

RP 273(A)

PRELIMINARY REPORT ON SOUTHEAST QUARTER OF DUPRAT TOWNSHIP, ROUYN-NORANDA COUNTY

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PRELIMINARY REPORT
ON
SOUTHEAST QUARTER OF DUPRAT TOWNSHIP
ROUYN-NORANDA COUNTY

BY

R. L. L'ESPÉRANCE



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Preliminary Report

on

SOUTHEAST QUARTER OF DUPRAT TOWNSHIP

Rouyn-Noranda County

by

R.L. L'Espérance

INTRODUCTION

The geology of the southeast part of Duprat township was mapped by the writer during the summer of 1950. Rock outcrops were mapped on a scale of 1 inch equals 1,000 feet with the aid of aerial photographs on the same scale. Ground control was maintained by original survey lines which are for the most part recognizable.

Location and Accessibility

The area mapped is shown on preliminary map 885, which accompanies this report. It includes lots 32 to 62, ranges I to V. In the eastern part of the area rocky ridges, covered in part with pine and spruce, rise to elevations up to 1,500 feet. Elsewhere the elevations are generally lower; swampy tracts occur in the center of the area. The northern part of the area is approximately on the watershed between the Hudson Bay and Ottawa River drainage systems.

Mine roads and tracks and two railroad spurs provide access to the area.

Parts of the area are included in maps 281A, 454A and 455A, published by the Geological Survey of Canada.

GENERAL GEOLOGY

With the possible exception of the later diabase dikes, all the consolidated rocks in the Duprat area are of Precambrian age. The oldest rocks are Keewatin type lavas which occur in a conformable sequence consisting of about equal amounts of rhyolite and andesite, with discontinuous beds of trachyte and dacite. Large amounts of flow braccia, and minor amounts of agglomerate and tuff, are interbedded with these formations.

The lavas are intruded by a swarm of minor dikes, sills and irregular masses, ranging in composition from gabbro to rhyolite porphyry. The lavas are also cut and disturbed by thick sills and dikes of diorite. The age relations in the group are complex and in part obscure.

All these rocks are invaded by batholithic granite which outcrops over the greater part of the area. The granite is intruded by a later series of dikes of andesite, lamprophyre, rhyolite, aplite, albitite and diorite. It is probable that these dikes are all cut by the longer, continuous Proterozoic dikes of quartz diabase and diorite. The whole complex assemblage, including the Proterozoic dikes, is transected by numerous faults. The major dislocations strike east northeast.

The table following summarizes the stratigraphy and structural history determined in the area:

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Table of Formations

Pleistocene	Recent Glacial	Muskeg, forest loam, silt, sand Lacustrine clay, silt, sand, till
		Great unconformity Faulting
Proterozoic (Keweenaw?)		Aplite, diabase, quartz diabase and diorite dikes
		Great unconformity (?) Major faulting, mineralization quartz veins
Archaean		Rhyolite, alaskite, albitite, aplite, andesite, diorite and lamprophyre dikes Granite, granite breccia and hybrid granite
	Post Keewatin- type	Intrusive contact Rhyolite, porphyritic rhyolite and andesite dikes Major diorite and quartz diorite sills
		Unconformity Folding, some faulting
	Abitibi series (Keewatin-type)	Rhyolite, dacite, trachyte and andesite flows; flow breccia; chert, agglomerate and tuff; diorite and gabbro dikes (in part possibly younger) Spotted alteration, dalmatianite

Abitibi Series

Andesite.- Exposures of andesite predominate in two well defined belts in the north-eastern part of the area. The more northerly belt extends northeast from Duprat lake. The other, which trends northwest, includes the southwestern part of Duprat lake. The many varieties of andesite in these belts have been described by Wilson (1) (pp. 11-14). In general they are mildly altered rocks that weather reddish to greyish brown, where not stained by the oxidation of sulphides. The fresh surface has a granular appearance and varies from green to greenish-black in colour. In a few places the fracture is conchoidal or flaky and the broken surface is grey. Some of the rock mapped as andesite may properly be classed as dacite but it does not form mappable units.

