophysical survey was made of the property and one hole was drilled in the northwest corner. In 1937, some trenches were dug and seven exploratory holes were put down. Two of these were drilled on either side and parallel to the diabase dyke, and the others were drilled from points jutting into the lake on the east and west shores. A few gold-bearing zones were intersected. Most of the assays were low, but one intersection from a silicified zone in diorite assayed 0.34 oz. gold per ton over 4.9 feet.

In 1946-47, a magnetometer survey of the property was completed and twelve more exploratory holes were drilled. Some of these were drilled from the ice on the lake and others from the east and west shores. No intersections of commercial importance were reported by the company. Further holes are being drilled from a drift on the 4,000-foot level of Noranda Mines to explore the northern part of the property. The exploration is managed by Ventures Limited, and the recent work was supervised by J. O'Neil and J.B. Gordon. (W.G.R.-47)

Pen-Rey Gold Mines, Limited

Ref.: Geol. Surv. Can. Mem. 233, 1941, pp. 43-44.
Que. Dept. Mines, Min. Ind. Que., 1945, p. 82.

Pen-Rey Gold Mines has a block of 18 claims in northeastern Rouyn township numbered C.5828, claims 1 to 5; C.5829, claims 1 to 4; C.5830, claims 1 to 4; C.6822, claim 4; C.7478, claims 1 to 3; and C.7494, claim 2. The property is within a mile from the motor road to the Eldona shaft and is crossed by a transmission line.

The Horne Creek fault is believed to cross the central part of the claims in an easterly direction. North of the fault the acidic and basic volcanic formations strike about S.30°E. and face and dip steeply to the northeast. South of the fault the predominantly basic flows trend about N.70 E. Pillow determinations show facings both north and south and suggest that there may be one or more axes of folding in the southern part of the property. The flows are intruded by small bodies of diorite and a diabase dyke trends northerly through the central part of the group.

In 1937 and 1938, Guardian Gold Mines trenched and drilled quartz veins exposed in outcrops of rhyolite along range-line VIII-IX. In 1945-46, Pen-Rey drilled 21 exploratory holes totalling 15,583 feet. Quartz veins and mineralized shears were intersected and some of these showed a low tenor of gold.

In January and February of 1947, three holes were drilled to cross-section part of the boundary between Pen-Rey and Eldona Golds Mines. The holes were directed S.20°E. and the first one was collared about 500 feet south of the northern boundary of Pen-Rey. They cut basic and acidic flows and minor bodies of diorite, but no mineralization of commercial significance was seen in the core. In the fall of 1947 the claims were mapped geologically and further drilling is planned for 1948.

The recent work was supervised by Chamberlain Mine Management. (W.G.R.-47)

Plexore Rouyn Gold Mines, Limited

Ref.: Geol. Surv. Can., Pre. Map 43-7C, 1946.

This company holds 20 claims in two groups in the centre of Rouyn township. Two colonization roads cross the property north-south, and east-west. The Rouyn-Senneterre branch of the C.N.R. passes through the south group of claims.

The claims are numbered as follows: C.G. 1462, claims 4 and 5; C.5133, claims 1 to 3; C.5134, claims 1 and 2; C.5135, claims 1 to 3; C.5136, claims 1 to 7, and C.5139, claims 1 and 3.

The property, which straddles the Cadillac-Bouzan Lake fault zone, is underlain chiefly by andesitic lavas, correlated with the Blake River volcanics, flanked on the south by Temiscamian-type greywacke and conglomerate. The lavas, which strike east-west and dip 60° to the north, face north. The sediments strike slightly north of east and dip 60° to the north. An olivine diabase dyke, 500 feet wide, striking northeast, crosses the northwest corner of the property. Several diorite and quartz diorite dykes are exposed cutting the lavas. The sheared greywacke is cut, parallel to the bedding, by numerous quartz veins and stringers, varying in width from a few inches up to several feet and mineralized with disseminated pyrite and arsenopyrite accompanied by gold.

Diamond drilling in order to cross-section the property from north to south and to locate the Cadillac-Bouzan Lake fault zone began in December, 1945, and up to the time of suspension of operations in May, 1946, 8,145 feet of drilling in 14 holes, Nos. 1 to 14, was completed.

Four diamond-drill holes, Nos. 1 to 4, were drilled from south to north on lot-line 33-34 to cross-section the southern part of the property. Hole No. 4, the northernmost hole, which intersected the Cadillac-Bouzan Lake fault zone, cut sheared, mineralized andesite assaying, according to company reports, $3.48 in gold per ton across 3.5 feet. Five holes, Nos. 6 to 10, drilled along the strike of the fault zone at 500-foot intervals and three holes, Nos. 11 to 13, drilled in the central part of the property across prominent depressions, did not cut any gold-bearing sections. Hole No. 14, drilled jointly with Howey Gold Mines on the northeast

boundary of the property on lot-line 36-37, range VI-S, about 100 feet north of Lake Monastesse, did not intersect gold-bearing rock.

Diamond drilling was supervised by D.M. Giachino. (S.H.R.-46)

Quemont Mining Corporation, Limited

Ref.: Geol. Surv. Can., Mem. 229, 1941, p. 145.
Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 29-30.

The company holds a group of 8 claims bordering on Osisko Lake; blocks 181-7 and C.3250, claim 5, adjacent to the Macamic road directly north of Noranda Mines in the northwest quarter of Rouyn township. The Rouyn-Taschereau branch of the C.N.R. crosses the middle of the property.

This property, originally known as the Murray claims, received considerable attention in the early development of the district because of its proximity to the Noranda orebodies. Extensive surface trenching and diamond drilling near the Noranda boundary was carried out by the Victoria Syndicate which optioned the claims in 1926. The same year, the United Verde Extension Company of Arizona optioned the Murray claims. A two-compartment vertical shaft was sunk to a depth of 235 feet, close to the Noranda boundary, and 3,015 feet of drifting and 6,102 feet of diamond drilling was completed on the 215-foot level. This work located a small body of siliceous gold ore directly east of the Noranda, north-south, quartz-diabase dyke, north of the Noranda boundary. The results of additional diamond drilling were not encouraging and the option was dropped.

In 1928, Mining Corporation of Canada purchased a 90 per cent interest in the property and formed a new company which was later named Quemont Mining Corporation. The shaft was deepened to 922 feet (its present depth) and two new levels were established at the 500-and 900-foot horizons. A total of 4,825 feet of drifting and 3,000 feet of diamond drilling along the Noranda boundary and on both sides of the quartz diabase dyke did not indicate the presence of ore in commercial quantities and operations were suspended in September, 1930.

The area is underlain mainly by rhyolite, rhyolite-flow-breccia, and pyroclastics cut by dykes and irregular, sill-like bodies and masses of quartz-diorite, gabbro, and meta-diabase. The Horne Creek fault, whose strike varies from east-west to N.80°E., crosses the south margin of the property dipping steeply to the south. It consists of a crushed zone 200 to 250 feet wide, accompanied by numerous subsidiary northeast striking faults, prominent among which is the Donalda fault, striking N.60°E., and converging with the Horne Creek fault to the southwest near the south boundary of block 187.

Diamond drilling results on the adjoining Donalda property to the east late in 1943 indiciated that gold occurred between, and presumably associated with, the Donalda and Horne Creek faults. A magnetometer

survey of the property completed in March, 1944, defined the northern extension of the Noranda quartz diabase dyke and located 10 other anomalies.

Diamond drilling to test the magnetic anomalies began in April, 1944. Four anomalies, Nos. X-1, X-2, Y-1, and Y-2, were explored by 5,680 feet of diamond drilling in 9 holes, Nos. 1 to 9, without encouraging results. Hole No. 10, to cross-section from south to north the intersection of the Horne Creek and Donalda faults and test anomaly U (east anomaly), cut 141 feet of massive sulphides north of the Horne Creek fault. The sulphides consisted of pyrrhotite (magnetic), pyrite, chalcopyrite, and sphalerite accompanied by considerable amounts of gold and silver. Subsequent diamond drilling showed that the west anomaly on the north side of the Donalda fault was also due to the presence of magnetic sulphides.

North of the Horne Creek fault, the Noranda N.-S. diabase dyke is offset 675 feet to the west and a stock of coarse syenite occurs at the eastern margin of the property. An older diabase dyke, 50 to 70 feet wide, dipping 76° to the south, appears to follow the Donalda fault, striking northwest at a point directly south of the shore of Osisko lake and then east through the ore zone of the west anomaly.

Along the Donalda fault the ore horizon has a vertical displacement of over 200 feet with the northwest side down. The orebody, consisting of massive sulphides and disseminated sulphides in chlorite, lies directly below a flat-lying porphyritic rhyolite. In the upper, massive sulphide zone, pyrite and sphalerite predominate, whereas pyrrhotite and chalcopyrite accompanied by important amounts of gold occur in the chlorite zone directly below the massive sulphides. According to a company report issued in May, 1946, indicated ore reserves exceed 6,000,000 tons averaging 0.181 oz. gold per ton, 1.58 per cent copper, 3.5 per cent zinc and 1.12 oz. silver per ton.

The ore, which includes an area measuring 2,000 feet long and 1,000 feet wide, has an average thickness of 78 feet. The main orebody, consisting chiefly of sulphide replacement in fractured rhyolite-breccia lies between the 200 and 700 foot horizons, pitching to the west and north. In the eastern area it is relatively flat-lying and close to the lake bottom. Diamond drilling around the lake shore at this location is being carried out in order to determine whether the ore located under the lake dips north beneath the area occupied by the gold links. The ore under the lake, which lies between porphyritic rhyolite above and silicified rhyolite below, occupies a higher horizon than the ore to the west, from which it is separated by the Quemont diabase and the Donalda fault.

In the western area, the ore horizon develops into a structure resembling an anticlinal fold plunging approximately 60° to the west. Here, underground diamond drilling has indicated that the orebody extends to a vertical depth of 2,090 feet. Underground diamond drilling on the northeast side of the orebody has indicated continuous ore between the 200 and 900 foot levels.

In 1945, a total of 33,228 feet of surface diamond drilling and 2,130 feet of underground diamond drilling was completed. In 1946, up to

the time of the writer's inspection (August) a total of 24,822 feet of surface diamond drilling and 25,170 feet of underground diamond drilling had been carried out. At this time, vertical holes were being drilled at 100-foot intervals in drifts 210 E, 210 W and 212 E on the 215-foot level. Hole No. 260, in the 212 E drift, cut 100 feet of ore assaying, according to company reports, 0.6 oz. gold per ton and 5 per cent copper. The 900-foot level was being extended northeast under the western ore section and due east beneath the eastern ore zone.

The new 5-compartment, vertical shaft, located 1,212 feet north and 628 feet east of the old Quemont shaft, was begun in September, 1946, and had been sunk to a depth of 200 feet at the end of January, 1947. The company plans to sink to a depth of 1,000 feet, establishing levels at the 200, 400, 600, and 900-foot horizons. (S.H.R.-46)

Rouyn Merger Gold Mines, Limited

Ref.: Que. Bur. Mines, Ann. Rept., Part C, 1933, pp. 63-71.
Que. Bur. Mines, P.R. No. 135, 1938, p. 26.
Que. Bur. Mines, P.R. No. 150, 1939, p. 40.
Que. Bur. Mines, P.R. No. 161, 1940, p. 19.
Geol. Surv. Can., Mem. 231, 1941, p. 88.
Geol. Surv. Can., Prel. Map 43-7C, 1943.
Que. Dept. Mines, P.R. No. 190, 1944, pp. 31-35.

This property, consisting of 54 claims in one block, extends east and west along the centre lines of Rouyn and Joannès townships for a distance of 4 miles. Seventeen of the claims (R.10829-33, 10941-50, and 10954-55) are in Rouyn township and were originally known as East Rouyn (Quebec) Ltd. The remaining 37 claims, formerly comprising O'Neil Thompson Gold Mines Ltd., and the Hosking-Cockeram Prospecting Syndicate, are in Joannès township. They are numbered R.10996-11005; R.13226; R.28150-1; C.5062, claims 1 to 4; C.5103, claims 1 to 4; C.5831, claims 1 to 3; C.5885, claim 2; C.5889, claims 1 to 4; C.6225, claims 1 to 4; C.6226, claims 2 and 3; and C.8404, claims 1 and 2. The Rouyn-Val d'Or highway and the Rouyn-Senneterre branch of the C.N.R. both cross the property in Rouyn township, 9 miles east of Noranda.

The structure of the formations which underlie the property is related to two major fault zones, the Cadillac-Bouzan Lake fault which strikes N.77°E. and the Davidson Creek fault which strikes N.52°E. These faults intersect at the "Big Bend" on the Kinojevis river. East of the Davidson Creek fault, the Cadillac-Bouzan Lake fault zone forms a fault contact of greywacke, correlated with the Cadillac sediments to the north, and Temiscamian-type conglomerate to the south. A section, from north to south, west of the Davidson Creek fault, passes from a belt of Blake River volcanics, north of the Cadillac-Bouzan Lake fault, to a band of volcanics and sediments, classified as the McWatters group, south of the fault.

The ore, which appears to be pipe-like in form extending to a vertical depth of 1,000 feet, is localized in a drag-fold in greywacke and

conglomerate near the sedimentary-volcanic contact of the McWatters group, about 700 feet south of the Cadillac-Bouzan Lake fault zone. It consists of small quartz-tourmaline veins, stringers, and siliceous replacements in sheared greywacke, agglomerate, and tuff. It is usually well mineralized with fine, disseminated pyrite, and some arsenopyrite accompanied by gold. The orebody strikes east-west and dips about 6° to the north.

In the spring of 1946, the intersection of the Davidson Creek fault and the Cadillac-Bouzan Lake fault was investigated by diamond drilling at the "Big Bend" on the Kinojevis river in lots 6 to 9, range VI. A total of 4,940 feet of drilling in 4 holes, Nos. 38 to 41, drilled in greywacke, conglomerate, and talc-chlorite schists, was completed. Quartz veins and stringers, sparsely mineralized with disseminated pyrite and arsenopyrite, and carrying a low tenor of gold, were intersected in this drilling.

The 3-compartment, inclined shaft, collared in the footwall of the orebody in lot 61, range VI-south, had reached a depth of 700 feet at the time of the writer's inspection. At the end of the year, the shaft had been sunk to the 5th level at a vertical depth of 800 feet. At that time, the company planned to discontinue shaft-sinking temporarily and to begin lateral work on the third, fourth, and fifth levels.

R.V. Hopper, mine manager, was in charge of operations at the property. (S.H.R.-46)

ROY TOWNSHIP

Roybar Chibougamau Mines, Limited

Ref.: Geol. Surv. Can., Mem. 185.

The Roybar property, consisting of 44 claims in one group, is in Portage and Machin bays, north of Portage islands in the southwest quarter of Roy township. The property is directly east of Block H, site of quartz-sulphide mineralization explored by Capt. H.A.C. Machin in 1906-7. The main showing in claim 2, C.10082, is 800 feet north of the camp on the north shore of Portage bay in claim 4, C.10537.

The claim numbers are as follows: C.10082-84, claims 1 to 5; C.10536-38, claims 1 to 5; C.10598, claims 1 to 5; C.12825, claims 1 to 4; and C.12826, claims 1 to 5.

The property is underlain by a belt of massive and sheared volcanics and intercalated narrow bands of coarse fragmentals, three-quarters of a mile wide and flanked on the south by granite and granodiorite. The volcanics, which consist of pillow lavas with a vertical dip striking slightly north of east, outcrop in a series of low hummocky ridges separated by steep-sided ravines. They are intruded by small lenticular bodies of gabbro

and diorite. The schistosity strikes N.55°E. and dips steeply to the south. The McKenzie Narrows fault, which extends southwestward across Contact and Portage bays, crosses the centre of the property. Altered, chloritized granite, rich in opalescent quartz, outcrops north and south of the fault in Portage bay. It is cut by numerous, glassy, granular quartz veins mineralized with pyrite, chalcopyrite, and magnetite.

The company was incorporated in March, 1946. The following October, a zone of heavy sulphide mineralization accompanied by gold was discovered in fractured and sheared granodiorite, 100 feet south of the greenstone-granite contact in the centre of claim 2, C.10082. A magnetometer survey of the property was completed December 20, 1946. From February 1, to July 24, 1947, 8,954 feet of diamond drilling in 22 holes was carried out by Leta Exploration Ltd. Fourteen of these holes, Nos. 1 to 6, 10 to 12, 14, 15, and 17 to 20, were put down to explore the main zone in claim 2, C.10082. Two holes, Nos. 21 and 22, were drilled in the East zone south of Contact bay in claim 3, C.10084. The remainder were drilled to investigate magnetic anomalies Nos. 2, 3, 5, and Machin bay. Holes 8 and 9, drilled northwest in No. 5 anomaly in claim 2, C.10537, cut the McKenzie Narrows fault zone. Hole No. 13, drilled west in the Machin bay anomaly in claim 3, C.12825, intersected magnetite and hole No. 16, drilled west in No. 2 anomaly in claim 4, C.10537, cut granite.

The main zone consists of a lenticular sulphide replacement deposit, in albite-oligoclase granite, trending north-south and dipping 67° to the east. Lensing out to the south and terminating abruptly against granite to the north, it appears to be independent of the structure of the granite which trends N.70°E. The zone, which has been explored by several rock trenches along a length of 300 feet, averages 3 per cent copper and 0.03 to 0.05 oz. gold per ton. Assays up to 4 per cent copper and 0.22 oz. gold per ton are also reported by the company.

In the north trench, where the zone is 30 feet wide, replacement has penetrated the granite along fractures for distances up to 6 feet. The mineralization consists of pyrite, chalcopyrite, and minor amounts of molybdenite. The zone is cut by quartz stringers and specularite veins $\frac{1}{2}$ inch thick. A grab sample from this trench, taken by the author, consisting mainly of sulphides, assayed 3.68 per cent copper and 63 cents in gold per ton.

Heavy sulphide mineralization consisting of pyrite and massive chalcopyrite is exposed in a second rock trench, 30 feet long, 136 feet south of the north trench. A grab sample of heavily mineralized schist taken by the writer from this showing assayed 7.12 per cent copper and 70 cents in gold per ton. Diamond-drill hole No. S-12, drilled beneath this zone, cut 38 feet of quartz and sulphides at a vertical depth of 180 feet, consisting of disseminated pyrite and massive chalcopyrite mainly and molybdenite. Considerable magnetite is associated with the pyrite. According to company reports, the best 5-foot section of this zone assayed 2.5 per cent copper. In a third rock trench, 90 feet south of the second trench, sulphides occur in stringers and the zone narrows to a width of 10 feet.

Two 'showings' in the East zone in claim 3, C.10084, south of the McKenzie Narrows fault, have been explored at depth by diamond drilling. The eastern showing, tested by diamond-drill hole No. S-21, drilled S.20°E., consists of a silicified shear zone 25 feet wide trending E.10°S. The zone is heavily mineralized with massive and disseminated chalcopyrite and pyrrhotite across a width of 10 feet. A chip sample taken by the author across 3 feet of massive chalcopyrite and pyrrhotite assayed 2.66 per cent copper and 49 cents in gold per ton. The point showing, drilled by hole No. S-22 bearing N.21°W., is 298 feet west and 578 feet south of the eastern showing. A zone of brecciated quartz mineralized with pyrite, sphalerite, and minor amounts of galena and chalcopyrite is exposed in a rock trench on the lake shore. A band of slaty sediments, 2 to 3 feet wide, striking N.70°E. and dipping vertically outcrops directly north of the sulphide zone.

J.L. Hough, consulting engineer, and J.D. McCannell, mine manager, were in charge of the exploration and development work. The property was suspending operations at the time of the writer's inspection. (S.H.R.-47)

SENNEVILLE TOWNSHIP

Lasidon Gold Mines, Limited

(See Vassan township)

Senvil Mines, Limited

Senvil Mines holds a group of fourteen claims in the central part of Senneville township. The claims comprise lots 35 to 41, ranges IV and V. The camp, at the Bourlamaque river in lot 36, may be reached by following the Blouin Lake motor road for nine miles northeast from Val d'Or.

Almost no bedrock crops out on the property. Geophysical work and drilling indicate that the property is underlain mainly by volcanics. The north margin of the Bourlamaque granodiorite batholith extends in a northeast-southwest direction across the southeast corner of the property. A band of greywacke and tuff strikes N.80°E. along the south boundary. Drilling indicates the presence of dykes and small masses of feldspar porphyry and diorite.

A geomagnetic survey was conducted over the property in 1945 and 1946. Diamond drilling started in May, 1946. A total of 6,758 feet was drilled in ten holes, three of which did not reach bedrock. The holes were put down in central and northern lots 39, 40, and 41, range IV. They were directed to probe magnetic anomalies interpreted as drag folds in the volcanics. The anomalies turned out to be caused by magnetic bodies of diorite following irregular trends across the volcanic horizons.

The drill holes intersected several distinct shear zones, numerous zones invaded by quartz stringers, and considerable disseminated pyrite and pyrrhotite. A few narrow bands of massive sulphide were found. One large quartz vein, indicated by 16 feet of quartz in the core, was intersected, but it contained no gold. Other zones of shearing, silicification, veining, and mineralization yielded a few low gold assays. Visible gold was seen in one half-inch wide quartz stringer carrying pyrite and occurring in the vicinity of other stringers showing a little sphalerite.

Diamond drill exploration was under the direction of C.G. Murray and J.H. Morgan. (W.N.I.-47)

TRÉCESSON TOWNSHIP

Edmond Carrière Claims

Ref.: Geol. Surv. Can., Map No. 327A, Amos Sheet, 1935.

