

GM 47541

REPORT ON 1987 EXPLORATION RESULTS, LAC DE FRENEUSE DISTRICT

Documents complémentaires

Additional Files



Licence



Licence

Cette première page a été ajoutée
au document et ne fait pas partie du
rapport tel que soumis par les auteurs.

Énergie et Ressources
naturelles

Québec 

M.E.R.
SERV. TITRES MINIERES
BUREAU QUEBEC
'88 SEP 27 13 27

REPORT ON
1987 EXPLORATION RESULTS
ON
PERMITS 809, 810, 811
LAC DE FRENEUSE DISTRICT, NEW QUEBEC
FOR
LA FOSSE PLATINUM GROUP INC.

Ministère de l'Énergie et des Ressources
Service de la Géoinformation
Date: 11 NOV 1988
No G.M.: 47541

September 20, 1988

1425
88 271 43

SUMMARY

Ground prospecting, rock sampling and geological mapping were carried out at various locations on La Fosse Platinum Group Inc.'s Anderson Lake permits 809, 810, and 811 between July 17 and August 5, 1987.

The geology of parts of the properties are favourable for the occurrence of gold- platinum-palladium-copper-nickel deposits. 168 samples were taken in the permit areas (72 samples PE 809, 19 samples PE 810, 77 samples PE-811) and eight samples assayed were found to be anomalous in either gold, platinum or palladium, thus warranting the recommendation of further work.

INTRODUCTION

This report describes the results of the 1987 mineral exploration program carried out over the properties of La Fosse Platinum Group Inc. The properties are near Lac de Freneuse, in the Kitivik administration region of New Quebec.

METHOD OF WORK

The 1987 work program consisted of three separate activities.

1. Surface prospecting and mapping in the area of the properties by two crews for a total of 78 person days.
2. Preparation of a 1:25,000 geological base map of the Property.
3. Selection of target areas for further detailed exploration, including geophysical surveys.

PROPERTY DESCRIPTION

The properties consist of three adjoining exploration permits.

	<u>Hectares</u>
PE-809	9,900
PE-810	10,100
PE-811	10,000

All three are in good standing with taxes paid until June 30, 1989. Annual taxes are 60¢ per hectare. Assessment work requirements increase from \$1.00 to \$20.00 over the ten year term of the Permit.

ACCESS AND INFRASTRUCTURE

The permit areas are located on NTS maps 24K/SE, 24K/6, 24K/12E. The properties can be reached by fixed-wing aircraft and helicopter from the town of Fort Chimo, a distance of 50 kilometers. On the most northern permit 809, the fly camp was located on the west shore of Lac Demeules. To the south on permits 810 (central) and 811 (south) the camp was located at the south end of Anderson Lake. At Fort Chimo, scheduled aircraft services are available, as is hydro power, food supplies, housing and living accommodations. There is no infrastructure on the property. The nearest accommodation is the all-weather base camp site operated by La Fosse Platinum Group Inc. at Lac Gerido, 15-20 km southwest of the property.

HISTORY

The three permit areas covered by this report are new permit blocks applied for in early spring, 1987. Therefore, this area was not included in the 1986 La Fosse regional prospecting program or the 1987 Aerodat airborne geophysical survey. No other previous work on the properties was available at the time of the survey. However, claim posts were found in the eastern and western portions of permit 809, situated over gabbro sills hosting ultramafic units.

Further assessment research indicates that a gravity survey on 10 claims west of Anderson Lake was carried out by Prospecting Geophysics Limited for Hollinger North Shore in 1964. Also geological mapping and sampling of 16 claims east and west of Anderson Lake by J.G. Schilling for Hollinger North Shore was carried out in 1962. (NOTE* ground EM and magnetometer surveys appear to have been conducted in 1962 with this program, but data was not available).

Up to 1958, the region to the south-west underwent extensive exploration by Holannah Mines, Consolidated Ferrimore Mines and Ungava Copper. These programs concentrated on sediments of the Baby and Abner (Harveng) Formations intruded by gabbro and blotchy gabbro sills.

Quebec Department of Natural Resources reports that are relevant to the area of this report are as follows:

Sauvé P. 1956	Preliminary Report on De Freneuse Lake Area PR-332
Sauvé P. 1959	Preliminary Report on Leaf Bay Area PR-339
Sauvé P., Bergeron R. 1956	Gerido Lake - Thevenet Lake Area GR-104

REGIONAL GEOLOGY

The Labrador Trough is an orthogeosyncline (or "folded belt") of early Proterozoic Aphebian age.

The general term, "orthogeosyncline" is used since the Labrador Trough includes shallow water, beach and river "miogeosynclinal" sedimentation in its western sector, and characteristic "eugeosynclinal" deep water sediments with volcanics, and intrusives in its eastern sector.

The older rocks presently exposed are continental red bed deposits with sandstones, conglomerates, and arkoses, and minor greywacke.

With the initial transgression of the sea these were covered by shales and cleaner sands. As water depths increased, carbonate rocks appeared, initially as isolated stromatolite mounds, and later as massive dolomite beds up to 90 meters thick.

At the same time as the initial marine transgression, some basalt flows were extruded near the western margin of the Trough. These flows contain little sulfide mineralization.

With further subsidence of the basin, the sediments deposited consisted of shales and argillites. Their colours reflect their depth of deposition and distance from shorelines, ranging from red in the west, through grey and white to black, in the eastern exposures.

The next stage in basin development was a major volcanic event. This period started with a series of deep water eruptions which extended for the full 600 kilometer length of the Trough. Beneath these eruptive centres, the underlying sediments were invaded by flat lying bodies of dark intrusive rock.

The first evidence of this eruptive activity was a widespread deposition of fine silica or "chert" throughout the Trough. This material was reworked to form quartzites at the transgressive western shoreline and cherty iron formation in the deeper water to the east.

The next evidence of volcanic activity is provided by widespread graphitic and pyrite-bearing ash beds (or "tuffs"), with some dark shales. These eruptions were the source of major deposits of iron oxide and sulfide, contemporaneous with basalt flows, agglomerates and tuffs.