Massive flows are fine to medium grained. Within the limits of the area almost all the pillowed flows are fine grained to aphanitic, though a few are porphyritic. The andesite possesses a wide variety of textures but is more uniform in composition than the rhyolite. In the southern belt thin, massive, pillowed and brecciated flows are common. Some pillows range up to 15 feet across, and almost all have fine radial cracks as well as concentric lamination. Where the flows have been highly altered due to oxidation of contained sulphides, epidotization, or silicification, the latter features are of value in distinguishing andesite from similarly altered rhyolite. Most of the flows, especially in the southern belt, are highly amygdaloidal, with vesicles up to 3 inches in diameter. A little scoriaceous breccia generally occurs between the pillow rims.

In the northern belt the andesite has a more rusty weathered surface and darker interior. Pillows have pipe amygdules radiating from their centres. Flow breccia is more common. Massive beds do not differ appreciably from those farther south.

Columnar jointing in nearly flat-lying andesite is well developed west of Duprat lake.

Trachyte and Dacite.- Some trachytic varieties of the andesite, and dacitic varieties of the rhyolite were noted. The dacite weathers light green to white and has pillow structure. The fresh surface is light grey, with visible quartz. The weathered surface of the trachyte is whiter than the weathered brown sub-surface and the fracture is flaky. On the grey fresh surface fine concentric lamination is visible.

Rhyolite.- Rhyolite forms a prominent feature, outcropping in two belts with horizontal widths up to 4,000 feet. The belts trend west of north. The western belt extends from the southwest corner of Duprat lake to the north end of Fourcet lake and beyond. The eastern belt lies along the north and east sides of Duprat lake, extending north-westerly and southeasterly beyond the limits of the map. Indications of the attitude of the rhyolite are scarce, and it is generally assumed that the rhyolite beds have the same structural relations as the andesite beds with which they alternate.

The rhyolite is the most variable of the lavas. The weathered surface ranges from reddish brown to white, and the fresh surfaces are for the most part dark blue and light grey. North of Duprat lake spherulitic lavas are common. Most of these are porphyritic, pitted on the surface, rusty in places and characterized by mesh weathering. Quartz phenocrysts are always small. In much of the spherulitic rhyolite amphibole has developed, giving the broken surface a minute chicken-wire appearance.

(1) References are at the end of the report (p. 11).

Structural features include ribbons, flow lines, amygdules and flow breccia.

A considerable proportion, if not the main part, of all the rhyolite flows is brecciated. The angularity, presence of flow lines, amygdules, and lack of stratification suggest the breccia is flow-type. One outcrop about a mile southeast of Fourcet lake, however, consists of exceedingly coarse, angular, white rhyolite breccia in a reddish weathering matrix, and this may be pyroclastic. The breccia zones are discontinuous and are intermingled with massive rhyolite.

Much of the rhyolite has been altered. The production of sericite in the eastern belt gives the rock a creamy white appearance and soft powdery surface. In the disturbed zone south of Duprat lake, the rhyolite flow breccia is very chlorite. On the weathered surface, discontinuous flow lines are clearly visible by alternation of green and purple swirls. Elsewhere in this same locality angular to rectangular spots of chlorite up to 0.25 inches have developed in the rhyolite.

Post Keewatin-type Intrusive Rocks

Diorite and Gabbro.- In the northeast part of the area quartz diorite occurs as irregular masses up to 2,000 feet wide, sills several hundred feet in thickness and well defined dikes. This diorite is the principal post-Keewatin, pre-granite intrusive (p. 26). Generally it weathers very dark grey to very dark brown. The fresh surface is speckled dark green. About equal amounts of plagioclase and both amphibole and pyroxene are visible. Quartz is abundant in some places, making up a considerable proportion of the rock in the lighter-weathering granitic variations. Grain size and composition vary greatly. Phases of the quartz diorite grade into one another. Many are pegmatitic; some are quartzose but most are hornblende. Coarse, plumose amphibole crystals up to 6 inches in length have been observed east of Duprat lake, and are present up to 0.10 inches long even in narrow dikes. The quartz diorite appears much fresher than older intermediate intrusive rocks related to the lavas, and is itself cut by many dikes of similar composition, probably multiple injections from the same magma. Segregation banding occurs in only a few places, as just west of the swamp north of Fourcet Creek road. Here the diorite intrusion has recrystallized the andesite to a pillowed diorite with well defined coarse-grained pillow rims and interbedding. Elsewhere the diorite appears to cut the lava in some places and to grade into it in others.