The nine Carrière claims are in the northwest quarter of Dalquier township and the adjoining northeast quarter of Trécesson township, 15 miles from Amos. They comprise the north half of lots 1 and 2, range VII, and the south half of lots 1 and 2, range VIII, (claims 1 to 4, C.5284), Dalquier township, together with lots 59 to 61, range VII, and the south half of lots 61 and 62, range VIII, Trécesson township. A range road on range-line VII-VIII, leads west from St. Felix de Dalquier, 7 miles north of Amos, for 3½ miles directly to the main 'showing' in the northeast corner of lot 59, range VII, Trécesson.

The area is low and swampy and outcrops are not abundant. The property is underlain by grey, biotite granite (2 to 3 mm.) exposed as 'roches moutonnées) ridges cut by quartz veins and lamprophyre dykes.

A quartz vein, 1.2 to 6 feet wide, striking N.40°E. and dipping 80° to the southeast, has been explored by stripping and trenching along a length of 150 feet and found to pinch out at both ends. The vein lies in a 6-foot-wide shear zone in the granite, which is cut by a 4-foot lamprophyre dyke. It consists of glassy quartz and intercalated, silicified schist sparsely mineralized with disseminated pyrite. A chip sample taken by the writer from the north end of the vein across 2.7 feet of quartz and silicified schist, sparingly mineralized with pyrite, assayed 63 cents in gold per ton.

The property was optioned to West Malartic Gold Mines who explored the vein at depth by diamond drilling during the summer of 1947. It was inactive at the time of the writer's inspection. (S.H.R.-47)

East Trecesson Gold Mines, Limited

Ref.: Geol. Surv. Can., Map 327A, Amos Sheet, 1935.

This company holds a block of 4 claims, east of Davy river in the east-central part of Trecesson township. The claims, comprising lots 57 to 60, inclusive, range V, are numbered A.36667-70. The N.-S. highway on lot-line 56-57, one mile west of the township line, follows the west boundary of the property.

The claims are underlain by medium-grained (2 to 3 mm.) pink, hornblende granite intruded, in the northwest quarter of the property, by a large lenticular mass and several prominent veins of quartz. An assumed fault, trending northeast also crosses the northwest quarter of the property.

A glassy, white quartz vein cutting pink, hornblende granite outcrops on top of a bare, rocky ridge in lot 58, range V, 700 feet east of the road. The vein, striking N.18-20°E. and dipping 70° to the east is exposed in a rock trench for a length of 220 feet, varying in width from 6 inches to 3 feet. It has been faulted and offset 2 to 3 feet along N.-S. fractures at a number of points. The hanging-wall is considerably sheared and both hanging-wall and footwall show evidences of movement.

The vein is sparsely mineralized with sulphides, mainly pyrite and chalcopyrite, generally confined to chloritic inclusions in the quartz. A 3-foot width of chlorite schist in the hanging wall of the vein is also mineralized with disseminated sulphides. Several N.-S., barren, lenticular quartz veins, 4 to 6 inches wide, accompany the main vein. A chip sample taken by the writer at a point 90 feet from the south end of the vein, across 1.9 feet of quartz mineralized with pyrite and chalcopyrite, assayed $1.33 in gold per ton.

The vein was explored in the summer of 1946 by 12 diamond-drill holes, Nos. 1 to 12, drilled in directions north-of-west and south-of-east, also east and west of the vein.

H. Gagnon was engineer and P.R. DeCarie was in charge of operations at the property, which was inactive at the time of the writer's inspection. (S.H.R.-47)

URBAN TOWNSHIP

Honsberger-Stee Claims

Ref.: Que. Dept. Mines, Geol. Rept. No. 14.

J.C. Honsberger and associates control a group of 42 claims surrounding Rouleau lake in the southeast quarter of Urban township, Abitibi-East.

At the time of the writer's visit in September, some trenching had been done and camps were being constructed on the east side of Rouleau lake in preparation for further exploration.

The property is about 80 miles northeast of Senneterre and the easiest access is by air. A canoe route to Barry lake from the C.N.R. starts from the Kekek river near Rouleau siding, and a winter road from Rouleau siding to the Chibougamau district passes four miles east of the claims.

The Quebec Department of Mines Geological Report No. 14, by R.L. Milner, describes the regional geology and includes a detailed description and map of a former group of claims around Rouleau lake. The area near the lake is shown as underlain by interbedded acidic and basic volcanics which strike N.70°E. and are intruded by gabbro. A mineralized zone along the south shore is described as averaging from $2 to $3 in gold a ton across widths of over 30 feet.

The new Honsberger discovery is in claim C.30896, claim 4, about 100 feet north of the northeast corner of the lake. A shear in diorite striking N.50°E. and dipping steeply north was exposed in a single trench for a length of 10 feet. Samples taken by the writer from an 18-inch quartz vein in the shear assayed 0.383 oz. of gold per ton.

About 120 feet northeast of the discovery, another trench exposes an eight-foot shearing in diorite striking N.80°E. and dipping steeply north. Grab samples from this shear are reported to have returned encouraging assays.

The exploration was directed by J.C. Honsberger and a detailed geological map of the claims was compiled by W.R. McQuarrie. (W.G.R.-47)

Quebec Smelting and Refining Corporation

Ref.: Que. Dept. Mines, Geol. Rept. No. 14.

Quebec Smelting and Refining Corporation has a group of fifty-seven claims in the southern parts of Urban and Carpiquet townships of Abitibi-East. The group includes the area between, and overlaps parts of, the Macho and Penache rivers. A camp has been constructed on the west shore of the Macho river, and trenching and X-ray diamond drilling were in progress at the time of the writer's visit in September. The company has made detailed geological plans of the claims, and much of the information in this report is derived from its records.

The property is about 85 miles northeast of Senneterre and the easiest access is by air. Two canoe routes from the C.N.R. start from the Kekek river near Rouleau siding and from Attic lake near Forsythe, respectively. A winter road from Rouleau siding to the Chibougamau district passes twelve miles east of the claims.

Much of the property is covered with spruce swamp and outcrops are few and scattered. The geology of the area is described in the Que. Dept. Mines Geol. Rept. No. 14 (Barry Lake Area), by R.L. Milner. Most of the claims are shown as underlain by basic and intermediate volcanics with a few minor dykes of granite and porphyry, and Milner suggests that the area between the two rivers is part of an open anticlinal fold, the axis of which crosses the Macho river near its northern extremity.

The "Macho river" showings are 1,500 feet southwest of the camp in claim C-25551, claim 1. A strong shearing, which strikes N.80°E. and dips steeply south, can be seen along the west shore of the river. North of and parallel to the shear, a 15-foot dyke of feldspar porphyry intrudes dark green andesites. Trenches along the bank expose irregular quartz veins from a few inches to three feet wide, which appear to become wider in the porphyry and narrower in the volcanics. These trend northerly and probably occupy tension cracks related to the shear. Two 'X-ray' holes drilled south of the trenches, and one drilled parallel to the dyke, penetrated sheared volcanics, minor porphyries, and a few small quartz veins. The last assayed low in gold.

Another trench, about 100 feet to the northwest, exposes a number of irregular quartz stringers in andesites. The stringers are small and lack continuity but contain appreciable amounts of gold. Company officials reported that picked samples assayed as high as 9 oz. of gold per ton. Five 'X-ray' holes drilled westward from this trench penetrated basic volcanics with small porphyry dykes and a few small quartz veins. Most of the assays were low, but one section with quartz stringers assayed 0.25 oz. of gold per ton across three feet, according to company reports.

The "Penache No. 2" showing is a mile to the west, in the northwest corner of claim C-25552, claim 2. Trenches expose a strong shear in volcanics striking N.55°E., dipping 70° to the northwest, and having quartz stringers and sulphides. Most of the channel samples across the shear assayed below ore grade, but grab samples returned up to 5.45 oz. of gold per ton. Samples taken by the writer contained 0.209 and 0.14 oz. of gold per ton, respectively. Two X-ray holes drilled under the shear cut sections which gave low assays.

The "Penache No. 1" showing is 1,500 feet farther west, in the northeast corner of claim C-25552, claim 4. About 200 feet north of the granite, trenches expose a northeasterly-trending quartz-porphyry dyke intruding andesite. A strong shear along the north edge of the dyke has quartz stringers over widths of two to four feet and abundant pyrrhotite and chalcopyrite. Sampling indicated that the average tenor of gold in the shear was low, but individual samples assayed as high as 0.94 oz. of gold per ton. Six X-ray holes were drilled under the shear and the best intersection obtained was 0.31 oz. of gold per ton across two feet.

Preliminary prospecting of the claims was done by the late Mordy Wright and by Pete Swanson. The later exploration was supervised by Graham Murray and J.H. Morgan. (W.G.R.-47)

VASSAN TOWNSHIP

Amlartic Gold Mines, Limited

This company holds a group of 13 claims in the southwest corner of Vassan township. The claims cover lots 6 to 11, range I, and six water claims: C-5897, claims 1 to 5; and C.G. 1987, claim 1, in Lake Dubuisson adjoining in range I, east of the lots. Keriens creek flows across the property into the lake. The camp is adjacent to the Norbenite road at a point two miles north of provincial highway No. 59.

An esker about 1,000 feet wide trends slightly east of north across the western end of the property. All bedrock is deeply covered in that section, and no outcrops are known between the esker and the lake, so that the claims are completely drift- or water-blanketed.

Knowledge gained from the drilling of thirty-seven holes indicates the property is underlain mainly by volcanics and concordant masses of peridotite. Both rock types strike a few degrees north of east and dip at a moderate angle north. Both formations are intruded by numerous acidic to intermediate dykes, including aplite, syenite, granodiorite, diorite, and their porphyritic equivalents. A zone of strong strike faulting and shearing characterized by talc-chlorite schists ranging up to 200 feet wide trends from the northwest section of the property towards the east-central area under Dubuisson lake. The younger acidic intrusive rocks occur in concentrated belts separated by thick horizons of volcanics and peridotite.

The drilling aggregates 24,735 feet and was carried out during the period from November, 1945, to February, 1947.

The first ten holes were placed along a cross-section line extending across range I in a direction N.30°E., from lot-post 5-6 to a point 275 feet west of lot-post 8-9 on range-line I-II. This resulted in the discovery of two main auriferous zones in northern lots 7 and 8. The remaining holes were drilled chiefly along the eastward extension of these zones to cover a distance of 5,000 feet. The deep overburden of the esker prevented following the mineralization westward.

The south gold-bearing zone is a pyritized, silicified, fractured diorite dyke 150 feet wide. It is invaded by numerous veinlets of quartz with minor carbonate and tourmaline, and it is cut by dykes of granodiorite, syenite, and aplite. Gold occurs at various intervals across the zone in amounts varying from less than 0.05 oz. per ton to 0.35 oz. per ton. Individual auriferous widths range from one foot to 12 feet, and although they cannot be correlated in detail from hole to hole, the zone in general was traced for 2,000 feet along the strike.

The south zone is not well defined. It consists of a series of acidic to intermediate dykes lying in and near a wide, strong, talc-chlorite shear. In the western section the gold is closely associated with

fractured and mineralized dykes of basic syenite. Towards the east granodiorite and diorite dykes predominate. Gold assays have been obtained at various intervals along more than 3,000 feet. In four holes drilled at 100-foot intervals, immediately east of the cross-sectional line, gold occurs at scattered points across widths up to 50 feet. Individual returns from samples representing widths from one foot to five feet vary from 0.80 oz. to 0.03 oz. gold per ton.

Exploration of the property was under the direction of E.A. Goranson, geologist. (W.N.I.-47)

Citralam Malartic Mines, Limited

(See Malartic township)

Lasidon Gold Mines, Limited

Eighteen claims in range III, Vassan and Senneville townships, comprise the property of Lasidon Gold Mines. In Vassan township the ground held covers lots 55 to 62, and in Senneville township the ten adjoining claims are numbered C-12992, claims 1 to 5; and C-12987, claims 1 to 5. The camp is in lot 62, on the north side of a wide part of the Harricana river. The property may be reached by driving from highway No. 80, east along range-line IV-V for four miles, then walking a mile south.

The claims are almost completely covered by overburden, bedrock being known to outcrop at only two places. One of these is in central lot 58, and the other on range-line II-III in lot 64. These are shown on the Quebec Department of Mines geological map No. 13 as basalt and trachyte. A magnetometer survey of the property, completed early in 1946, indicates the western part is underlain by volcanic rocks and the northeastern portion by an acidic intrusive.

During the period June to November, 1946, a total of 7,800 feet of diamond drilling, in nine holes, was completed on the claims. Three holes in northern lots 61 and 62 intersected mainly volcanics and pink coloured, quartz syenite. A hole drilled north, from a point 800 feet north of range-line II-III, along the Vassan-Senneville township line, penetrated volcanic rocks cut by numerous feldspar porphyry dykes, and the south margin of a body of grey granite. Five holes put down in the eastern part of the property, in Senneville township, intersected mainly grey granite. Although considerable disseminated pyrite, marked silicification, and several quartz-stringer zones were found, no gold assays above 0.01 oz. per ton were obtained.

The drilling programme was carried out under the direction of Leo Brossard assisted by F. Massicotte. (W.N.I.-47)

Norbenite Malartic Mines, Limited

(See Malartic township)

Snowshoe Gold Mines, Limited

The main property of this company consists of a group of thirty-three claims in the southwest quarter of Vassan township with seven of the group adjoining along the north boundary of Dubuisson township. The claims in Vassan township are numbered A-49196-97; A-55137-59; A-60342; and the claims in Dubuisson are numbered A-55130-36. The company also holds two claims, numbered A-60345-46, which are 1,200 feet northwest of the northwest corner of the main group. The claims are almost completely covered by the water of Dubuisson lake, except for Potter island in A-55147, and three other small islands to the east.

Six drill holes (one of which did not reach bedrock), totalling 2,770 feet, were put down on the property in 1937. During the winter of 1942-43 the eastern part of the property was surveyed magnetically, and in the winter of 1947 the magnetometer work was extended to cover the western claims. In 1946, twelve additional drill holes were put down.

As the property is almost completely water-covered, its geology is known only from geophysical work and diamond drilling. The geophysical survey outlined an intrusive plug covering about 250 acres of the east-central portion of the property. Drilling indicates the plug is a granodiorite type and it intrudes mainly basic volcanics. The volcanics are chiefly andesite flows with concordant sills of peridotite. Both are cut by dykes of diorite porphyry and feldspar porphyry. On the basis of magnetic results and correlation of structural data to the west in Malartic township, T.H. Koulomzine has interpreted the granodiorite as lying in the core of a large drag fold.

Two of the drill holes of the first drilling programme were put down from Potter island into claim A-55144. The other three that penetrated bedrock were collared in A-55152 and A-55150, north of the granodiorite mass. In the second drilling campaign, seven holes were put down in the granodiorite mainly in claim A-55153, and the remaining five holes were distributed around the south margin of the intrusive in claim A-55143, A-55145, and A-49196.

Nearly all the holes in the granodiorite have yielded gold, assays varying from low to high for core lengths of from one to twelve feet in mainly vertical holes. The gold occurs in fractured or shattered zones in the granodiorite which are marked by quartz veinlets, silicification, carbonatization, tourmaline, and pyrite. The mineralized sections are frequently closely associated with included masses of greenstone and fine-grained basic dykes.

For the most part, the holes are too widely spaced to outline any continuous auriferous zones. According to company reports, the gold

assay of many core intersections ranges from $30.52 per ton for 2.5 feet to $2.08 per ton for 11.0 feet.

K.C. Shaw reported on the first drilling programme; and P. D'Aragon directed the second exploration drilling. (W.N.I.-47)

Varsan Gold Mines, Limited

This company holds a group of eleven claims in the southwest quarter of Vassan township. They are numbered: A-57130; A-51648; A-58044-45; A-61649-50-51; and C.G. 66, claims 1 to 4. The group may be reached by walking one mile northeast from the Norbenite road at the Amlartic Camp.

The east half of the property consists of seven water-claims in Dubuisson lake. On the west half of the property, which is comprised of lots 8, 9, and 10, range II, Vassan township, no outcrops of bedrock are known. Information from adjacent areas indicates the ground is underlain mainly by basic volcanics, chiefly andesite and derived schists. It is probable that these are intruded by sills of peridotite and dykes of diorite, syenite, and granodiorite. No development work has been carried out on the property. (W.N.I.-47)

VAUQUELIN TOWNSHIP

Bell Manitou Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part III, p. 32.

This company holds a group of twelve claims at the south end of Simon lake, southwestern Vauquelin township. The claims are numbered C-729, claims 1 to 5; C-730, claims 1 to 4; and C-7251, claims 2 to 4. The camp, on the south shore of the lake, may be reached by canoe from provincial highway No. 58 at the bridge across the Louvicourt river, a distance of seven miles. The claims also may be reached by a trail leading east for two miles from the highway at a point one mile north of Felix creek.

Bedrock crops out at numerous localities on the property, except in the six north claims which are largely covered by the water of Simon lake. A contact trending east-west, between lavas on the north and pyroclastics on the south, extends across the two southern claims. The lavas, although dark-coloured, are silicified and in places are brecciated. Dykes of diorite and feldspar porphyry intrude the volcanics.

Stripping and rock trenching, carried out shortly after the claims were staked in 1937, exposed a wide quartz vein on the south boundary of C.730, claim 4, also narrow veins striking east-west and dipping flatly north, carrying a low gold tenor in claim C.730, claim 1.

During the summer of 1945, a programme of 5,000 feet of diamond drilling was completed. This cross-sectioned claims C.730, claims 1 and 4. Siliceous lavas, tuff and agglomerate, and diorite were the main rocks intersected. One hole cut a narrow shear zone with vein material giving low gold assays in the northwest corner of C.730, claim 1. Scattered pyrite was found in most of the core, and, in general the volcanics were severely altered. A geophysical survey was made of the north part of the property early in 1947, and diamond drilling was resumed in September, 1947.

The second drilling consisted of seven holes totalling 2,390 feet. These holes were mainly directed north from the south shore of Simon lake in northwest C.730, claim 1, and northeast C.729, claim 5. They were distributed east-west along 800 feet. The chief rock intersected was grey, intermediate lava, locally spherulitic, and cut by dykes of diorite and feldspar porphyry. Some shearing was encountered, and also considerable disseminated pyrite and a few quartz-tourmaline veins, but no appreciable gold assays.

J.R.C. McPherson was in charge of the 1945 drilling, and C. Bischoff directed the 1947 exploration. (W.N.I.-47)

Chimo Gold Mines, Limited

Ref.: Que. Bur. Mines, Geol. Report No. 6, p. 15, 1940.

The property of Chimo Gold Mines in south-central Vauquelin township consists of 25 claims. These straddle the south end of the centre-line of the township, and they are numbered C.7034, claims 1 to 5; C.7032, claims 1 to 5; C.7074, claims 1 to 5; C.7072, claims 3 and 5; C.7135, claims 1 to 5; C.6258, claims 4 and 5; and C.7138, claim 1. The camp in C.7032, claim 3, is serviced by tractors operating on a government winter road extending from highway No. 58 for 5 miles east and one mile south.

The northern part of the property is underlain by tuff, agglomerate, and diorite intruded by numerous granitic dykes. This is flanked to the south by an east-west band half a mile wide of predominately basic lavas. South of the lavas a width of one-half mile of intercalated volcanics and sediments occur. The southern section of the property, where there are no outcrops and as yet no drilling, appears to be underlain by clastic sediments, chiefly Temiscamian-type greywacke.

Most of the present property was formerly held by Quemartic Mines, Limited. In 1937, extensive prospecting, consisting of surface trenching and the drilling of two holes at the west boundary of C.7032, claim 4, was carried out. This work revealed a number of strong quartz veins in the northern part of the property, and mineralized shears in the volcanics near their contact with the sediments. Two main shears were exposed about 400 feet apart and observed to strike approximately east-west.

The more northerly shear is sparsely mineralized with pyrite and vein quartz, and is reported to contain free gold. The other zone is 6 feet wide in one trench. It contains flat-dipping veinlets of white and bluish quartz and is traversed by subsidiary oblique and cross fractures. The schist is sparsely mineralized with pyrite, pyrrhotite and arsenopyrite. Native gold is reported.

Thirty-three drill holes, totalling about 20,000 feet, have been completed on the property in a programme which started in October, 1945. Nine of the holes form a north-south cross-section 4,000 feet in length near the centre of the northern one-third of the property, from northeast C.7034, claim 2, to the south boundary of C.7032, claim 3. Two of the holes near the south end of this section cut core lengths of 3.4 feet carrying 0.10 oz. gold per ton, and 1.5 feet carrying 30 oz. Lateral drilling at a distance of 100 feet did not encounter similar results at corresponding depths.

Eight drill holes were put down in southern claim C.7032, claim 4, to explore the two shear zones mentioned above. The holes are distributed along 200 feet east-west. Five of them entered the south shear zone and showed graphitic schist with mineralized sections and vein quartz stringers, but no important values in gold.

The main gold-bearing area on the property thus far discovered and traced by drilling is in claims C.77074, claims 2 and 5, which are located in the west-central section. It is a carbonatized, silicified, amphibolitized zone invaded by white quartz veins and by dark quartz-tourmaline stringers. It contains coarse-grained arsenopyrite, disseminated pyrite, pyrrhotite and sparse chalcopyrite. Fine-grained visible gold is present and the best values are associated with abundant arsenopyrite in conjunction with dark stringers of vein quartz.

Several auriferous zones trending N.60-80°W. and roughly parallel have been encountered within a band of chiefly volcanic rocks. Drilling indicates that a band of iron formation 20 feet wide is enclosed in a narrow horizon of sediments in the volcanics near their north margin.