In the deeper parts of the basin, where reducing conditions prevailed, we now find interflow sediments containing 85% iron sulfides. In the shallow water areas, siliceous oxide and carbonate facies iron formations were deposited. The iron sulfides and the oxides are believed to be of the same age. Iron oxide content may be as high as 50%.

Both the basaltic flows and the sediments are cut by a number of basic sills, some slightly discordant. These may be as much as 600 meters thick, and are frequently differentiated. Three-quarters of the sills can be classed as normal "tholeitic" gabbros. These may have quartz diorite or feldspar-rich differentiates.

Another distinctive Labrador Trough intrusive is called "leopard rock", "blotchy gabbro" or "glomeroporphyritic gabbro". This type of rock carries clots of feldspar or later clinozoisite as large as 15 cm in diameter.

Blotchy gabbro is slightly different in composition, with lower magnesia and higher potash, than the "normal" gabbros. The silica level of tholeiitic gabbros and glomeroporphyritic gabbros is the same.

Most geologists who have worked in the Trough concur in describing the intrusive gabbros and peridotites and the basalts as being part of a common origin, extrusive/intrusive complex.

Ultramafic sills are localized in specific areas of the Trough, notably in the north end and in the easterly segment northeast of Schefferville. At other locations, lenses of coarsely crystalline pyroxenite have been mapped adjacent to gabbro bodies, without the great lateral extent demonstrated by the sills.

Stratigraphically above the iron formation, and equivalent to the youngest volcanics is a grey siltstone and black shale horizon. In the miogeosynclinal portion, this widespread unit may be overlain by grey and red-bed conglomerates, sandstones, and still later stromatolitic dolomites.

Late stage felsic intrusive and carbonatites cut the eastern portion of the Trough.

PROPERTY GEOLOGY

ANDERSON LAKE SOUTH (PE-811) and CENTRAL (PE-810) PERMITS

1) General Geology

General Geology of these two permit areas is mainly gabbro with sedimentary horizons at the base of most sills. Volcanics cover the eastern portions of the properties (east of Anderson Lake) with some sediments. Two peridotite sills are contained in the permits, with some isolated peridotite bodies in the gabbro. All rock units show some degree of metamorphism characteristic of the Amphibolite facies. Meta sediments are the base unit in the entire area, and are overlain by extensive metavolcanics. Both these units were then intruded by the gabbros and ultramafics. All rocks have been folded.

ii) Metasediments

Metasediments are found in most topographic lows in the permit areas, outcropping at the base of hills. Sediments seen were argillaceous shales, showing varying amounts of metamorphism, from clean bedded argillaceous shales to garnet-bearing actinolite schists. Iron content is high in most sediments. Those containing significant amounts of sulfide mineralization (10%) have been classified iron formations on the geology maps.

iii) Volcanics

Volcanics seen in the area are fine-grained massive to foliated meta-andesites. Some outcrops of darker green to black volcanics (metabasalts) were also seen. Pillows were observed at two locations, indicating tops in a northeast direction.

iv) Gabbro

Gabbro sills cover most of the permit areas. This unit has been extensively metamorphosed resulting in highly variable lithologies within the sills. The gabbros are light green to dark green black on fresh surfaces. Grain size is highly variable from medium to coarse with fine grained chilled margins. Discontinuous lenses of very coarse "pegmatitic" gabbro can be found in many locations. These lenses are made up of large amphibole (up to 2 cm) crystals and lathes of plagioclase showing preferred orientation parallel to the strike of the sills (northwest). Also abundant in some sills are carbonate bands of uncertain origin. These zones crosscut the sills trending north to 20° east, and are commonly a meter to 3 meters wide. They are composed of highly contorted carbonate schists with quartz stringers running through them. They have a sedimentary appearance but this would contradict their crosscutting nature. They are possibly fracture filling hydrothermal carbonates and silica which have been sheared during regional metamorphism.

Quartz is quite common in the gabbros as equigranular grains or "eyes". This quartz is probably a metamorphic product. The "pegmatitic" lenses probably represent recrystallization within the gabbro during metamorphism.

v) Ultramafics

Ultramafic sills are fine grained, green black in colour. Serpentinized fractures are present, but not abundant and the bottom of the sills are characterized by a greater olivine serpentine concentration. Both peridotite sills running through permits 810, 811 have metasediments at their lower contact and gabbros at the top. Contact between peridotite and gabbro is very sharp, indicating two different intrusions, rather than a layered mafic sequence, also chilled contacts can be seen between the gabbro and peridotite. It is not clear whether the gabbro came before the peridotite. In most areas, the peridotite shows a chilled contact with the gabbro indicating a later intrusion. Both peridotite and gabbro are probably resultant from relatively synchronous intrusive events.

ANDERSON LAKE NORTH (PE 809)

i) Sedimentary Rocks

The sediments observed in the permit area are primarily grey-black argillaceous slates, often rhythmically layered. These sediments are found at the bottom of valley walls, usually having sharp contact with intrusive bodies that occupy the ridges. At or near these contacts the sediments are commonly phylbitic schists having a higher carbonate content. Fine grained, iron rich slates are found intercalated within the volcanic formation to the east and grade into several iron formations on the permit.

The iron formations observed were magnetite and pyritic slates with occasional cherty iron-rich beds. The iron formation associated with the gabbro contact in the northeast portion of the permit contains massive pyrite and pyrotite bands 30 cm in width. These massive sulfides also contain minor chalcopyrite.

ii) Volcanics

The volcanic rocks occur in the eastern portion of the permit and are at least 1.5 km thick. They most likely belong to the Hellencourt Formation, owing to the similar proximity of blotchy gabbro and iron slates at the bottom. The volcanics are fine grained, green grey-black basalts which often grade into a coarser amphibolite or medium grained gabbro. This is probably the slower cooling basalt section of these large flows. Pillows are common in the formation. They are either stretched and deformed or unaltered, clearly indicating top is eastward. Near the basal contact, the volcanics are interbedded with iron shales and iron formations. Here they are schistose, exhibit shearing and contain quartz carbonate alterations.

