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PRELIMINARY REPORT ON THE SOUTH HALF OF FIGUERY AND THE SOUTHWEST QUARTER OF LANDRIENNE TOWNSHIP, ABITIBI-EAST COUNTY

P. R. NO. 446

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DEPARTMENT OF NATURAL RESOURCES

HONOURABLE RENÉ LÉVESQUE, MINISTER P.-E. AUGER, DEPUTY MINISTER

MINERAL DEPOSITS BRANCH

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ABITIBI-EAST COUNTY

BY

J. I. SHARPE

QUEBEC
1961

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QUARTER OF LANDRIENNE TOWNSHIP

ABITIBI-EAST COUNTY

by

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INTRODUCTION

The area mapped during the summer of 1960 covers 75 square miles and includes the south half of Figuery township and the adjoining southwest quarter of Landrienne township. The area is located in northwestern Quebec, 5 miles south of the town of Amos and 30 miles north of the town of Val d'Or. Its western third is adjacent to the north of Leuner's* map in LaMotte township.

Several showings of zinc, copper, nickel and gold, and deposits of lithium with beryllium, molybdenum and tantalum occur in the area.

The geological mapping was done on a scale of one inch to 1,000 feet except in places where the complexity of the geology warranted more detailed studies. Geological data were supplemented by magnetometer profiles across areas containing but few outcrops. The accompanying map is drawn at the scale of half a mile to the inch but individual quarter township maps, at 1,000 feet to the inch, are also available.

Access to the area is provided by numerous colonization roads which connect with provincial highways numbers 60 and 61. A main line of the Canadian National Railways goes through Amos, 5 miles to the north.

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* Leuner, W.R. (1959) - Preliminary Report on the West Half of LaMotte Township; Abitibi-East Electoral District; Que. Dept. Mines, P.R. No. 405.

Topography and Drainage

The northern two-thirds of the area have a slightly dissected, gently rolling surface characteristic of the "clay-belt" of the region. Small rocky ridges, morainic and fluvioglacial deposits are the main relief features. A series of rocky ridges and hills underlain by amphibolite and granite extend in an east-west direction across the southern part of the map-area. A large esker trends north-south across the southwest quarter of Figuery township.

Harricana river, which connects lake Figuery and lake LaMotte, flows towards the north across the southern half of Figuery township and most brooks flow into it and the two above-mentioned lakes.

GENERAL GEOLOGY

Most of the area is underlain by an assemblage of overturned, metamorphosed volcanic rocks of Early-Precambrian age. A band of quartzose schists of sedimentary origin extends along the southern edge of the volcanic sequence. All these rocks are intruded by a variety of sills, plugs and dykes, ranging in composition from that of peridotite to that of granite. The marginal facies of a large mass of granitic rocks impinges on the southern part of the area. The youngest rocks are a number of northeast trending diabase-gabbro dykes which cut all other rock types.

Table of Formations

Cenozoic	Recent and Pleistocene	Lake and stream sediments, organic debris Till, fluvioglacial deposits, clays
Late-Precambrian	Keweenawan?	Gabbro-diabase dykes
Early-Precambrian	Intrusive Rocks	Granite, granodiorite, pegmatite-aplite, diorite Gabbro, peridotite, pyroxenite
	Sedimentary Rocks	Quartz-biotite schist, meta-quartzite, meta-graywacke
	Volcanic Rocks	Pyroclastic volcanic rocks; tuff, agglomerate Basic to acidic lavas; andesite, dacite, rhyolite

Volcanic Rocks

Dacite, Rhyolite, Acidic to Intermediate Volcanic Rocks

There are in the area several bands of predominantly dacitic lavas intercalated with rhyolite and pyroclastic rocks. The most extensive of these bands is the one crossing the northern part of the area and it is best exposed along the shore of Figuery lake. The dacitic flows are characterized by a blocky fractured surface, a dense texture and a light grey-green colour. Most outcrops contain small pillows, bombs and fragments of denser epidotic material. The band of dacite of range II, Figuery township (near the granite plutons), contains in places tiny black needles of hornblende.