Granite.- The major portion of the Flavrian batholith lies within the area mapped. In the field, the granite shows extreme variability in texture, structure and composition.

The bulk of the rock mapped as granite is a white- to pinkish-weathering alaskite with a fresh surface on which rose to yellowish twinned feldspar and clear glassy quartz predominate. Occasional blackish green aggregations of hornblende are visible but they are not sufficiently numerous to change the colour of the surface from an overall pink to darker hues. Epidote is a rare constituent, but more prominent in vugs in some light-coloured and sugary granite north of Méritens lake. The grain size varies irregularly.

Light-weathering granite seems to have enveloped large fragments of country rock near range-line III - IV, and to have partly assimilated them, giving rise to amphibolitic ghosts and well defined fragments gleaming with black amphibole needles up to 1 inch long. Inclusions range from balls an inch or so in diameter, usually finer grained than the matrix, to ellipsoidal vestiges up to 12 feet long. Veinlets of aplitic or granitic material cut the whole assemblage.

The granite grades insensibly, within the limits of a hand specimen, or across outcrops several hundred feet wide, into amphibolitic granite. The weathered surface of the amphibolitic granite is greenish grey, grey or greyish pink. On the broken surface the amphibole appears as prominent needles, giving the rock a marked speckled appearance. The quartz content appears to be slightly less than in the normal granite. The more femic phases resemble quartz diorite but have acicular prisms of amphibole. Amphibolitic granite makes up about half of the outcrops and is generally distributed as a border phase of the batholith. A well defined contact between the normal and the amphibolitic granite was noted southeast of Méritens lake. The contact which is fairly straight, had a northeast strike and a steep dip. At the contact the grain of both granites is finer than within the masses.

While the granite is cut by many satellitic rocks and younger minor intrusives, pegmatites are very scarce. Border zones appear to have been loci of quiet assimilation, as no banding has developed, nor are the country rocks altered to schist. Though not visible on the weathered surface, faint lineation may be noted on fresh granite surfaces in lots 52 to 54, range II, and in amphibolitic breccia north of Flavrian lake.

Minor Intrusives.- Minor intrusive bodies, mostly dikes and sills, cut rocks as young as the granite. They form only an insignificant part of the total intrusive rocks, but due to their persistence and easily traceable contacts they are valuable indications of faulting. In composition they range from diorite, andesite and gabbro, to rhyolite, aplite and lamprophyre. The intrusive bodies have been divided into three groups, according to whether they cut volcanic rocks, quartz diorite or granite. In some cases, however, evidence for a definite classification is lacking.

Diorites of all three ages are noted, and they cannot be distinguished in the hand specimen. They are distinguished from the later diabase dikes by absence of the ophitic texture, and from the andesite dikes by coarseness of grain (2mm. even in narrow dikes). In some places they contain quartz and in others much chlorite is visible, even in the younger rocks. The presence of diorites younger than the granite confirms Robinson's observations (2) (p. 9), in the region west of Flavrian lake. In the east central part of the area, where swarms of intermediate intrusives are concentrated near the faulted and mineralized zones, the available exposures do not always afford opportunity to establish the relative ages of some of the diorite dikes.

The lamprophyre weathers smooth grey, and has a purplish fresh surface. Small fragments of rock, apparently pebbles of granite, rarely gabbro, dot the surface. Large amounts of biotite are sometimes present.

The rhyolites of the different ages are very similar. They weather pink to white, seldom brown, and cannot be distinguished in the hand specimen from flow rhyolite. Many dikes along the east margin of the west rhyolite belt show curious characteristics that suggest that the parts now exposed may not be far from the former surface of rhyolite flows. Many of the dikes contain flow lines, amygdules, and angular white breccia. They branch and split most irregularly, and in a number of places only one contact of the dike rock may be seen against rhyolite flows. The other side grades into brecciated flow rhyolite.