INTRUSIVE ROCKS

iii) Gabbro

Three gabbro sills stretch the entire length of the northern map area. They range in width from 200 m in the east to 1,300 m in the west. Compositional variations between the sills, as well as within the sill themselves, are common. This feature, together with the presence of ultramafic units within each sill, suggests that these intrusive are differentiated. The gabbros can range from a light coloured felsic variety that resembles a metadiorite, to a very dark tremolite-actinolite-rich variety commonly found above these ultramafic

bodies. Finer grained outcrops of this latter amphibolite, having quartz eyes and carbonates may be metamorphosed volcanics or alterations of the gabbro. Contact zones often show this type of alteration associated with schistosity.

Pegmatitic gabbro occurs in the central top portion of the sill west of camp. This coarse grained gabbro outcrops as veins with sharp contacts or irregular masses and lenses. Although outcropping appears sporadic and often associated with structure, there is a definite horizon of such occurrences that follow stratigraphy. This suggests that the bodies predate deformation and may be volatile rich phases in the gabbro that crystallized slowly. The veins may be injections branching out into an incompletely crystallized host rock or fracturing caused by deformation. The rock consists of a feldspar and quartz rich matrix with large tremolite-actinolite crystals (up to 6 cm) growing from the wallrock toward the center of the vein or lense. Up to 5% sulfides (pyrrhotite - chalcopyrite) were observed in some of these veins and were sampled along strike as well as other noted locations on the permit. These pegmatitic occurrences are of particular economic interest since similar gabbro yielded significant platinum and palladium values at the La Fortune showing to the south.

A lense shaped body of blotchy gabbro occurs at the base of the volcanic formation in the northeast portion of the permit. The intrusive sill is approximately 50 m wide and 300 m long. It consists of patches of light grey feldspar up to 4 cm in diameter within a felsic/amphibole rich gabbro. Sulfides occurred in a zone at the base of this unit and were sampled along strike.

Some gabbros at the base of the western sill exhibited compositional banding or feldspathic streaks. This wispy layering resembled gneissic development and may be due to metamorphism.

iv) Peridotite

Three peridotite sills trend northwestward through the north portion of the permit block. The western sill is approximately 75 - 100 m wide and can be traced for 12.5 km. A 4 km gap in the central part of the sill can be attributed to long lakes that occupy the valley in which the sill is located. The peridotite exhibits red-brown weathering and is green-black on fresh surface. The rock consists of medium grained olivine and serpentine grains in a amphibole and sometimes pyroxene matrix. Minor serpentinized veining with associated magnetite has taken place, but the sill appears to have undergone little alteration. The contact with the gabbro west of the sill is relatively sharp compared to the gradational change to the very mafic gabbro eastward. This difference is not apparent along the

entire length of the sill. No sulfide mineralization was found within the unit itself although two samples were taken related to fracturing. An ultramafic body, similar in composition, occurs at the end of Lac Demeules and roughly corresponds to the termination of the eastern sill. This is probably the same unit displaced by senstral movement along a fault.

The eastern sill is more mafic in composition containing more serpentine and iron oxides. Compositional banding occurs at the top of the sill as olivine content lessens and the rock beomes more amphibole rich. This clearly indicates differentiation as the sill cooled. Serpentine and carbonate veins are abundant throughout the sill. The higher degree of alteration and weathering is due to the greater ferro-magnesium content of the rock. Disseminated chalcophrite and pyrrhotite in both the host rock and alteration veins were chip and grab sampled.

The central sill only outcrops sporadically and weathers reddish-grey. Its occasional occurrence is attributed to a slightly increased serpentine content in the gabbro sill hosting this unit. This sill reaches widths of 50 m and although the largest outcrop is 350 m long, it can only be traced for 11 km. No sulfides were observed in this unit or at contacts which are gradational on both sides.

MINERALIZATION

PE 809 (NORTH) AREAS OF INTEREST (SEE MAP SHEET 1)

1. Samples taken in the north east are of mineralization related to a gabbro-volcanic contact that includes a horizon of iron shales and massive pyrite iron formations. The sheared felsic gabbro near the contact contains up to 7% disseminated pyrrhotite and pyrite over 6 m. (Sample 2876). Both the volcanics and shales were sampled. These rocks contained quartz carbonate veining and alterations. Pyrite bands in the argillaceous shales sampled contained up to 40% sulfides (Sample No. 2877-78, 2018).
2. Blotchy gabbro was sampled in this area. The lower portion of this intrusive lense contains sulfide-rich patches over a length of 300 m. The blotchy gabbro lies beneath an amphibole gabbro that grades into volcanics and above ferruginous shales. Mineralization is up to 5% chalcopyrite and pyrrhotite at any one location. Both chip and grab samples were taken (Sample No. 2879 - 2882). A massive sulfide band in the sediments below with, 70% pyrite and chalcopyrite was also sampled. (Sample No. 2884).

3. This area is in the lower portion of the eastern gabbro sill. It comprises a zone of sporadic gossened outcrops 50 m wide and almost 300 m long. The metagabbro is sheared in places and contains up to 10% sulfides (pyrite, pyrrhotite, chalcopyrite) and graphite, (Chip and grab samples No. 2023 - 2025, 2027). Mineralized sediments (10% chalcopyrite, pyrrhotite) below the sill were also sampled (Sample No. 2026). A mineralized horizon may be occurring in this gabbro sill since other gabbro samples were taken as far as 4 km up strike.
4. The peridotite at this location contained minor disseminated sulfides and was highly altered and weathered. A sheared contact between the upper gabbro and sediments contained 5% chalcopyrite, pyrrhotite and pyrite with carbonates and gravity veins. Serpentine and carbonate veins in the peridotite also contained minor chalcopyrite and pyrrhotite (1 - 2%) (Sample No. 2853 - 57).
5. Here pegmatitic bodies and veins in the western gabbro sill contained up to 5% sulfides. The outcrops were irregular and lacked length, although a horizon in the unit itself is evident. The mineralization usually occurred along the tremolitized wall rock and was usually chalcopyrite and pyrrhotite. Numerous samples of this type were taken at various locations on the permit area, but mainly confined to the eastern side of the west sill.

