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LOCATION AND ACCESS

Townships is included within NTS sheet 52F/10 NW. Flambeau grained, chloritic, magnetite-rich, intermediate to mafic matrix. Lake in the west and Larson Bay of Wabigoon Lake in the east are Some of the more mafic clasts appear to be pillow fragments. about 6.4 km south of Dryden. The area is accessible by Highway The most common pyroclastics in the area are mafic and 502, Ojibway Drive, the Wabigoon Lake Road, and by a number of intermediate to mafic in composition. They are dominantly heteroaccess roads and trails, most of which are overgrown and in bad lithic, unsorted to moderately sorted, unbedded or thickly bedded,

MINERAL EXPLORATION

1897 to 1917, 1920 to 1925, and again from 1938 to 1940. There mafic, feldspar crystal tuff. In most places, the matrix is more are at least 30 known gold occurrences that include two past mafic than the clasts. Intermediate and mafic clasts may be subproducers, the Redeemer (25) and Bonanza (2) Mines. The major-rounded to angular or amoeboid-shaped, porphyritic, scoriaceous, ity of the occurrences are situated immediately west of Larson
Bay, while the remainder are located in the vicinity of Flambeau
subrounded, or irregularly shaped and consist of rhyolite, quartz Lake. The majority of the ground in the area is patented (Figure 1). porphyry, and quartz-feldspar porphyry. The proportion of clasts to Gold exploration began in 1897 at the Little Jumbo Occurrence matrix varies considerably (10 to 90% clasts) and the pyroclastics (15) north of Guy Lake, and was followed by the development of may either be clast- or matrix-supported. The ratio of lapilli-size the Redeemer Mine (25). The mine produced 335.6 ounces of gold clasts to blocks varies considerably. Very angular and subfrom 1000 tons milled at an average grade of 0.34 ounce gold per rounded, dominantly intermediate and felsic blocks, commonly 6.4 on between 1904 and 1906. The Redeemer Mine (25) was de- to 61 cm in size were observed in many locations, but the greatest watered and re-examined between 1910 and 1911 and produced abundance of coarse pyroclastics occur southwest of the Re-8.0 ounces of gold from 200 tons milled in 1918. The shaft was deemer Mine (25) and along the southeastern shore of Guy Lake. dewatered and sampled again in 1922 (Satterly 1943). During this These units are heterolithic, unbedded, and matrix supported, with time, other properties were being exploited but none of them very coarse, angular, and irregularly shaped clasts in a granualar, produced any appreciable amounts of gold. The Bonanza Mine (2) vesicular, mafic matrix. The clasts consist of rhyolite (brecciated operated between 1920 and 1923 and produced 243.85 ounces of and containing flow laminations) and devitrified glass shards, gold from 1206 tons milled at an average grade of 0.20 ounce mixed with accessory clasts of quartz-feldspar porphyry and ve-

Limited who drilled four holes totaling 186.4 m (611.5 ft) in 1962. pyroclastics are heterolithic, and contain dominantly lapilli-size Numerous narrow intersections assaying low gold values were clasts with significantly fewer blocks. Lapilli-tuff and tuff layers encountered in the drill holes, including a section assaying are interbedded with coarser pyroclastics. Intermediate to mafic 2.09 ounces gold per ton across 0.15 m (0.5 ft)1. Limited base metal exploration occurred during 1977 when Hudson's Bay Oil and Gas Company Limited conducted an airported, felsic clasts and blocks within thick indistinct beds. borne electromagnetic survey in the vicinity of Larson Bay1. Gold exploration was renewed in 1980 when Van Horne Gold Exploration Incorporated acquired 28 contiguous claims immediately west of Larson Bay. The claim group encompasses the majority of gold occurrences in that area including the Bonanza 2) and Redeemer (25) Mines. During 1980, the company drilled 24 diamond-drill holes totaling 1658 m (5441 ft) with 11 holes targeted on the Redeemer vein and 13 holes targeted on the Bonanza vein. All the holes drilled on the Redeemer vein intersected "low gold values", however, 8 of the 13 holes drilled on the ward the middle of the map area are darker grey and appear to Bonanza vein intersected "interesting" gold values over sections between 0.15 m (0.5 ft) and 2.0 m (6.6 ft). This resulted in a drill indicated tonnage of 5000 tons averaging 0.25 ounce gold per ton quartz-iron carbonate veins controlled by tension fractures and with gold values across an average width of 0.3 m (1 ft). The