Diabase Dikes.- Diabase dikes with ophitic and porphyritic margins cut all other rocks except the aplitic veinlets. The Flavrian granite is intruded by six dikes having an aggregate width of 1,000 feet. In the north a set strikes N.30°E, but the prominent set, farther south, trends north. Widths range from 50 to 450 feet, and most of the dikes dip vertically.

The diabase displays regular rectangular jointing. It weathers a uniform brown. On the light grey-green fresh surface small needles of plagioclase, and either pyroxene or hornblende, may be seen. The most westerly dike contains rounded phenocrysts of feldspar up to 0.25 inches in diameter. The dike also seems to contain considerable amounts of granitic breccia in the form of rounded fragments up to 3 feet across.

Alteration.- All of the pre-granite rocks and some younger rocks have undergone low-grade alteration, marked by production of large amounts of chlorite and epidote in the intermediate rocks, and chlorite and sericite in the rhyolite. The general alteration has made the rhyolite cream-coloured and flaky, and the andesite soft and green, but either sulphide replacement or silicification converts it to a hard, grey rock that weathers brown. The most pronounced alteration related to mineralization is that producing dalmatianite. The phenomenon has been given much previous attention (1) (pp. 67-69) and (3) (p. 10). The nature of the spotted alteration in Duprat township has already been described by the writer (4) (pp. 7, 8). It consists of spots containing sulphides in various replacement combinations, and occurs in both rhyolite and andesite.

STRUCTURAL GEOLOGY

Faulting

With one exception, the important faults so far recognized in the area strike northeast and, where displacement is apparent, have left strike separations.

The most prominent dislocation is referred to as the Quesabe fault by the writer since it crosses the property of Quesabe Mines Limited. It strikes N.65°E and appears to pass just south of the island in Flavrian lake. In lots 38 and 39, range II, the large north-trending diabase dike appears to be offset 1,200 feet by this fault. The eastward continuation, to or past Lebrun lake, has not been located in the low ground near the lake. Eastward, the continuation may be either of the two strong faults, the one passing along Fourcet Lake road, and the other 1,800 feet south of Duprat creek.

The prominent break passing through the islands in Nora lake has been previously described by the author (4) (p. 7).

The evidence for several of the faults comes from outside the map. In the andesite of the southeast corner several minor dislocations trending N.65°E. have offset dikes 200 feet to the left. At the north end of the southerly andesite belt, a strong east-west valley is presumed to mark the westward extension of the Turcot Lake fault, discovered by drilling on the Waite-Amulet property.

The strong northwest break in the southwest corner of the map, called the Smoky Creek fault, follows the course of Smoky creek southeast to Flavrian lake and has been located along the southeasterly trending part of Corona creek in Beauchastel township by drilling. Its course across the present map-area probably lies in the low, swampy ground to the south of the peninsula on the east shore of Flavrian lake. With the exception of the Smoky Creek fault, the northwest system of dislocations has few members. The direction of movement and the amount of displacement of the faults are not known.

Folding

No prominent folds have developed in the belts of lava in the eastern part of the area. The general trend, slightly east of north, in most parts of the area, suggests that the belts are flexed in a very broad arch or major anticline, plunging gently eastward, which beyond the boundary of the area is interrupted by the Dufault lake granodiorite (5) (p. 120). On evidence afforded by flow top contacts, narrow bands of flow breccia in the andesite, pillow structure, and a few pyroclastic bands in the southerly rhyolite belt, the strike of the lavas appears to be N.10°E. in the south and north and N.45°E. in the centre of the area; nevertheless, to the south and west of Duprat lake, a few strikes are east.

ECONOMIC GEOLOGY

In the Elder mine, immediately south of the map-area, the presence of gold in the Flavrian granite throws doubt on the validity of the traditional assumption that granite is unfavourable prospecting ground. It indicates that the Duprat region to the north may be of considerable interest. The granite in the area contains numerous quartz veins 1 inch to 1 foot in width, usually parallel to the joint sets. Some of these veins contain a little rusty pyrite, carbonate and free gold, with subsidiary chalcocyanite and tellurides of gold. Most of the veins, however, consist of white barren quartz. Grab samples taken by the writer from such veins in range I yielded only traces of gold.