PE 810 (CENTRAL) AND PE-811 (SOUTH) AREAS OF INTEREST - SEE MAP SHEETS 2 & 3

The Lac Lacasse Peridotite sill has two zones of interest. Zone 1 (Map Sheet 3) is made up of two types of mineralization in the sill. Mineralization is at the top of the sill and near the gabbro contact. At the gabbro contact a shear zone was sampled containing 3% disseminated pyrrhotite, pyrite with some chalcopyrite. Shearing is confined to a small length of the contact, about 5 m. Adjacent to this contact about 1 - 3 m into the peridotite, native copper was sampled at two locations 150 m apart. Native copper is disseminated in the peridotite (about 1 - 2%) closely associated with a red silicate mineral. Copper is also concentrated somewhat in serpentinized fractures within the zone. The native copper horizon in this sill is characterized by a mottled white and red weathering on the sill.

Some malachite was sampled in this same horizon. Three samples were taken of the native copper (Samples No. 3921, 3928, 3929) Two samples were taken of disseminated sulfides in the peridotite (Sample 3920 and 3927). Further north along this same sill near a fold axis (Peridotite Island), two samples were taken of carbonated serpentine albite veins within the sill. These veins contained up to 2% chalcopyrite. This Lac Lacasse sill seems to have some compositional banding characterized by light and dark bands on the weathered surface. One chip sample was taken of a sulfide enriched band in the sill on the north tip of the peridotite island (No. 3904).

Zone ② (Map Sheet 2) is located within the gabbro. Two samples (No. 3935 - 36) were taken of a coarse grained amphibole (Hornblende) Plagioclase lense in the sill. This contained disseminated pyrrhotite and chalcopyrite up to 3%. Gabbros in this area seem to be differentiated with a pyroxenite base unit upward into a leucocratic gabbro. This zone is located 50 m up from the pyroxenite.

East of this zone a sample was taken of a shear in gabbro (medium grained) containing 40% pyrrhotite with minor chalcopyrite. The zone is exposed to a width of 1 m. Adjacent to this shear, disseminated sulfides in the gabbro can be traced for 150 m. Exposed the length of the shear is 4 m.

Meta sediments containing from 5 - 90% sulfides were sampled throughout the permit area. These have been mapped as iron formations. Also rocks in contact with these iron formations were sampled containing up to 5% disseminated pyrrhotite and pyrite. Eleven chip samples (3942 - 3950, 3992 - 3993) were taken across the peridotite sill on the east side of Anderson Lake. These samples went from the gabbro contact on the east of the lake. Samples were taken to locate a possible horizon in this sill that contains P.G.E.'s These samples contained traces of sulfides with some magnetite veins and serpentine.

Sheared carbonates in gabbro were sampled in four locations. These carbonate bands contained minor sulfides. Any sulfides found in gabbro were also sampled.

RESULTS All sample sheets with assay results can be found in Appendix I

1. Anomalous Samples
 (> 500 ppb Au, > 500 ppb Pt, > 500 ppb Pd)

<u>Permit Number</u>	<u>Sample Number</u>	<u>Au</u>	<u>Pt</u>	<u>Pd</u>	<u>Sample Type</u>	<u>Rock Type</u>	<u>% Sulfide</u>	<u>Remarks</u>
809	2011	<u>525</u>	15	15	Grab	Iron Formation	10 - 15	In wide zone pyritic shale
809	2034	<u>3300</u>	345	<u>635</u>	Grab	Gabbro	3 - 5	Pegmatitic with cpy, py, Gossan
809	2893	5	15	<u>725</u>	Grab	Gabbro	2	Cpy, po vug in Felsic Gabbro
810	2892	<u>556</u>	15	15	Grab	Gabbro	2 - 5	Ni test + ve po, cpy, Gossan Patches
810	3954	<u>619</u>	223	39	Chip over 0.5m	Volcanics	85	Massive py, cpy, in shear
811	3924	<u>711</u>	15	15	Grab	Iron Formation	30	In contact with Gabbro
811	3977	180	460	<u>650</u>	Grab	Gabbro	5 - 10	py, cpy, disseminated py
811	3979	<u>705</u>	91	89	Grab	Gabbro	3	Disseminated py Coarse grained Gabbro

2. Three anomalous (> 500 ppb) palladium samples (No. 2034, 2893, 3977) were taken from the Lac Anderson permits. All three were taken from gabbros containing from 2 - 10% sulfides of which chalcopyrite was a constituent. Two of the anomalous palladium samples (No. 2034 and 3977) were associated with elevated values of platinum. Also, sample No. 2034 yielded a very anomalous gold assay of 3300 ppb.
3. The gabbros contained within the three permits are comparatively more differentiated than those seen in other parts of the Labrador Trough, excluding the Lac Fortune gabbro on PE 712 located immediately to the southwest. For example, compositional variations within the sills are

common. The gabbros can grade upward from a dark tremolite-actinolite rich variety (often found to be transitional with underlying ultramafic bodies) to a light coloured felsic variety that resemble metadiorite. A number of pegmatitic (plagioclase-amphibole) bodies occur in the gabbro sills, especially the gabbro sill that occurs on the western side of Lac Demeulles. Within this gabbro the pegmatitic bodies exist as veins and irregular masses and lenses that, although not joined, appear to form a definite horizon. Note that samples No. 2034 and No. 2993, anomalous in palladium, were taken from pegmatitic gabbro and felsic gabbro, respectively, areas of possible volatile enrichment.

