PROSPECTING ASSESSMENT REPORT ON THE SEYMOUR INLET PROJECT

(WIGWAM CLAIMS, Tenure # 572620 & 572621)
(Pt/Os/Rh/Ir ALASKAN TYPE INTRUSION)

Seymour Inlet, Vancouver Mining Division
NTS 92 M/2 (92M.017)
Latitude 51°08'19", Longitude: 126°43'48"

By

J. T. Shearer, M.Sc., P.Geo.
Unit 5 – 2330 Tyner Street
Port Coquitlam, BC
V3C 2Z1
Phone:604-970-6402
E-mail: jo@HomegoldResourcesLtd.com

For

Homegold Resources Ltd
Unit 5 – 2330 Tyner Street
Port Coquitlam, BC
V3C 2Z1

September 15, 2008

Fieldwork completed between August 1, 2008 and August 30, 2008

TABLE of CONTENTS

LIST of ILLUSTRATIONS and TABLES

TABLES

INTRODUCTION

The Wigwam Project is located near the head of Seymour Inlet, BC, a narrow coastal mainland fjord 85km east of the north tip of Vancouver Island in the Vancouver Mining Division. The property is of interest because the apparently "zoned" pyritic, gabbroic complex is associated with a very large and intense magnetic anomaly which could be caused by unusually large amounts of titaniferous magnetite containing significant vanadium content. Similar West Coast deposits in Northern BC and Southeast Alaska have been the subject of investigation by others in the 1950's (McDougall, 1984b). In addition, pyritic quartz veins related to dykes which cross a large and recently exposed portion of the host-rock diorite offer a potential gold exploration target.

The boundaries of the included rock units were mapped by previous operators in the field using data generated by an airborne magnetic survey as a guide to ground investigation, including 'fill-in' for numerous inaccessible, precipitous and/or snow-covered portions of the property.

The current work program consisted of prospecting, minor geological mapping and rock sample collection. Access problems prevented sampling of the possibly highly magnetic 'core' and only marginal material or float was obtained. A description of Alaskan-type Pt/Os/Rh/Ir vanadium deposits is included as the subject is lacking in BC's technical literature.

The geological setting is characterized (McDougal, 1984) by zoned to crudely layered ultramafic-mafic intrusive complexes with rarely preserved (or poorly documented) metamorphic aureoles. Intrusive margins are commonly faulted. Traditionally viewed as deep-seated cumulates diapirically re-emplaced at high levels in the crust. In British Columbia, at least, most intrusions appear to represent cumulate deposition in upper crustal (subvolcanic?) magma chambers.

Deposit form: Lode occurrences of PGEs are primarily controlled by magmatic cumulate stratigraphy:

- Magnetites and concentrations of cumulus magnetite form well bedded, locally continuous layers up to six metres thick intercalated with hornblende clinopyroxinite;
- Lenses and vein-like bodies of relatively coarse-grained or "pegmatoid", biotite and magneitte-poor, PGE-bearing clinopyroxenites are enclosed by finer grained, biotite and magnetite-rich, PGE-poor clinopyroxenites.

The PGM content appear to be restricted to chromitite, magnetite-rich or clinopyroxenite layers which formed by primary magmatic crystallization processes. The chromite is typically associated with dunite whereas the magnetite is found with clinopyroxenite.

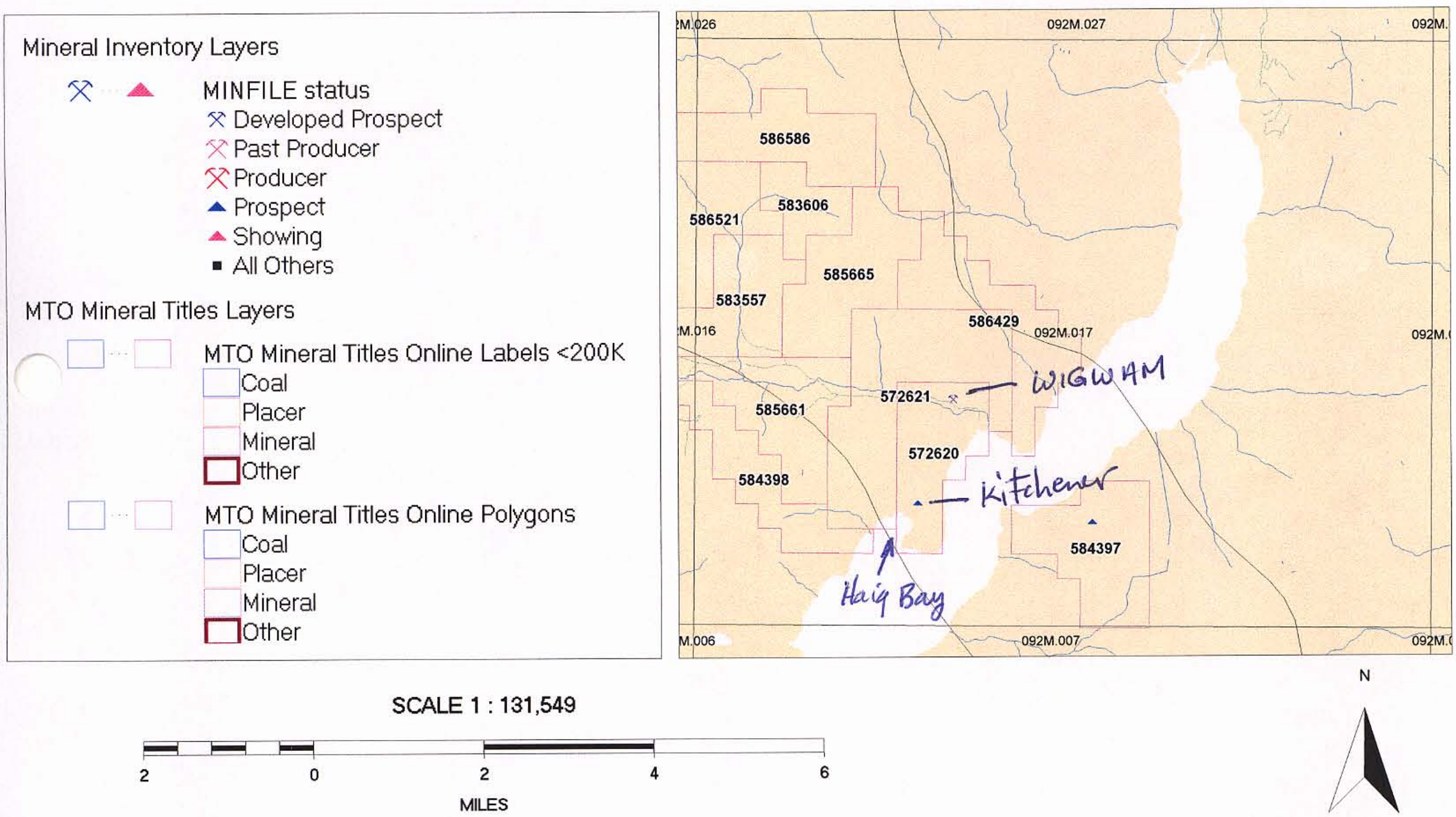
Stream sediment sampling of heavy mineral concentrates for PGE is a key exploration tool; in favourable circumstances PGE geochemistry and platinum nugget mineralogy can uniquely distinguish an Alaskan-type heritage from all other common PGE environments.