To date (November, 1946), 19 drill holes, within an area 900 feet east-west and 1,500 feet north-south, have partially outlined six gold-bearing zones. These are designated Nos. 1 to 5 and 4a. The main zone, No. 2, has been traced by drilling at 50-foot intervals along 650 feet. It pinches out to the east and is open for 180 feet to the west boundary of the property. In what appears to be a local drag-folded section, the width of mineralization is 127 feet, which returned an average gold assay of 0.07 oz. per ton, and contains two 18-foot widths assaying 0.17 oz. Company reports show that the average width throughout the explored length of the zone is about 25 feet, with an average assay value of approximately 0.05 oz. gold per ton, but grading, considerably higher if narrower widths are considered, as most intersections gave several 3-foot samples assaying up to 0.24 oz. gold per ton.

The No. 3 zone appears to be a branch of the main zone extending for 150 feet east before pinching out. In spite of the presence of visible

gold only very low assays across 25 feet were obtained, except for one section of 2.2 feet at 0.49 oz. gold per ton. The No. 1 zone lies 250 feet north of the main zone and 50 feet south of the iron formation. It was intersected in three drill holes along 150 feet, and for an average width of 4 feet was reported to contain 0.12 oz. gold per ton.

Zone No. 4 is located 250 feet south of the east end of No. 2 zone. Two drill holes 200 feet apart indicate a length of 200 feet with the western extension unexplored. The average width is about 17 feet and the grade approximately 0.03 oz. gold per ton. Zone No. 4a lies a few feet north of No. 4. Low gold assays were obtained from two intersections along 200 feet. Zone No. 5 is 350 feet south of No. 4. It has been tested by only one hole, the core from which showed visible gold, but it had a low average gold content across 9.4 feet, including one 2.9-foot sample assaying 0.14 oz. gold per ton.

R.G. Hoiles, geologist, was resident manager in charge of exploration at the property. (W.N.I.-46)

Clinger Gold Mines, Limited

This company holds a group of eighteen claims in the northwest quarter of Vauquelin township. The group lies east and north of Regcourt Gold Mines, between the west boundary of the township and Bell river. The claims are numbered: C.6718, claims 1 to 5; C.6719, claims 1 to 5; C.6709, claims 1 to 5; C.7629, claims 4, 5, and 6.

The property is almost completely devoid of outcrops. Information from adjoining properties indicates the north part of the extreme northeast claim of the group is underlain by greywacke. In contact to the south is an east-west tuff formation, followed by a group of basic lavas invaded by sills of peridotite. The south half of the property appears to be underlain by a mixed assemblage of lavas and fragmentals cut by dykes of feldspar porphyry, granodiorite-porphyry, diorite-porphyry and syenite-porphyry.

During 1945, the company completed a diamond-drilling programme consisting of ten holes. Eight of these lie along a north-south cross-section 4,600 feet in length. The cross-section extends across C.6718, claim 4, and C.6709, claims 1 and 4, adjoining east of the Regcourt property. Two more holes were put down jointly with Norcourt Gold Mines along the township line at C.6718, claims 1 and 2. These cut the peridotite horizon with which gold mineralization is associated to the west in Louvicourt township, and the line of cross-sectional holes intersected numerous zones of shearing and scattered sulphides, but none yielded any gold assays of importance.

H.S. Wilson acted as consulting geologist for the company. (W.N.I.-47)

Cournor Mining Company, Limited

The Cournor Mining Company holds a group of ten claims in the southwest quarter of Vauquelin township. The claims are numbered A-37523 to A-37532. They lie between Simon lake and Villebon lake astride the river connecting these lakes, and are from one-half to one mile east of provincial highway No. 58. A government winter road extending east from provincial highway No. 58 at Felix creek, crosses the north claims one mile from the highway. The northern section of the property is underlain by volcanic rocks, which to the north are chiefly lavas, and to the south mainly fragmentals. The southern half of the claim group appears to be underlain by sediments, consisting predominately of greywacke, but probably containing conglomerate lenses.

Outcrops are scarce on the property, and apparently it has received no surface development work so that mineralization is unknown. Evidently the claims are held to cover the ground on which an electric power plant (now abandoned) was built to service the company's mine in northwest Louvicourt township. (W.N.I.-46)

Donrand Mines, Limited

Donrand Mines, Limited, holds a group of twenty-five claims in west-central Vauquelin township. The claim-group straddles the centre-line of the township two miles east of the west boundary at the north end of Simon lake. The claims are numbered C.5578, claims 1 to 5; C.5579, claims 1 to 5; C.5576, claims 3 to 5; C.5564, claims 4 and 5; C.5729, claims 1 to 4; C.5730, claims 1 to 5; and C.18646, claim 2. Access is gained by canoe from provincial highway No. 59 down Louvicourt river and up Bell river, a distance of five miles.

The property is almost completely lacking in rock outcrops. One small exposure of diorite occurs in claim C.5729, claim 4. This is probably a part of the Vauquelin-Pershing granitic batholith. Except for the claims along the east boundary of the property south of the centre-line of the township, the group appears to be underlain mainly by volcanics.

During the spring of 1946, the company put down three diamond-drill holes. These were directed northeast and southwest in the claims along the east side of the property south of the centre-line of the township. Each of the holes intersected mainly diorite and diorite porphyry cut by numerous quartz-porphyry and feldspar-porphyry dykes. The most northerly hole, drilled southwest into claim C.5579, claim 5, from the centre-line of the township, encountered numerous small bodies of altered volcanic rock, which may be inclusions in the dioritic material of the border of the Vauquelin-Pershing batholith. Although scattered quartz-carbonate veinlets and disseminated sulphides were found, no values in gold were obtained from the core.

W.R. MacQuarrie logged the drill core. (W.N.I.-46)

Eastcourt Gold Mines, Limited

The property of Eastcourt Gold Mines consists of a group of 29 claims at the west side of Vauquelin township. The west boundary of the property coincides with the township line. The claims are numbered C.7279, claims 1 to 5; C.7278, claims 2 to 5; C.5694, claims 1 to 5; C.5693, claims 1 to 5; C.5039, claims 1 to 5; and C.5731, claims 1 to 5.

Bedrock outcrops only in C.5693, claim 5, C.5694, claim 4, and C.7278, claims 4 and 5. The property appears to be underlain mainly by volcanics. During 1945 the company completed seven diamond-drill holes. Five of these are located along a north-south line in C.7279, claims 2 and 3, to explore the ground east of the auriferous veins on the adjoining property of Regcourt Gold Mines. Three of the holes were drilled jointly with Regcourt Gold Mines along the south half of the range VII, Vauquelin-Louvicourt township line. The rocks intersected were chiefly intermediate to basic lavas, with intercalated wide bands of tuff and agglomerate in C.7278, claim 4, and C.7279, claim 3. Many acidic dykes were found cutting the volcanics in C.7279, claim 3, and other dykes identified throughout the drill holes include diorite, diorite porphyry, and ankerite.

Several well-marked zones of shearing, as well as quartz veins and scattered sulphide mineralization, were intersected in various holes, but no gold assays of importance were obtained from the cores. (W.N.I.-47)

Grancour Gold Mines, Limited

This company held a group of twenty-seven claims in the northeast quarter of Vauquelin township. The claims cover the northern half of the land area between Lac Gueguen and Lac Vauquelin. The claims are numbered C.18699, claims 1 and 2; C.11869, claims 1 to 5; C.11875, claims 1 to 5; C.11873, claims 1 to 5; C.11870, claims 1 to 5; and C.11874, claims 1 to 5.

The property is almost completely covered by a thick mantle of overburden. A few small outcrops occur in the south-central area in claims C.11870, claims 3 and 4. These are recrystallized and granitized greywacke striking N.80°W. and dipping steeply north. A magnetometer survey carried out in 1945 indicated a band of iron formation crossing the north part of the property, an east-west anomaly in the central area, and the northern margin of the Vauquelin-Pershing granitic stock across the southern claims of the group.

During the summer of 1947, the company carried out a diamond drilling programme of 2,000 feet. The first two holes, located in the northwest corner of C.11874, claim 4, were directed to probe the central anomaly, but difficult overburden conditions caused the holes to be abandoned. Two holes were drilled north, and one south from an outcrop at the north end of the boundary between claim 3 and claim 4, C.11870. The three holes cut mainly granitized greywacke, conglomerate, and conglomeratic

greywacke, with narrow beds of amphibolite. One barren quartz vein and local sparse disseminations of pyrite in the sediments were intersected.

The drilling programme was carried out under the direction of J.T. Randell. (W.N.I.-47)

Regcourt Gold Mines, Limited

(See Louvicourt township)

Ruscana Mines, Limited

This company holds a block of twenty claims in south-central Vauquelin township. The claims adjoin east of the north-south centre-line of the township at mile IV, and are numbered C.9023-26, claims 1 to 5. The northeast corner of the property is near the south end of the eastern part of Guéguen lake, which may be reached by canoe from the Louvicourt bridge on provincial highway No. 58, or from the Pershing road near the north end of the lake. A government winter road passes one mile south of the property and 6 miles east of highway No. 58.

The writer does not know of any rock outcrops on the group of claims. Projected geological contacts suggest that the northern part is underlain by the granitic to dioritic intrusives of the southern margin of the Vauquelin-Pershing batholith. Claims C.9024, claims 1 to 5, which form the south one-quarter of the property, may be underlain by greenstone.

In June, 1946, the company put down one drill hole in conjunction with the Russian Kid Mining Company on the boundary of the two properties. The hole is drilled south for 1,006 feet from mile-post IV on the centre-line of the township. It intersected mainly monzonite and quartz monzonite partly porphyritic and containing volcanic inclusions. Impregnations of disseminated pyrite with sparse chalcopyrite were found, and one 10-foot core length of silicified and pyritized quartz-monzonite gave very low assays in gold. (W.N.I.-46)

The Russian Kid Mining Company, Limited

Ref.: Que. Bur. Mines, Geol. Rept. No. 6, p. 20, 1940.

The Russian Kid Mining Company holds a large block of ground in south-central Vauquelin township. The group is comprised of 64 claims, numbered A.62624-25 and 41; A.62317-38; A.64207-09; A.65487-91; A.62631-40; C.7031, claims 1 to 5; C.18642, claims 1 to 4; C.18647, claims 4 and 5; C.20966, claims 1 to 5; and C.20967, claims 1 to 5. The camp, at the east bay of the southwest arm of Guéguen lake may be reached by walking 4 miles eastward from provincial highway No. 58 along a government winter road, thence one and one-half miles northeast along a property trail. There are

also two routes by canoe: one from the Louvicourt bridge on highway No. 58, the other from the Pershing road near the north end of Guéguen lake.

The property lies at the southwest margin of the Vauquelin-Pershing granitic batholith. Outcrops are numerous in the eastern portion, but scarce in the western claims. Detail mapping of the former part indicates a complex distribution of volcanics, intrusive bodies, and hybrid rocks. The volcanics consist mainly of basic or intermediate lavas and fragmentals, all more or less deformed and altered by the invading igneous masses. Tuff and agglomerate predominate in the southern claims. The intrusives are largely monzonitic in appearance and include such types as monzonite porphyry, granodiorite, syenite and diorite. Outcrops in the northern claims are likely a part of the main batholith, and others farther south may be connected with it at no great depth. Several shear zones with vein quartz, sulphide mineralization, and scattered content of gold, trend N.60°W. in the central and northeast sections of the property.

Following staking in 1924, one of the companies to carry out early prospecting work was Nipissing Mines. In 1937, Ventures optioned the ground, and before the agreement lapsed put down about seven drill holes mainly on a gold showing in claim A.62311. The Russian Kid Mining Company, Limited, was formed in 1945 to explore the property. In addition to a programme of detail mapping, during the period July, 1945, to August, 1946, 59 drill holes totalling 20,731 feet were completed. Of these 23 are short, X-ray holes aggregating 2,169 feet.

Surface work in claim A-62331 uncovered short parallel zones of mineralization about 200 feet apart striking N.50°W. The zones are up to 15 feet in width, and are injected with veinlets and lenses of white quartz, sparse tourmaline, and disseminated pyrite. Grab samples from patches of massive sulphides are reported to have yielded a high gold content. A quartz vein exposed at the north end of one of the longer cross trenches carried 0.07 oz. gold per ton for a 4-foot channel sample. The present company has completed 20 short drill holes in the zones. These are distributed along 500 feet and up to 200 feet across. The drilling revealed considerable pyrite mineralization, and scattered sections having a low gold tenor were obtained. A few narrow, higher-grade intersections, such as 0.63 oz. gold per ton for 0.7 feet of core, and 0.12 oz. for 2.0 feet, are reported by the company.

A second zone of shearing, alteration, quartz veins, and mineralization occurs 3,000 feet south of the above in claims A-62327 and A-62324. It has been traced by earlier surface work and recent diamond drilling along a strike of N.30°W. for 4,000 feet. The country rocks are interbedded lavas and tuffs intruded by numerous irregular granitic dykes, and the shearing is of a discontinuous nature. The zone is marked by pyritization, silicification, carbonatization, and locally flat-dipping quartz veinlets. A few stringers of sphalerite, accompanied by pyrite, chalcopyrite, and native silver have been exposed. Some significant gold assays are reported from surface samples. The drilling, consisting of some 20 holes distributed all along the zone, did not substantiate the surface indications, as only low, inconsistent assays in gold were obtained.

A series of six, long, cross-sectional holes were drilled along the southwest property boundary. Numerous monzonitic dykes and masses were found invading the altered volcanics at the north end of the drilled section in claim C.18642, claim 3. Several sheared and fractured sections and quartz-carbonate-tourmaline-pyrite zones were intersected near the southern end of the cross section, but no gold assays of importance were obtained from any of the holes. Three holes, in claims A-71068-69, were directed south to explore, over a length of 900 feet, the eastward extension of the vein structures found near the southern end of the cross section. Traces of gold were secured from assays of the core.

Other drill holes put down at scattered localities in the northeast, central, and southeast parts of the property include two in claim A-62336, two in A-62333, one in A-62329, one in southeast A-62334, one along the east side of A-62319 at the northeast corner of the property, and two located 1,050 feet east of the centre line of the township in claim A-62634. None of these holes yielded commercial gold assays, in spite of frequent strong shearing, alteration, and pyritization. The northwestern section of the property, comprising about one-third of its area, remains unexplored.

G.F. Flaherty, assisted by H.N. MacDonald, acted as consulting geologist for the company. A few of the holes were logged by W.R. McQuarrie and B.C. Fillingham. (W.N.I.-46)

Simon Lake Mines, Limited

Ref.: Que. Bur. Mines, Geol. Rept. No. 6, pp. 11-14, 1940.
Que. Dept. Mines, P.R. 205, 1945, Part III, pp. 40-42.

This company holds a group of 35 claims in southwest Vauquelin township, extending south and east from Simon lake. The claims are numbered A.66010-19; A.49834-37; A.97323-32; A.98661-65; and A.95802-06. The camp clearing and buildings, which are near the main showing in claim A.66010, may be reached by a bush road from the southeast end of Simon lake, three-quarters of a mile distant. A government winter road, extending east to Lake Matchi Manitou from provincial highway No. 58 at Felix Creek, passes near the camp three miles from the highway.

The central part of the property was staked in 1936 by the McDonough Mining Syndicate. Following the discovery of gold, Maniwaki Mines was formed in 1937, and carried out exploration including diamond drilling of 30 holes totalling 6,677 feet, and the sinking of three test pits, one to a depth of 46 feet. The property later was acquired by Playsafe Mines. In March, 1945, Simon Lake Mines was formed to take over the western part of the former claim-group and with 21 additional claims to the west, northeast, and southeast.

The northern part of the property is underlain by east-west trending volcanics, chiefly lavas, some porphyritic and some spherulitic, and with horizons of tuff, agglomerate, and breccia. This is flanked to

the south by a band of predominately tuff and agglomerate, but containing considerable breccia and dioritic rock. Locally, granitic dykes occur, which are probably related to the nearby Vauquelin-Pershing batholith.

The main showing is in southern claim A.66010. Stripping, trenching, and deep test pits along 300 feet expose a fracture zone trending N.85°E. The main break, together with numerous, narrow cross fractures and adjacent irregular patches are filled with a gangue of quartz, tourmaline, carbonate, and feldspar; and mineralized with pyrite, chalcopyrite, sphalerite, and gold. Conspicuous free gold has been found in surface work, but the results of earlier drilling and bulk sampling were disappointingly inconsistent.

During the period from July to December, 1945, the present company completed a diamond drilling programme consisting of 18 holes aggregating 13,000 feet. Nine of the holes are distributed along a north-south cross-section line a mile in length from northeast claim A.98661 to southwest claim A.95802. Three of the cross-sectional holes intersected the main auriferous zone at depths of 100, 300, and 400 feet, respectively, and established a width of 30 to 45 feet with a steep north dip. A feldspar-porphyry dyke about 25 feet wide, which adjoins the south side of the zone at surface, curves away from it in depth on a southward dip. Assays of the vein material yielded low content of gold. A horizon of rhyolite, breccia, and acidic tuff found at the south end of the cross-section contains several wide, shattered, and mineralized zones with a very low gold content.

A second series of six, north-south, cross-sectional holes were drilled along the east boundary of the property in conjunction with The Russian Kid Mining Company. In the northern part of the drilling numerous bodies up to 100 feet wide of quartz-monzonite, feldspar-porphyry and quartz-feldspar-porphyry were found invading the volcanic formations. A number of strongly sheared sections with scattered sulphide mineralization were intersected near the south end of the line of holes in claim A.95806. A zone of quartz, tourmaline, and carbonate vein material 75 feet in core length also was discovered in this area. No gold content of commercial importance was obtained from this series of holes.

H.C. Laird, was in charge of the diamond drilling. (W.N.I.-46)

VILLEBON TOWNSHIP

Bonville Gold Mines, Limited

Ref.: Que. Bur. Mines, P.R. No. 120, 1938, p. 27.

Bonville Gold Mines holds a group of nine claims consisting of north half lot 33; lots 26 to 32, range III, and south half lots 31 and

32, and lots 27 and 28, range IV, in the central part of Villebon township. The camp, in lot 31, range IV, at the southeast end of Cooper lake, was serviced by a pole-track extending 5 miles east from provincial highway No. 58. Ten years ago the claims were known as the Fortin group, and surface exploration was performed by Canabec Exploration. This was followed by the drilling of five holes by Dubuisson Mines in the No. 2 vein zone. Central Mining Corporation carried out systematic surface sampling of various veins in 1940. The present Company started work on the claims in the spring of 1945, and in the fall of 1946 had completed a magnetometer survey, geological mapping, surface trenching and sampling, and forty-two diamond-drill holes.

The geology of the property is complex. Mapping carried out by S.V. Burr for the Company indicates that the southern part is underlain by the north margin of a granitic stock. To the north of the granite is found a complex assemblage of volcanics, amphibolites, schists, acidic to basic dykes, talc-chlorite, and actinolite rocks, and amphibolitized horizons of uncertain origin. The volcanics consist of andesite, trachyte, flow breccia, tuff, and agglomerate. The amphibolites are of both intrusive and metamorphic origin. The dyke rocks and small intrusives vary from a fine-grained, siliceous felsite or aplite to granodiorite, diorite, and peridotite. Porphyritic types are frequently developed. A dyke of late Precambrian diabase trending northeast was indicated by the magnetometer survey in the southeast part of the property.

Mr. Burr shows evidence that for at least half a mile east of the south end of Cooper lake, the main formational trend is northeast. Strong fault zones, marked by talc, carbonate, chlorite, micaceous, graphitic, and garnetiferous schists appear to strike northeast along and south of Cooper lake. General shearing and faulting in a southeast-northwest direction further complicate the structure.

Numerous, small, auriferous zones have been opened up by surface work in range IV, lot 32, and in range III, northern lots 31 and 32. Near the centre of lot 32, range IV, 1,000 feet northeast of the camps, a shaft has been sunk to a depth of about 15 feet. A talcose shear zone, striking N.70°W., contains a lenticular mass of vein quartz 30 feet long and 5 feet wide. Free gold in the quartz and numerous high assays for gold are reported. Six short diamond-drill holes put down under and near the shaft encountered only veinlets and stringers of quartz assaying from nil to 0.10 oz. gold per ton.

Most of the other surface showings lie along a general zone extending northeast for half a mile from northern lot 31, range III, to the east side of southern lot 32, range IV, and beyond on the adjoining claims of Villbona Gold Mines. Individually, the exposures of vein material are not large, but some have yielded high-grade gold assays from grab samples.

The No. 1 vein, in lot 32, range IV, 1,200 feet north of range-line III-IV, strikes N.50-60°E., and dips steeply southeast. It consists of bluish quartz mineralized with pyrite, pyrrhotite, chalcopyrite, and small amounts of sphalerite and galena. Visible gold is reported, but

assays for gold are reported to have been low, with some erratic medium-grade values. The vein is opened up along the strike for 380 feet, the southwest extension disappearing under overburden. It averages about 2.5 feet in width. Drill holes put down to intersect the possible southwest and northeast extensions of the vein encountered no important gold-bearing intersections.

The No. 2 vein, in lot 32, range IV, 250 feet north of range-line III-IV, strikes N.70°E. It has been followed on the surface for 125 feet, the east extension passing under drift, and the west end pinching out at a cross-shear. The vein consists of a one- to three-foot width of dark quartz in coarse-grained, iron-stained, mica-hornblende, amphibolitized wall rocks. Channel sampling at 5-foot intervals has indicated, by company estimates, an uncut grade of $11.70 in gold per ton across an average width of 4 feet for a length of 110 feet. A drill hole directed to cut the vein on its south dip intersected 6.6 feet of vein material averaging $3.81 in gold per ton at a slope depth of 60 feet.

