# RP 257(A)

PRELIMINARY REPORT ON PARTS OF DALQUIER, FIGUERY AND LANDRIENNE TOWNSHIPS, ABITIBI-EAST COUNTY

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# PRELIMINARY REPORT

# ON PARTS OF

# DALQUIER, FIGUERY AND LANDRIENNE TOWNSHIPS

# ABITIBI-EAST COUNTY

BY

W. W. WEBER


QUEBEC
1951

P. R. No. 257

# PRELIMINARY REPORT ON PARTS OF DALQUIER, FIGUERY AND LANDRIENNE TOWNSHIPS, ABITIBI-EAST COUNTY, QUEBEC

By W. W. Weber

During the 1949 field season, the mapping programme in the Amos district of northwestern Quebec was continued to cover the west half of Dalquier township, the northwest quarter of Figuery township, and ranges VI, VII and VIII in the east half of Figuery township and the west half of Landrienne township. The area is located within the northeastern limits of the Rouyn-Bell River region, about forty miles north of the Cadillac-Bourlamaque belt.

An area of 100.5 square miles was examined and mapped on a scale of one inch equals 1,000 feet. Original survey lines are well marked in the populated parts, especially in the vicinity of the colonization roads and the farm lands south and east of Amos.

Aerial photographs were most useful to locate the outcrops and for the compilation of the base map.

All parts of the area are easily accessible. Secondary roads lead north from Amos and colonization roads extend across the area along alternate range lines. To the south of Amos, Routes 45 and 61, the Provincial highways connecting Amos to Val d'Or and Heva Corners, cross the southern part of the area.

A total of 78 miles of passable roads have been built interconnecting the main routes. The transcontinental line of the Canadian National Railways passes across ranges IX and X, Figuery township, and the largest shipping centre, Amos, is located on the Dalquier-Figuery boundary near the eastern margin of the map sheet.

During the past season, mining activity in the region was limited to the continuation of the underground exploration on the New Goldvue property in Duverny township and also to prospecting for beryl, tantalite, spodumene and molybdenum to the immediate south of the map area. Most of the claims in the area have been maintained in good standing.

## General Geology

The bulk of the rock exposures, which are considered to be entirely Precambrian, are Keewatin-type volcanics. 'Keewatin diorites' or the coarse-grained metadiorite, metadiabase and metagabbro which are intercalated within the volcanic rocks have been included in the Keewatin series, despite minor evidence of transgression. Post folding basic intrusive rocks include quartz diorite, diorite, gabbro and minor pyroxenite and amphibolite. Since these intrusives have not been noted to cut the granitic rocks, they are presumed to be pre-granite. The Dalquier-Béarn batholith extends into the area and is the main granitic intrusive. This large mass is essentially microcline-biotite granite; facies approaching tonalite in composition are found in some places near the borders of the mass. A quartz gabbro-gabbro intrusive body, believed to be Proterozoic, intrudes the Dalquier granite in range VI, Dalquier township. Three major dikes of olivine gabbro and diabase traverse the area.

## Table of Formations

| | | | | |
|---|---|---|---|---|
| QUATERNARY | Recent | | | Stream and swamp deposits |
| | Pleistocene | | | Till, sand, gravel, morainal deposits, eskers, and lacustrine varved clay |
| LATE PRECAMBRIAN | Keweenawan (?) | | | Olivine gabbro, diabase |
| | Faulting | | | |
| | | | | Kayrand quartz gabbro, gabbro |
| EARLY PRECAMBRIAN | Late Algoman | | | Quartz veins and mineralization |
| | | | | Aplite, lamprophyre, quartz porphyry and pegmatite dikes |
| | Algoman | | | Microcline granite, tonalite |
| | Faulting and shearing | | | |
| | Post-Keewatin | | | Quartz diorite, diorite, gabbro, pyroxenite and derived amphibolite |
| | Keewatin (?) | | | Metagabbro, metadiabase |
| | Folding and faulting | | | |
| | Keewatin-type volcanic rocks | Duverny Syncline Sequence | Upper Division | Siliceous lavas and pyroclastics, minor tuffs, overlain by a mixed assemblage of intermediate and basic volcanics |
| | | | Lower Division | Predominantly dacitic lavas, agglomerate, flow breccia with interfingered bands of basic volcanics |
| | | Amos Anticline Sequence | Upper Division | Predominantly basaltic lavas, minor flow breccia, cherty tuffs and agglomerate pillow lavas |
| | | | Lower Division | Metagabbro, metadiabase with minor fine-grained massive and pillowed basic lavas, prominent basic agglomerate bands, grading near the top of the division into a tuff band with siliceous to intermediate lavas interbedded with pyroclastics, iron formation |

## Keewatin-type volcanics

There is a definite repetition in the Keewatin volcanic sequence due to folding. The lithological character of the volcanic rocks and their stratigraphic order has been the basis of subdivision in the Duverny-Dalquier area.