The Kitchener Skarn Magnetite showings to the south of Wigwam were also examined

Respectfully submitted,

Jo Shearer, M.Sc., P.Geo.
September 15, 2008

Wigwam Claims



DETAIL LOCATION MAP

FIGURE 2

PROPERTY

The Wigwam Group, as illustrated on Figure 2, includes the following non-contiguous mineral claims, all located under the MTO system and staked by J. T. Shearer, M.Sc., P.Geo. in January 2007. The map sheet is 92M.017.

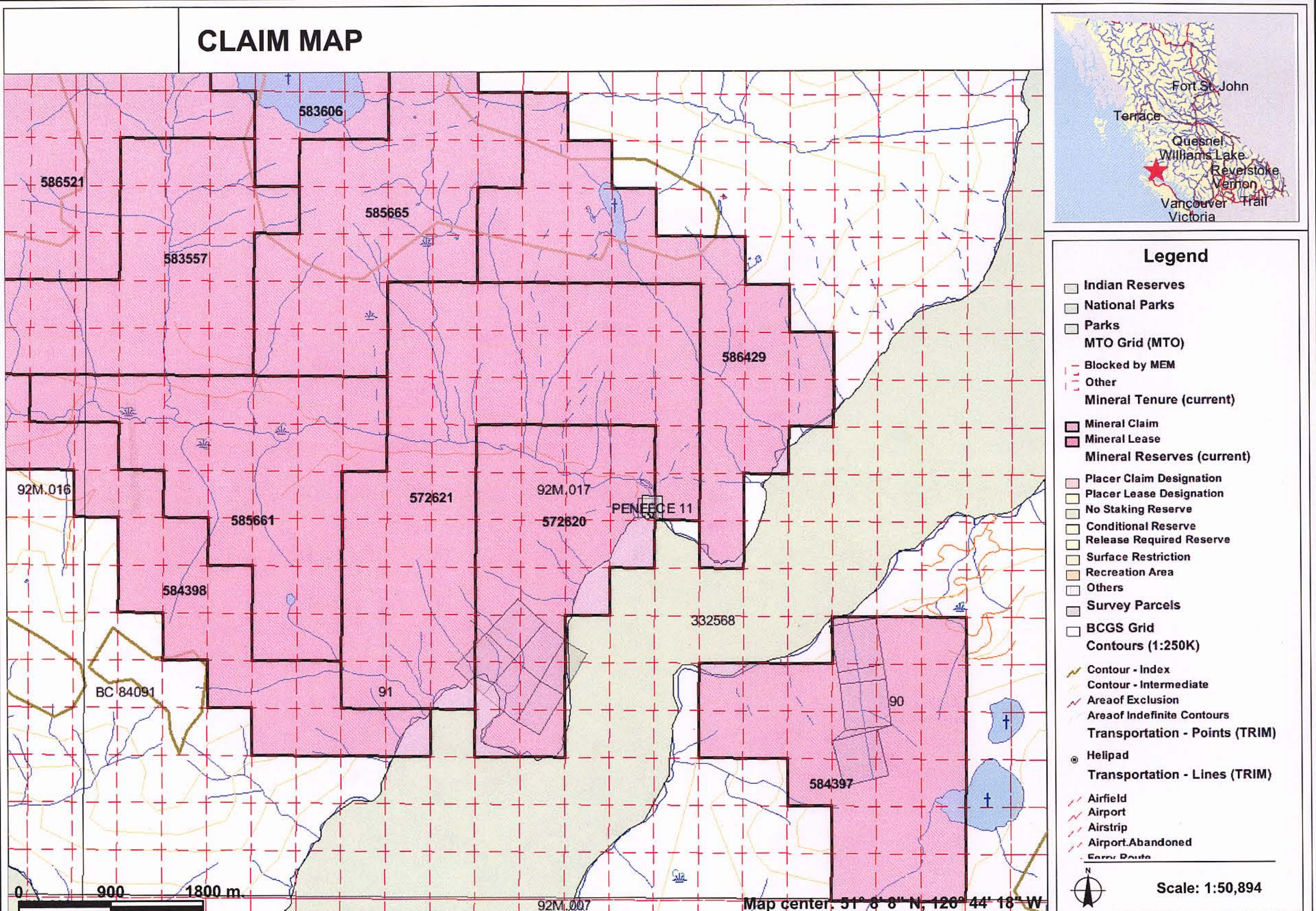
TABLE I
List of Claims

Claim Name	Tenure #	Area ha.	Map No.	Current Anniversary Date	Owner
Wigwam 1	572620	425.930	92M.017	January 14, 2012	J. T. Shearer
Wigwam 2	572621	811.127	92M.017	January 14, 2012	J. T. Shearer
Wig 1	583557	486.520	92M.017	May 3, 2009	J. T. Shearer
Wig 2	583606	202.642	92M.017	May 4, 2009	J. T. Shearer
	Total	1926.219 ha			

Mineral title is acquired in British Columbia via the Mineral Act and regulations, which require approved assessment work to be filed each year in the amount of $4 per hectare per year for the first three years and then $8 per hectare per year thereafter to keep the claim in good standing.

Under the present status of mineral claims in British Columbia, the consideration of industrial minerals requires careful designation of the products end use. An industrial mineral is a rock or naturally occurring substance that can be mined and processed for its unique qualities and used for industrial purposes (as defined in the Mineral Tenure Act). It does not include "Quarry Resources". Quarry Resources includes earth, soil, marl, peat, sand and gravel, and rock, rip-rap and stone products that are used for construction purposes (as defined in the Land Act). Construction means the use of rock or other natural substances for roads, buildings, berms, breakwaters, runways, rip-rap and fills and includes crushed rock. Dimension stone means any rock or stone product that is cut or split on two or more sides, but does not include crushed rock.

CLAIM MAP



This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Wigwam Claims Tenures 572620 and 572621

CLAIM MAP

FIGURE 3

LOCATION, ACCESS and TOPOGRAPHY

The Wigwam group of mineral claims is located immediately north of Rainbow Creek which drains into Wigwam Bay on the west coast of Seymour Inlet, a fjord on the mainland BC coast east of northern Vancouver Island (Figures 1 and 2).