Veins Nos. 3 and 4, in lot 32 between Nos. 1 and 2, are minor showings. Veins No. 5 and 6, in lot 31, range III, 400 feet south of range-line III-IV, strike N.70°E. Two channel samples 12 feet apart on the No. 5 vein assayed $21 in gold per ton across 1.3 feet, and $4.90 in gold per ton across 2.5 feet. The No. 6 vein is trenched along 60 feet, both ends passing under drift. Channel sampling indicates an average grade of $10.30 in gold per ton across 3.3 feet for a length of 60 feet. Vein No. 8, located 200 feet north of No. 6, consists of a series of discontinuous lenses of quartz from one to five feet wide striking N.55°E. These have been followed along 110 feet and found to assay from $0.70 to $13.30 in gold per ton. Drill-hole intersections at shallow depths yielded assays in gold for No. 5 vein of $2.73 across 0.6 foot; No. 6 vein, $5.29 across 5.3 feet and $4.31 across 1.2 feet. Five other holes drilled across the strike of these veins cut numerous zones carrying a low gold tenor and one erratic assay of $25 in gold per ton for 2.2 feet of core. All assay returns were taken from official company records.

The No. 10 vein zone is in lot 31, 700 feet south of range-line III-IV. It is exposed at intervals along a north-south trend for 200 feet. The zone consists of a series of small lenses of quartz and carbonate. A test pit near the south end, 10 feet deep, exposes a group of short quartz-carbonate lenses about 6 inches wide striking in various directions. Reported gold assays across mineable widths are low, although very high returns are recorded from some of the individual narrow veinlets. A drill hole directed across the strike of the north end of the zone cut a carbonatized fracture zone containing quartz stringers, with seven feet of core yielding a very low gold content. A few feet deeper in the hole, 1.4 feet of core was found to assay $2 in gold per ton.

Sixteen drill holes in lots 29 to 32, range III, directed into the north margin of the granitic stocks and the contact zone to the north, encountered strong shear zones and intense alteration and in places sulphide mineralization, but no significant gold-bearing intersections.

Two holes located 100 feet north of range-line III-IV, at the south end of lot 32, yielded gold assays up to $2.57 per ton for 2.5 feet of core. The assays were obtained from quartz veins and a fractured, silicified, mineralized section of an aplitic dyke. Two holes, located on the centre-line of the township, 860 feet and 250 feet north of range-line III-IV, returned assays for gold of $3.19 for 1.3 feet, $16.81 for 0.5 foot, and $10.26 for 0.7 foot of core. The gold occurred in a quartz vein mineralized with fine pyrrhotite, pyrite, chalcopyrite and galena, and in vein quartz stringer zones in amphibolitized andesite. (W.H.I.-47)

Twin Fault Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, 1945, Part III, p. 45.

Eight claims constitute the property of this company in Villebon township. The property is at the centre of the township, covering north half lots 33 and 34, and lots 35 to 38, range V. The claims may be reached by following a pole-track for 5 miles east from provincial highway No. 58 to the Bonville Gold Mines camp, then walking one mile north along the east side of Cooper lake.

Most of the property is drift-covered. Outcrops occur from 2,000 to 2,400 feet north along a picket line at N.20°E. from lot-post 34-35 on range-line IV-V. Trenching at a point 2,375 feet along the picket line north of the above lot-post uncovered a white to bluish quartz vein striking N.80°W. and dipping vertically. The average width of the vein is 2 feet. It is exposed along 40 feet, the west end pinching out and the east extension passing under low ground. Carbonates are associated with the quartz, but no sulphides were observed. The vein intrudes andesite containing narrow horizons of flow breccia.

During the period from January to May, 1946, the company put down thirteen diamond-drill holes. Five of these were drilled jointly with Villbona Gold Mines along range-line IV-V, lots 35 to 38. The holes encountered a series of amphibolitized lavas, ruffs, tuffaceous sediments, schists, amphibolite, and dyke rocks mainly albitite or diorite. With the exception of one assay of $5.77 in gold per ton, the gold content throughout the holes was low. Eight drill holes were put down to probe the possible northward extension of this intersection. One hole of seven distributed along 600 feet north of the range-line yielded a return of $4.00 in gold per ton for 3.2 feet of core. Shearing, vein material, and scattered sulphides were found in a drill hole 2,000 feet north of the range-line, but no significant gold assays were obtained. (W.N.I.-47)

Villbona Gold Mines, Limited

Ref.: Que. Dept. Mines, P.R. 205, Part III, pp. 46-48.

The property of Villbona Gold Mines consists of ten claims near the centre of Villebon township. The claims comprise south half lots 33

and 34, and lots 35 to 38, range IV; and north half lots 34 to 38, range III. The camp, at the southeast end of Cooper lake was serviced by a pole-track extending for 5 miles east from provincial highway No. 58.

The property is underlain mainly by a series of highly to slightly amphibolitized lavas and tuffaceous sediments. For the most part these trend N.20°-30°W., and dips steeply eastward. Metamorphic rocks developed include amphibolitic, micaceous, garnetiferous, talcose, chloritic, and actinolitic types. Dyke rocks occurring range in composition and texture from fine-grained, acidic felsite, to coarse-grained diorite. The northeast margin of a granitic stock crosses the southwest corner of the property. The claims are traversed by a northeast striking dyke of late Precambrian quartz-diabase about 150 feet in width.

Development work performed during 1945 and 1946 consisted of geological mapping, surface trenching, and diamond drilling of fifty-seven holes totalling about 25,000 feet. The majority of the holes were put down to shallow depths. Two of them were drilled jointly with Cooper Lake Gold Mines, three with Bonville Gold Mines, and five were put down jointly with Twin Fault Mines.

Surface work in central and southern lots 34, 35, and 36, range III, has revealed mineralized acidic dykes and shear zones containing lenses of vein quartz. Some of the quartz is impregnated with sulphides and gold assays are reported in places. The main surface showing is an area of trenching in the south half of lot 33, range IV. Here, a number of shear and quartz veins trend northeast and represent the northeast extension of auriferous structures on the adjoining property of Bonville Gold Mines.

About 40 drill holes distributed at various intervals along 1,600 feet were put down to explore the 'lot 33' zone. Gold assays in shears, quartz lenses, and quartz stringer zones were obtained for a discontinuous length of 1,000 feet northeast of the Villbona-Bonville boundary (lot-line 32, 33, range IV), and at various intervals across the zone. Two main veins or vein zones occupy part of the explored length. These are mineralized with pyrite, pyrrhotite, chalcopyrite, galena, and sphalerite, the best gold assays being associated with the latter two sulphides. Individual gold returns were erratic in grade and width, ranging from $2 to $50 per ton for narrow widths, and from low to $20 per ton across mineable widths. The company reports that the average grade of all the vein intersections is $2.40 in gold per ton. The average width is 6.0 feet for two separate sections having a combined length of 750 feet. This length is reported to contain one shoot grading approximately $8 in gold per ton across an average width of 5.4 feet and along an estimated length of 120 feet.

A cross-section of five drill holes distributed along the Villbona-Twin Fault property boundary (range-line IV-V, lots 35 to 38) encountered a series of amphibolitized lavas, tuffs, tuffaceous sediments, schists, amphibolite, and dyke rocks mainly albitite or diorite. With the exception of one assay of $5.77 in gold per ton, gold assays along the

cross-section were unimportant. Testing of the possible southward extension of this intersection in lot 37, by means of four drill holes, failed to yield similar gold returns. Low gold assays were obtained from holes drilled at scattered localities in range IV, namely: northern lot-line 34-35; northern lot 36; central lot 37; and southern lots 36 and 37.

S.V. Burr, geologist, directed exploration. (W.N.I.-47)

BARRAUTE

COMTÉ D'ABITIBI-EST

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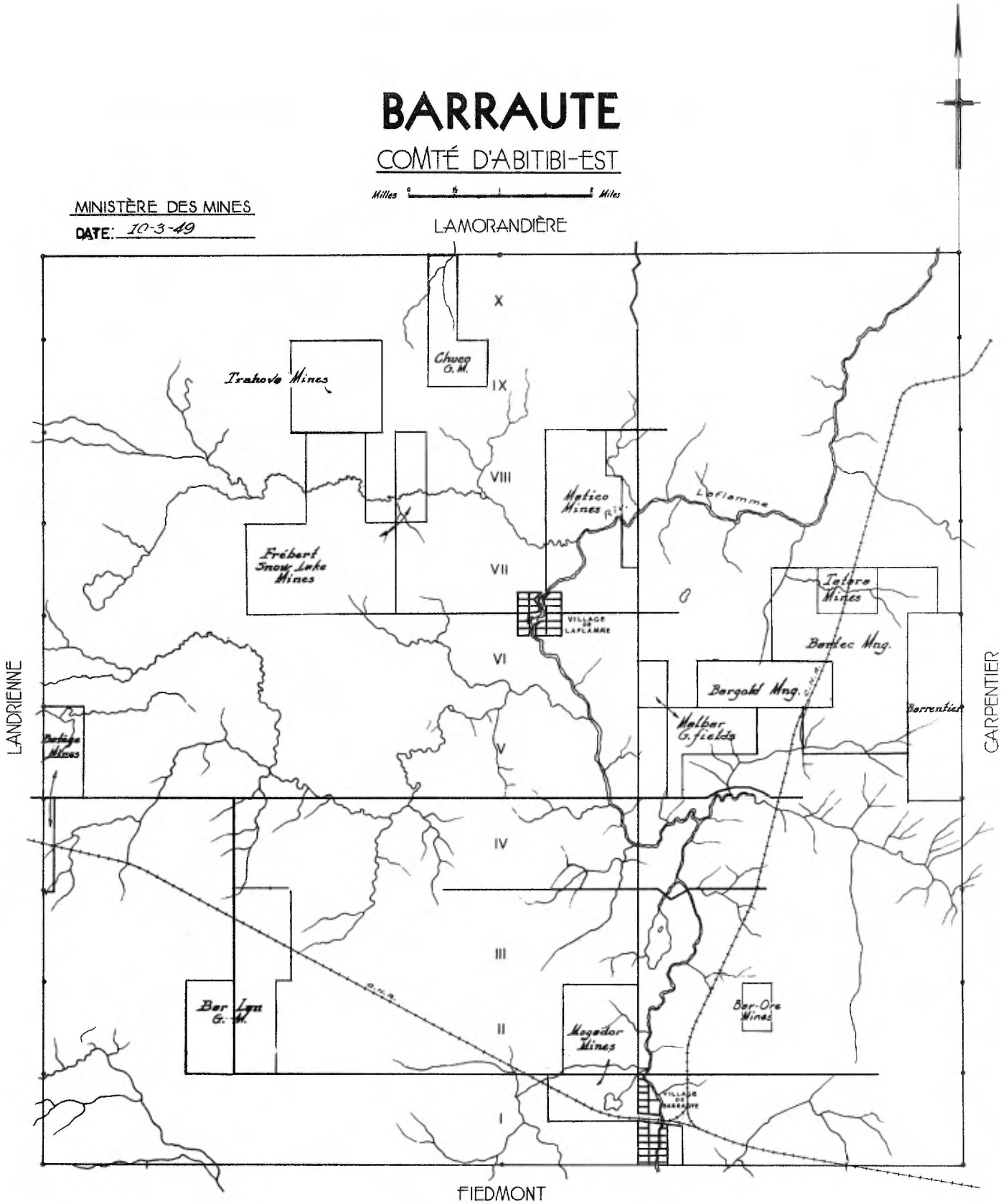
MINISTÈRE DES MINES

DATE: 10-3-49



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COMTÉ DE ROUYN-NORANDA

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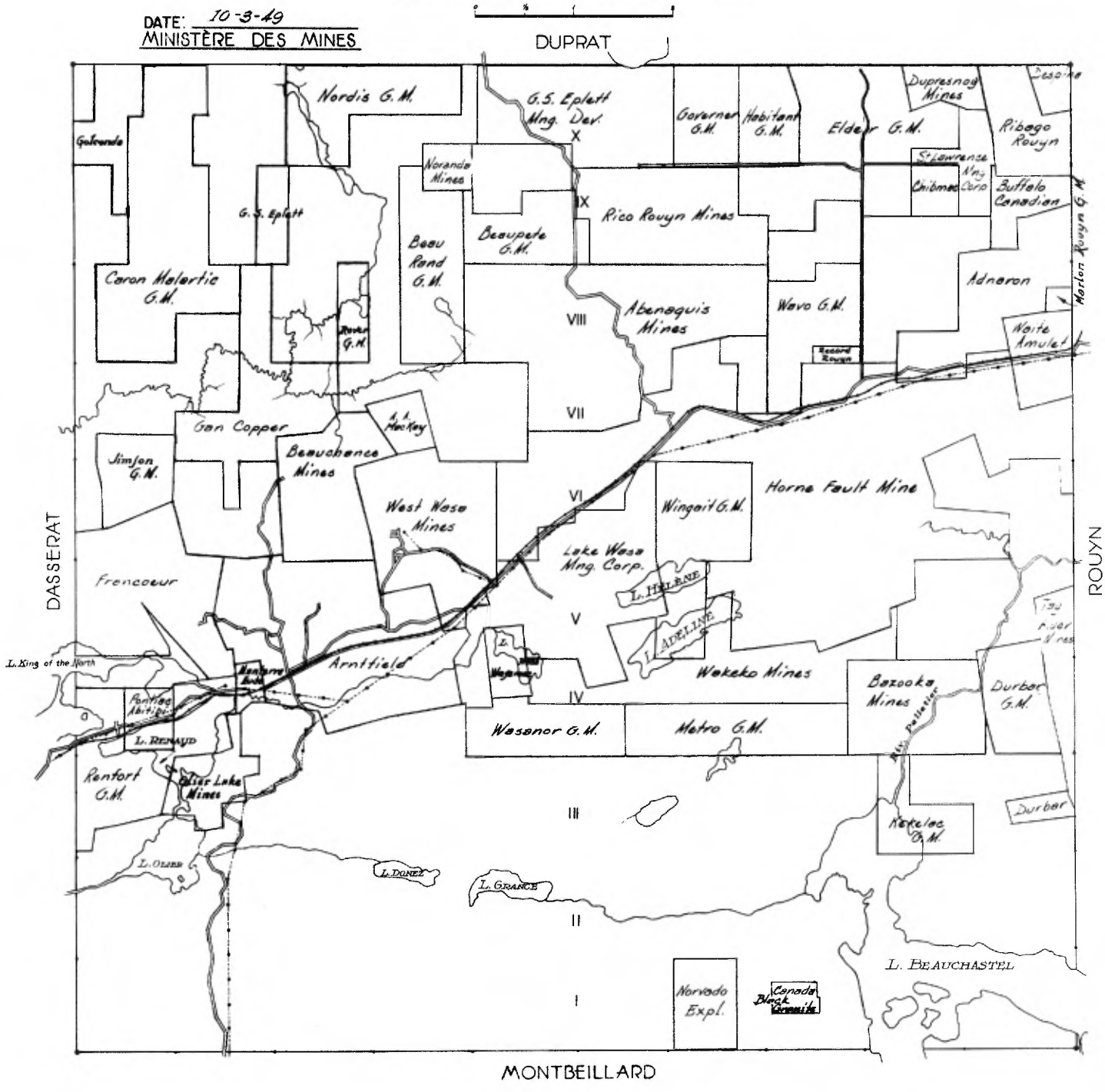

BLONDEAU

COMTÉ DE TÉMISCAMINGUE

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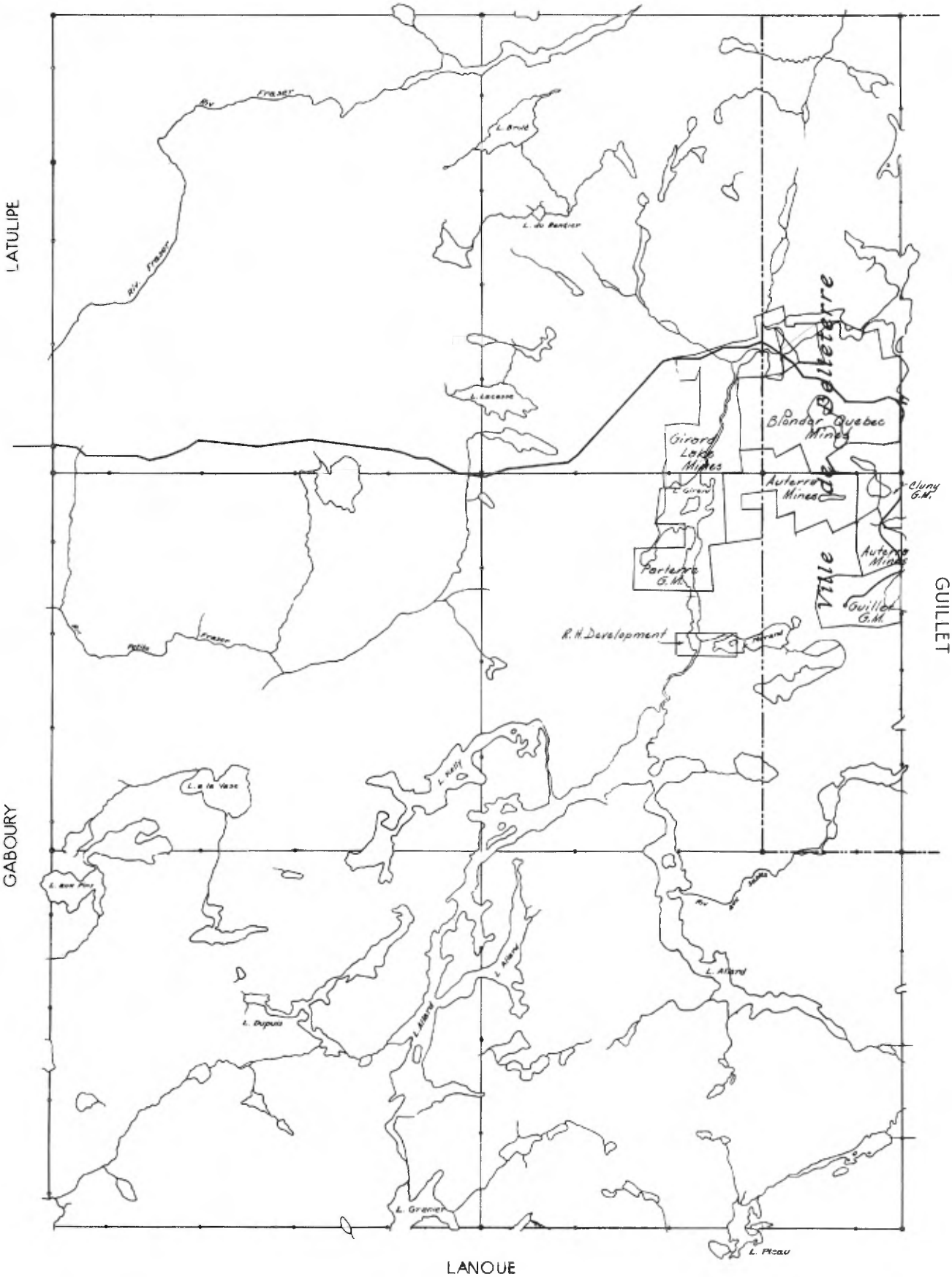

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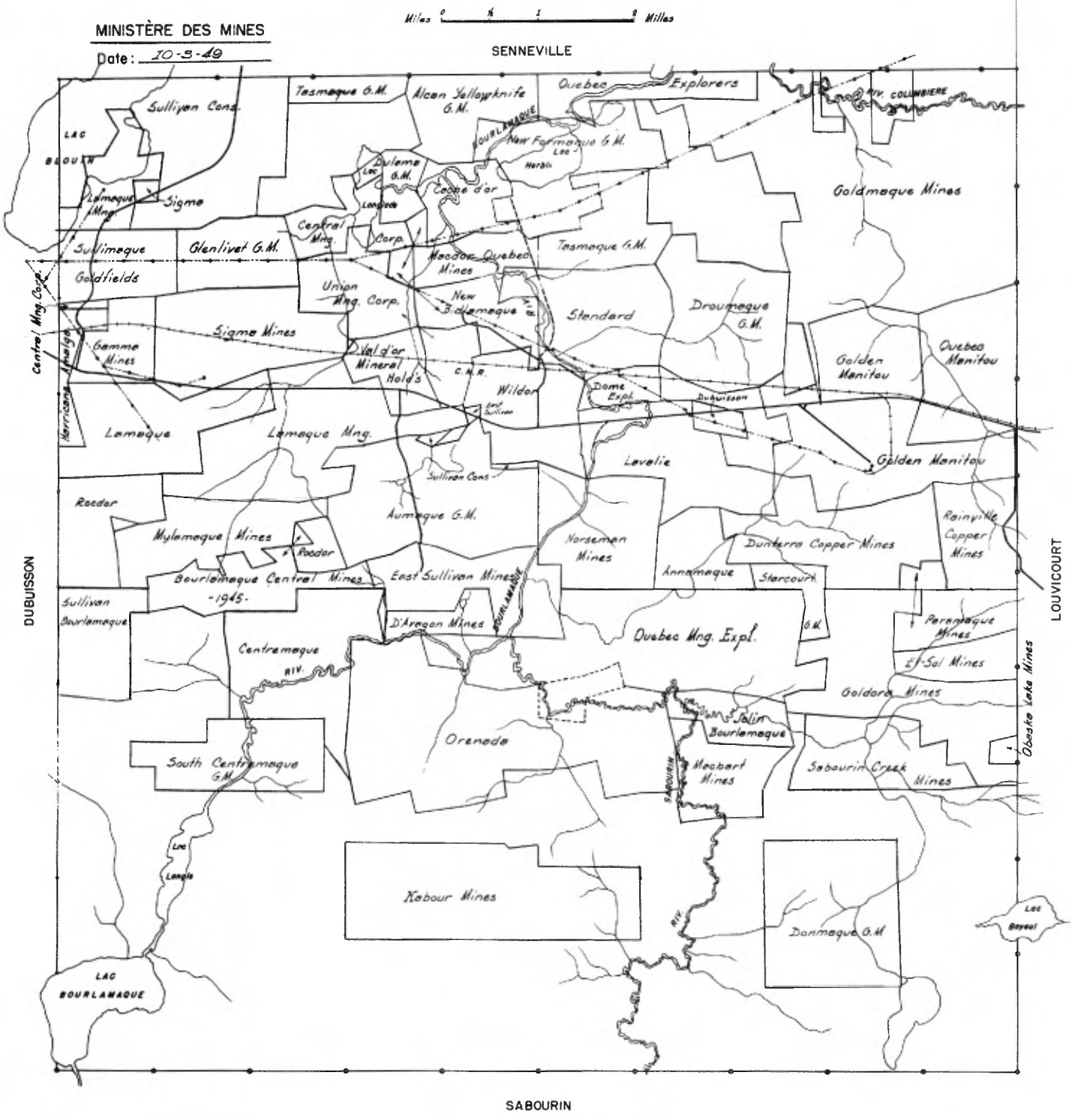