During 1980, A. Glatz (prospector, Dryden) acquired eight claims east of Pritchard Lake (5) where he conducted stripping, trenching, and sampling. Van Horne Gold Exploration Incorporated and Watson Lake Mines Limited conducted ground electromagnetic and magnetic surveys over the property in 1982. Van Horne Gold Exploration Incorporated added 6 claims to the group for a total of 14 claims, encompassing the Glatz-Pritchard Lake Occurrence (5), Machin Occurrence (19), Vanlas Prospect No. 2 shaft (28), Little Jumbo Prospect (15), and numerous trenches and test pits. The company also acquired a group of eight contiguous claims located immediately south of Flambeau Lake and extending eastwards toward Bob Lake. Van Horne Gold Exploration Incorporated conducted ground electromagnetic and magnetic surveys, geological mapping, and sampling over both claim groups during

diamond drilled 12 holes totaling 1454.5 m (4772 ft) targeted on several gold prospects within their claim group in Van Horne Township¹. The Good Luck Prospect (9), Ideal Prospect (12), Little white-grey to pink, quartz-feldspar porphyry and feldspar porphyry Jumbo Prospect (15), Vanias Prospect Shaft No. 1 (27) and Shaft No. 2 (28) and a long trench located 305 m south of the Golden No. 2 (28), and a long trench located 305 m south of the Golden Moose Prospect (7) were each tested with one drillhole. Three holes were drilled on the Glatz-Pritchard Lake Occurrence (5) and An early felsic hypabyssal plug, consisting of intensely altwo holes were drilled on the Lost Prospect Shaft No. 1 (17)1. tered quartz-diorite, occurs immediately north of Flambeau Lake. It Narrow intersections of low grade and anomalous gold mineraliza- is the host to numerous gold-bearing quartz veins controlled by tion hosted by quartz veins, veinlets, and silicified zones were tension fractures. A "clotty" phase of quartz-diorite occurs along encountered in a hole drilled at the Lost Prospect Shaft No. 1 (17), its northern contact where dark green and pale grey clots (<1cm) in the hole drilled at the Little Jumbo Prospect (15), and in all consisting of chlorite-sericite-carbonate and sericite-carbonate, rethree holes drilled at the Glatz-Pritchard Lake Occurrence (5)1. spectively, occur in a fine-grained groundmass. The quartz-diorite The best gold mineralization was encountered in a hole drilled at contains abundant fine-grained magnetite (5 to 15%) and pyrite the Vanlas Prospect Shaft No. 1 (27) which intersected 0.26 ounce (up to 25%). gold per ton across 7.5 m (24.6 ft), including a smaller section Sill-like intrusions of gabbro and diorite are common in the which assayed 0.71 ounce gold per ton across 2.6 m (8.4 ft) (The vicinity of Flambeau Lake. The largest of these extends from the Northern Miner, May 18, 1987, p.21).

During early 1987, Van Horne Gold Exploration Incorporated

ble and initiated an intensive exploration program to follow-up on northern shore of Flambeau Lake and is flanked to the north by drill results obtained at the Vanlas Prospect (27, 28) and the Glatz- relatively small, elliptical, dioritic intrusions. The gradational con-Pritchard Lake Occurrence (5). The program involved geological tact between the quartz-diorite plug and felsic flows flanking the mapping, stripping, sampling, ground magnetic and Induced Po- plug indicates that it may be a subvolcanic intrusion; likewise, larization (I.P.) geophysical surveys, and an extensive drill pro-stripping at the Widow's Showing (30), northeast of Flambeau

on one claim located immediately south of Flambeau Lake in sampling during 1981 on a gold showing west of Flambeau Lake.

The gold showing is presently part of the Flambeau Lake Prospect and is known as the West Zone (29)1

A. Kozowy (prospector, Dryden), in the early 1980s, purchased patented claim A.L.90 on the north shore of Flambeau Lake. Numerous gold-bearing quartz veins that were uncovered in old test pits on the claim (Parsons 1911; Thomson 1917) are now known as the East Zone (4). In 1983 and 1984, Voyager Explorations Limited conducted ground electromagnetic and magnetic gabbro and diorite subvolcanic intrusions. They are very abundant surveys, stripping, trenching, sampling, and geological mapping.

This was followed by eight diamond-drill holes totaling 981 m around Flambeau Lake where they are commonly vesicular, amygdaloidal and porphyritic, with "flow-banding" occurring along the (3220 ft) on a group of claims including A.L.90, patented claim edges of the dikes parallel to their contacts. The fact that the A.L.88 owned by the Town of Dryden, and 61 claims staked by A. Kozowy. Four of the eight holes intersected narrow sections of a subvolcanic nature. gold mineralization assaying between 0.11 and 0.29 ounce gold per ton. All four holes were drilled in the vicinity of the East Zone tion across the western part of the map area. The dike varies in (4). Chip samples taken from various trenches on the East Zone width from 30 to 90 m and is fine- to coarse-grained, dark grey-(4) by Voyager Explorations Limited assayed 0.088 ounce gold per green to black, massive, and magnetic with typical rusty weatherton over 2.7 m (9 ft), 0.089 ounce gold per ton over 2.4 m (8 ft), ing. 0.103 ounce gold per ton over 1.8 m (6 ft), and 0.636 ounce gold The abundance of autoclastic flows, the presence of interper ton over 2.4 m (8 ft). A chip sample taken from a trench on the preted cinder cone, lahar, and pyroclastic flow deposits, and the West Zone (29) assayed 0.249 unce gold per ton over 4.9 m discontinuous, lensoid nature of intimately intermixed felsic, inter-