Most of the rhyolitic rocks are associated with the dacitic lavas. Good exposures of massive and schistose rhyolite may be seen in lot 51, range V, Figuery township. The rhyolite is differentiated from the dacite by being amorphous and very hard. Small phenocrysts of quartz and feldspar are commonly visible in the rock.

A band of highly sheared siliceous rock enters the east boundary of the area in range II, Landrienne township, and extends for at least four miles to the west. The eastern part of the band (within the map-area) is approximately 4,000 feet wide and, near its westernmost exposures, its width is approximately 1,000 feet. The main part of these rocks is a light grey sericite schist liberally speckled with grains or "eyes" of quartz and feldspar. However, some facies of the band are not schistose and the rock is rhyolitic in appearance and contains few quartz grains. Fragments and bombs (?) of dense rhyolitic rocks are visible on most outcrop surfaces. Bands of tuff, sometimes graphitic, are intercalated and interfingered with the southern and western part of the band.

Because of the above-described features this siliceous rock is believed to be volcanic in origin rather than intrusive as suggested by Tremblay* (1950).

Andesite, Basic to Intermediate Volcanic Rocks

Dark green rocks, usually sheared and converted to chlorite and epidote are intercalated with the more siliceous rocks described above. For convenience these rocks may be termed andesite though they may have been predominantly basaltic in composition. They commonly grade into rocks similar to those termed dacite and elsewhere may be so intensely sheared, carbonitized or amphibolitized that their original nature is obscure.

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* Tremblay, L.P. (1950) - Fiedmont Map-area, Abitibi County, Quebec; Geol. Surv. Can., Mem. 253, pp.24-26.

The basic volcanic rocks adjoining the sedimentary rocks and granite along the southern margin of the map-area are converted to massive, schistose or gneissose amphibolite. Primary structures such as pillows and amygdules are commonly well preserved but where they are missing the rock resembles a gabbro.

Pyroclastic Volcanic Rocks, Tuffs and Agglomerates

Narrow bands of tuffs and agglomerate are interbedded with the basic and silicic lavas and an important rock unit in the area is a band of fine-bedded tuffs which extends eastward from lot 1, range IV, Figuery township. What is presumed to be a segment of these tuffs crosses the map-area to interfinger with the silicic volcanic rocks of range II, Landrienne township. The northern part of the tuff band interfingers with basic lavas near the south end of Figuery lake.

These rocks, owing to their incompetency, are usually highly schistose and commonly carbonatized. The fresher samples of the tuff are fine-bedded slaty rocks, buff, grey, green or black in colour and of variable hardness. Occasionally the rock is coarser, locally agglomeratic and in several instances graded beds are to be seen.

Sedimentary Rocks

Metamorphosed sedimentary rocks are present along the northern extension of the LaMotte-Lacorne batholith in the southern quarter of the map-area. At LaMotte lake these rocks have an outcrop width of 6,000 feet; to the west the zone narrows to approximately 1,000 feet.

The most common type of sedimentary rock in the area is a quartz-biotite schist commonly also containing garnet and occasionally staurolite. Most exposures have a banded appearance.

As the sedimentary rocks dip moderately to the north, they are structurally overlain by the volcanic sequence and since the latter faces generally south the sedimentary beds are presumed to be sharply overturned. The volcanic rocks immediately north of the main sedimentary band exhibit similar lithology along the 14 miles of the contact zone that was mapped and the two assemblages appear generally conformable.

Intrusive Rocks

Diorite, Gabbro, Peridotite, Pyroxenite, Amphibolite

Metamorphosed intrusive rocks ranging in composition from diorite to pyroxenite intrude the volcanic rocks and are cut by pegmatite and aplite dykes which are related spatially and

presumably genetically to the granitic intrusions. Thus the diorite-pyroxenite series of rocks form the oldest intrusives of the map-area.

The sills and masses of metamorphosed gabbro, peridotite and pyroxenite are mainly confined to an east-west zone 4,000 feet wide located immediately north of the sedimentary formations just described. An exception to this are the gabbro masses of ranges IV and V, Landrienne township.