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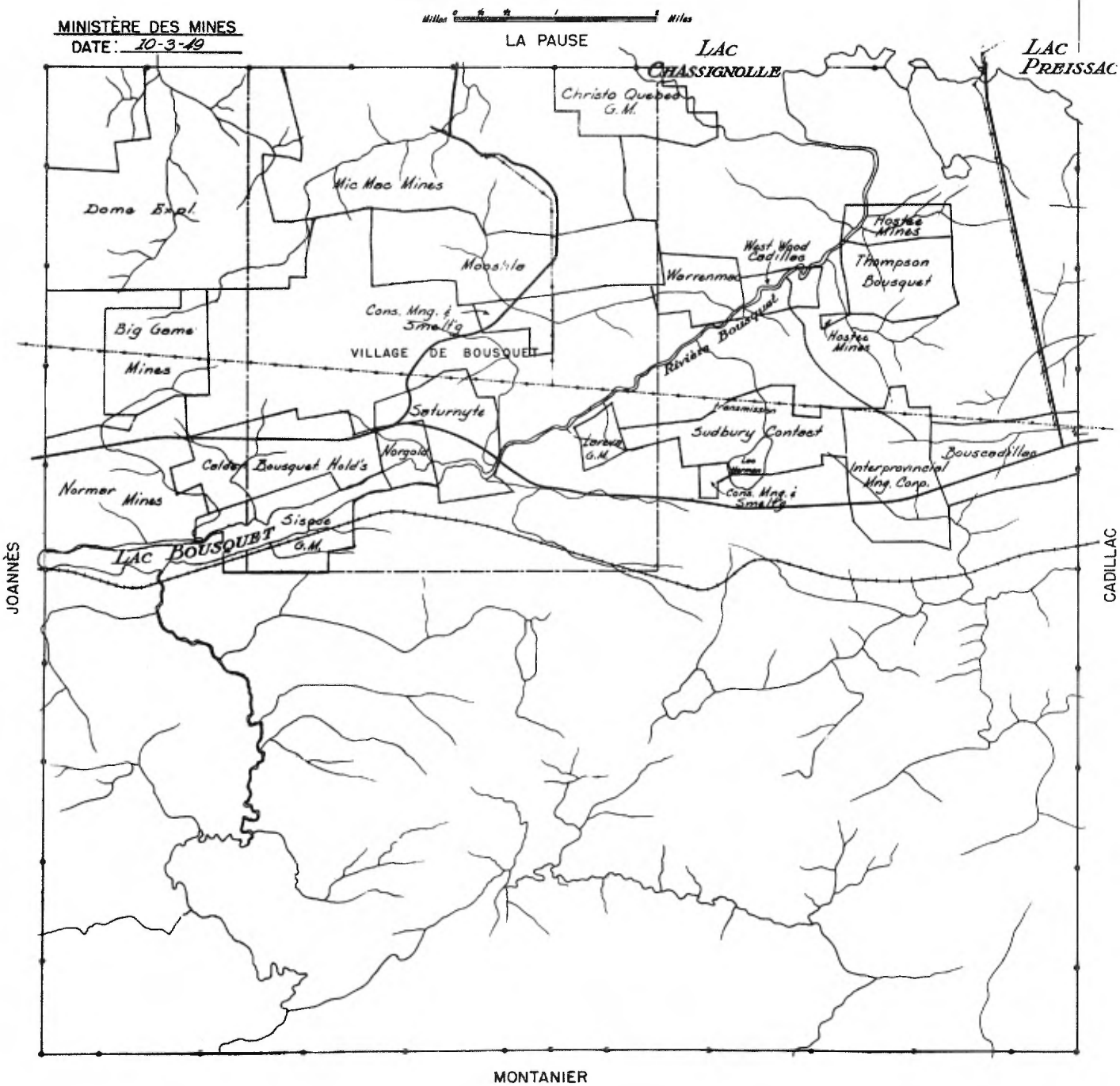

CADILLAC

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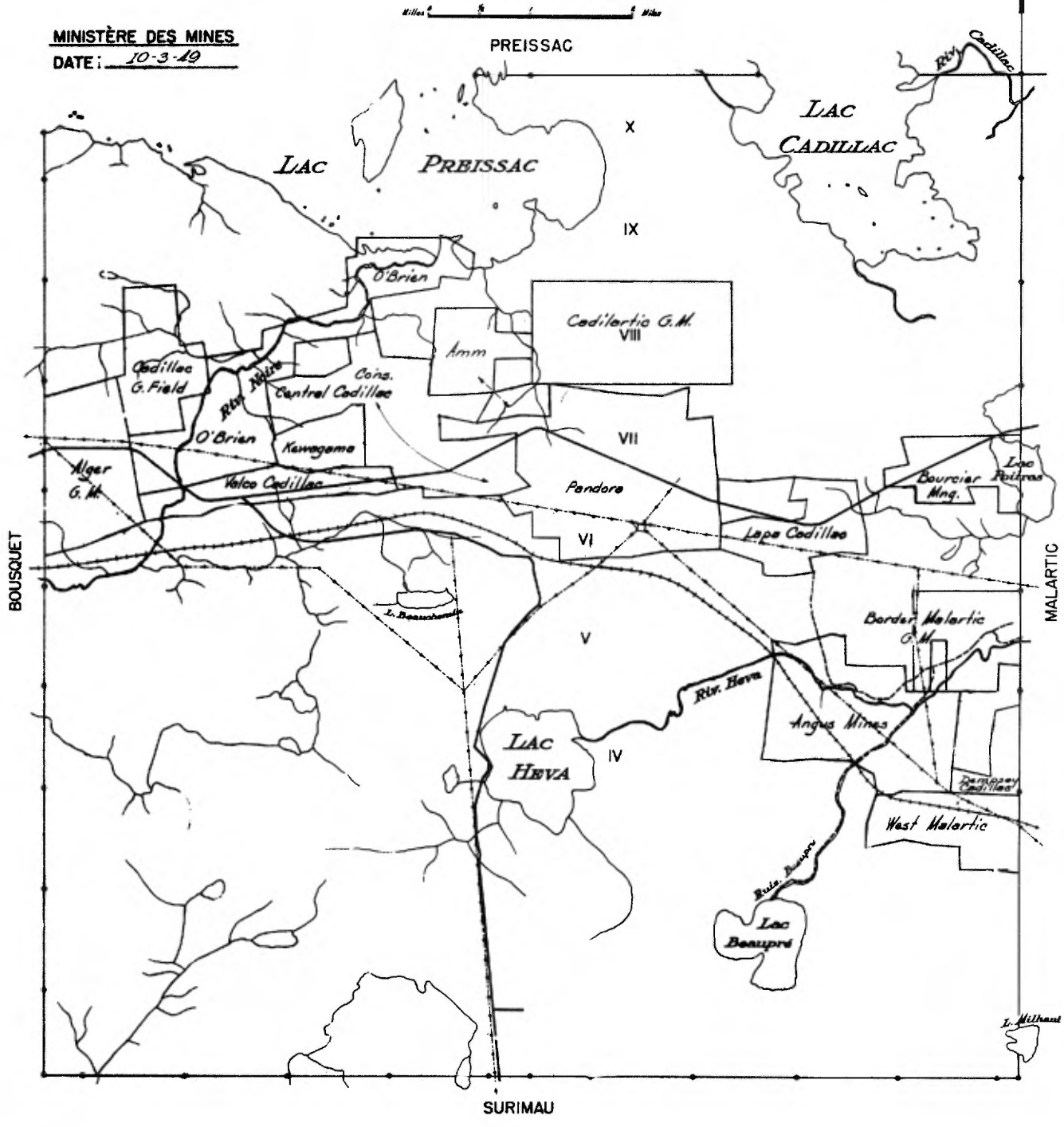

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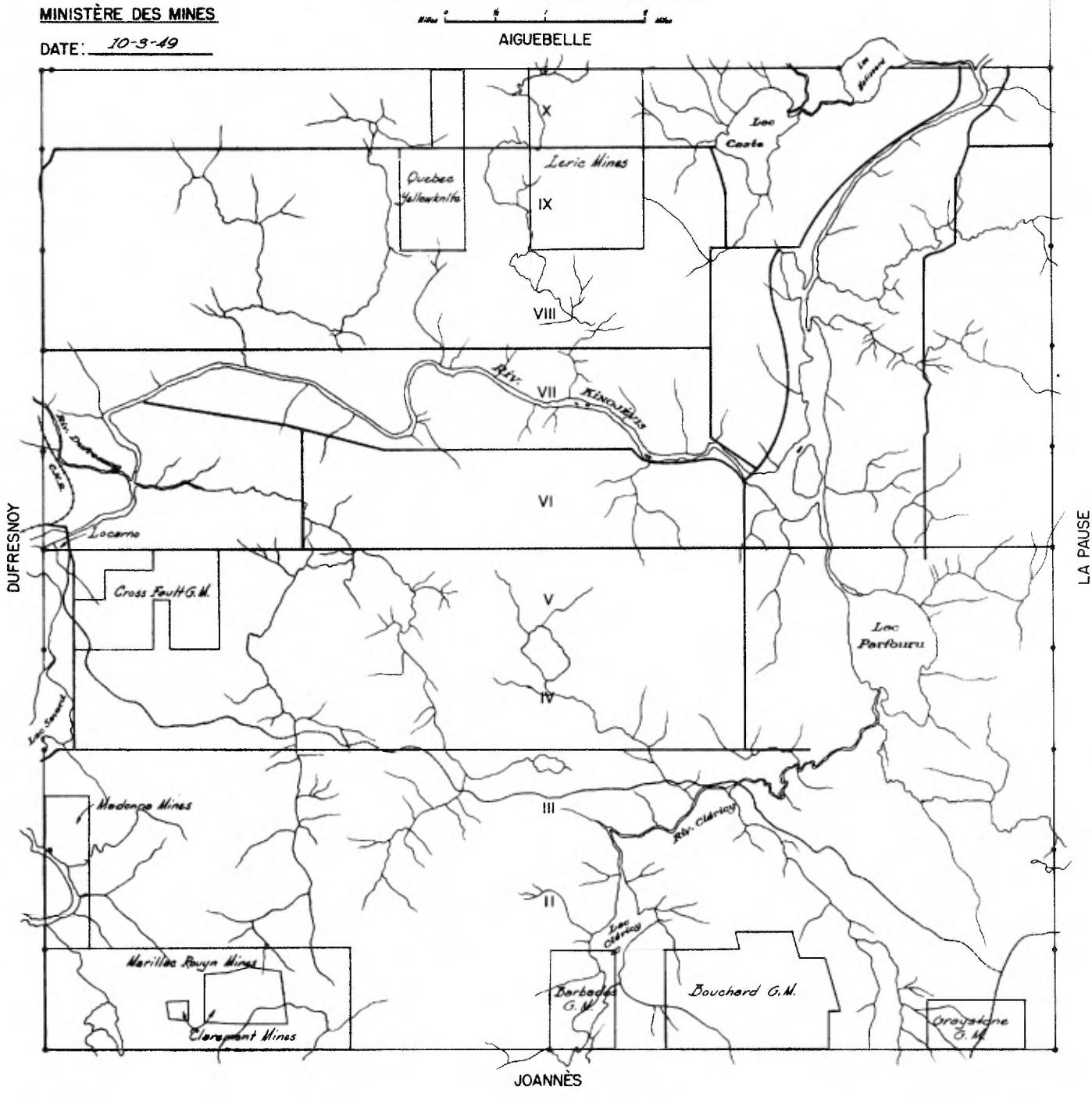