The parallelism between the vein systems and the faults in the area suggests that the veins may be emplaced in faults. Thus in systematic prospecting attention should be paid to minor indications of faulting in the granite. The unimpressive nature of the original discovery in range I, suggests that even narrow veins should not be disregarded.

Specular hematite, magnetite and a little molybdenite have been reported from drill holes. Yellowish stains of molybdenite have also been observed in a few places in the granite. The granitoid rhyolite on the east margin of the area contains considerable magnetite as finely disseminated grains.

Sulphide mineralization has been found at many points in the volcanic rocks surrounding the granite. It consists chiefly of pyrite, pyrrhotite, and chalcocyanite, with subordinate sphalerite. The presence of minor amounts of sulphides of copper and zinc along the margins of basic dikes, flow contacts, faults and other structural features suggests that mineralizing solutions had access due to the inherent weakness of these structures.

Concentrations of possible economic interest appear to be confined to easily replaceable rocks such as the rhyolite breccia.

The suggestion is offered that prospecting be directed to these sections of the contacts between brecciated rhyolite and andesite that are adjacent to the faults.

DESCRIPTION OF MINING PROPERTIES

Belfast Mines Limited

Belfast Mines, Ltd., holds claims R.-54702 to R.54707, R.-56963 to R.56983 to R.57003 and R.-57007 in Duprat township. The property can be reached by a truck road which leads north from the Quesabe mine.

The part of the property within the limits of the present map is under by the Flavrian batholith. Outcrops of coarse-grained granite rise 100 feet above a thickly wooded and partly swampy lowland north of Flavrian lake. The granite is cut by a prominent north-trending diabase dike, and narrow dikes of diorite, lamprophyre and albitite. The diabase dike is offset by what is thought to be the northeast continuation of the Quesabe fault, having a left strike separation of about 1,200 feet at this point. North of the fault, in lot 40, the granite contains opalescent quartz and more epidote and chlorite than elsewhere.

Early work was confined to portions of the property outside the area examined by the writer. The core from early diamond drilling was not available. According to reports, 8 holes were drilled in 1945 in lot 28, directed toward the contact between a pendant of andesite and the Flavrian granite. This was followed in 1946 by some trenching in a mineralized zone and in 1948 by a geophysical survey.

The property has been inactive since 1948.

Dupresnoy Mines Limited

Ref.: Que. Dépt. Mines, P.R. No. 205, Pt. II, p. 13.
Geol. Sur. Can., Mem. 229, pp. 141-42.

This company holds blocks 37, 38 and 120 to 123, and claims R.32794-97, R.33426-30, R.33025-26, C. 8534, claim 3, C.8532, claims 1 to 4 and C. 490, claims 1 to 5 and parts of 6 and 7, all in the southeast corner of Duprat township.

The high ridges of the southern part of the Rusty Ridge andesite belt outcrop in the eastern part of the property. The andesite and some rhyolite bands are intruded by dikes of rhyolite, diorite and lamprophyre, and cut by minor faults trending N.60°E, one of which has a left strike separation of 200 feet. In the central area, drained by Corona creek, near the contact of the border zone of the granite, the rhyolite is chloritic, and a few patches of spotted alteration were observed. East of the creek the rhyolite is traversed by fracture zones and by stringers and veins of quartz, in places up to 4 inches wide, trending east northeast.

In early exploration attention was paid to the eastern part of the property, partly beyond the map-area. In 1927 a geophysical survey was undertaken, and surface trenching disclosed a zone of disseminated chalcopyrite and pyrite. The west gold zone, at the south end of lots 50 to 52, range II, was explored by 22 diamond-drill holes with a total length of 9,950 feet, laid out to intersect the northerly extension of possible gold-bearing zones of the Thornhill property to the south. The hut containing the core burned down before the writer had an opportunity to examine the property. According to company logs, (all were not available) holes spaced 60 feet apart, along a northeast line, intersected a flat quartz vein 400 feet long carrying 0.20 ounces of gold per ton over a width of $4\frac{1}{2}$ feet. The vein apparently strikes northeast and dips southeast. Fractured and brecciated zones parallel to the vein carry disseminated pyrite with low gold values. Hematite occurs with the quartz. Intersections indicate a fault trending N.75°E and dipping steeply north. One assay in a brecciated zone is reported to have given 0.34 ounces of gold per ton over a width of $4\frac{1}{2}$ feet.