The ultrabasic sills of the southern part of the map-area are converted to massive, rusty weathering actinolite rock or actinolite-talc schist. An intricate network of veinlets of tremolite stand out in relief on most outcrops. The nature and distribution of the tremolite suggest that it represents amphibolitized serpentine veinlets.

Occasionally the actinolite rocks grade into fresh serpentinized peridotite and it is believed that these actinolite rocks represent, in the main, amphibolitized peridotite.

Grey dyke rocks containing less than 35 per cent dark minerals were mapped as diorite. These are unimportant in quantity. The largest dyke encountered is in lots 21 and 22, range V, Landrienne township.

Granite, Granodiorite, Pegmatite, Aplite

The southern part of the map-area includes the northern extension of a large batholithic complex which crops out over a considerable area to the south, west and southeast. The main rock-type within the map-area is a massive, medium-grained, grey or pink granite containing muscovite and biotite. Locally the rock becomes granodioritic or monzonitic in composition.

Smaller sills and plugs of granite and granodiorite occur elsewhere in the map-area. Noteworthy among these is a sheared and carbonatized sill near Figuery lake which has several gold showings nearby.

The marginal zone of the main granite mass and the adjacent sedimentary rocks are cut by a large number of pegmatitic intrusions. Most of these strike roughly parallel to the granite contact but dip discordantly to the south. The composition, texture, internal structures and form of the pegmatites vary in detail. Internal zoning due to variations in the mineralogical constituents or textural differences is observable in most good exposures. The pegmatites are mainly composed of large crystals of albite-oligoclase, with variable amounts of quartz, aplitic material, potassic feldspar, muscovite and garnet. Spodumene, beryl, tantalite, molybdenite, stilbite, fluorite, lepidolite and microlite are present in small amounts. Spodumene is an important constituent of several dykes in the centre of range II, Figuery township, and on lots 25 and 26, range I, Landrienne township.

Gabbro-diabase Dykes

The youngest intrusive rocks in the area are the diabasic gabbro dykes commonly referred to as "Keweenawan-type". A sinuous zone of these, arranged in an en echelon fashion extends in a direction east-northeast across the central part of the map-area.

One dyke exposed in lot 27, range III, Figuery township, is believed to curve in an east-west direction across Harricana river. This interpretation was based on a number of narrow magnetic peaks on magnetometric traverses.

STRUCTURAL GEOLOGY

Shearing and Faulting

All of the less silicic volcanic rocks, the sedimentary rocks and many of the small intrusive bodies are schistose or foliate. In the western part of the map-area, the schistosity trends mainly east-west. East of Harricana river the trends diverge towards the north and south. The schistosity dips everywhere to the north at an angle averaging between 40 and 70 degrees. The lower dips occur in the southern part of the map-area.

Several zones of intense shearing occur and are usually localized in the less competent rocks such as the tuff bands.

The tuffs intersected by drill holes in the west end of range III, Figuery township, have several highly sheared and carbonitized zones which probably extend eastward to the schists occurring south of Figuery lake. A branch of this zone, bearing S. 80° E. is believed to cross Harricana river in range III and to extend into the schistose volcanic rocks of ranges II and III, Landrienne township. Also, the extension of the thick series of flows in ranges III, IV and V, Landrienne township, either thins out to the west or is truncated at a low angle along this zone of shearing. The above relations suggest that these schists mark a regional fault zone.

Further evidence relevant to this hypothesis is the repetition of similar lithology in the vicinity of the centre line of Figuery township. Thus in two 6,000-foot sections, one north and one south of the presumed fault, each volcanic sequence from bottom to top consists essentially of: (1) sheared and carbonatized tuff; (2) basic lavas; (3) sheared and carbonatized tuff with some graphitic, rhyolitic and cherty bands; (4) pillowed dacite and (5) basic lavas.

A number of transverse faults offset the sedimentary-volcanic contact in the southern part of the map-area. The apparent horizontal displacement of these does not exceed a few hundred feet.