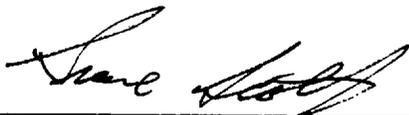
4. There were no anomalous platinum/palladium samples taken from within or at the contacts of ultramafic sills. No significant sulfide bodies were found associated with the ultramafics: nearly all were in the 1 - 2% range.
5. A thin peridotite sill, occurring on a long peninsula at the south end of Lac Lacasse, was seen to contain native copper and an unidentified red silicate mineral in a few locations. Sampling failed to yield any anomalous values of gold, platinum or palladium.
6. Six anomalous (>500 ppb) gold samples (No. 2011, 2034, 2892, 3924, 3954, 3979) were taken. Two of these were taken from iron formation containing from 10 - 30% pyrite. Three were taken from gabbros containing from 2 - 5% sulfides (pyrite +/- chalcopyrite +/- pyrrhotite) and one came from sheared volcanics containing massive pyrite and chalcopyrite.

RECOMMENDATIONS

1. Regional prospecting and rock sampling should be carried out in greater detail over the central area (PE 810). Because it is not as easily accessible as PE 809 and 811, it was not looked at in as great a detail during 1987. Look for chalcophrite-rich zones +/- nickel-iron sulfides in or at the contacts of ultramafic sills and pegmatitic gabbro bodies. In particular, record the nature of the sulfides (secondary, primary textures) and their association, if any, with hydrothermal alteration and structural deformation.
2. Sample No. 2034, taken from the northern central part of PE 809, is of primary interest for follow up work because of its anomalous gold and palladium values. The sample was taken from a chalcopyrite-bearing, pegmatic gabbro. Pegmatites in gabbro sills may represent volatile-rich and hence favourable sites for primary platinum/palladium mineralization, or they may provide "protore" sources of platinum/palladium upgraded by later hydrothermal activity. Gold may be added in the hydrothermal (secondary) process. This area should be mapped, prospected and rock sampled in detail over and along strike of the showing. Pay particular

attention to structure, alteration and the association of sulfides to the pegmatite bodies. Pending the results of detailed mapping, conduct VLF-EM over the showing to determine the lateral extent of any associated shear structures and/or sulfide mineralization.

3. Apply the same methods to the anomalous palladium areas marked by samples No. 2893 and no. 3977. Is there any association between mineralization and alteration noted at sample No. 2893 with a northeast-trending fault mapped nearby to the southeast?
4. Map, prospect and rock sample in detail the areas over and along strike of the gold showings marked by samples No. 2011, 2892, 3924, 3954, 3979. Pay particular attention to structure and alteration. Look for sheared contact, silicification, quartz-carbonate veining and secondary sulfide development.



Graeme Scott
Chief Geologist

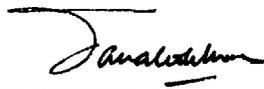
Statement of expenditures on PE 809, 810, 811
July 17 - August 5, 1987

Surface Prospecting and Mapping

Field Management and Organization	\$ 2,122.00
Data Cost	1,145.00
Transportation	6,245.17
Crew Wages, Accommodation, Equipment	15,816.24
Crew Mobilization and demobilization	2,064.51
Communications	911.19
Assays	5,544.00
Contractors	<u>938.40</u>
 TOTAL	 \$ <u>34,786.51</u>



Glenn Bowie
Corporate Secretary



K.K. Tang
Corporate Treasurer

LA FOSSE PT. GROUP Anderson - north

Date: _____

Sampled by: J. Ward & P. Cloutier

NTS: 24K/12 E-E.

Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	ppb Analyses						Remarks
	N	E					Pe	Pd	Au	Ag	Pt	Pd	
✓ 2003	6486200	464860	gabbro	2		GRAB	✓	✓	✓	200	<15	<15	tremolitized gossan zone
✓ 2004	6486220	464820	"	7		"	✓	✓	✓	64		106	mafic gabbro, sulphides met text.
✓ 2005	6486230	464820	"	2-3		"	✓	✓	✓	505	220	296	coarse grain (amphibolitic)
✓ 2006	6486325	464200	"	2-3		"	✓	✓	✓	25		45	vein alteration in F ₁ gabbro
✓ 2007	6485120	463540	iron formation	10		"	✓	✓	✓	5		<15	iron formation ^(5m wide) , Qtz rich hor.
✓ 2008	6486040	466700	gabbro	1-2		"	✓	✓	✓	114		<15	qtz carb vein
✓ 2009	6486120	466710	"	1-3		"	✓	✓	✓	27		<15	" pyrite cubes
✓ 2010	6486590	467630	"	10-15		"	✓	✓	✓	241		<15	leucogabbro, gossan zone Ni
✓ 2011	6486500	467520	iron formation	10-15		"	✓	✓	✓	525	40	50	1m wide zone pyritic sh.
✓ 2012	6490680	463630	gabbro	1-2		"	✓	✓	✓	53		<15	amphibolitic
2851	6487340	464340	"	10		"	✓	✓	✓	24			tremolitized zone (coarse gr) py
2852	6486570	464660	"	5		"	✓	✓	✓	15			coarse grain trem vein - po
2853	6486020	467570	sed/u.m.	5		"	✓	✓	✓	16			contact, shear zone, qtz vein - cpy
2854	6487980	467500	gabbro	<1	15m	chip	✓	✓	✓	25			Red weathered tremo gabbro - po
2855	6487980	467500	peridotite	1	30m	chip	✓	✓	✓	25			serpentinized - po
2856	6487980	467500	"	1	32m	chip	✓	✓	✓	25			In soil contact sed / talc / talc
2857	6487850	467510	"	1-2		GRAB	✓	✓	✓	25			talc / serp, carbonate vein cpy
2858	6483120	464780	gabbro	2-5		"	✓	✓	✓	25			gossan vein - cpy - py
2859	6481700	464965	gabbro	2		"	✓	✓	✓	267	2730	5770	gossan talc, tremolitic, Ni - po
2860	6491200	463380	"	1-2		"	✓	✓	✓	323			gneissic (hypersthene) gabbro
2861	6492200	463120	"	5		"	✓	✓	✓	65			qtz carb vein, red staining, pyrite
2862	6492320	463100	"	5-7		"	✓	✓	✓	123			" T long strike "
2863	6491680	464140	sed / gabbro	5-7		chip	✓	✓	✓	62		35	contact, gossan zone, py po
2864	6487670	463290	gabbro	2-4		grab	✓	✓	✓	25	<15	<15	felsic carb lens, magnetite
2865	6487890	462330	"	1-2		grab	✓	✓	✓	25	<15	<15	small sill po cpy - qtz vein

LA FOSSE PT. GROUP Anderson - north

Date: _____

Sampled by: J. Ubril & P. Cloutier

NTS: 24K/12E-E.

Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	Analyses ppb						Remarks
	N	E					DE	Pd	Au	Ag	Pt	Pd	
✓ 2013	6492430	463080	gabbro	2-3		gab	✓	✓	✓	45	<15	<15	pyrometite gossan zone. py, cpy
✓ 2014	6485720	466710	"	1-2		"	✓	✓	✓	285	<15	215	" py, cpy
✓ 2015	6491300	465730	"	2-4		"	✓	✓	✓	45			amphibolitic py.
✓ 2016	6488840	466480	"	5		"	✓	✓	✓				same as 2015 coarser grain
✓ 2017	6488600	466080	"	2-4		"	✓	✓	✓				fine grain leucogabbro, fine diso.
✓ 2018	6494360	465820	Volcanics	2-3		"	✓	✓	✓				carb veins, above I.F.
✓ 2019	6493960	466000	gabbro	5		"	✓	✓	✓	420	420	60	dy vein, py.
✓ 2020	6489760	467220	"	5-7		"	✓	✓	✓				gossamed leucogabbro, py, cpy, Po
✓ 2021	6489300	467330	"	5-7		"	✓	✓	✓				gossamed & crumbled. py, cpy, Po
✓ 2022	6485080	466680	"	3-5		"	✓	✓	✓				shar face serpentinizing, gossam
✓ 2023	6486005	468570	"	10		"	✓	✓	✓				Gossan zone py, cpy, Po, (trab.)
✓ 2024	6486005	468570	"	7-10		"	✓	✓	✓				" + shava' appearance.
✓ 2025	6486005	468570	"	5-7		"	✓	✓	✓				" + shava' appearance
✓ 2026	6485910	468589	sociement.	10	4m	chip	✓	✓	✓				metamorph gossamed. py, cpy, Po.
✓ 2027	6485810	468540	gabbro	10		gab	✓	✓	✓	30	400	100	fine grain, amphibolitic, py, cpy, Po
✓ 2028	6485260	468630	"	3		"	✓	✓	✓				carb veins? py, cpy, native
✓ 2029	6486005	468570	"	5-7		"	✓	✓	✓				Same as 2023, 2024, 2025 zone.
2891	6481600	467280	peridotite	1		"	✓	✓	✓	45	<15	<15	serp vein w/ cpy po mg
2892	6479860	467090	gabbro	2-5		"	✓	✓	✓	556	215	60	gossamed patches po cpy - Ni
2893	6480380	465860	"	2		"	✓	✓	✓	25	<15	725	cpy po vein felsic gabbro - Ni
✓ 2030	6490440	465540	"	2-3		"	✓	✓	✓	93	<15	<15	felsic gabbro: py cpy po
✓ 2031	6491680	465020	"	2		"	✓	✓	✓	45	215	215	sheared amphibolite: py, cpy
✓ 2032	6491780	464960	"	"		"	✓	✓	✓	45	<15	<15	coarse grained, mafic, " "
✓ 2033	6493140	464720	peridotite	1		"	✓	✓	✓	45	<15	15	determed UM. py?
✓ 2034	6493400	464600	gabbro	3-5		"	✓	✓	✓	3388	345	633	peg with gossam cpy py

LA FOSSE PT. GROUP Anderson - north

Date: _____

Sampled by: J. Ward & P. Cloutier

NTS: 24 K/12 E-E

Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	Analyses						Remarks
	N	E					Pt	Pd	Au	Ag	Pt	Pd	
✓ 2866	6493520	462720	peridotite	1-2%		grab	✓	—	✓	<5	<15	<15	dissem po - frost heaved.
✓ 2867	6493280	462720	"	<1%		"	✓	✓	✓	<5	<15	<15	Fe stained - po
✓ 2868	6491420	462940	gabbro	3-5		"	✓	—	✓	²²⁰ 250	²²⁰ <15	²²⁰ <15	py po cpy
✓ 2869	6491360	462960	"	3		"	✓	✓	✓	<5	<15	<15	" - 50 m along st. k. fr. 6E
✓ 2870	6489010	464000	"	2		"	✓	✓	✓	<5	<15	<15	Fe stained - peg. xtls 1-2 m long
✓ 2871	6487080	464380	"	2		"	✓	✓	✓	<5	<15	<15	po cpy py - qtz-peg vein
✓ 2872	6486560	467000	"	3		"	✓	✓	✓	<5	<15	<15	" " " - qtz carb peg vein
✓ 2873	6486460	467040	"	5	10m	chip	✓	✓	✓	<5	<15	<15	altered carb/peg zone. po cpy
✓ 2874	6484460	467040	"	5		grab	✓	✓	✓	<5	<15	<15	grab highgrade of 73.
✓ 2875	6485880	467280	"	5-7		"	✓	✓	✓	<5	<15	<15	amphibolite. po cpy minor py
✓ 2876	6494700	465260	"	5-7	6m	chip	✓	✓	✓	<5	<15	<15	meta gabbro/volcanics - sed contact
✓ 2877	6494580	465880	shale	40		grab	✓	✓	✓	35	<15	<15	IF - pyritic shales between V7
✓ 2878	6494580	465880	volcanics	5-7		"	✓	✓	✓	²⁰ <5	²⁰ <15	³⁰ <15	pillowed gossend po py.
✓ 2879	6493510	466180	gabbro	"	4.5	chip	✓	✓	✓	101	<15	35	below blotchy gabbro, dissem po cpy
✓ 2880	6493510	466180	blotchy gab.	2		grab	✓	✓	✓	15	<15	<15	qtz vein in blotchy gabbro py cpy
✓ 2881	6493360	466260	"	5		"	✓	✓	✓	<5	<15	<15	area of numerous gossended patches
✓ 2882	6493260	466290	"	5		"	✓	✓	✓	<5	<15	<15	felsic bottom of unit po (py?)
✓ 2883	6493020	466540	volcanics	5		"	✓	✓	✓	²²⁰ 41	²²⁰ 109	²²⁰ 25	qtz-carb, pillowed, dissem py
✓ 2884	6492570	466520	shales	70		"	✓	✓	✓	²²⁰ 57	²²⁰ 25	²²⁰ 57	massive sulfide py cpy in IF
✓ 2885	6492580	466580	peridotite	<1%	6m	chip	✓	✓	✓	²²⁰ 88	²⁰ 35	³⁰ 183	comp. bands at top of sill
✓ 2886	6491150	466440	"	1%		grab	✓	✓	✓	<5	<15	<15	carb/serp veins - po
✓ 2887	6490200	469450	gabbro	2		"	✓	✓	✓	<5	<15	<15	gossend vein py cpy
✓ 2888	6490830	469260	"	1		"	✓	✓	✓	<5	<15	<15	corroded amphibolite
✓ 2889	6483840	467860	"	1-2		"	✓	✓	✓	<5	<15	<15	cpy, py
✓ 2890	6484020	466460	sediments	5-10		"	✓	✓	✓	15	<15	<15	gossended schistose qtz carb argillites