### Amos Anticline Sequence

Lower division:- The lower division includes tuff beds and basic volcanic rocks which flank the Amos anticline and underlie the monotonous sequence of basic lavas comprising the upper division. The division consists of two members. The first consists chiefly of massive metagabbro and metadiabase intrusive-like intercalations, with some pillowed and massive fine-grained basic lavas, and prominent bands of basic agglomerate. These enclose the Amos anticline in the excellent exposures throughout lots 26 and 27, adjacent to the line separating ranges VIII and IX, Figuery township. The second member, a mixed assemblage of dacites and andesites, grades near the top of the division into a zone of tuffs and pyroclastics with bands of cherty tuffs, iron formation and agglomerate of a siliceous character interbedded with intermediate and siliceous lavas. The first member can be distinguished from the upper division by the infrequent occurrence of typical basic lavas, the preponderance of coarse-grained metagabbro and metadiabase and the appearance of prominent bands of basic agglomerate which are absent in the upper division.

The overlying member, exposed throughout ranges VII and VIII and also in ranges IX and X, Figuery township, has a general gradation from massive and pillowed intermediate lavas with minor pyroclastics upward in the stratigraphic order to fine-grained rhyodacite and rhyolite lavas interbedded with minor andesite, pillowed and massive dacite and siliceous fragmental lavas. Tuffs of a cherty nature and iron formation occur in the upper limits, in the exposures of lots 25 and 26, range VI, and also lots 11 and 12, range X, Figuery township. In the vicinity of the Harricana river the tuff and basic bands are sharply convergent on the anticline, suggesting an easterly plunge. The anticlinal axis continues across range VIII in the eastern part of Figuery township, enclosed in a narrow band of intermediate to basic, massive and pillowed lavas.

In the preliminary work in ranges VII and VIII, Landrienne township, it appears that the plunge of the anticline is reversed. Scattered exposures of siliceous lavas and tuffs similar to the tuff zone to the west and agglomeratic basic lavas reappear flanking the anticline and expanding to the east. The exposures of fragmental rock on the south side of the anticline appear in lots 7 and 26, range VIII, and lots 10 to 12 and 17, range VII, Landrienne township. A persistent, narrow band of pillowed and massive intermediate lavas underlies the basic lavas of the upper division to the south.

On the north limb of the anticline, siliceous tuffs and interbedded fine-grained rhyodacite and dacitic lavas, minor rhyolite and agglomerate are exposed in lots 28 to 31, range VIII and IX, and also in lots 34 to 37, range IX, Landrienne township.. Agglomeratic pillowed basic lavas, believed to be equivalent to the basic lavas enclosing the anticlinal axis in range VIII, Figuery township, are poorly exposed in lots 34 to 36, range VIII, Landrienne

township. Closure of both horizons exposed in Landrienne township suggests a slight westerly plunge to the Amos anticline in this vicinity. The continuation of the mapping along these bands, well exposed to the east, will provide more information on the structural relations.

Upper Division:- The band of basic volcanic rocks on the north limb of the Amos anticline previously mapped in Duverny and Landrienne townships continues across the present area. It extends southward from the rapids on the Harricana river in Amos townsite to lot 29, range IX, Figuery township. In the western part of Dalquier township the basic volcanic rocks have been intruded by the Dalquier granite and the band swings northward following the margin of the granitic mass throughout range I. An agglomeratic band, overlying massive metadiabase, marks the upper limit of the division in the exposures along the rapids in Amos townsite. Tuffaceous volcanic bands with interbedded pyroclastic rocks form a well-defined zone along the margin of the granite very similar to the pyroclastic zone found along the upper limit of the division throughout range I, Duverny township. These bands of pyroclastic rocks and tuffs are particularly well exposed in lots 1 and 2, range I, Dalquier township.

The lithological character of the upper division in Dalquier township is similar to the exposures in Duverny township. Pillowed and massive basic lavas with minor flow breccia and a complete absence of agglomeratic bands are characteristic of the sequence. The rocks of this division are widely exposed, particularly on lots 1 to 3, range I, Dalquier township, and on lots 6 to 21, in range I, Dalquier township, and in range X, Figuery township.