Folds

No major folds were recognized in the area. Top determinations are not abundant but sufficient to indicate that the bulk of the volcanic rocks face south and are sharply overturned. Small folds, such as a syncline indicated by a band of pillowed lava in lots 16 and 17, range II, Figuery township, are present. The pillows in the exposure of dacite in the extreme northwest corner of the area may face north but the exposure is too isolated for an evaluation of the significance of its possible position.

ECONOMIC GEOLOGY

Mineral Occurrences

Lithium, Beryllium, Molybdenum, Tantalum, Bismuth

A number of pegmatite dykes carrying spodumene, beryl, tantalite or molybdenite occur near the margin of the granitic rocks in the southern part of the area.

Within the map-area, the pegmatites in the massive granite usually are barren or contain a few crystals of beryl. The dykes containing appreciable amounts of spodumene are located 2,000 to 3,000 feet from the main granite contact at surface. Molybdenite is most commonly found in pegmatite-aplite dykes immediately north of the granite or near satellitic granitic plugs. Small amounts of columbite-tantalite occur in most spodumene-bearing dykes.

Zinc, Copper, Lead, Nickel

Occurrences of disseminated to massive pyrite and pyrrhotite are relatively abundant in the area. Some of these contain low quantities of sphalerite, chalcopyrite, galena and commonly low quantities of precious metals. The sulphides are usually present in the schistose bands of pyroclastic volcanic rocks. Disseminated pyrrhotite is also common near the ultrabasic sills in the southern part of the map-area and traces of nickel are associated with it.

Gold and Silver

Low gold and silver mineralization associated with sulphide zones or quartz-tourmaline veins occurs at several places in the area. The only gold showings of interest known to the writer are those on the property of Copperstream Mines Ltd.

Description of Mining Properties

Abitibi Metals Ltd.

Abitibi Metals Ltd. held in 1952 the south half of lots 20 to 23 and lot 24, range III, Landrienne township. During that year the company drilled 4 holes for a total of 2,180 feet to cross-section the northern limit of the "quartz-eye schists" in lot 22. Several zones of heavy pyrite were cut in the drilling, one corresponding to a surface showing on the brook in the south part of lot 22. Low contents of zinc and silver were found to be associated with the pyrite.

Augustus Exploration Ltd. (Canadian Lithium Mining Corp Ltd.)

Ref.: Que. Dept. Mines, P.R. No. 330, p. 56.
Geol. Surv. Can., Mem. 253, p. 77.

Augustus Exploration Ltd., successor to Canadian Lithium Mining Corporation Ltd., holds a group of claims covering the south half of lots 13 to 27, range I, Landrienne township.

Several lithium-bearing dykes occur on the property. The most important of them are 3 parallel dykes located near the southern extremity of lots 25 to 27. These dykes dip south, trend northwest and vary in width from 100 to 300 feet. Their commercial potentialities were evaluated by trenching and 9 drill holes put down in 1948 and described in the Quebec Department of Mines reference cited above. The best observed spodumene mineralization was in the large dyke of lot 26 where a 295-foot segment, the average width of which is approximately 100 feet, was estimated to contain 5 to 10 per cent spodumene distributed in lenticular zones. Minor amounts of tantalite and beryl are also present. The other dykes to the southwest also contain pods and zones of spodumene and lepidolite.

Copperstream Mines Ltd.

Ref.: Que. Dept. Mines, P.R. No. 190, p. 5.

Copperstream Mines Ltd. holds a group of claims covering lots 12 to 48, range IV, and lots 41 and 42, range V, Figuery township. The former property of Rambull Gold Mines Ltd. is included in the group. The work done by Rambull on several gold showings is summarized in the above reference.

In 1960 Copperstream did a reconnaissance magnetometer survey and drilled six holes totalling 3,106 feet. Three of the holes were directed southward at 600- to 800-foot intervals in the central parts of lots 21 to 23 of range IV. Each of them cut a sequence of sheared and carbonatized tuffs, cherty beds and epidotized basic lava. The following summarized assay results from the holes were reported to the writer by the company. In hole No. 1:

0.28 ounce of gold per ton from 145 to 150 feet and 0.21 ounce from 255 to 260 feet; in hole No. 2: 0.12 ounce from 266 to 270 feet and 0.17 ounce from 406 to 420 feet including a section with 0.23 ounce between 406 and 410 feet; in hole No. 3: 0.13 ounce from 125 to 140 feet including a section with 0.18 ounce between 135 and 140 feet.