Wigwam Bay is the uninhabited site of an early logging camp located 70 air kilometres northeast of Port Hardy on Vancouver Island (Lat. 51°09'00"N, Long. 126°44'00"W, N.T.S. 92M/2). It is also the site of the small and unoccupied "Peneece Indian Reserve #11".

Access is by way of helicopter, float plane or boat from Port Hardy, the nearest settlement of any size.

Overgrown logging roads extend up Rainbow Creek whose immediate and lower slopes have been logged, but the area is otherwise undeveloped.

Elevations within the Wigwam Group range from sea level to the 1,220m (4,000 foot) summit of an unnamed mountain due north of Wigwam Bay. Topography of the south slope is rugged and the area is mostly inaccessible without adequate precautions. The lower reaches are accessible, but with difficulty due to the second growth tangle resulting from earlier logging operations. The upper reaches are more easily traversed except for heavy seasonal snow accumulations which last until early summer. Snowslides and avalanche areas are common on the steep slopes and have contributed greatly to bedrock exposure, which amounts to about 30%.

The climate is typical "Inner Coast" with wet winters and moderate summers. Precipitation ranges to 50 inches, about 15% of which falls as snow at lower levels in the winter months. Average daily summer temperatures at the lower levels are about 65°F and winter temperatures about 35°F.

Sufficient water for mining purposes is available in nearby streams, and Seymour Inlet is fully navigable. Except for the mountain tops, all areas are tree or vegetation covered.

HISTORY and DEVELOPMENT

There are no records or physical evidence of serious exploration having taken place in the Wigwam Group area, and very few published descriptions exist of any mineral-related activity within the Rivers Inlet map sheet.

Small magnetite bodies within calcareous schistose meta-sediments or meta-volcanics, or within micaceous schists, occur near granodiorite or diorite contacts. These occurrences, known collectively as the "Haig Groups", occur north of Haig Bay about 1.5km south of Wigwam Bay, and are covered by 6 Crown grants. The occurrences were investigated early in the century as a potential source of iron ore and were best described by Clothier (1917) and Young et. al. (1926) as were similar occurrences directly across Seymour Inlet known as the "Alexander Group". Both were examined and air-mag flown by J. J. McDougall in 1960, at which time a small quartz vein occurring along a strong fault structure, which controlled the Alexander Group mineralization, was investigated. Except for some placer activity in Seymour River to the north, no properties have been described in the area.

While conducting airborne iron exploration along coastal BC during the late 1950's and early 1960's, J. J. McDougall noted an unusually strong and extensive magnetic anomaly north of Wigwam Bay. It was and still remains the largest "flux gate" magnetic anomaly noted by J. J. McDougall during many years of work on the West Coast. The size and overall magnetic intensity were only exceeded at the multi-billion ton "Klukwan pyroxinite-amphibolite" deposit in southeast Alaska, which J. J. McDougall had geologically mapped for Ventures Ltd. in 1953 and 1954.

Ground investigation by float-equipped aircraft was hampered by access problems, but some magnetic float was collected in Rainbow Creek. Assays confirmed that the magnetite was titaniferous and occurred within a gabbro complex similar to Klukwan. As the Wigwam occurrences lacked readily mineable placer accumulation that Klukwan contained, the lode deposit was not further investigated as at that time the contained titanium was an objectionable impurity to all but some sophisticated electric furnaces. A technical breakthrough was achieved, but by that time large deposits of magnetite had been discovered in Australia and environmentalists had effectively put the large scale hydro-electric developments required on "hold" in southeast Alaska. Plans for iron production form the titaniferous magnetites were abandoned and the deposits involved have received only scanty attention since, this mainly for their possible content of chromium or platinum group metals. Except for a previous airborne magnetic survey and geological investigation, mainly of the few accessible contact areas, and some sample collection, no work has been done on the Wigwam Group.

WIGWAM Project

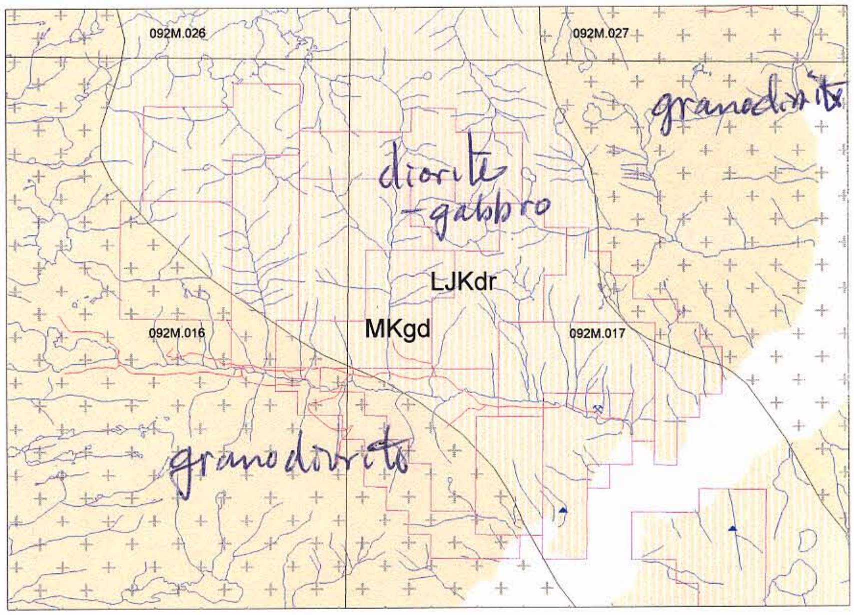
Mineral Inventory Layers

MINFILE status
- Developed Prospect
- Past Producer
- Producer
- Prospect
- Showing
- All Others