The upper division reappears in the northeastern part of Dalquier township, but that portion which has been traced across a part of range IX, on the southern flank of the Soma anticline is cut off in the western part of Dalquier township by the Dalquier granite. Vestiges of this basic band are preserved in the coarse-grained amphibolite and amphibolite fragments in the migmatized and brecciated intrusive margin of the Dalquier granite in lots 9 to 26, range IX, Dalquier township.

In the extreme southern part of the present area, a uniform assemblage of massive and pillowed basic lavas, believed to be the repetition of the upper division on the southern limb of the Amos anticline, is exposed throughout range VI, in the western part of Figuery township. These basic lavas cross the Harricana river at the northern end of Figuery lake and continue northward into ranges VI and VII, Figuery and Landrienne townships.

Duverny Synclinal Sequence

Lower Division:- This sequence of lavas of mixed affinities is a heterogeneous assemblage of dominantly intermediate volcanic rocks with considerable amounts of tuff and pyroclastics in the basal zone. Interdigitation and the lack of well-defined horizons within the division make the areal extent difficult to delimit. This sequence is overlain by the 'Rhyolite' at the base of the upper division, and underlain by the rocks of the Amos Anticline sequence.

On the southern limb of the Duverny syncline, the contact between the Duverny Syncline sequence and the Amos Anticline sequence is placed at the agglomeratic band which underlies the siliceous and trachytic lavas exposed on lots C and A, range I, Dalquier township. The upper contact adjoining the 'Rhyolite' horizon is sharply marked throughout the eastern part of Dalquier township. In the present map area, the 'Rhyolite' horizon becomes interfingered with dacitic lavas and partially loses its characteristic feature of exclusively siliceous lavas. In the exposures along the shore of the Harricana river in the vicinity of the line separating ranges II and III, the siliceous lavas are sheared and interbedded with dacitic lavas. In lots 21 and 22, range III, Dalquier township, the typical sequence of rhyolite, rhyolite breccia and agglomerate is exposed on the west side of a fault. The easterly continuation has been assumed to be displaced northward and to continue on to join the trachytic lavas contacting pillowed andesite in lot 26, range III. Westward towards the granite margin, there are scattered exposures of siliceous lavas in lots 18 and 19, range III. In the inlying volcanics in lots 4 and 5, range III, Dalquier township, rhyodacite and silicified volcanic rocks occur along the margin of the granite and are believed to be the most westerly exposure of the 'Rhyolite'.

On the southern limb of the syncline, the lower division consists mainly of intermediate lavas with a lenticule of basic volcanic rocks enclosed in the upper limits throughout lots 10 to 26, range III, Dalquier township.

The lower division reappears on the northern limb of the Duverny syncline, underlying a well exposed 'Rhyolite' band. This band swings sharply northward at the eastern boundary of the map sheet and thence about the margin of the small diorite-gabbro mass in lots 18 to 20, range VII, Dalquier township. West of this point, the contact of the lower division and the 'Rhyolite' band follows a due west course and is exposed in lots 16 and 17 of this range. Here, massive dioritic lavas are sharply separated from the siliceous lavas by a narrow band of dacitic agglomerate. Scattered outcrops of siliceous fine-grained lavas in lots 9 and 11, range VII, Dalquier township, are the sole exposures of the 'rhyolite' near the granite.

The lower division is well exposed in lots 25 and 26, range VII, Dalquier township. The lava assemblage is mainly dacitic, pillowed and massive fine-grained flows. Variolitic zones are commonly encountered in the southern part of lots 25 and 26. To a lesser degree, porphyritic dacite also occurs. Throughout the northern part of lots 23 and 24 and the remaining exposures in range VIII, the exposed lavas are entirely massive flows, in part dioritic but mainly fine-grained.

Upper Division:- These are the youngest volcanic rocks exposed in the area. The base of the division is marked by the 'rhyolite' band which has been traced across the limbs of the syncline. This division is entirely siliceous lavas with interbedded breccia and agglomeratic bands. It is overlain throughout range IV, Dalquier township, on the south and throughout range VI of the same township on the north, by a band of basic lavas which has a maximum thickness of one-half mile and tends to pinch out to the east. This sequence of massive and pillowed basic lavas with local metagabbro and metadiabase phases encloses a series of pillow lavas, mainly dacitic, in the core of the syncline. Top indications are extremely meagre and scattered in this

region, which is largely covered by overburden. With regard to the symmetry of the folded bands and the available determinations, the axis of the Duverny syncline has been located in the northern part of range IV, Dalquier township, and the trend is gently northeasterly. The westerly plunge of this syncline, evident in Duverny township, has flattened to almost horizontal in the western part of Dalquier township. These volcanics therefore, represent the upper limit of the exposed Keewatin-type volcanics in this region.