A. Kozowy conducted more intensive prospecting on the prop- volcanic center. The gabbro/diorite stocks and sills, the quartzerty and in the surrounding area in early 1985. This led to the diorite plug, and the mafic and felsic dikes in the vicinity of discovery of the New East Zone (20) and numerous high grade Flambeau Lake are interpreted to be subvolcanic. The presence of gold-bearing quartz veins at the East Zone (4). Kidd Creek Mines both mafic and felsic subvolcanic intrusions suggests that the Limited optioned the property from A. Kozowy and a patented area was an eruptive center. claim from the Town of Dryden during the summer of 1985, and conducted an exploration program involving extensive stripping, sampling and geological mapping¹. A. Kozowy did more prospecting during late 1985 and discovered the Widow's Showing (30) (also known as the A.L.89 Occurrence) east-northeast of the East Zone (4). Falconbridge Limited assumed the option on the property in early 1986 and purchased three patented claims. A L 89 erty in early 1986 and purchased three patented claims, A.L.89, R.544, and R.545 located immediately northeast of Flambeau Lake. consistently face north or northwest. The metavolcanics are perva-These claims include the Widow's Showing (30), various old test sively and variably foliated in an east or northeast-trending repits and shallow shafts, and a few new discoveries made by gional direction with lineations plunging steeply to the west or A.Kozowy. Falconbridge Limited conducted an extensive I.P. sur- southwest. vey over the property, as well as trenching, stripping, sampling. Numerous subparallel to parallel linear shear zones occur and geological mapping. Falconbridge Limited dropped the option throughout the area and strike between 075 to 100°, vary in width on A. Kozowy's mining claim in 1987 and included their three and strike length, and occur in all rock types and at the majority of patented claims, A.L.89, R.544, and R.545, in a 50/50 joint venture rock contacts, with the exception of the late diabase dike. The

rated (The Dryden Observer, August 5, 1987, p.16).

GENERAL GEOLOGY

The Flambeau Lake-Larson Bay area was previously mapped by J. Satterly (1943) as part of the Dryden-Wabigoon map sheet. To the west, the Eagle Lake area was mapped by W.W. Moorhouse rocks. These fractures can be attributed to dextrai movement on (1941). Various gold occurrences at Eagle and Wabigoon Lakes the Wabigoon Fault, during simple shear deformation, when tenwere described by A.P. Coleman (1898), W.E.H. Carter (1901), A.L. Parsons (1911), and J.E. Thomson (1917). E.L. Bruce (1925) tion. The tension fractures crosscut the shear zones with some mapped the local geology at the Bonanza (2) and Redeemer (25) minor displacement of the shears along the fractures. Mines at a scale of 1 inch to 200 feet while documenting gold deposits in the Kenora and Rainy River Districts. The map area was also included in a regional study conducted by the Ontario Geological Survey in 1977 (Trowell et al. 1977, Trowell et al. 1980). Portions of the area were mapped by T.S. Joliffe for Van Horne Gold Exploration Incorporated and by F.W. Gittings for Voyager Explorations Limited1. Compilation of their mapping was included in the preparation of the present map. The map area is situated within a mixed tholeiltic to calc-

alkaline sequence of mafic to felsic metavolcanics grouped together as the Lower Wabigoon Volcanics (Trowell et al. 1980). The mylonitic fabric is also S-folded indicating that later sinistral movemetavolcanics face homoclinally northward and are bounded by ment occurred along the deformation zone. The intensely dethe Atikwa Batholith to the south and the Wabigoon Fault to the formed mafic and felsic metavolcanic rocks are crosscut by a north. The metavolcanic rocks are metamorphosed to greenschist northwest-trending felsic dike and quartz veins hosted by tension facies and consist dominantly of brecciated flows intercalated fractures. This indicates that the structure predates the dextral with pyroclastics. Mafic, intermediate, and felsic metavolcanics shearing that produced the tension fractures. Mafic dikes, which are commonly intimately intermixed with many lensoid-shaped are earlier than the felsic dikes and quartz veins, also crosscut units interdigitating with each other. The metavolcanics in the map area can be subdivided into three groups. Factors such as colour east deformation zone is a relatively early structure which was of the fresh surface, colour of the weathered surface, hardness, active before much of the later intrusive activity, and that it is not visible quartz content, and mafic mineral content, were used to assign them to their respective categories. The metavolcanics are variably altered and commonly contain abundant magnetite (1 to ... 5%) and disseminated pyrite (1 to 3%), especially in the vicinity is little evidence of offset along crosscutting faults within the map of Flambeau Lake. The metavolcanics are intruded by gabbro, diorite and quartz-diorite plugs, stocks and sills, intermediate and mafic dikes, felsic dikes, and a late diabase dike. Mafic, brecciated, pillowed, and massive flows occur through-