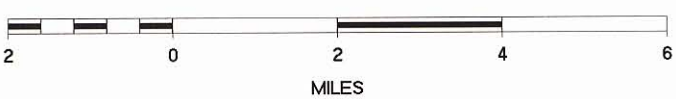
MTO Mineral Titles Layers

MTO Mineral Titles Online Polygons
- Coal
- Placer
- Mineral
- Other

Topographic Layers



SCALE 1 : 147,869



N

REGIONAL GEOLOGY

FIGURE 4

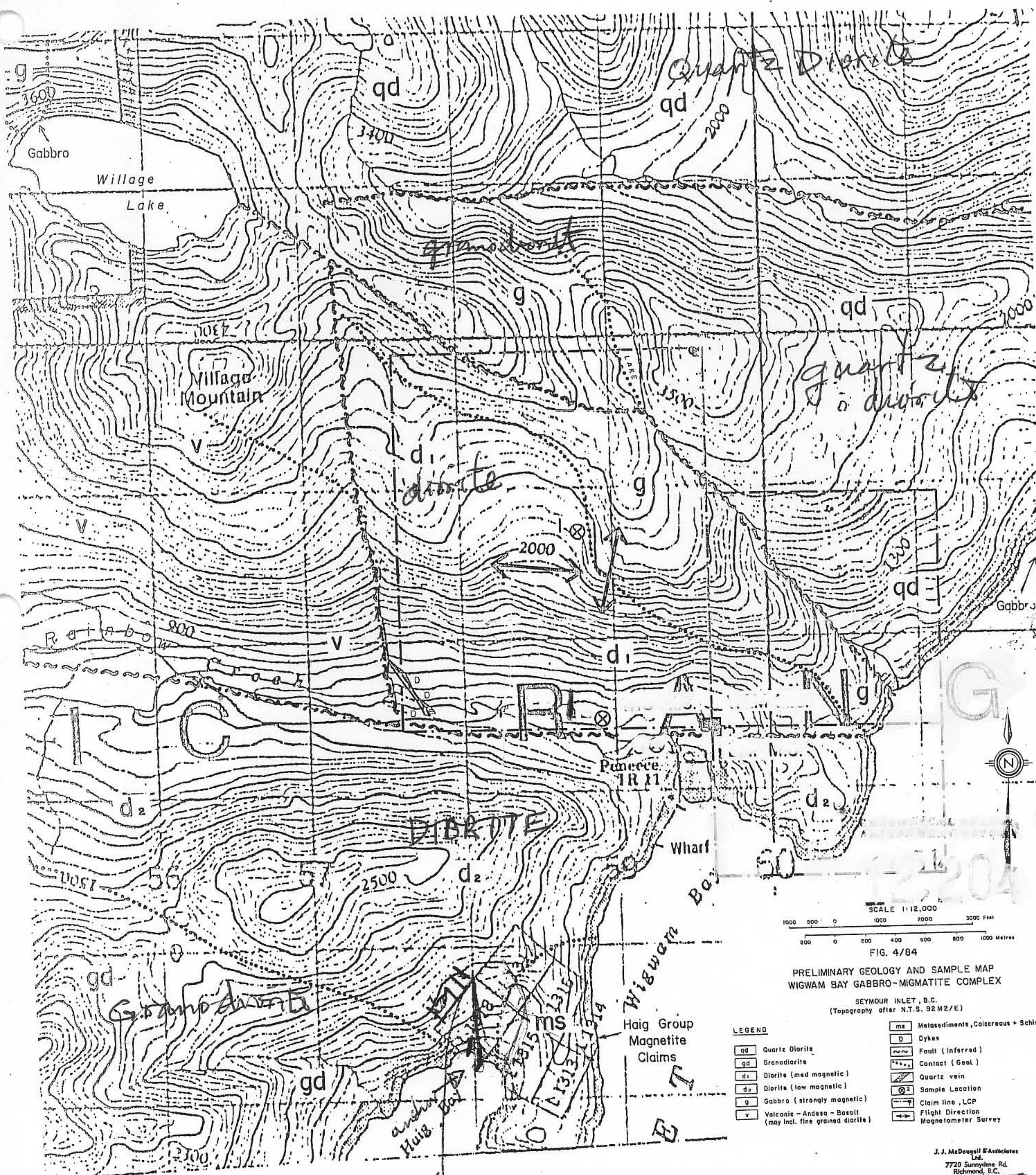
REGIONAL GEOLOGY

Current descriptions (Figure 3) result from early work by Dawson (1889) and Graham (1908), and later Geological Survey of Canada personnel as well as from local examinations by the BC Department of Mines, i.e. Clothier (1917). J. J. McDougall had completed reconnaissance geological mapping (unpublished) of the north half of the sheet during mineral exploration activities in the mid 1960's, but work in the south half was limited to spot examinations and airborne surveys.

The regional geological map is shown as Figure 3 assigns the Seymour Inlet area to the Coast Plutonic Complex, composed largely of granitic rocks believed to be Jurassic to Cretaceous in age. Included are quartz diorites, granodiorites, and diorites present as numerous northwesterly trending bodies containing innumerable roof pendants or septae of older rocks. The complex is described in general as 'migmatic'. Most of the pendants are generally too limited in size to be shown on regional geological maps. Some contain lenses of marble or metasediments, including skarn or calc-silicates developed from the more reactive members. Because of wide scale 'amphibolite grade' metamorphism, the geological ages have not been assigned to the rocks.

A skarn-calcsilicate-limestone unit has been mapped by Young and Uglow (1926) 1.5km south of the Wigwam area because of interest in small magnetite lenses contained within it. The exposure is limited to a 2,000 foot wide band paralleling about 1km of shoreline, but is of interest are to a definite special relation between such relatively rare limestone occurrences on the inner BC Coast and the nearby presence of the unusually magnetic gabbro such as occurs on the Wigwam claims.

WIGWAM PROJECT



SCALE 1:12,000

FIG. 4/84

PRELIMINARY GEOLOGY AND SAMPLE MAP
WIGWAM BAY GABBRO-MIGMATITE COMPLEX

SEYMOUR INLET, B.C.
(Topography after N.T.S. 92M2/E)

LEGEND

qd	Quartz Diorite
gd	Granodiorite
d₁	Diorite (med magnetic)
d₂	Diorite (low magnetic)
g	Gabbro (strongly magnetic)
v	Volcanic – Andeso – Basalt (may incl. fine grained diorite)
ms	Metasediments, Calcareous + Schistose
D	Dykes
~~	Fault (Inferred)
.....	Contact (Geol.)
	Quartz vein
⊗²	Sample Location
	Claim line, LCP
↔	Flight Direction Magnetometer Survey

J. J. McDougall & Associates Ltd.
7720 Sunnydene Rd.
Richmond, B.C.
V6Y 1H

after McDougall 1984

LIMESTONE

FIGURE 5
LOCAL GEOLOGY

Figure 5

LOCAL GEOLOGY

The bedrock geology of the Wigwam Group has not been mapped in detail due to the inhospitable topography of most of the claim area of interest. The outline of major rock units by the anomalous magnetic characteristics, airborne reconnaissance mapping and ground investigations of at least the indicated contact areas. Several steep slide areas have exposed sufficient bedrock within the treed or snow covered areas to allow major unit projection with a fair level of confidence.