Keewatin (?) Basic Intrusives

Intercalated conformably within the volcanic beds are numerous coarse-grained metagabbro and metadiabase bands, which in part transgress the enclosing volcanic rocks. By virtue of the similarity of mineral constituents, the degree of alteration and the inconclusive evidence of the crosscutting relationships, these rocks are believed to be consanguineous and quasi-contemporaneous with the volcanic rocks. Therefore, the occurrence have not been differentiated from the extrusives but the principal locations of these occurrences are worthy of mention.

Such intrusive-like basic rocks occur in the Amos anticline and the Duverny Syncline sequences. In the lower division of the Amos Anticline sequence the coarse-grained metagabbro and metadiabase form a large proportion of the outcroppings in lot 26, range VIII, Figuery township. In the upper division of this sequence, metadiorite and metadiabase enclosing lenses of recognizable pillow lava occur in lots 3 to 5, range VI, Figuery township. The exposures in this instance are not sufficient to prove a suspected post-folding origin. Similarly, in the basic volcanic rocks exposed in range VI, Dalquier township, in the upper division of the Duverny Syncline sequence, massive coarse-grained metagabbro and amphibolite extend across an exposed section of over 300 feet without an apparent break. The contact exposed on the north side of the outcrop in lot 16 is parallel to the trend of the volcanic beds and does not appear to be transgressive. Basic dikes, possibly feeder dikes for the overlying volcanic rocks, cut across the intrusive-like mass.

Post-folding (?) Basic Intrusives

There are two occurrences of gabbroic intrusives transgressing the upturned volcanics and the age relationship appears to warrant consideration as post-folding. These two masses are the small body of quartz diorite-diabase intruding the siliceous volcanic rocks in range VI, Dalquier township, and the complex of gabbro, diabase, and amphibolite which extends from the western margin of the map to lot 21, range I, Dalquier township.

The small body in the northern part of Dalquier township appears to be mainly quartz diorite with local phases of diabasic fabric. It crosscuts the volcanic rocks with narrow chilled margins, best observed on the small offshoot dikes. The volcanic rocks about the margin have been slightly metamorphosed and deformed. Positive evidence of high angle crosscutting is impossible to obtain in the metamorphosed margin.

The tongue-like mass in range I, Dalquier township, is essentially gabbroic, with the majority of the exposures of the intrusive exhibiting a

diabasic fabric. Local pyroxenitic phases occur in addition to the amphibolitized lenses and marginal zone derived from the metamorphism of the volcanic rocks. Recognizable pillow lavas are wholly engulfed in the intrusive and show an increasing amphibolitization in the direction of the intrusive. Greyish feldspathic dioritic dikes have been noted to penetrate beyond the zone of amphibolitization into the volcanic rocks in lots 1 to 3, range I, Dalquier township.

Dalquier Granite

This granitic mass comprises almost half of the rock exposures in the western part of Dalquier township. A narrow inlier of volcanic rocks extends into the mass in range III.

The main mass is a quartose granite with microcline, plagioclase, and biotite or hornblende as the principal constituents. There is very little variation in the mass except in the border facies, particularly in the northern part of Dalquier township. Here, near the margin, it becomes tonalitic, with no visible quartz. Porphyritic networks of plagioclase, and hornblende almost entirely replace biotite as the principal ferromagnesian minerals and the pink colour disappears. Throughout lots 10 to 26, range IX, Dalquier township a greenish amphibole-rich zone is enclosed within the granite. This is a completely metamorphosed roof segment. The proportion of amphibole ranges from 40 to 100 per cent. The contact of this hybrid zone with the intrusive proper is exposed in lots 23 and 24, range IX, Dalquier township. Here the greyish quartz-poor tonalite is cut by numerous aplitic and pegmatitic dikes on the southern side of the outcrop. To the north, the tonalite grades into a fine-grained gneissoid aplitic mass. On the northern margin of the outcrop migmatized volcanic rocks, with the planar structure trending east-west and dipping 60° to the north, are in contact with the aplitic phase cut by pegmatite dikes. On the west margin of outcrop this migmatized zone grades into an intrusive breccia with large, completely amphibolitized, coarse-grained fragments engulfed in the aplitic material. The proportion of fragments increases to the north until massive coarse-grained amphibolite is reached.

In the core of the granite, numerous aplite, lamprophyre and quartz veins, as well as quartz masses, cut the granite.

A small granitic exposure, possibly a part of a dike, was discovered on the extreme western limit of the outcrop in lot 30, range VII, Figuery township. There is a multitude of quartz porphyry and feldspar porphyry dikes cutting the volcanic rocks in this vicinity and particularly in the large outcrop in lots 31 and 32. It is possible that an underlying granitic mass has been exposed in the small granitic body in lot 30.