out the area and are commonly carbonatized, chloritized, and All of the gold deposits in the Flambeau Lake-Larson Bay map pyritic. Medium to coarse autoclastic flow breccias are most com- area are controlled by shear and fracture zones which appear to mon and are composed of angular to amoeboid pillow fragments be regionally related to dextral strike-slip movement along the and stringy and ropy "fragments" of scoriaceous, amygdaloidal Wabigoon Fault. The majority of gold deposits consist of mineralmaterial. The flows are frequently intimately intercalated with intermediate to mafic pyroclastics. Pillowed flows are most common rock types and at rock contacts, excluding the late diabase dike. north of the Bonanza Mine (2) and in the vicinity of Larson Bay. The shears host narrow (<1 m) quartz veins and stringers which Pillows are typically large with thick selvages and large abundant may contain variable amounts of finely disseminated pyrite, amvodules. Interpillow material is often found and consists of chalcopyrite, chlorite, iron carbonate, calcite, and black tourtuffaceous intermediate to felsic material which drapes the pillows maline. Variable wallrock alteration consists of chloritization and and occurs interstitially. Massive flows are fine- to medium- carbonatization (either iron or calcium carbonate) which may be grained, dark green-grey, and are difficult to distinguish from accompanied by pyritization, sericitization, and minor tourmalinizamafic dikes in small outcrops.

Thickly bedded, fine-grained, mafic tuffs are common be- fined to the sheared host. In general, gold mineralization is retween Twingrass Lake and Larson Bay and contain a minor stricted to the quartz veins although anomalous gold values do amount of small (<2 cm), rounded, intermediate to mafic clasts. occur within the wallrock at a few occurrences. Massive, intermediate to mafic, fine- to medium-grained, light to dark green-grey flows are commonly found south of the Re- Bay control the majority of gold-bearing quartz veins, including deemer Mine (25) and southwest of Guy Lake. Most of them are veins at the Bonanza (2) and Redeemer (25) Mines, and have also dioritic to gabbroic with <35 to 50% mafic minerals. Quartz and controlled the intrusion of felsic dikes. A broad zone of moderate magnetite are common accessory minerals. It is possible that to intense iron and calcium carbonate alteration, associated with these rocks may be major sills, however, the lack of observed east-northeast-trending shearing and fracturing, extends eastward

massive flows. Unusual intermediate to mafic, medium to coarse, autoclastic and alloclastic breccias, are situated north of Flambeau Lake. The breccias are variable in texture and consist of angular, chalk white, intermediate clasts, and irregular, contorted The Flambeau Lake-Larson Bay area in Van Horne and Aubrey "clasts" of intermediate to mafic pyroclastic (?) material in a fine-

lapilli-tuff, tuff-breccia, and pyroclastic breccias with a chaotic appearance. Many outcrops contain several pyro-clastic rock types. The majority of the pyroclastic deposits are interpreted to be cinder cones, lahars, and pyroclastic flows. They consist domi-The area was the scene of considerable gold exploration from nantly of intermediate and felsic clasts with accessory mafic and lithic clasts of tuff within a matrix of fine-grained, dark green, sicular and amygdaloidal, amoeboid-shaped, intermediate to mafic During the 1960s, a high grade gold-bearing quartz vein at the material. These coarse pyroclastics appear to grade into finer southwestern corner of Bob Lake (21) was optioned to Newconex pyroclastics to the north and west. South of Flambeau Lake, the

pyroclastics along the northern boundary of the map area are commonly monolithic with angular, moderately sorted, matrix-sup-The majority of the felsic metavolcanic rocks are situated within a thick unit which extends across the middle of the map area from Flambeau Lake to Larson Bay. The unit commonly consists of felsic, medium autoclastic flows intercalated with felsic pyroclastics. The distinction between the autoclastic and pyroclastic phases can be subtle. These rocks are aphanitic, weather buff white-grey to pink, and are typically sericitic and weakly to moderately carbonatized. The rocks contain variable amounts of disseminated magnetite and pyrite. The felsic metavolcanics tocontain more abundant chlorite than the felsic metavolcanics at Flambeau Lake. The felsic rocks commonly host narrow, pyritic, extensive units of brecciated felsic flows occur south of Pritchard and magnetic surveys in 1981, and geological mapping and sampyroclastics intercalated with felsic flows are monolithic, moderately sorted, and clast-supported, consisting of subrounded to subangular clasts in a slightly chloritic and sericitic felsic matrix, which appears to be of the same composition as the clasts. Intermediate to felsic pyroclastics are also present and are commonly heterolithic, moderately sorted, and clast-supported. They consist of intermediate and felsic clasts in a grey, intermediate