The gold is associated with pyrite mineralization in two parallel zones of sheared and carbonatized tuff in which tiny needles and rosettes of tourmaline are present. The apparent consistency of the gold along the explored interval of 1,400 feet is noteworthy.

Hole 4 was spotted 4,500 feet east of the previous holes. Similar rock types were encountered with low gold tenors. The remaining two holes were located near lot-line 43-44 of range IV, 1,200 feet south of the range line. One of these was drilled southward under a surface showing of thin veinlets of auriferous pyrite and chalcopyrite in a sheared and carbonatized granite sill. The remaining hole tested the north contact zone of the sill.

International Lithium Mining Corp. Ltd.

In 1956 International Lithium Mining Corp. Ltd. held a large property in Figuery and LaMotte townships. In the former township the property covered lots 38 to 48, range II,and lots 31 to 42, range III. Parts of the same property presently belong to Lithium Corp. of Canada Ltd., A. Goyette, P.E. Faucher and E. Bolduc.

In 1954 and 1955 the company drilled 85 holes,most of which were concentrated in the central parts of lots 39 and 40, range II, Figuery township, to study a zone of spodumene-bearing pegmatite dykes but exploratory drilling was also done for several miles to the southeast along the favourable sedimentary-granite contact.

The main spodumene zone occurs in the central part of lots 39 and 40, partly under the waters of Harricana river. The deposit lies along a bend in the sedimentary-volcanic contact which curves from east-west to southeast-northwest. Part of one spodumene-bearing dyke is exposed along the north side of a point along the west shore of the river. This dyke contains large crystals of green spodumene with some columbite-tantalite.

The zone explored by drilling includes several pegmatite dykes. These are irregular in shape and continuity, and few intersections were over 20 feet in width. The dips appear generally low or horizontal. The writer was unable to obtain complete assay results from the drilling. A tonnage calculation made by the company in 1954 for the southwest part of the zone stood at close to 135,000 tons grading 0.95 per cent lithium oxide in a zone 12 feet thick and of horizontal dimensions of 390 by 340 feet.

A considerable amount of drilling was done into the northern extension of this zone after the above estimate was made in the course of which other spodumene-bearing pegmatites were discovered.

The exploratory drilling and trenching done to the southeast of the main showing revealed several pegmatite dyke zones. The only one of these seen to contain significant amounts of economic minerals is located in the southern part of lot 40, range I. Here a complex zone of pegmatite and granite shows irregularly distributed spodumene, beryl, tantalite and fluorite. The spodumene was estimated to be 4 per cent of the exposed rock.

Jourdain-Duval Claims

Ref.: Que. Dept. Mines, P.R. No. 374, p. 20.

E. Jourdain and R. Duval held between themselves during the summer of 1960 a group of claims comprising lots 14 to 20 and the north half of lots 12 and 13, range II, Figuery township. The ground was previously held by Quebec Tantalum and Lithium Mining Co. Ltd. and Consolidated Mogul Mines Ltd.

The geological settings and most of the work done on the property are described in the above reference and need not be repeated here. The main spodumene surface showing is located near the southern boundary of lot 14 where several pegmatite dykes have been blasted and drilled. One of these, located 500 feet north and 100 feet east of the southwest corner of the lot, contains approximately 10 per cent spodumene over an exposed area of 40 square feet. Two larger dykes slightly farther north likewise contain a few crystals of spodumene and pseudomorphic alteration products.