This property has been idle since 1947.

Emory Gold Mines Limited

This company holds lots 40 to 44, range I and the south halves of lots 40 to 45 range II. The property lies immediately east of Flavrian lake.

The granite in the southern part of the property is mainly breccia containing partly assimilated fragments of roof rocks. A whiter granite, cut by several northeasterly trending diorite dikes and a northerly trending diabase dike on the west side of the property, outcrops north of range-line I-II.

The property was explored by magnetic survey in 1946. A diamond-drill hole, bearing northeast, was drilled near the west boundary of the property. It was stopped at 999 feet in diabase. According to company records, the granite intersected was magnetic and contained in places disseminated pyrite over widths of 2 feet or less. The pyrite contained traces of gold.

The granite south of the drill hole is very rusty, slightly fractured, and contains pods of amphibole and chlorite with stringers of pyrite. A grab sample taken by the writer from the pyritiferous granite failed to indicate any gold content.

The property has been inactive since 1947.

Knobhill Gold Mines Limited

Knobhill Gold Mines Ltd. holds the north halves of lots 40 to 48, range II, the south halves of lots 32 and 44 to 47, and lots 33 to 43, range III.

The northeastern part of this property may be reached by a trail from the end of the Fourcet Creek road which leads westward from the Waite-Amulet mine. The southeast corner is accessible by a trail from the Elder mine to Lebrun lake.

The southeast third of the property, near Lebrun lake, is low, sandy and in places swampy, and outcrops are scarce. In the western part of the property the outcrops have steep west scarps, but rounded summits, and rise about 200 feet above the valleys. The entire area is underlain by Flavrian granite, which ranges from hybrid granite and granitic breccia to amphibolitic and more acidic granite. The granite is cut by three north-trending diabase dikes, and small dikes of diorite, rhyolite lamprophyre, aplite and albitite.

In March, 1946, 4 diamond-drill holes, totalling 2,187 feet, were drilled northwest in the southwestern part of the property to intersect the supposed continuation of the Quesabe break. The holes were collared approximately along the line of a prominent northeasterly trending depression. A fault, marked by silicified, epidotized chloritic granite, was intersected in one hole. Prior to the writer's examination the core was lost in a fire that destroyed the cabin at the northwest end of Flavrian lake. According to company records, small amounts of carbonates and fine pyrite mineralization over several feet were found near the fault, but only traces of gold were reported. Dioritic, chloritic granite, with fine pyrite and a little chalcopyrite, was intersected in other places, and extends for 30 feet in one hole, but it carries little gold.

The property has been idle since June, 1947.

Phelps Gold Mines Limited

Ref.: Que. Dept. Mines, P.R. No. 205, Pt. II, p.15.

This company holds lot 45 and parts of lots 46 to 48, range I, and the south halves of lots 46 to 49, range II.

Most of the property is accessible by vehicle along a track extending north from the Elder Mine road.

The claims lie in an area of low relief about 1 mile from the east margin of the Flavrian batholith, and are underlain chiefly by granite cut by aplite, lamprophyre, and andesite dikes, and a prominent north trending diabase dike. Numerous northeasterly trending quartz veins up to 1 foot in width carry small amounts of rust carbonates.

From July, 1945, to June, 1946, the property was explored by a geophysical survey and 12,006 feet of diamond drilling in 37 holes, laid out to intersect possible vein systems parallel to the No. 1 vein of the Elder mine. Low-grade gold mineralization was reported from some of the holes.

A flat-dipping quartz vein, mineralized with pyrite, which was discovered in range II, 400 feet north of lot post 48 - 49, was explored by 8 diamond drill holes. The vein was found to be dipping at about 15° southeast. According to information given, assays from a silicified zone in the granite ranged from \$3.85 in gold per ton over a width of 1 foot to \$5.00 over a width of 5 feet. Further drilling commenced September, 1945, completed a 2,000-foot cross-section in the southeast corner of lot 47, range II. Two rows of holes bearing northwest intersected two zones of low-grade mineralization consisting of quartz stringers, carbonates, and a little pyrite and chalcopryite, with gold averaging 0.10 ounces per ton. The zones appear to follow and lie close to a fractured zone striking N.53°E and dipping 75° southeast. Low-grade gold mineralization was obtained in holes drilled in the southeast part of the property.