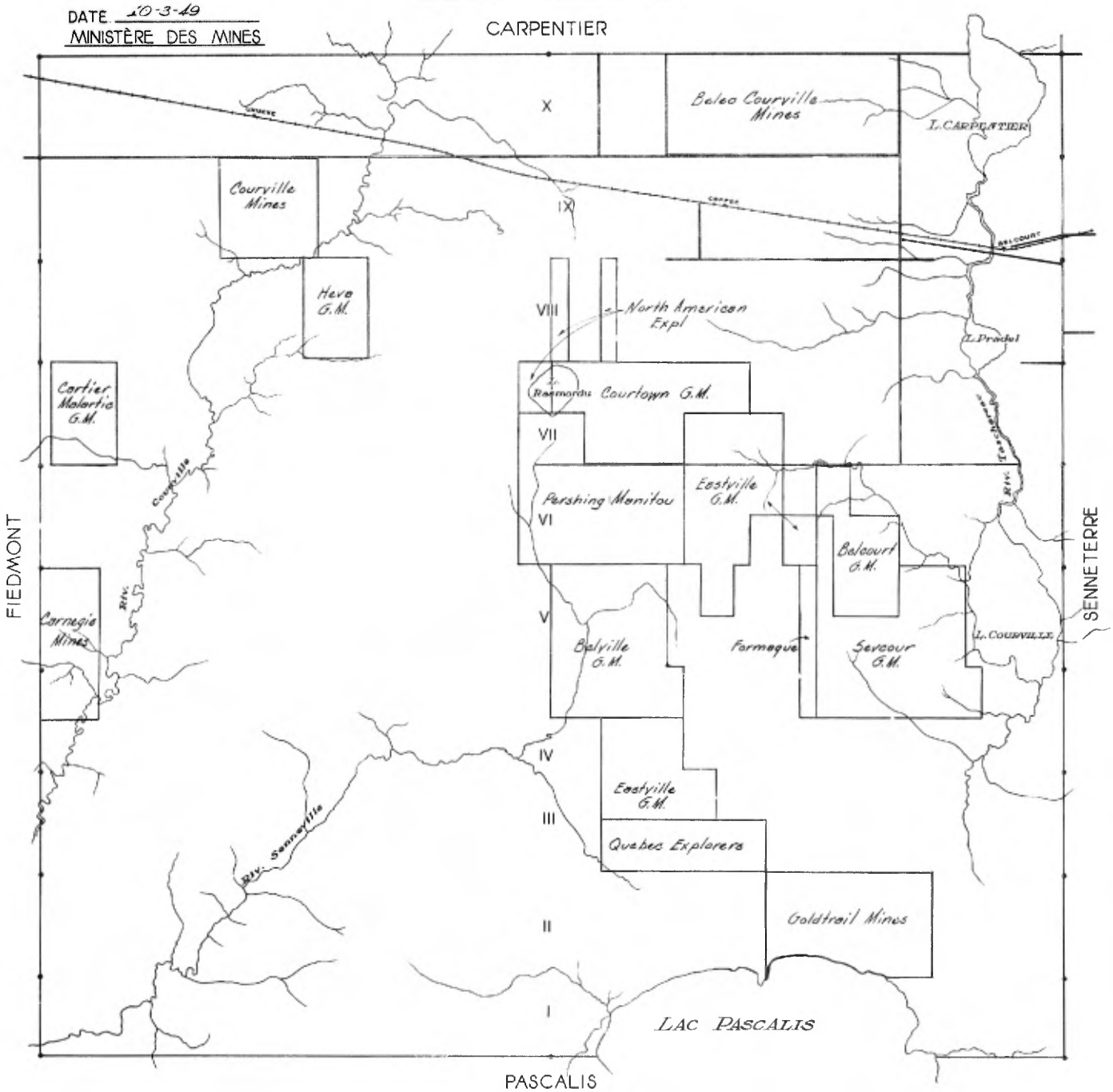
COURVILLE

COMTÉ D'ABITIBI-EST

Miles 0 ½ 1 3 Miles

DATE 10-3-49

MINISTÈRE DES MINES

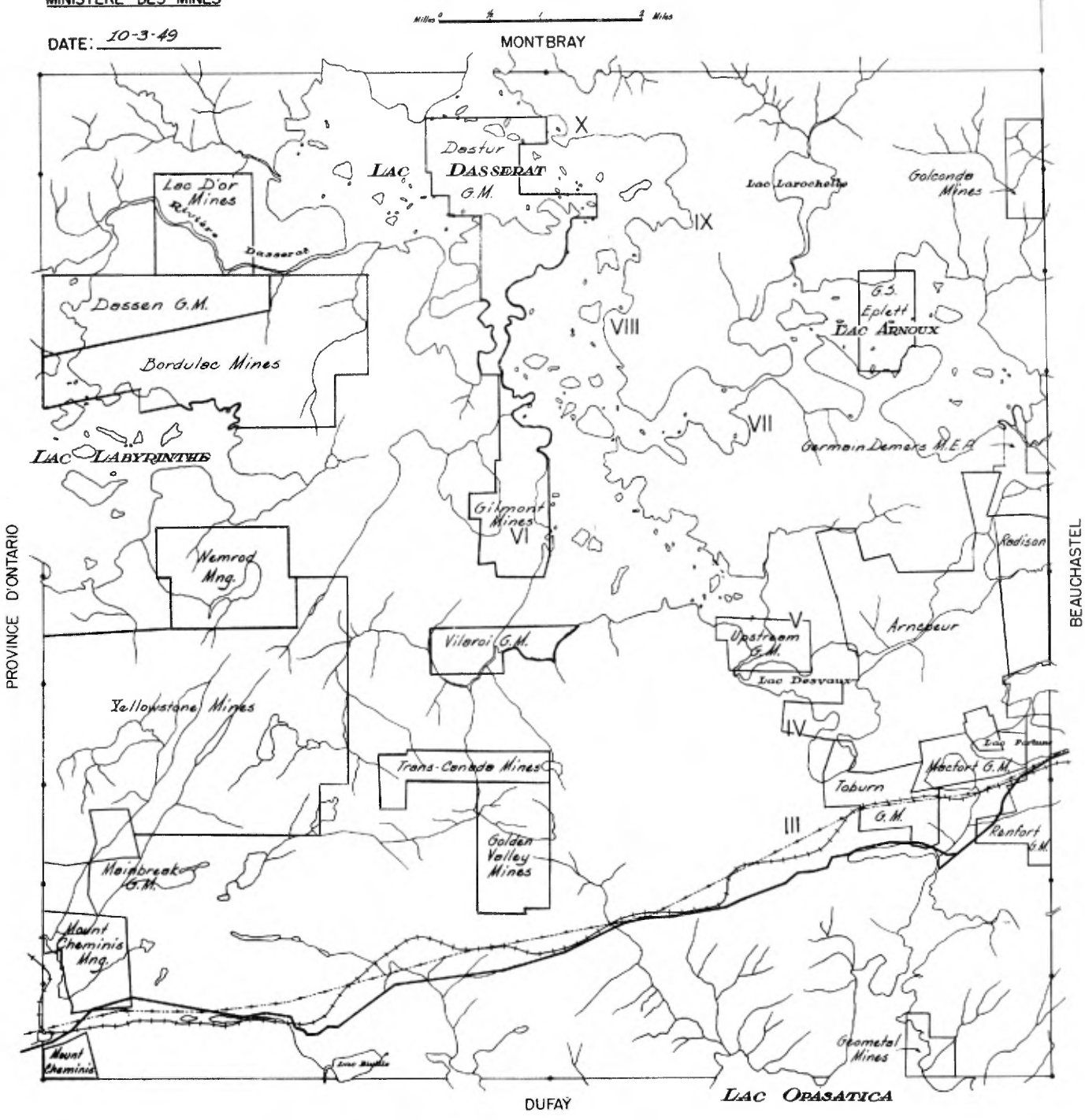


DASSERAT

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES

DATE: 10-3-49



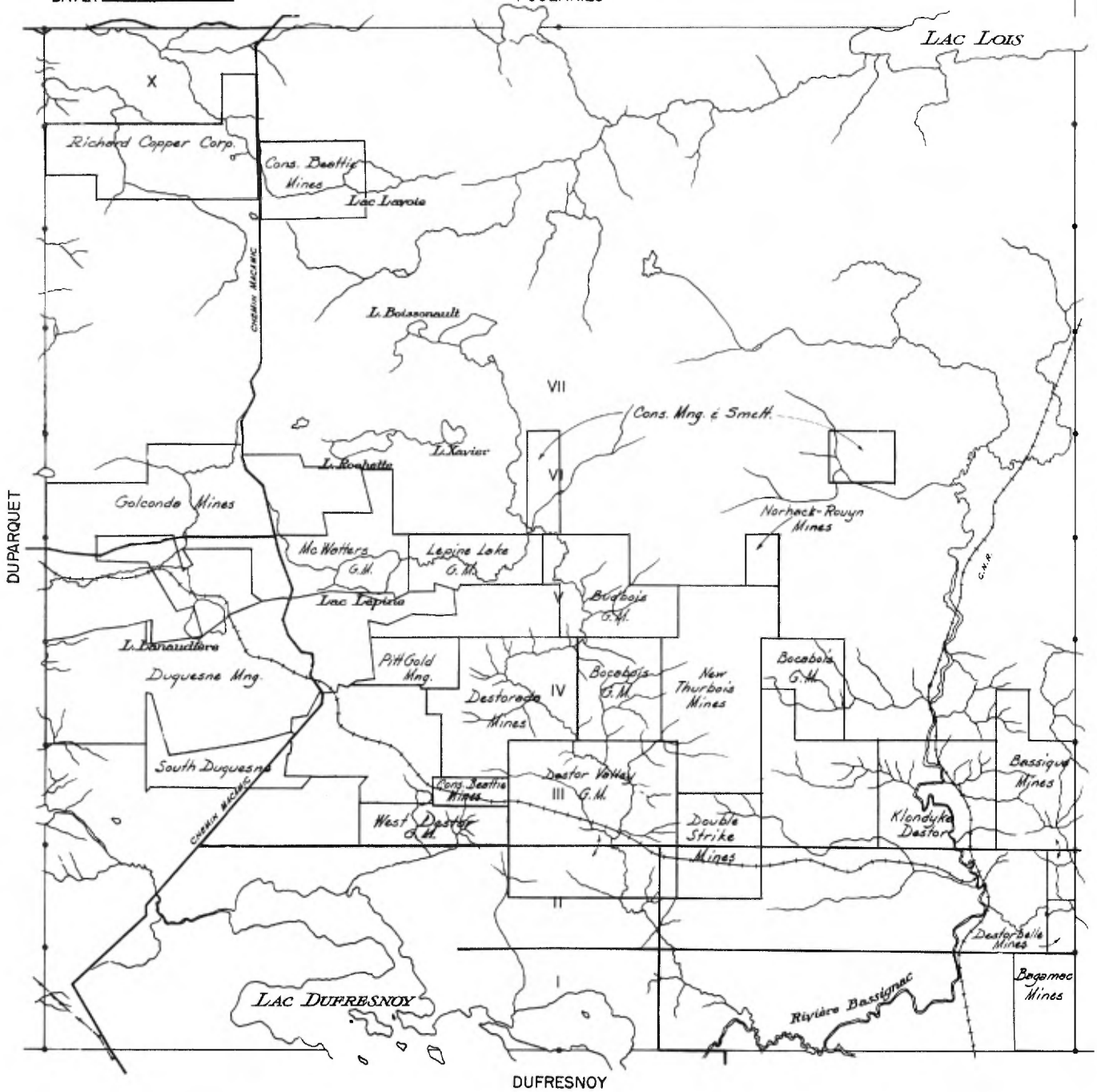
DESTOR

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 10-3-49

Miles 0 4 8 Miles

POULARIÈS



DUPARQUET

AIGUEBELLE

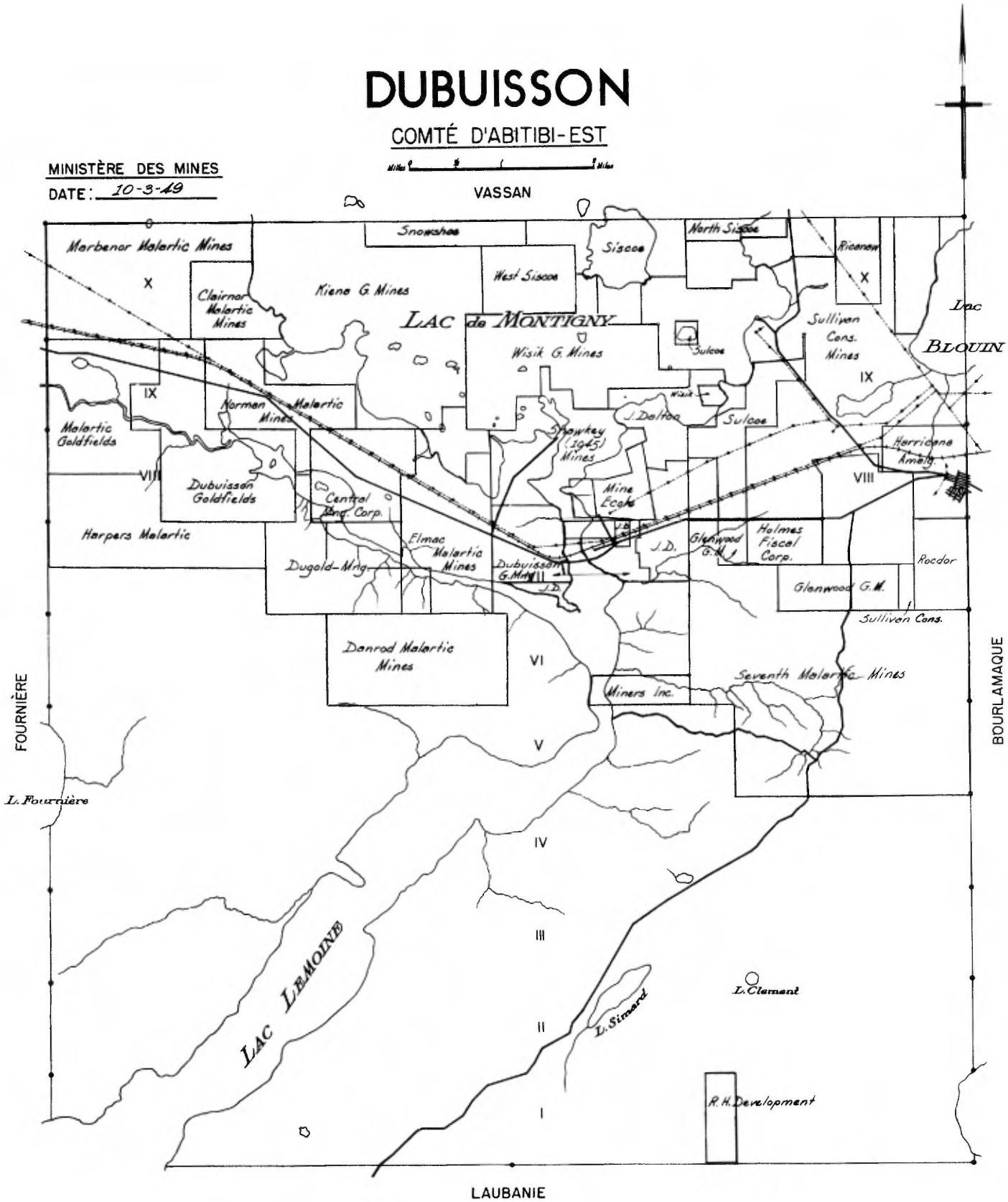
DUFRESNOY

DUBUISSON

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

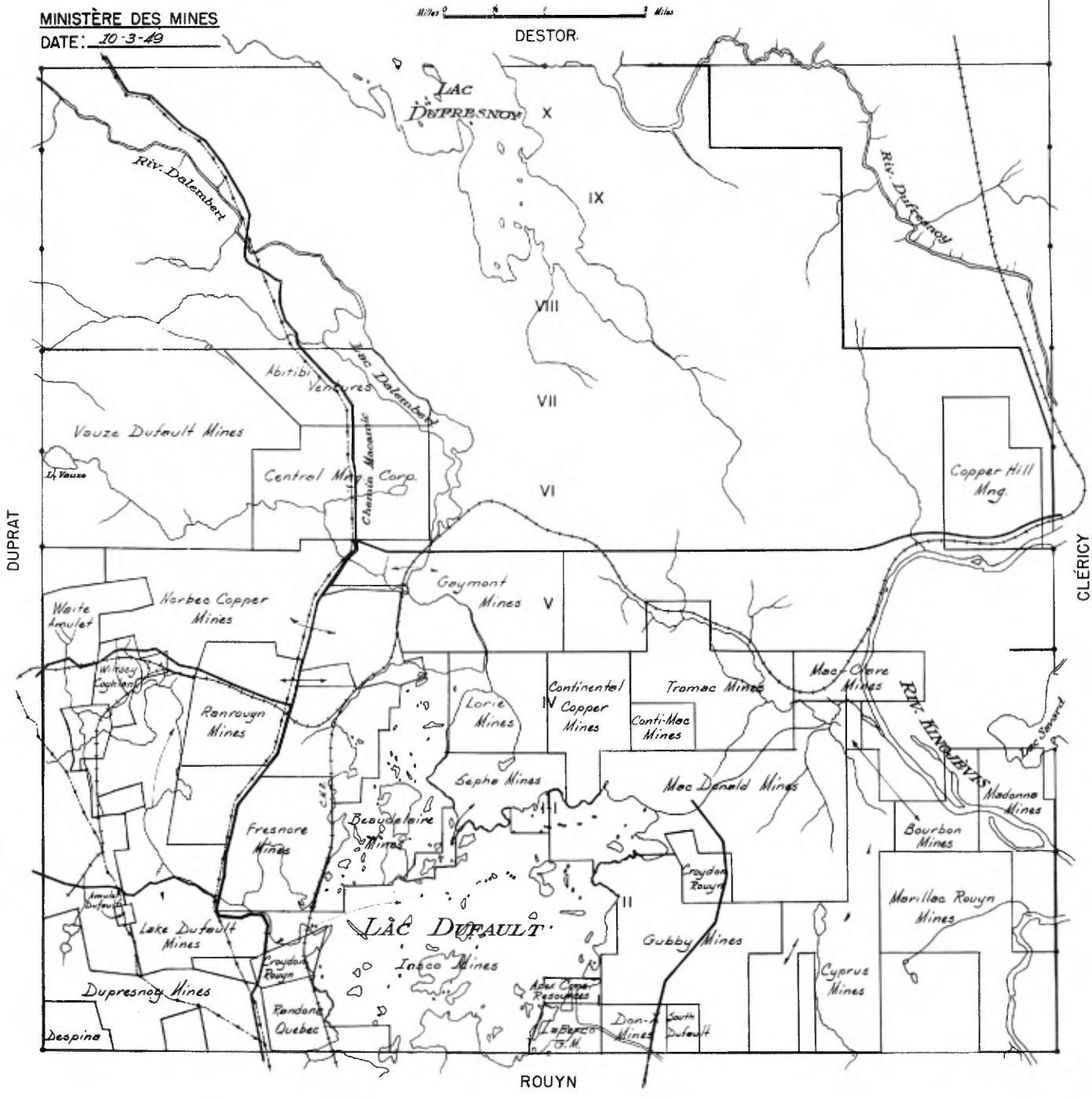
DATE: 10-3-49



DUFRESNOY

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES
DATE: 10-3-49



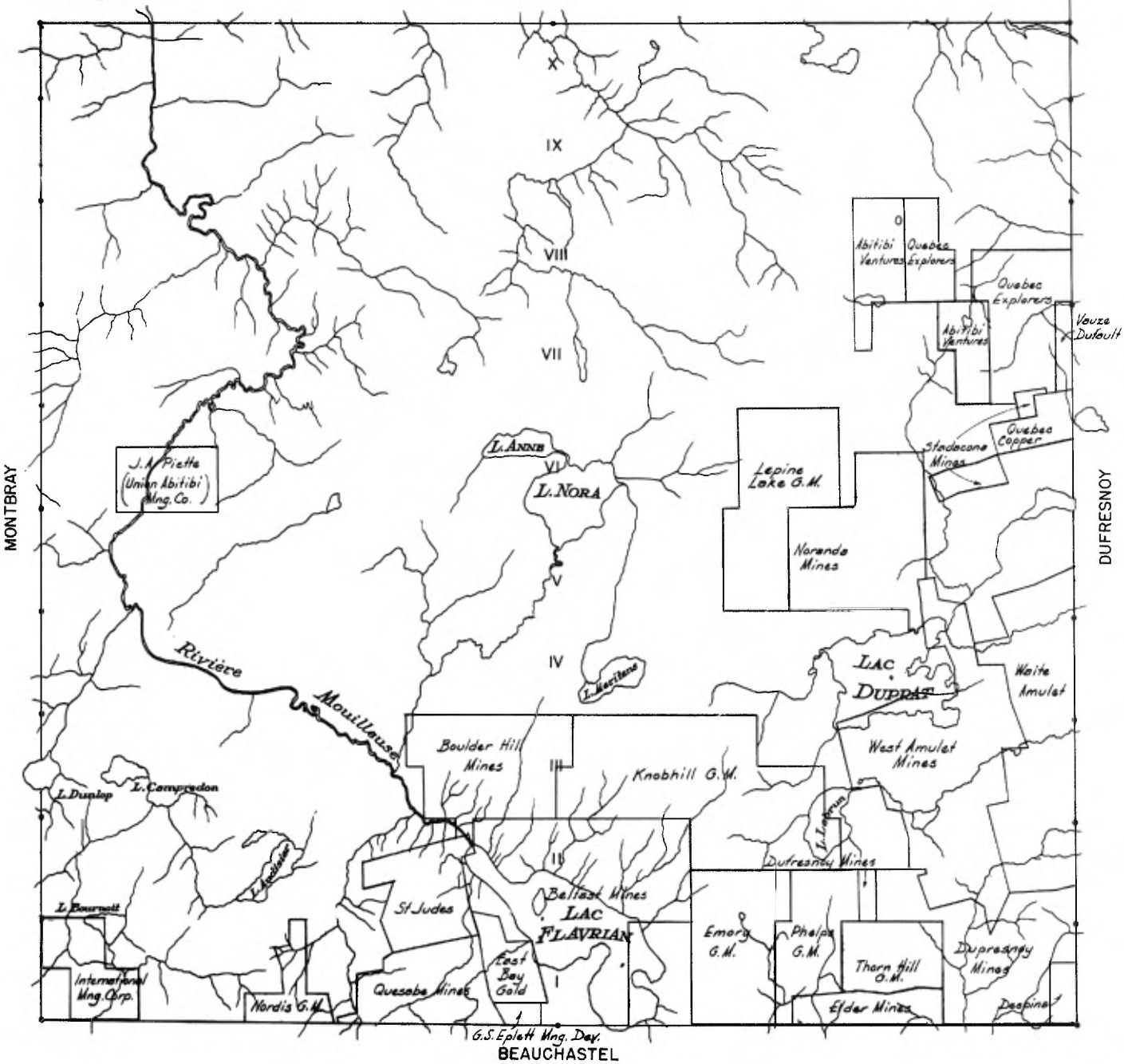
DUPRAT

COMTÉ DE ROUYN-NORANDA

MINISTÈRE DES MINES
DATE: 10-3-49

Miles 0 ½ 1 Miles

DUPARQUET



MONTBRAY

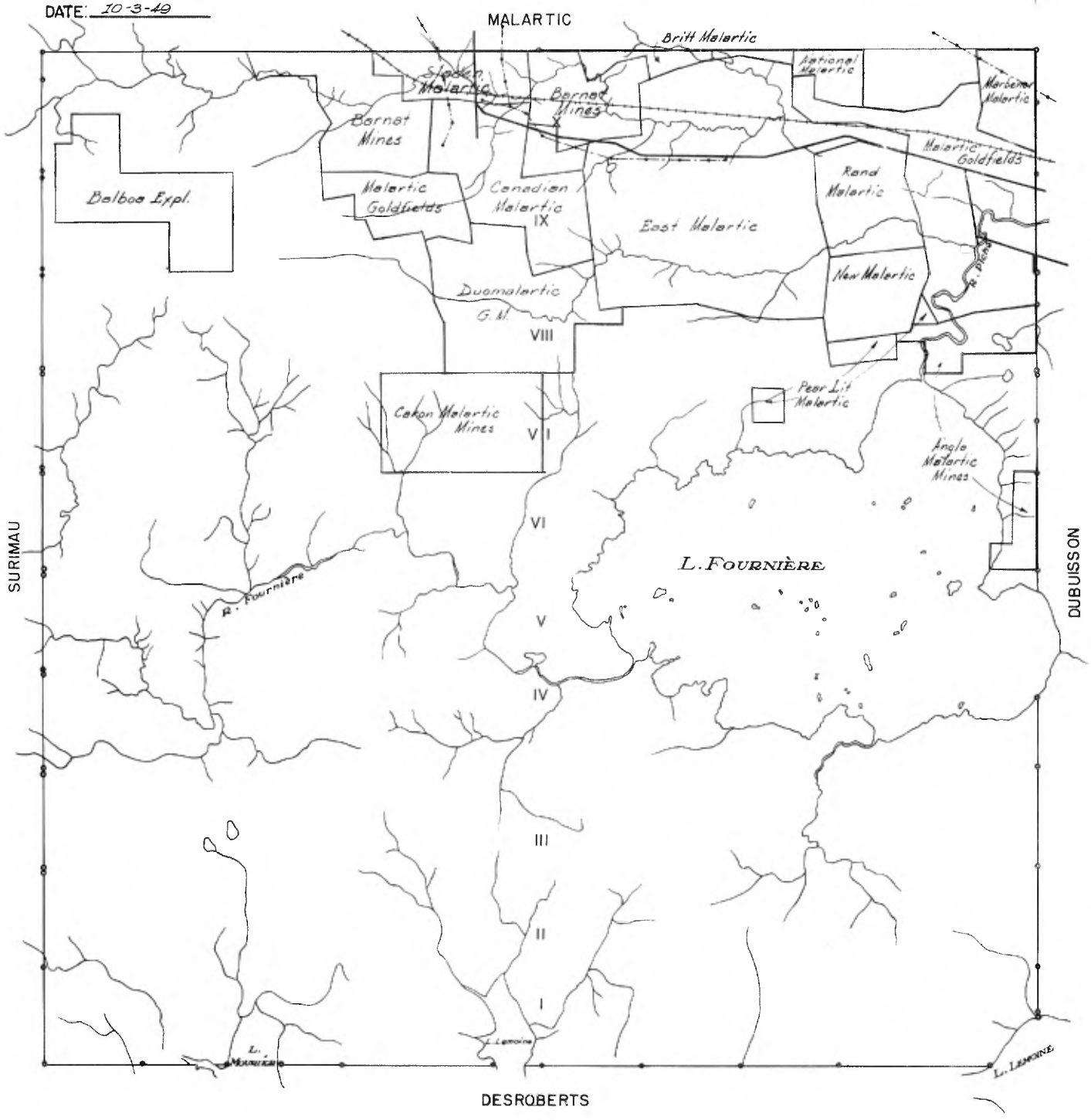
DUFRESNOY

BEAUCHASTEL

FOURNIÈRE

COMTÉ D'ABITIBI - EST

MINISTÈRE DES MINES
DATE: 10-3-49



GAND

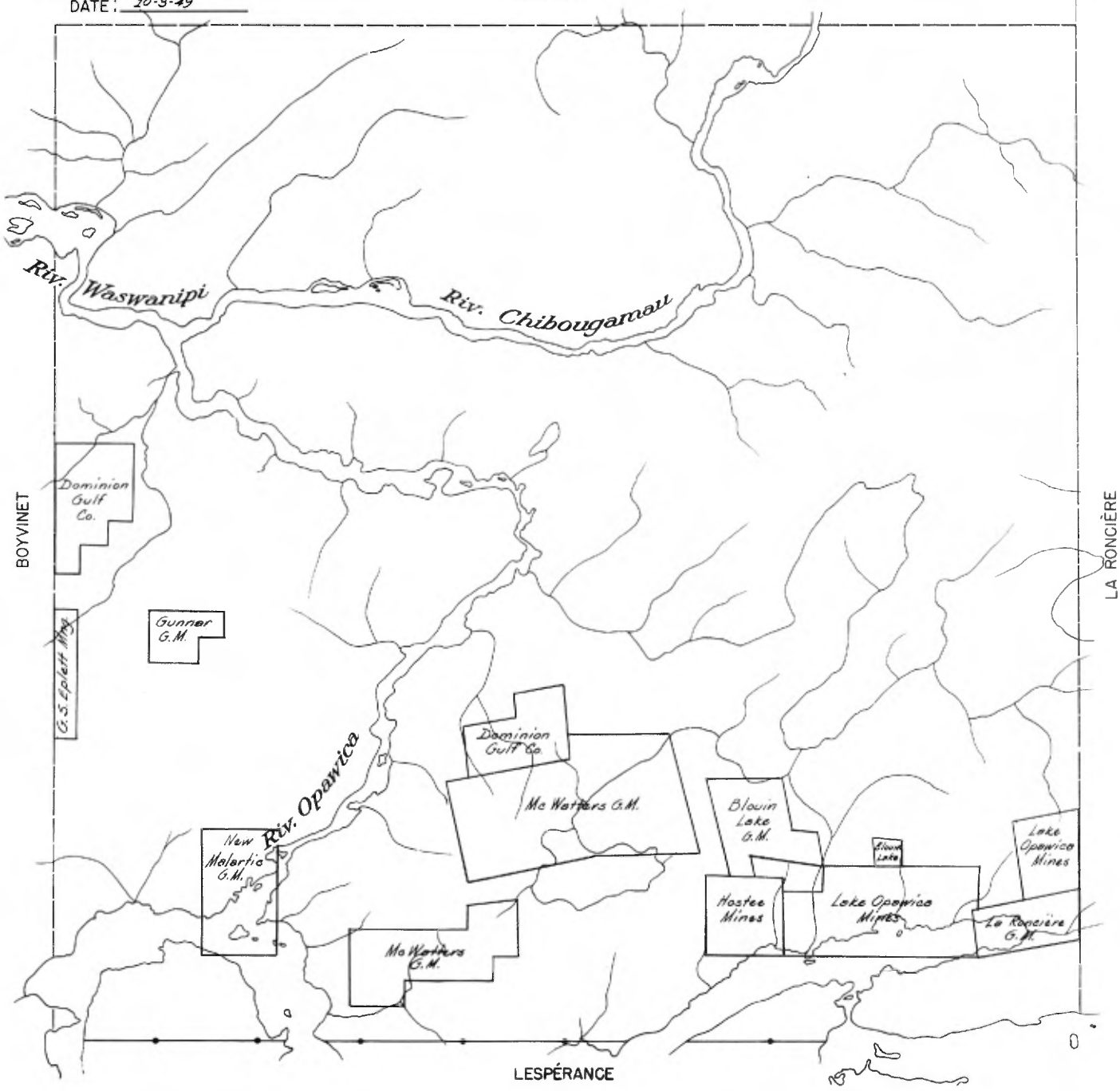
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE : 10-9-49

Miles 0 ½ 1 Miles

KREIGHOFF



LA RONCIÈRE

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 10-9-49

Miles 0 ½ 1 2 Miles

LA RIBOURDE

Rtv. Chibougamau

LAPPARENT

GAND

LAC

LEWIS

Ruisseau Lapparent

Lac Lapparent

GUERCHEVILLE

Apex Cons. Resources

Opawica G. M.