Magnetic characteristics were determined using a simple but unusually effective method employed extensively during airborne magnetic work by J. J. McDougall in Western BC. A hand-held M.F.I. fluxgate magnetometer was contour flown in a Cessna Centurian aircraft along several dozen paralleling northwest and northeast lines using ±150 foot ground clearance. Readings were manually noted on an air photo base. Relative values obtained are corrected for mechanically and directionally induced variations by direct observations, resulting in subtractions or additions, and values attributed to vertical or horizontal acceleration are discarded. The results, which are relative only, are useable where a 100 gamma variance is of no consequence. About 50 miles of such flying was done by a Langley-based aircraft over the Wigwam area (McDougall, 1984b).

ROCK DESCRIPTIONS

Megascopic descriptions of the rock units occurring within the Wigwam group as mapped are as follows (from McDougall, 1984b):

a) Gabbro

The crystalline gabbro present occurs largely in vein or pegmatite-like clusters within dioritic or metamorphic rocks in the area. It consists of approximately 60% black hornblende plus Pyroxenite and 40% plagioclase. Grain size of the largely euhedral hornblende can approach 20mm long dimension. The rock could probably be better described as a "Pyroxenite-amphibolite".

The gabbro is younger than most (?) rocks it is directly associated with as numerous unaltered veinlets, ranging in grain size from fine to medium, cut the micaceous and somewhat schistose country rock, generally penetrating along poorly developed planes of schistosity or paralleling lineal gneissic trends.

Very fine grained varieties are common as are masses of medium grained material, but if large expanses of coarse gabbro such as are common elsewhere on the West Coast (McDougall, 1984a) are present, they are either snow covered or occupy inaccessible areas. Creek float suggest the nearby presence of some, however.

The magnetite occurs either as fine disseminated grains within the hornblende or as very small veinlets cutting the rock. In rare instances, small masses about ½ inch in width occur. In the Wigwam area the maximum magnetite content noted was about 35% but the average is in the 5% to 10% range. The gabbro and the associated dioritic rocks are unusually pyritic with up to 3% fine grained disseminated pyrite evident.

The gabbro boundaries are shown on the accompanying geological map (Figure 4) based largely on magnetic qualities although other rocks included within the map unit may constitute up to ±30% of the total.

b) Diorite

The Wigwam diorite appears closely related to the gabbro but appears to be older and is often altered to a micaceous phyllite or schist lacking any obvious intrusive appearance. The mapped unit could probably better be described as a diorite-migmatite complex. The largely fine grained rock has undergone metamorphism and often appears gneissic or schistose. Highly micaceous or otherwise altered sedimentary remnants or inclusions are present within it. In the Wigwam area, much of the complex appears to have been intruded by gabbro. As mapped, low and medium magnetic subdivisions have been made, based largely on the proportion of (magnetic) gabbro included.

c) Quartz Diorite and Granodiorite

The quartz diorite and granodiorites which bound the gabbro-diorite-migmatite complex are typical Coast Range intrusive(?) rocks. Age relations are unknown. They are generally medium grained and often contain a weak, northwesterly trending foliation. Inclusions are common. They are generally nonmagnetic and only peripherally involved in the present study.

d) Volcanics

These rocks are probably the equivalent of the Geological Survey of Canada (1973) unit "iKVd (andesite, basalt, tuff)" mapped along strike several miles to the northwest of the Wigwam Group. The unit occurs only along and west of the extreme western edge of the Wig claim where its very low magnetics help distinguish it along an apparent fault contact with the magnetic diorites. Specimens representative of the unit, which appears as a dull gray, highly altered mass containing small carbonate segregations, have not been examined.

e) Metasediments

These rocks consist of brown or gray, fine grained, highly micaceous or schistose metasediments (or metavolcanics??) containing occasional calcareous (crystalline limestone) lenses. They occur to the south of the Wigwam Group where they contain small lenses of non-titaniferous magnetite as described by Young (1926). Small altered inclusions noted within the diorite-gabbro-migmatite complex may consist of this rock type.

f) Dykes

A 300 metre long dyke-like body, ranging in size from 1 to 10 metres, is evident near the western limits of the Wigwam where it is well exposed in a recent landslide area. It has not been examined in detail due to the terrain, but appears to represent a highly altered (siliceous, micaceous and hornfelsic) andesite dyke. It is accompanied by varying amounts of rusty weathering quartz, which has not been examined.