H. A. Honsberger, consulting engineer, was in charge of operations.

West Amulet Mines Limited

Ref.: Que. Bur. Mines, Min. Op. 1925, p. 123.
Que. Bur. Mines, Min. Op. 1927, p. 117.
Que. Bur. Mines, Min. Op. 1928, p. 88.
Que. Dept. Mines, Min. Ind. 1944, p. 66.
Que. Dept. Mines, Min. Ind. 1945, p. 67.
Geo. Surv. Can., Memoir 229, pp. 136 - 139.

West Amulet Mines Ltd. holds an area immediately west of the producing Waite-Amulet mine consisting of C. 490, claims 6 and 7, C. 8534, claims 4 and 5, blocks D to N, 27 to 33, 39, 75 to 79, 97 to 105, 110 and 134 to 136. The northern part of the property is accessible by a truck road leading from the Macanic road, and the central part by the Fourcet Creek truck road from the Waite-Amulet mine.

The granite in the western claims contains in places considerable amphibolitic breccia, and the lavas near the contact are silicified. The remaining claims are occupied by a belt of andesite (Rusty Ridge) trending generally a little west of north, and flanked by two belts of rhyolite. These are intruded by rhyolite, dioritic porphyritic diorite, diabase, and gabbro dikes and sills. The western rhyolite is

chloritic, and is cut by many stringers of quartz. Quartz veins, apparently barren, striking east of north, intrude the granite in block 101. The rhyolite contains considerable breccia, and appears to dip gently eastward under the andesite south of Duprat lake. The axes of minor folds, known as the Amulet anticline and Fourcet Creek syncline, cross the property in a direction slightly south of west.

In addition to minor faults, it is possible that several more important faults cross the property, though they are not exposed. These include the fault south of Duprat creek, trending N.80°E., with a left strike separation, its possible prolongation westward to join the Quesabe fault, east-west shearing immediately south of Duprat lake, and the fault following the Fourcet Creek road.

In block 132, at the intersection of two intermediate dikes, two prospect pits 4 feet square and 3 feet deep have been excavated in oxidized andesite. The pit walls show disseminated chalcopyrite, but mostly pyrite, in blebs and stringers. The most extensive trenching is in the northeast corner of block 101. Here, northeasterly trending fractures in the rusty weathering spherulitic rhyolite contain stringers of solid chalcopyrite averaging 0.5 inches thick. Two chip samples taken by the writer from what appeared to be the best mineralization gave 2.89 per cent copper and 0.04 per cent zinc, and 2.64 per cent copper and 0.06 per cent zinc, respectively. During the summer of 1950, 3 diamond-drill holes totalling 200 feet were drilled in the trench area. The core intersections showed finely disseminated chalcopyrite in blebs, and a little bornite.

C.T. Young is directing operations on the property.

Other Properties

West of Duprat lake, in lot 43, range IV, on ground formerly held by Sudbury Contact Mines, one 400-foot hole was drilled in gently dipping andesite, near the granite contact. With the exception of a small amount of chalcopyrite no mineralization is reported from the hole.

REFERENCES

- 1.- Wilson, M.E., Noranda District, Quebec; Geol. Surv. Can. Mem. 229 (1941)
- 2.- Robinson, W.G., Flavrian Lake Area; Que. Dept. Mines, Geol. Rept. 13 (1943)
- 3.- Walker, T.L., Univ. of Toronto Studies, Geol. Series 29 (1930)
- 4.- L'Espérance, R.L., Northeast part of Duprat Township, Rouyn-Noranda County; Que. Dept. Mines, P.R. No. 241 (1950)
- 5.- Wilson, M.E., The Early Precambrian Succession in Western Quebec; Roy. Soc. Can. Trans., vol. 37, sec. IV, 1943, pp. 119-138.