> domly occur throughout the area as interflow metasediments or interlayered with pyroclastics. They consist of very thinly bedded and thickly laminated, fine-grained, silty and sandy tuffaceous material, which may be crossbedded and is typically interbedded with gritty and pebbly material. A scour-and-fill channel containing coarse, angular, pebbly material, occurs in thickly laminated sandy layers and can be observed in an outcrop immediately east of the Redeemer Mine shaft (25).

The majority of felsic intrusive rocks consist of fine-grained,

north shore of Flambeau Lake to the southwestern corner of the During the summer of 1987, Van Horne Gold Exploration Incor- map area where airborne magnetic data indicates the termination porated acquired as much available ground in the area as possi- of the intrusion. It intrudes the small quartz-diorite plug on the Lake, has revealed a gradational contact between the gabbro and B. Perry (prospector, Dryden) did some stripping and sampling adjacent brecciated mafic flows. This indicates that the gabbro intrusion is subvolcanic and may be the remnant of a feeder pipe which supplied mafic material to higher levels in the volcanic

> Most of the diorites at Flambeau Lake are carbonatized, sericitized, and pyritized, which makes identification of the original mineralogy virtually impossible. Numerous east-northeast- and east-trending, aphanitic, mafic to intermediate dikes intrude all metavolcanic rock types and the around Flambeau Lake where they are commonly vesicular, amyg-

(16 ft)1. Voyager Explorations Limited subsequently dropped the mediate, and mafic metavolcanic rocks, suggests that they were deposited in a submarine to subaerial environment proximal to a

The metavolcanic rocks at Larson Bay have an easterly strike volcanics from east to west. Pillow and sedimentary structures

agreement negotiated with Van Horne Gold Exploration Incorpo- overall easterly trend of the shear zones suggest that they were developed as secondary shear bands subparallel to the east-

At Flambeau Lake, there is a consistent northwest trend of

tension fracture-hosted quartz veins and numerous felsic dikes, as

well as an overall west-northwest trend to a late diabase dike. This dominant northwesterly trend indicates that tension fractures controlled the emplacement of quartz veins and late intrusive sericitic, shear planes envelope lenses of relatively undeformed rock. Intensely boudinaged quartz veins, appearing as rounded lenses of quartz which have been rotated in a sinistral sense, are scattered throughout the felsic metavolcanic rocks. The protoassociated with gold mineralization.

Although shearing and tension fractures are abundant, there

ECONOMIC GEOLOGY

intrusive contacts have led the author to interpret them to be from Pritchard Lake. Numerous pyritic quartz veins occur through-

tion. The alteration is generally not extensive and is strictly con-

majority of veins terminate abruptly at the contact of the quartz- volcanics, on the south shore of Larson Bay at the eastern

as well as numerous trenches and test pits. A few of the more promising gold occurrences consist of of abundant disseminated magnetite in many of the metavolcanic numerous gold-bearing quartz veins controlled by tension fracture and intrusive rocks which host shear zones and tension fractures networks concentrated at Flambeau Lake. The majority of the controlling gold-bearing quartz veins. Abundant magnetite within Bow, J.A., Carter, W.E., and De Kalb, C. quartz veins have a northwesterly trend, ranging between 120 to the country rocks may have served as a chemical trap for gold 150°, and averaging 135° with a consistent northeast dip. The veins are typically narrow (1 to 10 m), closely spaced, and are associated with intense iron and calcium carbonate alteration, sures in the country rocks. At Flambeau Lake, gold-bearing quartz Bruce, E.L. pears to be extensive in areas of closely spaced veins but is abundant where the quartz-diorite is relatively unaltered, but it is restricted to narrow haloes which occur around the quartz veins. sparse or absent in the altered wallrock adjacent to the veins Variable amounts (2 to 5%) of fine- to coarse-grained pyrite are where it is replaced by abundant pyrite. disseminated throughout the host rocks with local concentrations Single quartz veins within narrow, east-trending shear zones up to 25%. Magnetite and chlorite veinlets occur within the quartz- may have limited economic potential due to their narrow widths diorite and gabbro host rocks at the East Zone (4) and Widow's and relatively short strike lengths. Wide east-trending zones of The veins consist of white quartz and contain variable spread gold, such as the zone which extends eastward from amounts of iron carbonate and pyrite with minor accessory sul- Pritchard Lake.