Dalquier-Kayrand Quartz Gabbro

This small mass which intrudes the Dalquier granite is the only basic intrusive in the Duverny area, with the exception of the late Precambrian basic dikes which intrude the granitic rocks.

The gabbroic body is wholly enclosed in the Dalquier granite between two segments of a late Precambrian dike. It outcrops with chilled contacts against the granite on the small knob overlooking the northern extension of the Gold Star quartz stockwork on the Kayrand property, lots 11 and 12, range VI, Dalquier township. The west boundary alone has been defined but the extension to the east and the south is believed to enclose the southern extension of the Gold Star vein system.

The rock appears to be gabbroic, with some resemblance to the overlapping olivine gabbro dikes which border it on either margin. The cherty siliceous Gold Star stockwork of veins and silicified gabbro is a late magmatic phase of the intrusion.

Late Precambrian Dikes

Two large olivine gabbro dikes of Proterozoic age have been traced across Dalquier township. The width in both instances averages in the neighbourhood of 200 feet. Both dikes are a part of the northeasterly system of late Precambrian dikes with a general bearing of N.42°E. The attitude is vertical, with sharp chilled contacts against all country rocks. The rock is a typical olivine-bearing gabbro of Keweenawan-type.

In ranges VI to VIII, Landrienne township, the continuation of the sinuous gabbroic dike, also of the northeasterly system, has been traced from the border of the Duverny sheets southwesterly to the southern boundary. This dike retains its mineralogical characteristics and also exhibits the abrupt changes of strike noted in the previously mapped area.

An unusual feature of the Dalquier dikes is the tendency to overlap in echelon. In the overlapping segments on the Kayrand property in lot 12, range VI, Dalquier township, olivine diabase of a later generation was observed cutting the original olivine gabbro dike in the centre of the channelway. A fault which strikes N.12°W. cuts the Dalquier quartz gabbro which lies between the two overlapping segments. This fault does not appear to displace the dikes, nor can it possibly account for the apparent displacement, but it is believed to be a part of the adjustment responsible for the appearance of the Kayrand intrusive and the arrangement in echelon of the dikes.

Structure

Folding:- The subdivision of the volcanic rocks illustrates the structure. Briefly, the Soma anticline, which crosses the northeastern part of Dalquier township, is terminated at the margin of the granite in the western part of Dalquier township. The Duverny syncline crosses the western part of Dalquier township in range IV. It enters the map area at the west boundary near the line separating ranges III and IV and continues slightly northeasterly across range IV to the margin of the granite. The westerly plunge, evident in Duverny township, is less clearly defined in Dalquier township and presumably less pronounced. The Amos anticline has been traced, through scattered exposures, across the northern portion of range VIII, from the central portion of Landrienne township to the western part of Figuery township. West of the Harricana river the assumed plunge is to the east but in Landrienne township the direction appears to be to the west.

Throughout ranges V to VIII, Dalquier township, the general east-west trend of the volcanic beds has shifted to northwesterly in lots 20 to 40. The rocks in the remainder of the area follow the regional east-west trend, with dips rarely varying from the vertical by more than 20°. These local variations are confined mainly to the margins of the intrusive bodies.

Shearing:- Shearing parallel to the regional trend of the volcanic bands is very common, though individual narrow shear zones are rarely traceable beyond the limits of outcrop areas. Several shear zones with widths up to 1,000 feet have been traced for greater distances. An albite-carbonate-chlorite schist with subsidiary faulting branching off the main shear zone is exposed in the trenches on the southern side of the Kayrand sulphide mineralization in lots 18 and 19, range V, Dalquier township. A strongly sheared zone about 400 feet in width trends due east for an exposed length of 1,600 feet across lots 22 and 23, range III, Dalquier township. This shear zone is slightly dragged and sharply terminated by a northwesterly fault near lot line 21-22. This shear is probably the western continuation of the shear zone crossing the Jay Copper property in the eastern part of Dalquier township.

South of the Dalquier granite in lot 16, range X, Figuery township a shear zone 125 feet in width has been exposed by bulldozers. The chloritic schist follows a tuff-fragmental lava bed. The continuation has not been located beyond the stripped area.

Small local schist zones parallel to the contact of the upper and lower divisions of the Amos Anticline sequence occur in the exposures in lots 25 and 26, range VI, Figuery township.