LA FOSSE PT. GROUP

Date: _____ Sampled by: Crew 7-Graeme Scott & Dave Skelton NTS: 24-K/6 - Anderson Lake

Date	Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	ppb Analyses					Remarks
		N	E					Au	Pt	Pd			
-	3951	6470400	472725	sediments	5		G	33	82	215			cpy vein
-	3952	6470400	472745	schist	3-4		"	12	21	10			diss py
-	3953	6469530	472775	gabbro	2-3		"	9	55	25			coarse w py, minor cpy, blue qtz
July 18	3901	6470380	473250	"	1		"	25	215	215			diss py, minor cpy
-	3902	6470460	473175	peridotite	<1		"	25	215	215			tremolite, serp., carb., qtz, py
-	8903	6470625	473150	"	1		"	9	215	215			" " chalcocite
-	3904	6471280	472900	"	<1	2m	chip	25	215	67			po
-	3954	6478210	472560	volcanics	85	0.5m	"	²²⁰ 619	³⁰ 223	²⁰ 39			10 meters in massive py & cpy in shear
-	3955	"	"	"	30-50		"	171	55	23			graphite (30-50%) & py stringers
July 20	3956	"	"	"	5		"	16	215	215			diss py, volcs
-	3957	"	"	"	"		"	215	215	215			volcs in shear, py & graphite
-	3905	6475040	473950	iron formation	30-60		"	35	215	215			py, po
-	3906	6476760	469600	gabbro	1		"	²²⁰ 23	²³ 23	²⁹ 29			felsic inclusions, py
-	3907	6475800	470900	iron formation	10		"	25	215	215			py
-	3958	6470950	476925	"	30-70		"	29	215	215			meta-IF w qtz
-	3959	6470925	478030	andesite	5		"	6	215	215			diss py - associated IF
-	3960	6471145	478480	"	6-10	3m	"	327	215	215			" 30 meters in / IF large gossan zone
-	3961	6470150	479100	gabbro	3		"	²²⁰ 330	²²⁰ 215	²²⁰ 215			py, near IF
July 21	3962	6470170	479075	"	3-5		"	6	215	215			py & cpy, near IF large gossan zone
-	3908	6469215	479180	"	<1		"	25	215	215			py, po, pegmatite gab adjacent
-	3909	6469050	479300	peridotite	1		"	²²⁰ 29	²²⁰ 39	²²⁰ 29			Ni test (true) py, po, argabbro contact coarse
-	3910	6468790	479640	iron formation	1		"	25	27	215			mag., hematite, py, near UM
-	3911	6467590	479485	"	2		"	25	215	215			metamorphosed
July 22	3963	6468700	479970	peridotite	<1		"	25	215	21			serp. vein w mag. - sheered
-	3964	6468690	480075	"	1		"	25	215	215			Ni test (true) gabbro/UM contact