Lake Opawica Mines

La Ronciere G.M.

Continental Diamond Drilling

Gunner G.M.

0

Lac Opawica

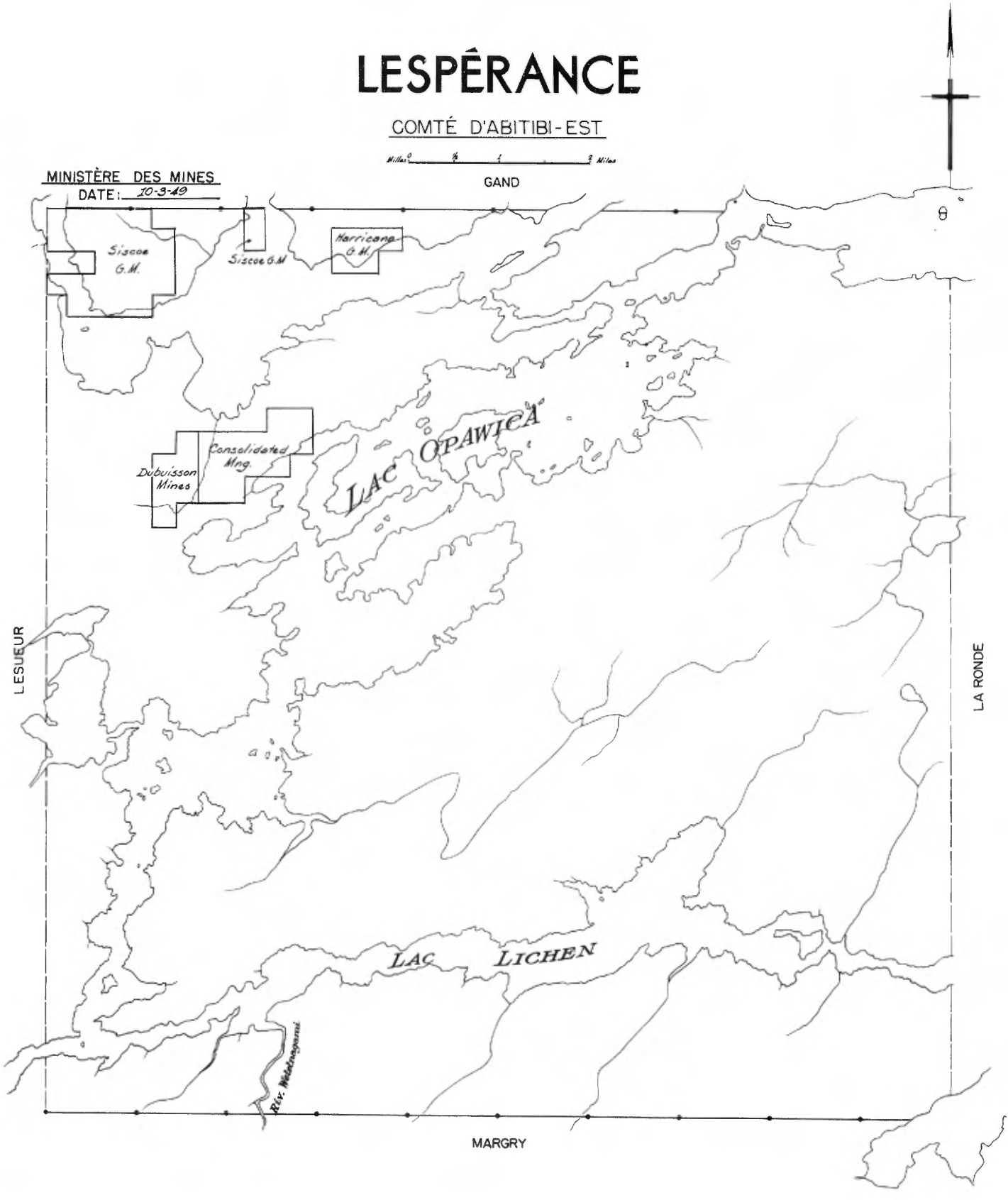
LA RONDE

LESPÉRANCE

COMTÉ D'ABITIBI-EST

Miles 0 ½ 1 2 Miles

MINISTÈRE DES MINES
DATE: 10-3-49



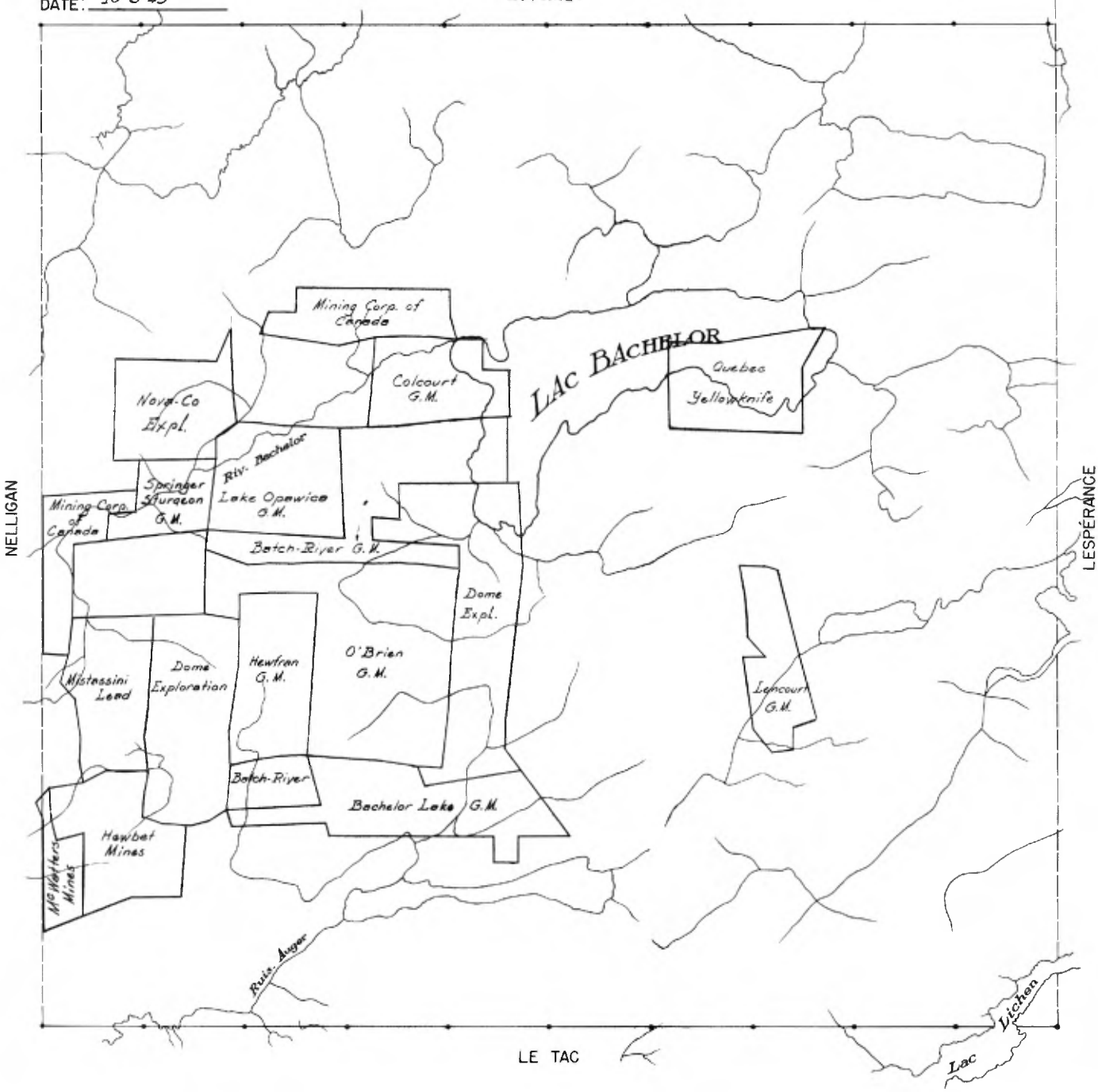
LESUEUR

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 10-3-49

BOYVINET

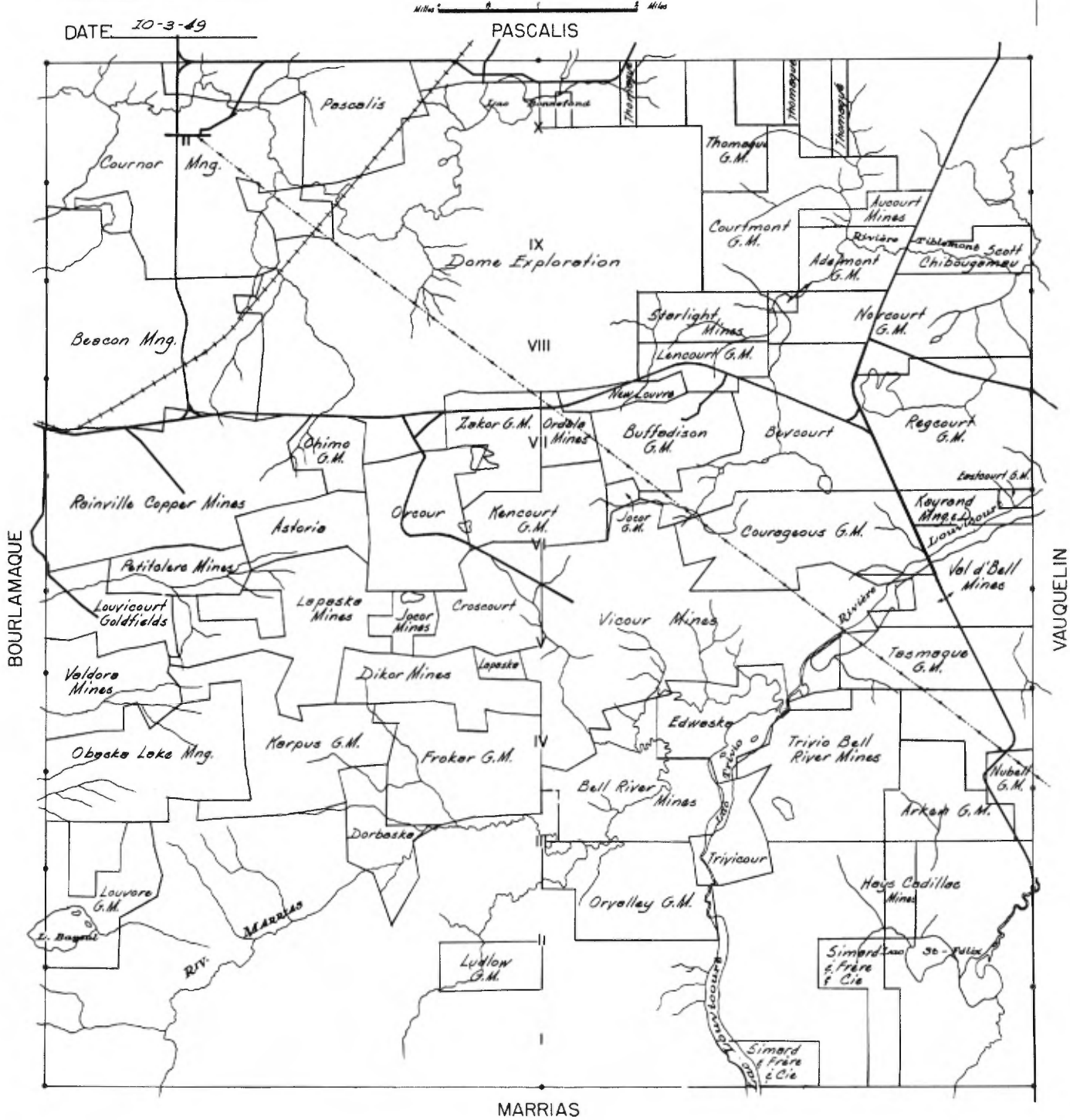


LOUVICOURT

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 10-3-49

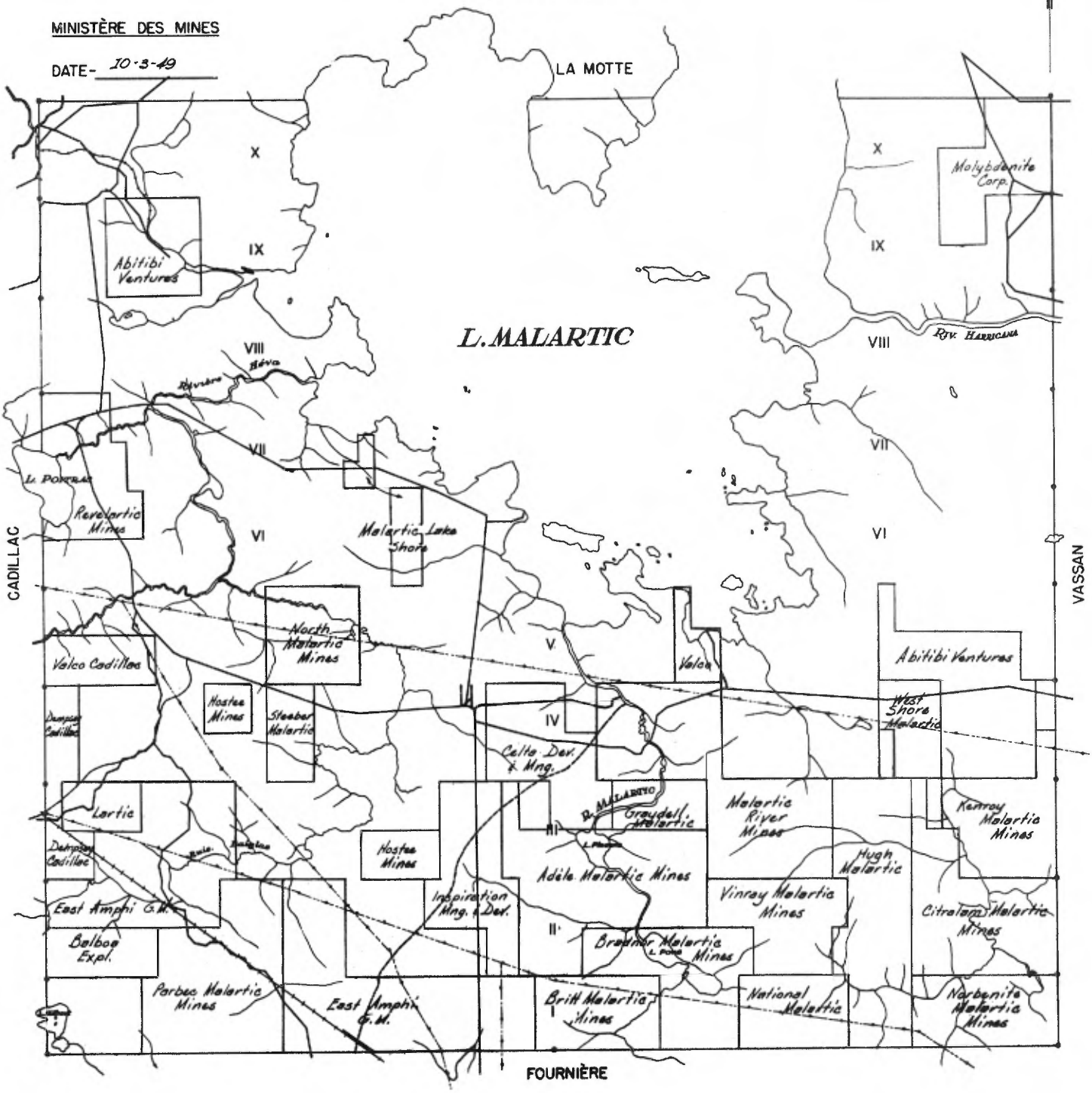


MALARTIC

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE- 10-3-49



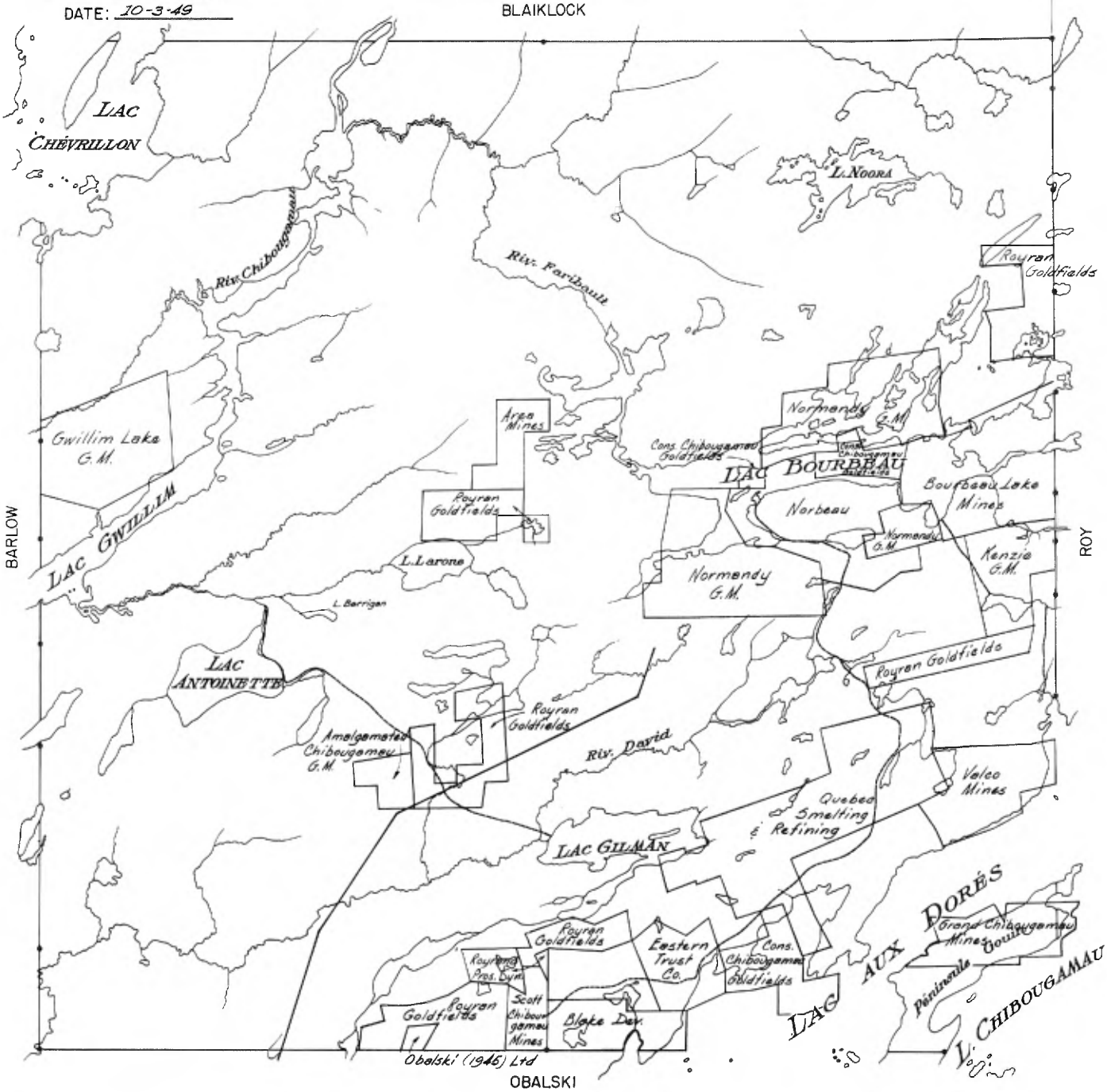
Mc KENZIE

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 10-3-49

Miles 0 ½ 1 Miles

BLAIKLOCK



OBALSKI

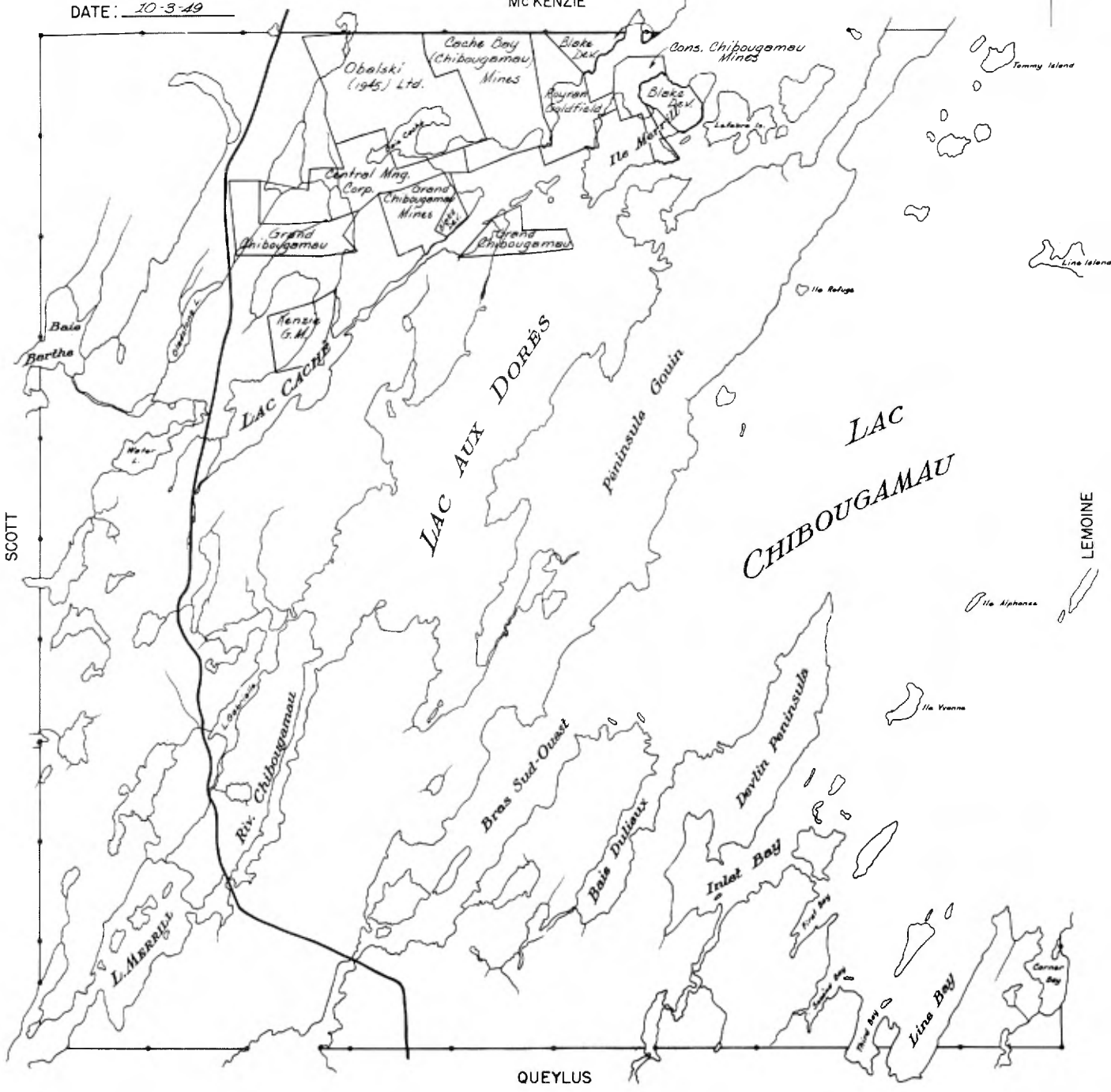
COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 10-3-49