AUBREY TOWNSHIP

UNSURVEYED

between 110 to 140° are also gold-bearing. is the controlling influence on the concentration of the veins. At an extensive prospecting target.

while assays of grab samples taken from the felsic dikes gave types. Adjacent rock types, therefore, may show different degrees prospecting may lead to more new gold discoveries. anomalous gold values^{1,2}. The Glatz-Pritchard Lake Occurrence of deformation which are accommodated by space generation (5) and the Vanlas Prospect (27, 28) are situated within this zone such as tension fractures (Colvine et al. 1984). Another controlling factor on gold deposition is the presence

alteration, shearing, and fracturing may have potential for wide-

phide minerals such as chalcopyrite, sphalerite, and galena. Gold Felsic and mafic, magnetite-bearing, intrusive rocks, and felsic A.J., Lavigne M.J., Jr., Macdonald, A.J., Marmont, Soussan, mineralization is typically restricted to the quartz veins, though metavolcanics, are favourable exploration targets due to their Poulsen, K.H., Springer, J.S., and Troop, D.G. concentrations of gold in the pyritic wallrock. Very shallow dipping formation, providing numerous open spaces for the emplacement or tension fracture-hosted tourmaline-bearing quartz veins trending of gold-bearing quartz veins. For these reasons, intrusive rocks and the felsic metavolcanic rocks which extend across the map Quartz veins controlled by tension fractures are hosted by all area should be thoroughly prospected for gold-bearing quartz rock types, excluding the late diabase dike, but are typically concentrated, and attain their greatest thickness within competent east- and east-trending shear zones. Similar metavolcanic felsic to intermediate intrusive rocks and felsic metavolcanic lithologic sequences extend eastward from Larson Bay into the rocks. Competency and susceptibility to fracturing of the host rock Butler Lake area, at the far east end of Wabigoon Lake, providing Flambeau Lake, abundant tension fracture controlled quartz veins A grab sample, taken during the current survey, from a north- 1911: Gold Fields of Lake of the Woods, Manitou and Dryden, are hosted by quartz-diorite and diorite/gabbro intrusions. The west-trending tension fracture-hosted quartz vein in felsic meta-

out the zone as well as east-trending felsic dikes commonly diorite with adjacent mafic metavolcanic rocks, which did not boundary of the map area, assayed 1.13 ounces gold per ton. Satterly, containing variable amounts of disseminated pyrite and magnetite respond in a brittle manner when deformed; intercalated rock 8.40 ounces silver per ton and 3.64% copper². The occurrence is 1943: Geology of the Dryden-Wabigoon Area, District of Kenora; and hosting quartz veins. Grab samples taken from quartz veins types of variable ductility tend to focus zones of tension and indicated on the map by gold, silver, and copper symbols. This is within the zone assayed anomalous and low grade gold values, compression as a result of brittle failure of the more rigid rock a previously undiscovered occurrence and suggests that detailed ¹Assessment Files, Resident Geologist's Office, Kenora.

Flambeau Lake

1901: Mines of Ontario; Ontario Bureau of Mines, Annual Report for 1901, Volume 10, p.90-112. sericitization, pyritization, and weak silicification. Alteration apveins are hosted by magnetite-rich quartz-diorite. Magnetite is 1925; Gold deposits of Kenora and Rainy River Districts; Ontario Department of Mines, Annual Report for 1925, Volume 34, Part 6, p.1-42. Accompanied by Map 34H, scale 1:2 400 or 1

inch to 200 feet.

1 inch to 1 mile.

1898: Fourth Report on the West Ontario Gold Region; Ontario Bureau of Mines, Annual Report for 1898, Volume 7, Part 2, Colvine, A.C., Andrews, A.J., Cherry, M.E., Durocher M.E., Fyon, recent discoveries near Flambeau Lake appear to have significant competent, brittle nature, which promotes fracturing during de-Deposits, Ontario Geological Survey, Open File Report 5524, 98p., 7 tables, 53 figures, and 2 appendices. 1941: Geology of the Eagle Lake Area, District of Kenora; Ontario

Department of Mines, Annual Report for 1941, Volume 48.

Part 4, p.1-31. Accompanied by Map 48D, scale 1:63 360 or

District of Kenora; Ontario Bureau of Mines, Annual Report

for 1911, Volume 20, Part 1, p.158-198.