Sample Type - R - Selected Best: R - Representative; C - Channel; G - Grab

LA FOSSE PT. GROUP

Date: _____

Sampled by: Crew ^W7 - Graeme Scott & Dave Skelton NTS: 24-K16 - Anderson Lake

date	Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	ppb Analyses			Remarks	
		N	E					Au	Pt	Pd		
July 22	3965	6468675	480078	peridotite	1-2		G	<5	215	<15	Ni test (true)	po, py
	3912	6468790	480380	gabbro	2		"	123	215	215		sheared, coarse grained, po spy
	3913	6470320	477870	sediments	1		"	16	215	215		py, at gabbro contact
	3966	6471875	476590	andesite	2-4		"	25	215	215		py, IF related
July 23	3967	6471785	478540	"	3-10		"	↓	↓	↓		
	3968	6470680	479000	gabbro	<1		"	↓	↓	↓		diss py
	3969	6465590	479190	metasediments	1		"	↓	↓	↓		actinolite, py cpy
	3970	6465200	479280	metagabbro	1		"	↓	↓	↓		py in rusted zone 10m long
July 24	3914	6468210	481030	schist			"	99	233	295		heavily gossaned, amphiboles
	3915	6468125	481190	metagabbro	1		"	35	215	215		py, amphibole rich
	3916	6468025	481360	QV	<1		"	25	37	215		in meta gabbro
	3917	6466425	481975	"	<1		"	228	287	295		py po, in gabbro
	3971	6469430	474285	andesite	2		"	225	215	295		py, associated seds at gabbro co
	3972	6467610	475190	"	"		"	↓	↓	↓		py, mag, IF-assoc, graphite
	3973	6466810	475300	"	"		"	↓	↓	↓		
	3974	6468450	474560	"	5-10		"	↓	↓	↓		
July 27	3975	6468450	474560	iron formation	10-20		"	↓	↓	↓		
	3918	6469975	478870	gabbro	1		"	25	45	215		qv, diss py, po
July 28	3919	6468850	474300	iron formation	5		"	25	215	215		po, py
	3920	6465980	474190	peridotite	<1		"	25	215	215	Ni test (true)	po, cpy - sheared gabbro contact
	3921	6466125	474010	"	<1		"	↓	↓	↓	"	native copper, minor po, red,
	3922	6467990	474330	iron formation	10-80		"	↓	↓	↓		massive sulphides
	3923	"	"	andesite	3		"	↓	37	↓		IF contact w carb, py, po
July 28	3976	6464525	479220	iron formation	1		"	25	215	215		actinolite, garnet-schist
	3924	6462880	475880	"	30		"	271	215	215		metaseds, diss sulphides in gabbro

Sample Type - B - Selected Best; R - Representative; C - Channel; G - Grab

LA FOSSE PT. GROUP

Date: _____ Sampled by: Crew #7 - Greene Scott & Dave Skelton NTS: 24-K/6 Anderson Lake

Date	Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	Analyses				Remarks
		N	E					ppb Au	Pt	Pd		
July 28	3925	6461950	476225	iron formation	30		G	51	215	215		metasols, diss py in gab. at contact
	3977	6469120	471620	gabbro	5-10		"	180	540	650		py & cpy 2-3cm
	3978	6468410	471700	peridotite	trace		"	25	215	116		mag. & native Cu, at gab. cont
July 30	3979	6465150	474110	gabbro	3	2m old m.	"	785	970	8920		coarse grained to diss py
	3929	6465900	474190	peridotite	21		"	72	215	31	Ni test (+ve)	native Cu, malachite, red mineral
	3930	6466600	473700	"	1		"	34	69	215		tremolite, carbo, malachite, cpy
	3931	6463230	475500	iron formation	massive		"	85	215	215		massive sulphides, sheared, po
	3932	6464100	475060	gabbro	3		"	16	215	215		py, biotite
July 29	3926	6466880	473850	"	3		"	20	215	215		cpy, spalerite
	3927	6466200	473960	peridotite	1		"	21	215	215	Ni test (+ve)	py, po
	3928	6466125	474010	"	<1		"	23	215	215	" "	native Cu, minor po, red mineral
	3933	6473600	469800	gabbro	<1		"	15	215	215	Ni test (+ve)	coarse grained py, cpy, blue qtz
July 31	3934	6477375	467720	"	<1		"	23	215	215		fine grained, py, sheared
	3980	6477320	469310	"	3		"	25	215	215		diss py, po at contact to shear
	3981	"	"	"	20-40		"	25	215	215		shear to py, po stringers
	3982	6475225	470280	"	1		"	25	215	215		diss py, po
	3983	6468725	477610	"	<1		"	25	215	215		pegmatitic gabbro, heavily sheared
	3984	"	"	"	1		"	25	215	215		carbonatized shears
	3985	6468340	477340	"	<1		"	23	275	229		coarse grained gabbro, heavily she
	3986	6468625	477290	"	10-75		"	25	215	215		vein of sulphides
	3987	"	"	"	<1		"	25	215	215		coarse grained, stressed, beside vs
August 1	3935	6409100	469775	"	3		"	11	215	215	Ni test (+ve)	pegmatitic lens, py cpy po
	3936	"	"	"	"		"	25	215	215	" "	"
	3942	6477310	471000	"	<1		"	23	215	215	" "	coarse grained zone
	3938											

Sample Type - B-Selected Best; R-Representative; C-Channel; G-Grab LAKEFIELD CHECK.

LA FOSSE PT. GROUP

Date: _____

Sampled by: Crew #7 - Gracie Scott + Dove Skelton NTS: 24-K16 - Anderson Lake

date	Sample No	Location		Rock Type	% Sulphide	Width m.	Sample Type	Analyses					Remarks
		N	E					Au	Pt	Pd			
August 2	3937	6470125	478780	iron formation	10		G	34	<15	<15			meta-IF, actinolite
	3938	"	"	"	"		"	39	<15	<15			qtz vein in IF
	3939	6470360	480130	"	1-3		"	21	<15	<15			py, po
	3940	6468110	483400	blatky gabbro	1		"	23 23	295 295	295 295			meta-gabbro, gossan, py, po
	3988	6471700	481030	"	1		"	<5	<15	<15			"
	3989	6471570	481140	"	1		"	<5	<15	<15			"
August 3	3990	6476610	473130	iron formation	5		"	<5	<15	<15			diss py
August 2	3991	6468320	477400	gabbro	<1		"	27	<15	<15			carb. shear in abundant fuchsite
	3942	6469700	478465	peridotite	trace	8	C	<5	<15	<15			veins of magnetite + scarp. fra.
	3943			"	"	8	"	14	<15	<15			"
	3944			"	"	8	"	5	<15	<15			"
	3945			"	"	10	"	31	<15	<15			"
	3946			"	"	10	"	27	<15	<15			"
	3947	6469775	478500	"	"	10	"	59	<15	<15			"
	3948	6469775	478530	"	"	12	"	10	<15	<15			"
	3949			"	"	8	"	74 74	35 35	31 31			"
	3950			"	"	10	"	21	41	19			"
	3992			"	"	8	"	218 218	295 295	123 123			"
	3993	6469850	478540	"	"	12	"	<5	<15	<15			" (gabbro contact)

Sample Type - B - Selected Best; R - Representative; C - Channel; G - Grab