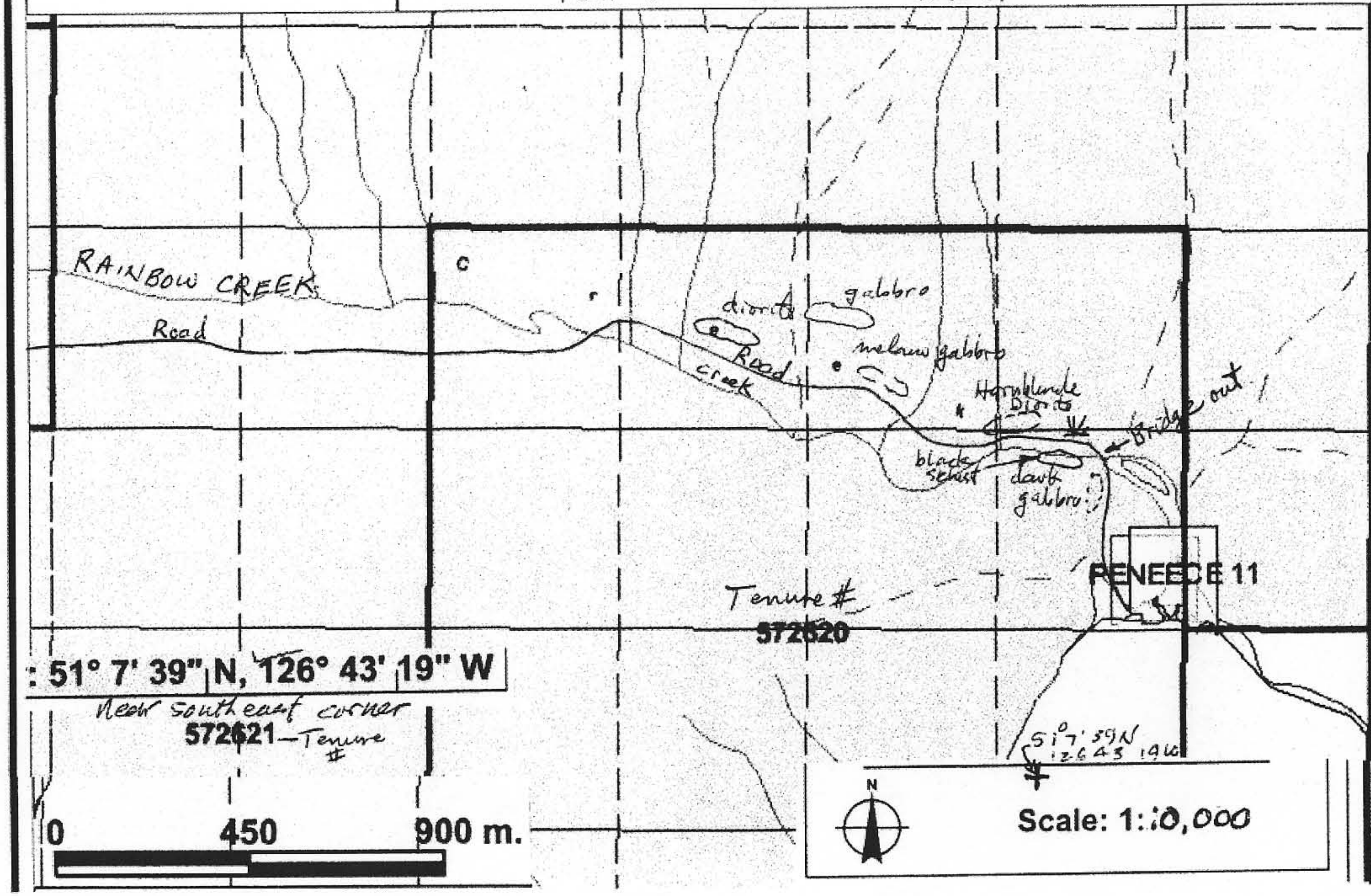
Structure

The dominant structure appears to consist of a number of highly altered intrusive complexes separated by east-west or northwesterly striking faults (Figure 4). The magnetic response of various rock units across these structural features, which are well depicted by local topographic depressions, is distinctly sharp. Attitudes appear steep. A weak northwesterly-trending foliation with steep dips is common within all rock units. Contact attitudes also appear steep.

No fracture or joint attitude appears dominant although within the quartz-diorite a system with a northwesterly strike appears slightly better developed than others.

Prospecting Traverse Map

RAINBOW CREEK AREA FIG 6



LOCAL PROSPECTING MAP FIGURE 6
1:10,000
RAINBOW CREEK AREA

2008 PROSPECTING and GEOLOGY

As the most highly magnetic (assumably the highest grade) portion of the Wigwam deposit was not sampled due to inaccessible terrain (refer to Figure 6). Exposures of melanogabbro along the road up Rainbow Creek were examined.

No "in place" grades were determined as experience has shown that many hundreds of samples would have to be processed before arriving at a meaningful average which would fall between 5% and 15% magnetite for most magnetically anomalous coastal gabbros. The highest grade occurring in gabbro specimens larger than 5 pounds, which occurred as float at Wigwam, was 25% soluble iron or 35% magnetite (McDougall, 1984b).

The titanium (generally expressed as TiO_2) occurs as bladed ilmenite ($FeTiO_2$) within the silicates or, more commonly, as exsolved ilmenite within magneitite (ilmeno or titano-magnetite). The vanadium, generally expressed as vanadium pentoxide (V_2O_5), occurs similarly, i.e. solid solution within titanomagnetite.

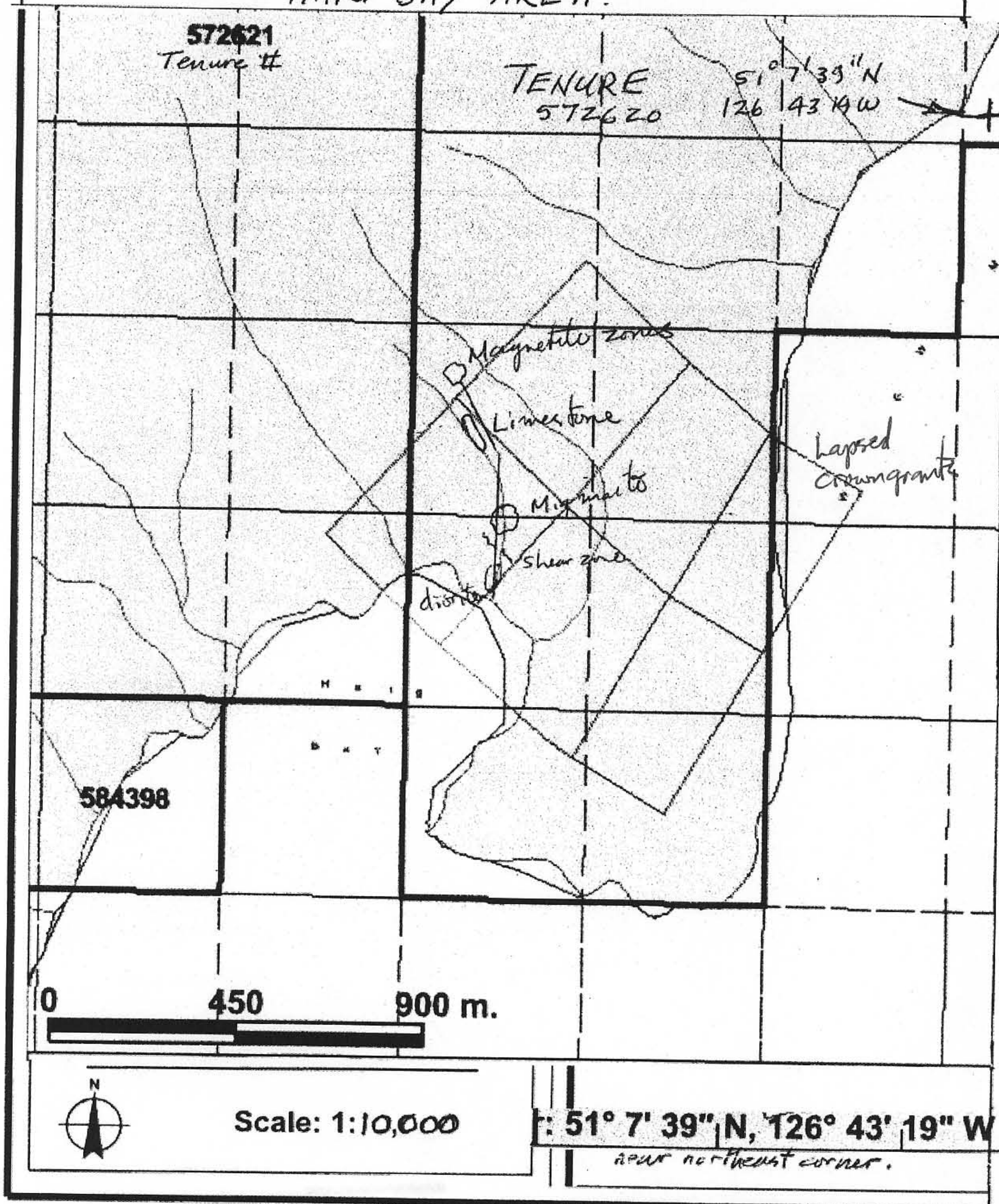
The Kitchener showings; north of Haig Bay, Figure 7, are underlain by a 600m wide band of dark, fine-grained hornblende-mica-schists of sedimentary and/or volcanic origin, and which includes several narrow bands of recrystallized limestone (Geological Survey of Canada Economic Geology Report, 1926). Contacts and foliations in the rocks strike northwest and have a subveritical to steep, northeasterly dip. Granodiorite and diorite border this band of rocks to the northeast and southwest of the claim group, respectively, and may occur locally within it and as migmatites zones.