In the central part of lots 15 and 16, there is also a large exposure of amphibolitized peridotite mixed with amphibolitized basic lavas. These are in contact with metamorphosed sedimentary rocks to the south and are cut by a large northeast trending diabase dyke. On either side of the dyke, a schistose zone near the southern limit of the peridotite exposure contains fine flecks of pyrrhotite. The zone is approximately 4 feet wide, trends N. 75° E. and dips moderately north. It appears to contain about 4 per cent sulphides and sampling gave low nickel assay results.

Keyboycon Mines Ltd.

Keyboycon Mines Ltd. held, in 1952, 30 claims covering the north half of lots 13 to 19 in range I, the south half of lots 7 to 15 and lots 16 to 25 in range II, and the south half of lots 16 to 19 in range III, Landrienne township. Some of the claims presently belong to R. Boisvert and J.J. Martel.

The company did a resistivity survey over parts of the property in 1951 and 1952. In 1952 five holes were drilled to cross-section the northern part of lots 17 and 18, range II, and the southern part of lot 17, range III. Several pyrite zones, associated with siliceous pyroclastic rocks and graphitic tuffs, were cut by the holes.

In 1955 the company put down 4 holes in the central part of lots 18 and 19, range I, to investigate the possible presence of lithium. Numerous small pegmatite dykes were cut, several of which contained interesting amounts of molybdenite and bismuth.

Lithanium Mines Ltd.

Lithanium Mines Ltd. holds lots 57 to 64 in range II, Figuery township, and in 1956 drilled 6 holes totalling 4,092 feet in the southern part of lots 58, 60 and 61.

One hole, located 800 feet north and 100 feet west of the southeast corner of lot 60, cut 3 feet of a carbonate vein which was reported by the company to contain 3.82 per cent molybdenite. Two other holes in lot 58 cut a few stringers of chalcopyrite and pyrrhotite.

No further work appears to have been done on the property.

Lithium Corporation of America Ltd.

This company holds two properties in range II of Figuery township.

West Property

Ref.: Que. Dept. Mines, P.R. No. 330, p. 44;
P.R. No. 374, p. 18.

The west property covers the south half of lots 10 to 13 and it contains a large outcrop of granite cut by several pegmatite dykes. One of these, located 1,200 feet north of the southwest corner of lot 12, is almost 3 feet wide and contains approximately 10 per cent spodumene, a few crystals of beryl and disseminated columbite-tantalite.

East Property

Ref.: Que. Dept. Mines, P.R. No. 257, p. 14.
Geol. Surv. Can., Paper 53-3, p. 23.

The east property of Lithium Corporation of America covers lots 31 to 38 and adjoins the claim group of International Lithium Mining Corp. Ltd.

A spodumene-bearing pegmatite dyke crops out in the central part of lot 36. This dyke has been partially stripped of its soil cover and tested by 11 shallow drill holes, four of which were put down in 1951 and the remainder, in 1953. The dyke is approximately 600 feet long and averages 30 feet in width over its explored length. The surface exposure contains an estimated 20 per cent of spodumene crystals.

Another dyke in the south part of lot 36 has been trenched. A few crystals of beryl are present in the exposed rock.

Marcoland Mines Ltd.

Ref.: Que. Dept. Mines, The Mining Industry of the Province of Quebec 1942, p. 62.
Geol. Surv. Can., Mem 253, p. 103.

Marcoland Mines held in 1951 a block of 14 claims covering the north half of lots 6-11, range II, and lots 4 to 11, range III, Landrienne township. A part of this ground was previously held under option by Anglo-Huronian Ltd. and Marcoland presently holds the mining rights on the north half of lots 10 and 11, range II, lots 4 and 5 and the south half of lots 6 to 11, range III. The others are registered in the names of J.J. Martel, H. Michaud and L. Lanoix.

Anglo-Huronian drilled nine holes on the property probably in 1947. Seven holes were located in lots 8, 9 and 10 near range-line II-III. They were directed southward under surface showings of zinc, copper and silver. Marcoland added eight more shore holes in 1952 under a copper-zinc mineralized exposure in the southern part of lot 9, range III.