The regional shearing is generally weak and is confined to narrow bands along the flow contacts, but in several instances the intensity of the shearing has been sufficient to destroy the flow characteristics over a wide zone. Marked shearing is particularly evident in the carbonatized volcanic rocks along the Harricana river to the north of Figuery lake, in the volcanic inlier within the granite in range III, Dalquier township, and throughout the synclinal basin, particularly on the southern limb and on lots 22 and 26, ranges VI and VII. In the eastern section mild shearing, with local carbonate-chlorite schist zones, occur sporadically along the axial plane of the Amos anticline, particularly on lots 28 to 36, range VIII, Landrienne township.

Faulting:- Exposed faults with apparent displacements greater than a few feet are few in number. Minor faults with lesser displacements are too numerous to mention.

Faulting in a northeasterly direction, subsidiary to the shearing, is evident in the workings on the Kayrand sulphide zone in lots 18 and 19, range V, Dalquier township. Identical relationships were observed along the Jay Copper shear zone on the Amgola property in the eastern part of Dalquier township.

Faulting of unknown displacement and northerly trend is apparent in lot 25, ranges V and VI, and also in lot 23, range VI. This adjustment in the volcanic rocks has centred on the east margin of the small quartz diorite mass and has resulted in a general right strike separation of the volcanic rocks.

A fault striking N.12°E. has a minor post-gabbro displacement in lot 11, range VI, Dalquier township. Displacement appears to be right hand with the small amount of movement obscured by drag along the fault.

A fault striking N.14°W. can be traced across the outcrop on lot 22, range III, Dalquier township. Displacement is left hand, as evidenced by the drag along the sharp fault surface. Sheared 'greenstones' are in contact with the 'rhyolite' and the displacement is greater than the exposed section, about 500 feet in width.

No faults of appreciable displacement have been noted in the southern part of the area.

Alteration:- The degree of alteration of the volcanic rocks is in general typical of Keewatin-type rocks. Amphibolitization occurs along the margin and in the volcanic rocks enclosed within the basic intrusive body in range I, Dalquier township, and also the volcanic rocks in lots 3 to 5, range VI, Figuery township. Coarse amphibolite derived from basic volcanic rocks is exposed throughout the metamorphosed roof pendant in the Dalquier granite in range IX and also about the border of the intrusive in range I, Dalquier township. Metasomatic replacement, particularly silicification, extends along the margin of the granite in the inlying zone in range III, Dalquier township. Carbonatization of great intensity occurs on the Kayrand sulphide zone in lots 18 and 19, range V, Dalquier township, north of Figuery lake in range VI, Figuery township, and along the axial region of the anticlinal structure throughout range VIII, Landrienne township.

## Economic Geology

Within the map area, several attempts have been made to find orebodies in the exposed mineralized zones. Gold mineralization occurs in the quartz veins and stock-work within and adjacent to the Dalquier granite. Zones of disseminated or of massive sulphide replacement in the volcanic rocks are very numerous but the pyrite-pyrrhotite mineralization is accompanied by only traces of either the precious or the base metals.

## Description of Mining Properties

### Kayrand Mining and Development Co.

Ref.: Que. Bur. Mines, Ann. Rept. 1934, Pt. A, p. 104.
" " " " " 1935, Pt. A. p. 63.
" " " P.R. No. 116, p. 72.
" " " P.R. No. 120, p. 9-11.
" Dept. " Min. Ind. 1941, p. 52.
" " " " " 1944, p. 65.
" " " " " 1945, p. 132.

This company, controlled by Quebec Smelting and Refining Ltd., has extensive holdings in ranges III to VII, Dalquier township, which include the former holdings of the Nortrac Mining Co. Ltd., Colonial Mines Ltd., and a

block of claims formerly known as the Ed. Paré group. The Paré claims are described later in this report.

Scheelite was reported in No. 9 vein on lot 11, range VI, in association with a brownish ankeritic carbonate but after examination with ultraviolet equipment in 1940 B.T. Denis reported a total of only 36 square inches of this mineral in a surface exposure having an area of approximately 1,000 square feet.

In 1947, a magnetometer survey was made of parts of ranges V and VI, Dalquier township. This was followed by a resistivity survey in the immediate vicinity of the sulphide mineralization in lots 18 and 19, range V, Dalquier township. Previous trenching had uncovered massive sulphide replacing a schist and disseminated sulphides and gossan across two zones extending northeasterly. Filaments and pods of pyrite-pyrrhotite mineralization are exposed in a few pits and trenches mainly in dacitic pillow lavas and the siliceous volcanic rocks. Approximately 1,300 feet of drilling beneath the gossan encountered considerable pyrite-pyrrhotite mineralization but negligible gold, sphalerite and chalcopyrite. The property is at present inactive.

Oremonte Mines Incorporated

Ref.: Que. Bur. Mines, P.R. No. 135, pp. 28-29.