Magnetite is confined to the metasediments and metavolcanics, and occurs in several localities (at least 4) over a width of about 450 metres. Individual showings are up to about 6 metres in width. The magnetite occurs in irregular, centimetre-scale aggregates, or in narrow veins, or it is disseminated in the host rocks over a few square metres; sulphides are lacking. The massive aggregates are quite pure, dense, bluish black magnetite, assaying up to 65.5% iron (Minister of Mines Annual Report 1917). These lenses or zones are generally concordant with the structures in the host rocks; one "vein" is at a limestone contact.

Complex drag or flow folds were observed 200m north of the shoreline as evidenced by highly contorted narrow dykes and laminated white and dark grey limestone.

Prospecting Traverse Map

HAIG BAY AREA.



LOCAL PROSPECTING MAP
HAIG BAY AREA

FIGURE 7

CONCLUSIONS and RECOMMENDATIONS

The pyritic magnetite-bearing gabbro-diorite-migmatite complex on the Wigwam claims contains values similar to the average for iron, titanium and vanadium found in magnetic coastal gabbros, but silver values within the sulphide-rich component are somewhat elevated (McDougall, 1984). The values within the highly anomalous magnetic core have not been conclusively tested.

Recommendations are that:

1) The central magnetic core be explored and sampled during favourable weather conditions, preferably in late July or August.

2) The dyke-related quartz vein system be prospected and sampled for possible precious metal content.

3) The magnetic signature of the main magnetic zone should be defined by an airborne survey.

4) The skarn magnetite zone north of Haig Bay should be prospected in detail.

Respectfully submitted,

Jo Shearer, M.Sc., P.Geo.

ESTIMATE of COST for FUTURE WORK

Geological mapping and sampling, boat and helicopter supported.

Senior Geologist, 20 days @ $700/day		$14,000.00
Junior Geologist, 20 days @ $500/day		10,000.00
2 Support Personnel, 40 days @ $450/day		16,000.00
Helicopter		5,000.00
Boat Support, 20 days @$800/day		16,000.00
Mapping Computation		6,200.00
Analytical		6,000.00
Camp, 80 man days @ $60/day		4,800.00
Food, 80 man days @ $100/day		8,000.00
Equipment and Supplies		4,000.00
Mob & Demob, Truck, Hotel & Ferry		4,000.00
Report Preparation		5,000.00
Reproduction and Word Processing		1,000.00
	Total	**$100,000.00**

STATEMENT OF QUALIFICATIONS

I J. T. (Jo) Shearer do hereby certify that:

1. I am an independent consulting geologist and principal of Homegold Resources Ltd.

2. My academic qualifications are:
   - Bachelor of Science, Honours Geology from the University of British Columbia, 1973
   - Associate of the Royal School of Mines (ARSM) from the Imperial College of Science and Technology in London, England in 1977 in Mineral Exploration
   - Master of Science from the University of London, 1977

3. My professional associations are:
   - Member of the Association of Professional Engineers and Geoscientists in the Province of British Columbia, Canada, Member #19,279
   - Fellow of the Geological Association of Canada, Fellow #F439
   - Fellow of the Geological Society of London
   - Fellow of the Canadian Institute of Mining and Metallurgy, Fellow # 97316
   - Fellow of the Society of Economic Geologists (SEG), Fellow #723766

4. I have been professionally active in the mining industry continuously for over 35 years since initial graduation from university.

5. I have read the definition of "qualified person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.

6. I am responsible for the preparation of all sections of the assessment report entitled "Geological and Prospecting Assessment Report on the Seymour Inlet Project" dated September 15, 2008. I have visited the Property on August 14-18, 2008 and collected representative samples of mineralization. General geological parameters were also examined.

7. I have not had prior involvement with the property, which is the subject of the technical report.

March 15/09

Date

J.T. (Jo) Shearer, M.Sc., P.Geo.

REFERENCES

Brewer, W. M., 1919:
BC Minister of Mines, Annual Report (1919) – P 210.

Clothier, G. A., 1917:
BC Minister of Mines, Annual Report (1917) – pp 64-5

Dawson, G. M., 1889:
The Mineral Wealth of BC, Geological Survey of Canada (1889) – pp 101, 181.

Graham, R. P., 1908:
Geological survey of Canada Summary Report (1908) – p. 40

McDougall, J. J., 1984a:
Geology of the Skarn M.C., BC Ministry of Mines and Petroleum Resources, Assessment Report filed April, 1984, Assessment Report 12,346

1984b:
Assessment Report on Wigwam Claims, Report for Geddes Resources Ltd., 1984, Assessment Report 12,204.

Roddick, J. A., Muller, J. E., and Okulitch, E. V., 1979:
Fraser River 1:1,000,000 Map Sheet, Geological Survey of Canada Map 1386A (1979)

Young, G. A., Uglow, W. L., 1926:
The Iron Ores of Canada – Volume 1, Economic Geology Series #3 (1926) – pp. 55-62

APPENDIX I

STATEMENT of COSTS

SEPTEMBER 15, 2008

APPENDIX I
STATEMENT of COSTS
SEYMOUR INLET PROJECT

Wages and Benefits

J. T. Shearer, M.Sc., P.Geo. 5 days @ $700/day August 14-18, 2008		$ 3,500.00
Ron Klatt, Boat Operator & Field Assistant, 5 days @ $500/day August 14-17, 2008		2,500.00
	GST 5%	300.00
	Wages Subtotal	$ 6,300.00

Expenses

Transportation		
Fully Equipped 4x4, 5 days @ $98.75/day		493.75
Fuel for Truck		200.00
Boat with Radar & GPS navigation, 4 days @ $800/day, Aug. 14-17, 2008		3,200.00
Fuel for Boat		299.00
Ferry		120.00
Food		650.00
Hotel and Camp		420.00
Rental of GPS Unit		185.00
Report Preparation		1,400.00
Drafting		200.00
Word Processing, 4 hrs @ $30/hr		300.00
	Expenses Subtotal	$6,927.75
	Grand Total	**$ 13,227.75**