Ontario Department of Mines, Annual Report for 1943, Volume 50, Part 2, p.1-67. Accompanied by Map 50E, scale 1:63 360 or 1 inch to 1 mile. Thomson, J.E. ²Analyses by the Geoscience Laboratories, Ontario Geological Survey, 1917: Dryden Gold Area, District of Kenora; Ontario Bureau of Mines, Annual Report for 1917, Volume 26, p.163-189. Accompanied by Map 26C, scale 1:126 720 or 1 inch to 2 frowell, N.F., Blackburn, C.E., and Edwards, G.R. 1980: Preliminary Geological Synthesis of the Savant Lake-Crow Lake Metavolcanic-Metasedimentary Belt, Northwestern Ontario, and Its Bearing Upon Mineral Exploration; Ontario Geological Survey, Miscellaneous Paper 89, 30p. Accompanied by Chart A. Trowell, N.F., Blackburn, C.E., Edwards, G., and Sutcliffe, R.H. 1977: Savant Lake-Crow Lake Special Project, Districts of Thunder

• 92°56

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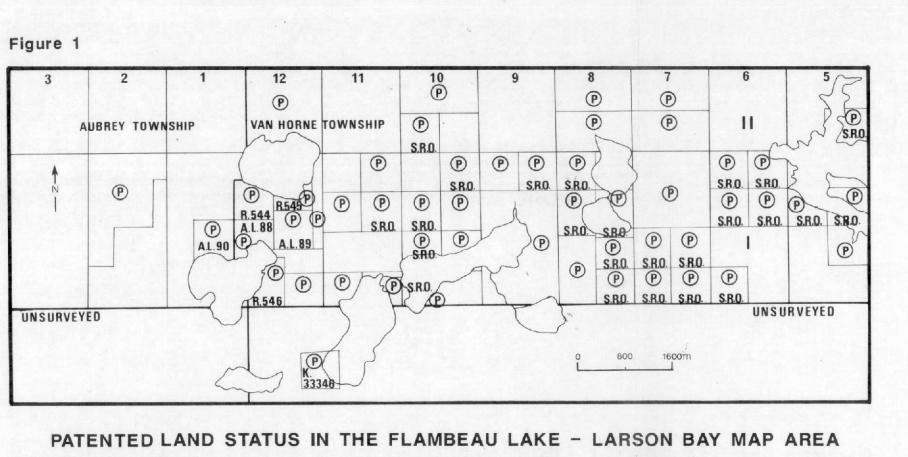
S.R.O. Surface Rights Only

Pritchard Lake

Bay and Kenora; p.29-50 in Summary of Field Work, 1977, by the Geological Branch, edited by V.G. Milne, O.L. White, R.B. Barlow, and J.A. Robertson, Ontario Geological Survey, Miscellaneous Paper 75, 208p. ABBREVIATIONS Chalcopyrite Galena Magnetite . Pyrite Sphalerite

Tourmaline

. Quartz veining



Bob Lake

1. A.L.88 Occurrence 2. Bonanza Mine 3. Drake Prospect 4. East Zone, Flambeau Lake Prospect 5. Glatz-Pritchard Lake Occurrence Glatz, A. Occurrence 8. Golden Park Prospect Good Luck Prospect 10. Hays and Campbell Occurrence Hutchinson Occurrence Ideal Prospect League Prospect Shaft No. 2 17. Lost Prospect Shaft No. 1 (a.k.a. Lost Mine) 18. Lost Prospect Shaft No. 2 19. Machin Occurrence 20. New East Zone, Flambeau Lake Prospect 21. Pidgeon-Bob Lake Occurrence 23. R.544 Occurrence 24. R.545 Occurrence Redeemer Mine

18. Vanlas Prospect Shaft No. 2

29. West Zone, Flambeau Prospect

30. Widow's Showing Occurrence (a.k.a. A.L.89 Occurrence)

Au,cp,py 14a

PROPERTIES SYMBOLS vertical, unknown). Lava flow banding. Area of bedrock out-Drillhole; inclined. . Golden Moose Prospect (a.k.a. Gold Moose Prospect) mineralization or vertical). rusty gossan. Moderate to intense Bedding, top carbonate alteration. indicated by arrow; (inclined, vertical). 13. League Prospect Shaft No. 1 (a.k.a. Gold Coin Mine or League Lineation with 15. Little Jumbo Prospect (a.k.a. Pitt or Walker Occurrence) 16. Lone Jack Occurrence (a.k.a. Lone Jack Mine) Lava flow; top in direction of arrow. Drag folds, showing Rock dump. sense and orientation. Zone of shearing 22. Pidgeon-Van Horne Township Occurrence (owned by A. Glatz) fracturing, and/or mylonitization. boundary, observed. Gold occurrence, prospect, mine; 26. S.V.372 Occurrence (a.k.a. Larson Occurrence) boundary, position approximate 27. Vanlas Prospect Shaft No. 1 (a.k.a. Gordon or Cleveland Minlocation. ing Company Property or Grimsby Gold Mining Company Prop-

Au Mineral occurrence.