The property has been inactive since 1939.

Kongor Mining Corp.

Ref.: Que. Bur. Mines, P.R. No. 120, p. 11.

There has not been any further activity on the property since the suspension of operations in 1937.

Arthur Lake (Loring) Group

Ref.: Que. Bur. Mines, P.R. No. 120, p. 11.

The property is abandoned.

West Malartic Mines Ltd.

The holdings of this company extend into Dalquier township at the western boundary of ranges VIII and IX to cover the extension of the northeasterly vein system in the granite in Trécesson township. There are no exposed veins in the Dalquier portion of the property. Some drilling was done near a quartz vein associated with a lamprophyre dike in lot 60, range VII, Trécesson township. Sparce chalcopyrite and pyrite mineralization occur in the milky quartz but the samples taken by the writer contained only traces in gold, copper, zinc and lead. The remainder of the property was not examined. The property is now inactive.

East Trécesson Gold Mines Ltd.

The main mineral occurrence on this property was visited. It is located in lot 58, range VI, Trécesson township, beyond the western boundary of the map sheet. Here, a quartz vein in granite is exposed for a length of 200 feet. It varies in width from a mere fracture to over 5 feet. The quartz pinches and swells in a schist zone which follows the main fracture. The vein is also cross-faulted. Visible gold occurs in the milky quartz and parts of the vein are reported to be high grade. A limited amount of drilling has explored the downward continuation of the vein and it would appear that the width and the gold content are as erratic at depth as on the surface. This vein is a part of the northerly system of veins and quartz bodies which occur in the granite from lots 63, range IV, to lot 52, range VI, Trécesson township, but it is the only segment to contain significant gold values.

Ed. Paré Claims

These claims comprise lot 11, range VI, lots 9 to 11, range VII, and the north halves of lots 8 and 12, range VII, Dalquier township. S.H. Ross in a departmental report, dated July 28, 1940, states that "in the fall of 1939 the granite-greenstone contact in the south half of lot 12, range VII, claim 87584, was explored by 626 feet of diamond drilling in 3 holes, numbers 1 to 3, 150 feet apart. The holes were drilled southwest in swampy terrain to locate the northern extension of the 'Shaft' vein of the Nortrac property. In D.D.H. No. 1, the vein was intersected at 74 feet, measuring 6 feet in width, and in D.D.H. No. 2, 150 feet south of No. 1, it was cut at 158 feet, measuring 8 feet in width."

A Colonial Mines report filed with the Department states that the diamond drilling in lot 11, range VI, Dalquier township, has traced the continuation of the No. 9 vein on the Nortrac property in a N.40°E. direction for a distance of 700 feet, in addition to the 500 feet reported on the extension outlined by drilling on the Nortrac property in lot 12, range VI. These claims are now in part a portion of the Kayrand property.

New Goldvue Mines Ltd.

Ref.: Que. Dept. Mines, Min. Ind. 1945, pp. 132-133.
" " " " " 1946, pp. 81-82.
" " " P.R. No. 200, pp. 15-16.

During the past two seasons, this property was visited to observe the progress of the underground exploration.

The main development has been confined to the 350-foot level. On this level a series of parallel quartz veins in carbonatized metadiorite has been crosscut and drifted along in approximately half a mile of underground workings. The veins are between 6 and 28 inches in width and are regularly spaced across a 400-foot section. The main vein is the Stevenson. At the northern extremity this vein splays into a series of small stringers and tails off into a fault in the northernmost heading. Toward the south, the vein has been followed for a distance of 550 feet. The width of the quartz increases

to a maximum of 40 inches in the vicinity of the fault which cuts the vein about 225 feet south of the shaft. The post-quartz movement on this fault, which strikes N.66°W. and dips 45° to the northeast, has displaced the vein in a right-hand movement of 12 feet. The chalcopyrite-sphalerite-galena mineralization, indicative of high-grade ore, is concentrated in the quartz for a distance of 40 feet to the north of the fault. South of the fault the vein gradually narrows until it becomes a small stringer in the southernmost heading in the vicinity of the projected contact between the metadiorite and the volcanic rocks. At the time of the last visit (September, 1949) several other veins, notably the Ciglen, Cohen, Dumulon, and Almond veins, were as yet unexplored beyond preliminary drifting and crosscutting. Visible gold is present in each of these veins though the Stevenson is the strongest and best mineralized. A composite sample of quartz material gathered from the five main veins returned assays of 0.310 ounces of gold per ton, 0.12 per cent copper, 0.48 per cent zinc, and traces of lead.