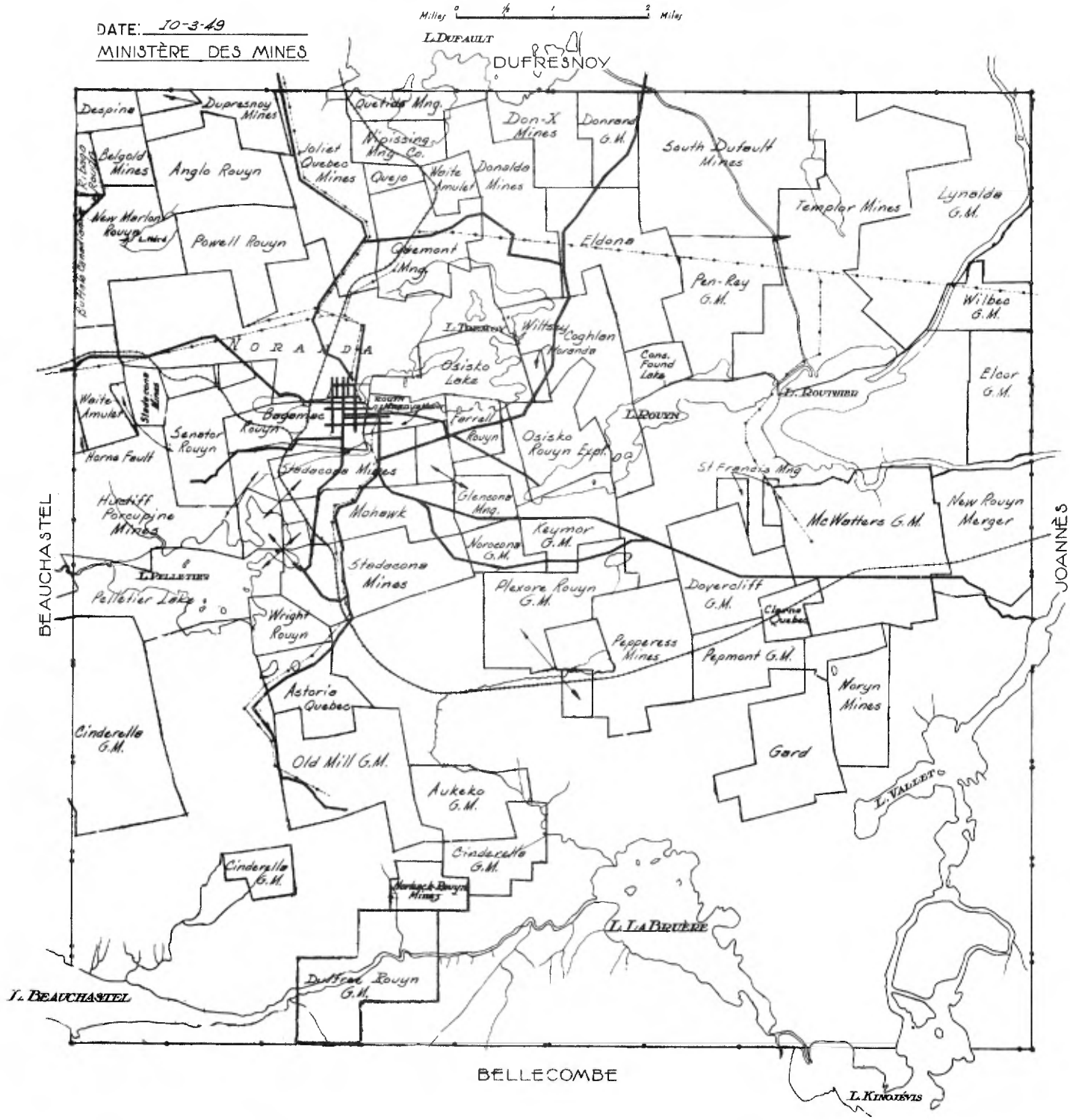
Miles 0 ½ 1 2 Miles

Mc KENZIE



ROUYN

COMTÉ DE ROUYN-NORANDA

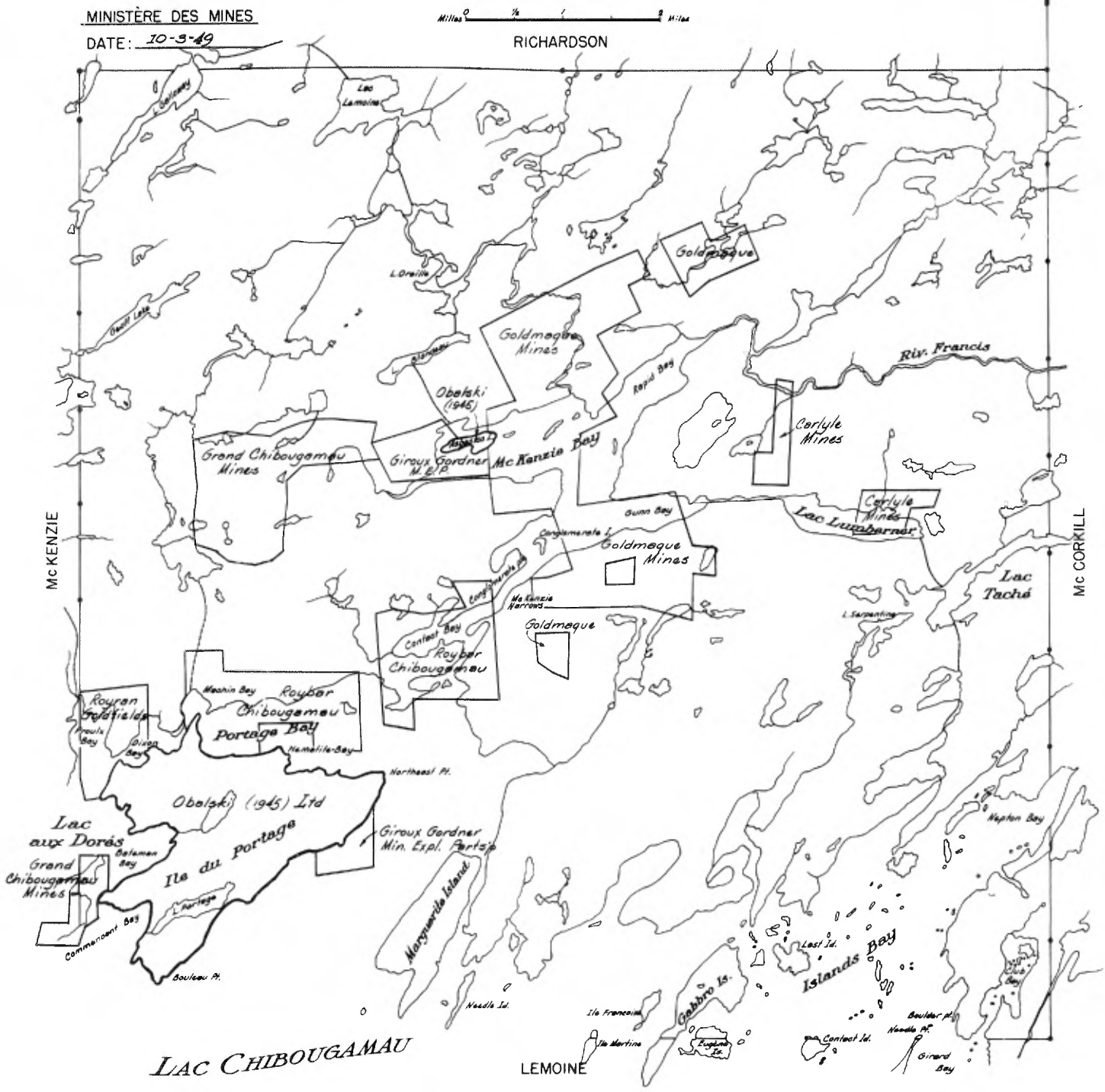


ROY

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES

DATE: 10-3-49

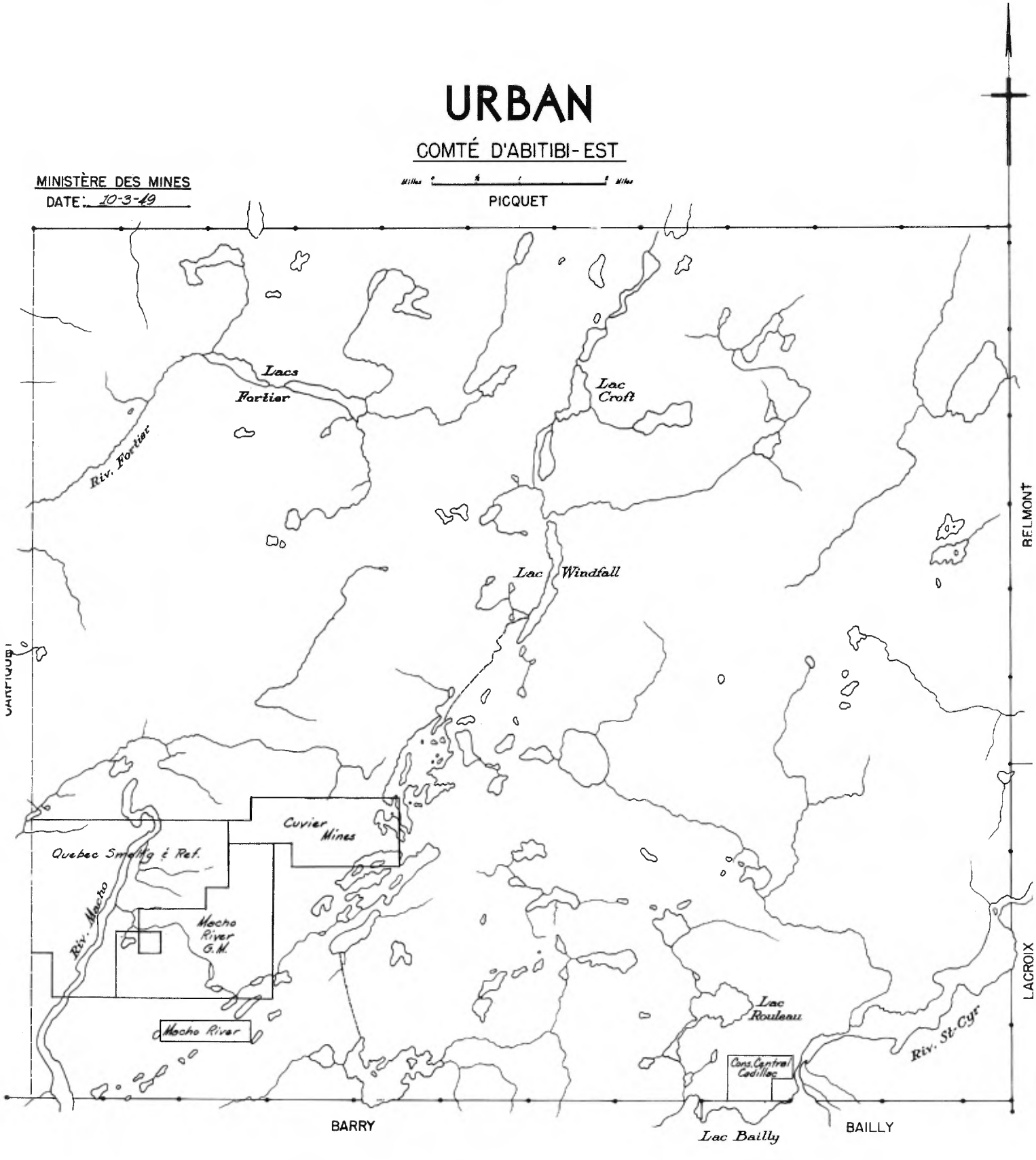


URBAN

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE: 10-3-49

Miles 0 ½ 1 2 Miles



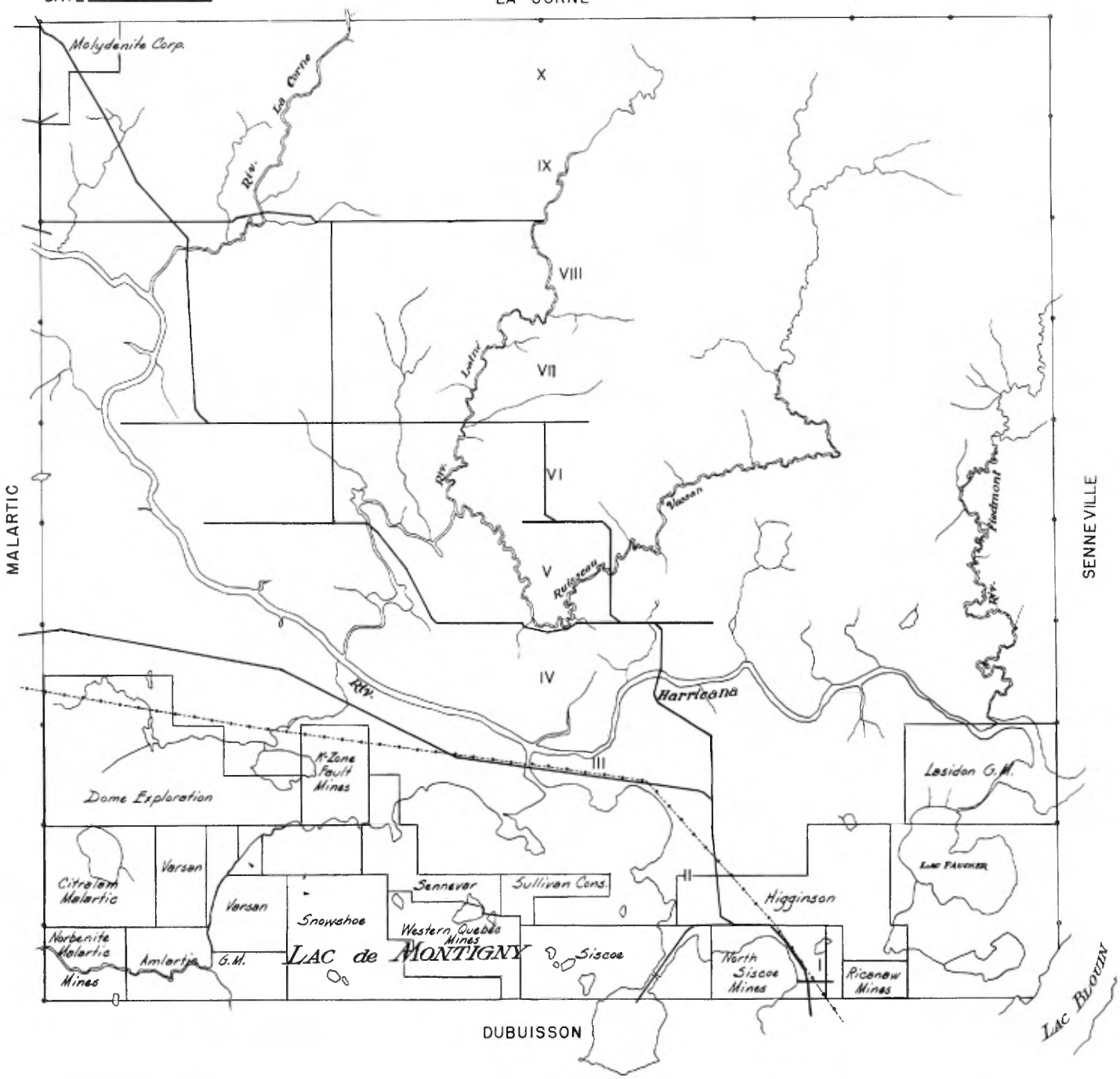
VASSAN

COMTÉ D'ABITIBI-EST

MINISTÈRE DES MINES
DATE 10-3-49

Miles 0 ½ 1 2 Milles

LA CORNE



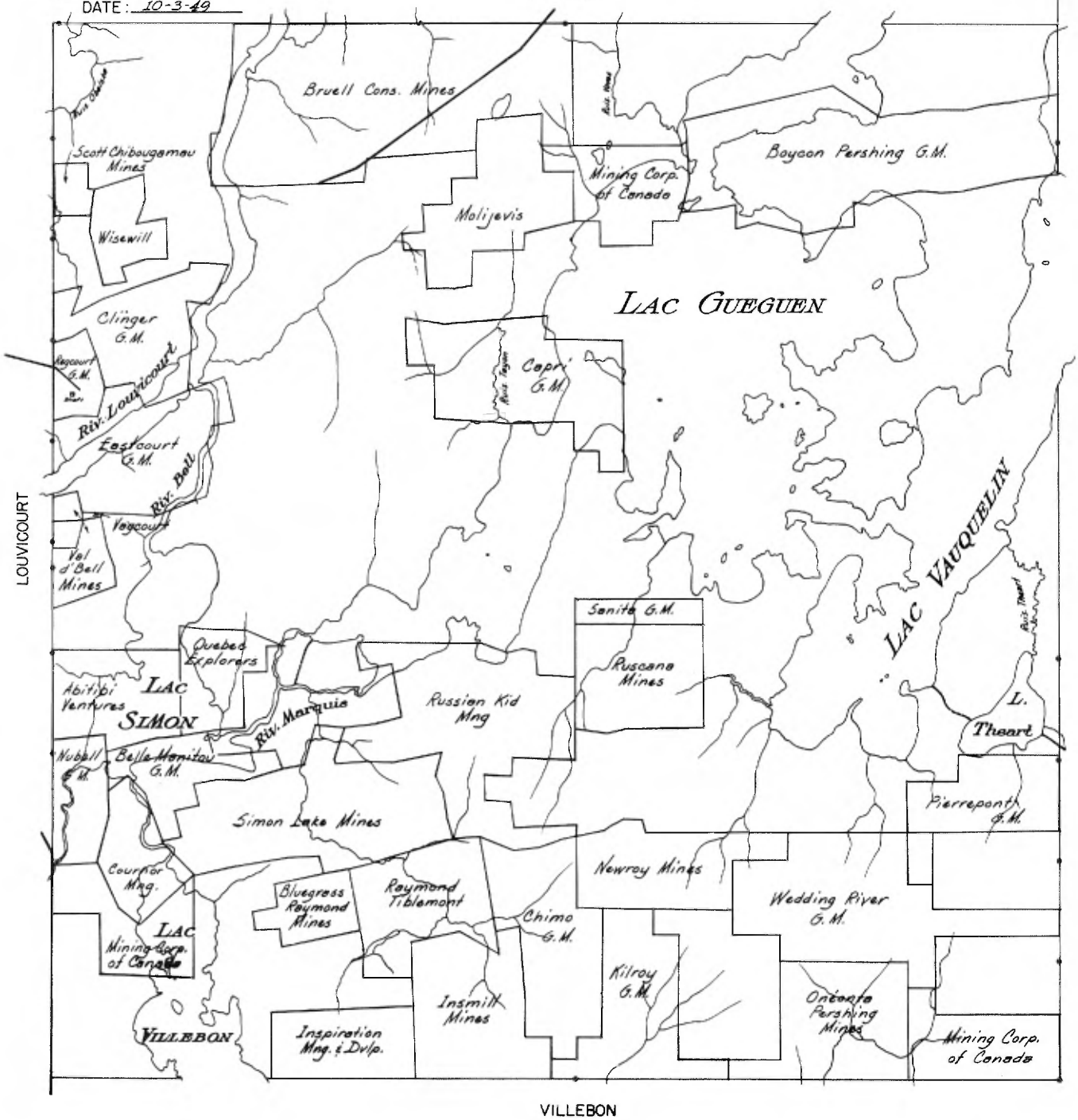
VAUQUELIN

COMTÉ D'ABITIBI-EST

Miles 0 ½ 1 2 Miles

MINISTÈRE DES MINES
DATE : 10-3-49

TIBLEMONT



LOUVICOURT

PERSHING

VILLEBON

VILLEBON

COMTÉ D'ABITIBI–EST

MINISTÈRE DES MINES
DATE: 10-3-49