Ministry of Northern Development Ontario and Mines Sean Conway, Minister of Mines

Mines and Minerals Division Ontario Geological Survey MAP P.3111

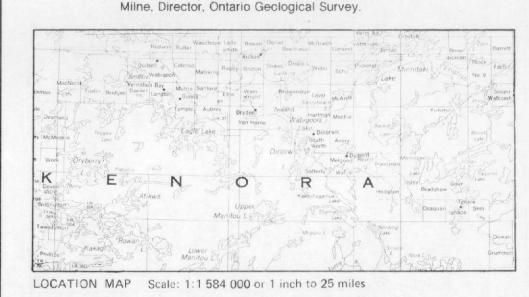
PRECAMBRIAN GEOLOGY FLAMBEAU LAKE-LARSON BAY AREA

Geological Series—Preliminary Map

WESTERN PART DISTRICT OF KENORA

NTS Reference: 52F/10 ODM-GSC Aeromagnetic Map: 1136G OGS Geological Compilation Map: 2442

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LEGEND^a

PHANEROZOIC CENOZOIC QUATERNARY PLEISTOCENE AND RECENT

Boulders, gravel, sand, swamp, lake, and stream

MAFIC INTRUSIVE ROCKS Diabase, fine to coarse grained INTRUSIVE CONTACT

PROTEROZOIC

Guy Lake

ARCHEAN FELSIC INTRUSIVE ROCKSb 7 7a Feldspar and quartz feldspar porphyry

7b Felsite INTRUSIVE CONTACT MAFIC TO INTERMEDIATE INTRUSIVE ROCKSb

6 6a Massive, fine- to medium-grained gabbro 6b Massive, fine- to medium-grained diorite 6c Amygdaloidal 6d Vesicular

> 6e Porphyritic INTRUSIVE CONTACT MAFIC TO INTERMEDIATE INTRUSIVE ROCKSD

5 5a Gabbro 5b Diorite INTRUSIVE CONTACT

INTRUSIVE CONTACT

FELSIC INTRUSIVE ROCKSb 4 4a Quartz-diorite 4b "Clotty" quartz-diorite

METAVOLCANICS^C FELSIC TO INTERMEDIATE METAVOLCANICS 3a Tuff

3b Lapilli-tuff, tuff breccia

3c Tuff breccia 3d Monolithic 3e Massive, fine- to medium-grained flow 3f Autoclastic breccia 3g Volcaniclastic metasediment interbeds INTERMEDIATE TO MAFIC METAVOLCANICS

Unsubdivided 2a Feldspar crystal tuff, lithic tuff 2b Lapilli-tuff, tuff breccia 2c Tuff breccia, breccia 2d Massive, fine- to medium-grained flow

2e Autoclastic breccia 2f Alloclastic breccia (?) 2g Monolithic MAFIC METAVOLCANICS

Unsubdivided 1a Massive, fine-grained flow 1b Pillowed flow 1c Flow breccia, pillow breccia, hyaloclastite 1d Amygdaloidal 1e * Vesicular

1f Epidote pods 1g Tuff/Feldspar crystal tuff 1h Lapilli-tuff 1j Tuff breccia, breccia

a) This is a field legend and may be changed as a result of subsequent laboratory investigations. b) Order implies age relationships among groups.

Rocks in these groups are subdivided lithologically and order does not imply age relationships within or among groups.

The Marginal Notes, Legend, Abbreviations, Symbols, and Properties refer to both the western (P.3111) and eastern (P.3112) parts of the Flambeau Lake-Larson Bay area. CREDITS

Geology by J.R. Parker and R. Schienbein, 1985 and 1986.

Every possible effort has been made to ensure the accuracy of the information presented on this map; however, the Ontario Ministry of Northern Development and Mines does not assume any lability for errors that may occur. Users may wish to verify critical information; sources include both the references listed here, and Information on file at the Resident Geologist's Office and the Mining Recorder's Office nearest the map area.

Issued 1988

Foliation: (inclined

vertical, unknown).

Information from this publication may be quoted if credit is given. It is recommended that reference to this map be made in the following form: Parker, J.R., and Schienbein, R.

Area, Western Part, District of Kenora; Ontario Geological Survey, Map P.3111, Geological Series-Preliminary Map, scale 1:4800 or 1 inch to 400 feet. Geology 1985, 1986. SOURCES OF INFORMATION

1988: Precambrian Geology of the Flambeau Lake-Larson Bay

R. Schienbein and J.R. Parker. Assessment Files, Resident Geologist's Office, Kenora.

Magnetic declination approximately 3°06'E in 1986.

Metric conversion factor: 1 foot = 0.3048 m.

Base map derived from a Forest Resources Inventory Map and vertical air photo enlargements with minor revisions by Geology not tied to surveyed lines.