A bulk sample across mining width was broken down from the back of the drift along the Stevenson vein and the sample tested at the Provincial Sampling and Ore Dressing Plant at Val d'Or in the spring of 1949. This sample graded 0.22 ounces of gold per ton.

During the summer of 1949, the underground operations consisted of continued lateral work on the 350-foot level and deep drilling from this horizon to explore the downward continuation of the vein system. Julius Cohen, the company consultant, has estimated the exploration to date has outlined 200,000 tons of ore.

Present plans call for the deepening of the shaft to 1,000 feet, with three additional levels below the present workings. It is anticipated this programme will go into operation early in 1950.

M. Dumulon is resident manager of the property and Louis Germain is resident geologist.

Gordona Mining Corporation Ltd.

The property of Gordona Mining Corporation Ltd. comprises some 600 acres which include lots 53 and 54 and the south half of lot 52, range I, Béarn township, the north half of lot 48, and lots 52 to 54, range X, Dalquier township.

The main surface mineralization is a lens of galena, sphalerite, bornite, pyrite and pyrrhotite which is exposed in a pit located 1,600 feet east and 200 feet south of lot-post 54-55, in range X, Dalquier township. The mineralization occurs as threads, filaments and pods in basic volcanic rocks. Several smaller lenses, mainly with pyrite and pyrrhotite mineralization, occur in the vicinity of the main lens but there is no evident continuity. The main lens is bordered on the southern margin by a variolitic andesite, locally termed dalmatianite.

In the spring of 1949 a geophysical survey was conducted on the central 140 acres, which includes in part lots 52 and 53, range I, Béarn township

and the east half of lot 54, range X, Dalquier township. Three anomalies have been outlined in the southeastern portion of lot 54, range X, Dalquier township. During the summer of 1949, 1,000 feet of drilling explored at depth the surface mineralization and the indicated anomalies. The drill sections contained disseminated pyrite-pyrrhotite mineralization in zones up to 100 feet in thickness but no chalcopyrite, galena or sphalerite mineralization. Fred Davies is in charge of operations at the property.

Wendell Mineral Products Ltd.

Ref.: Que. Dept. Mines, P.R. No. 228, p. 14.

This company retains the holdings of Wendell Gold Mines Ltd. and additional ground acquired in ranges IX and X, Landrienne township.

The company has been attempting to utilize the fresh, pure rhyolite exposed in lots 9 to 11, range I, Duverny township as granules for roofing and siding materials.

In the spring of 1948, half-ton samples were shipped to the Mineral Resources Division of the Bureau of Mines at Ottawa and to the Provincial Sampling and Ore Dressing Plant. Following successful crushing tests, the owners, in co-operation with The Sherwin-Williams Co. of Canada Ltd. conducted colouring tests and made sample sheets of roofing material in a variety of colours. The finished product appears to be of excellent quality.

In the summer of 1949, the company undertook to test the purity of a sample section along the north face of the ridge in lot 10, rang I. Approximately 500 tons of material was blasted down to reveal the fresh rhyolite.

The writer surveyed the main outcrop in the fall of 1949, and estimates that approximately 405,000 tons of rhyolite similar to the test sample is contained in the ridge above the level of the surrounding muskeg.

Present plans call for financing the construction of a mill to produce the coloured granules.

Bouvier Spodumene Deposit

This deposit was visited in the summer of 1949 and is located in lot 36, range II, Figuery township.

A coarse-grained pegmatitic rock has been exposed for a length of 220 feet and for a maximum width of 37 feet. The general trend appears to be east-west but the mode of occurrence is not apparent from the limited observation possible in the trenches.

The pegmatite is essentially a quartz-microcline-albite-muscovite assemblage containing greenish spodumene (hiddenite) up to 50 per cent of the rock volume. Some hammer drill work in the high-grade portions has been completed, but the owners have optioned the property for diamond drilling to determine the outlines of the mass.

Chemical analyses of the material are not available and it is not known if the iron content of the spodumene is too high for commercial use. In addition to the hiddenite, other rare minerals noted include tantalite, sphalerite, spessartite, and lepidolite.

Other mineral occurrences

There are a number of pits and trenches in the mineralized parts of lots 25, 26 and 33, range VI, and lots 29 to 32, range VII, Figuery township. Sulphides, mainly pyrite and pyrrhotite, occur disseminated throughout the entire volcanic formation and have been concentrated in pods of large proportions along a fault in lot 30, and also in scattered patches in lot 32, range VII. Several quartz veins and porphyry masses mineralized with pyrite and pyrrhotite, occur in lot 33, range VI. Four samples taken by the writer contained traces of gold, lead and zinc, and very low values in copper.