Three mineralized zones are exposed in trenches on the property. One is located 800 feet south of the range-line II-III, near lot-line 8 and 9. It is approximately 40 feet wide, it strikes north-south, and contains stringers and pods of pyrite, sphalerite, chalcopyrite and galena. A sample selected by the writer and assayed in the laboratories of the Quebec Department of Mines revealed a tenor of 1.18 per cent zinc, 2.96 per cent copper, 0.008 ounce of gold per ton and 4.84 ounces of silver per ton. The mineralized zone pinches out abruptly to the east and its western extension appears to be cut off by a transverse fault.

A second showing is located in the southern extremity of lot 9, range III. Here the mineralization is similar in nature to that of the first showing but in smaller amount. The exposed width of the zone is 10 feet. The best intersection reported by Marcoland from the several drill holes under the showing was 4.75 per cent zinc, 0.30 per cent copper, 0.33 ounce of silver per ton and .005 ounce of gold per ton over a width of one foot. Several other intersections containing up to 2 per cent zinc were also reported.

The third showing is a quartz stringer zone approximately 4 feet wide and located in the extreme northern part of lot 8, range II. A sample selected by the writer from sulphide rich quartz in this zone gave .008 ounce of gold per ton and 0.25 ounce of silver per ton.

Mattagami Explorers Ltd.

Ref.: Que. Dept. Mines, P.R. No. 374, pp. 19-20.

This company holds lots 1 to 11 of range IV, Figuery township. The work done on them by Peacemaker Mines and Oils Ltd. which held the same ground in 1955 is described in the above reference and includes the drilling of 6 holes which cut highly sheared and carbonatized tuffs containing disseminated sulphides. One ten-foot section gave 0.15 per cent copper.

New Athona Mines Ltd.

New Athona Mines Ltd. owns a group of claims covering lots 1 to 8 of range I, Landrienne township.

The central part of the group is occupied by a large ridge of amphibolitized rocks with a core consisting of a small elongated plug of granite. North of this plug, in lots 6 to 8, are a number of narrow aplite-pegmatite dykes trending east-northeast. Several of them contain disseminated molybdenite, and concentrations of this mineral were observed in three dykes cropping out on lot 6, approximately 3,400 feet north of the township line. The width of these three dykes varies from half a foot to five feet and the molybdenite mineralization occurs in them as irregularly distributed blotches and stringers. Several sections across the dykes were estimated to contain up to 1 per cent molybdenite. Occasionally a small amount of blue beryl is present.

A detailed geological mapping of the claims was done by the company in 1960.

New Vinray Mines Ltd.

Ref.: Que. Dept. Mines, P.R. No. 390, p. 49.

New Vinray held in 1956 lots 53 to 64, range III, Figuery township, and lots 1 to 3, range III in Landrienne township. The mining rights on part of the property are presently held by J.J. Martel.

In 1956, five holes were drilled into a conductive zone which extends discontinuously for over 7,000 feet. The conductivity was due to a band of graphitic phyllite containing pyrrhotite and pyrite.

Northern Quebec Explorers Ltd.

This company owns the mining rights on lots 21-26 and the north half of lots 27-30, range II, Figuery township.

In 1955, ten drill holes totalling 7,477 feet were put down to explore the property for lithium. Seven of these were spaced over a 5,000-foot interval in sedimentary schists near the northern border of the large granitic mass lying to the south. Numerous pegmatite dykes were intersected in the drilling but no spodumene was seen in the core, though a few crystals of molybdenite were noted to be present. The remaining holes tested the eastern part of the property.

Lots 46 and 47, Range II, Figuery Township

In the central part of lot 47, range II, Figuery township, 900 feet north of the range line, several pits were excavated in a sulphide zone during the summer of 1960. The zone crops out again in lot 46, 1,100 feet north of the range line, being offset west side towards the north by a northwest trending fault.

The host rock is variable in appearance and ranges from a coarse-grained amphibolite to a dense black graphitic hornfels. The sulphides constitute approximately 15 per cent of the rock and consist mainly of pyrrhotite. Some thin fractures are filled with chalcopyrite.

The width of the zone could not be determined but it exceeds 15 feet on some exposures. A composite sample taken by the writer revealed 0.35 per cent copper.