Work Filed $12,500

Event No. 4256905

APPENDIX II

LIST of SAMPLES

SEPTEMBER 15, 2008

±20 ft 09 µ 0659265E, 5667080N, at where boat is brought ashore

Traverse along old road over to Rainbow Creek

#1 schist in creek, needle like 2° xls Hbl schist, amphibolite metamorphis, some layered rusty float, rounded white pheno porphyry

Past several sheared magnetite, float at corner, up to mini rock canyon 021±25ft at 0658013 8008, 5665617 601+70m

Pronounced shearing at 336°/60 west ½m of rusty cherty at top, continuous rock exposure up to solid rock 328°/verti. Some very rusty layers ± 26 ft 0658025, 5665631 81m elevation

Up to large outcrop with complex flow folds and migmatites dykes and shearing 88m elevation, ±24 657996 8000, 5665611 5709

Up to thick buff weathering white limestone in creek at highly contorted dykes 168m elevation, ± 27' 0657991 8003, ± 34' 5665739 755

Back down along east side of trail, old old road possible ±42' 658043, 5775757

Saturday August 16/08

Back to first bridge crossing over rainbow creek, ± 39 0659255, 5667493 3m elevation

#10 dark gabbro – 4m, lots of rusty boulders with lumpy weathering, lots of white and black hornblende diorite? Bit smooth black schist – large outcrop just up stream

0659265, 5667508

Creek Location + 25 ft, 0659332, 5667481, 471, where 2 amphibolie pyritic

Back to LeMare Seymour Inlet Camp, tie up to wharf

Down to Haig Bay at 9:00 am examined old logging show up towards magnetie, dark grey to black schist, migmatitic ganitoids, at Boat dock 09µ 657946, 5665464, elevation 12m ± 16 ft, chunks of laminated limestone-marble float

Up along side of road, washed out, boulders of garnet skarn, large boulder >1 to 3m square of light grey limestone

Large 15-20m high
GPS on washout 0657973, 5665533, Elevation 44 Not Logged

Back to Wigwam Bay

Traverse over to Creek

Cross Creek check out road on north side of Rainbow Creek

Bear habitat, stumps have springboard slots (1940's logging), bushwack along northside of creek for a while

Very rusty minor creek seepage

#2 Windfall at 0658970, 5667518 ± 26
Schist, banded amphibolite, 4 good in timber nice gps unit

#3 rusty dioritic gabbro float at ±31 658786 92, 5667654 32, 2 chunks end of branch road – all gown in, elevation 62m, weathered with knobby appearance

#5 up the hill arrowhead shaped sample 15cm long, GPS heavier timber 09µ, ± 105 ft, 0658796, 5667710, 127m elevation

#7 in sandwich bag, melanogabbro farther up hill -

#8 very brittle back toward creek crossing, looks like quartz eyes, xline, ± 49, 0658846, 5667725, 128m

#9 small creek – drink of water, ±38 0658945, 5667693, 42m elevation, sugary

APPENDIX III

TITANIFEROUS ZONED Pt/Oz/Rh/Ir DEPOSIT MODEL
And
MAGMATIC OXIDE DEPOSIT MODEL

SEPTEMBER 15, 2008

ALASKAN-TYPE Pt+/-Os+/-Rh+/-Ir
M05
by Graham T. Nixon
British Columbia Geological Survey

Nixon, G. T. (1996): Alaskan-type Pt+/-Os+/-Rh+/-Ir, in Selected British Columbia Mineral Deposit Profiles, Volume 2 - Metallic Deposits, Lefebure, D.V. and Hõy, T, Editors, British Columbia Ministry of Employment and Investment, Open File 1996-13, pages 113-116.

IDENTIFICATION

SYNONYMS: Zoned ultramafic, Uralian-type, Alaskan-type.

COMMODITIES (BYPRODUCTS): Pt (Ir, Os, Rh, magnetite).

EXAMPLES (British Columbia - *Canada/International*): Tulameen Complex and associated placers; magnetite plus trace platinum group elements (PGE) -Lodestone Mountain (092HSE034), Tanglewood Hill (092HSE035); chromite - Grasshopper Mountain (092HNE011); olivine - Grasshopper Mountain Olivine (092HNE189); *Red Mountain, Goodnews Bay (Alaska, USA), Tin Cup Peak (Oregon, USA), Ural Mountains and Aldan Shield (Russia), Fifield district (NSW, Australia).*

GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Ultramafic intrusive complexes, commonly zoned, forming sills, stocks or intrusive bodies with poorly known external geometry. Subeconomic platinum group elements in lode occurrences are associated with: 1) thin (centimetre-scale), disrupted chromitite layers , 2) thick (metre-scale) concentrations of cumulus magnetite or 3) clinopyroxenite. Economic placer deposits appear to be derived predominantly from chromitite- hosted PGE occurrences.

TECTONIC SETTINGS: Traditionally subdivided into orogenic (unstable) and platformal (stable) environments. In British Columbia, Alaskan-type complexes were emplaced during an episode of Cordillera-wide, subduction-related arc magmatism followed by an episode of orogenic compression.

DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING: Zoned to crudely layered ultramafic- mafic intrusive complexes with rarely preserved (or poorly documented) metamorphic aureoles. Intrusive margins are commonly faulted. Traditionally viewed as deep-seated cumulates diapirically re-emplaced at high levels in the crust. In British Columbia, at least, most intrusions appear to represent cumulate deposition in upper crustal (subvolcanic?) magma chambers and the diapiric re-emplacement model lacks definitive supporting evidence.

AGE OF MINERALIZATION: Precambrian to late Mesozoic; most Alaskan-type complexes in British Columbia appear to be mid-Triassic to late Early Jurassic in age.

HOST/ASSOCIATED ROCK TYPES: Predominantly dunite, wehrlite, olivine clinopyroxenite, clinopyroxenite, hornblende clinopyroxenite, clinopyroxene hornblendite, hornblende- and/or clinopyroxene-bearing gabbro/diorite. Minor lithologies include chromitite, magnetitite, olivine-hornblende clinopyroxenite, and hornblendite. Associated feldspar-bearing lithologies include gabbro/diorite, monzonite, monzodiorite and minor alkali-feldspar syenite and hornblende-feldspar ± quartz ± biotite pegmatite.

DEPOSIT FORM: Lode occurrences of PGEs are primarily controlled by magmatic cumulate stratigraphy:

➡ 1) chromitites are restricted to dunites where they form thin discontinuous layers or schlieren, pods and nodular masses seldom more than a metre in length;
2) magnetitites and concentrations of cumulus magnetite form well bedded, locally continuous layers up to six m thick intercalated with hornblende clinopyroxenite;
3) lenses and vein-like bodies of relatively coarse-grained or "pegmatoid", biotite and magnetite-poor, PGE-bearing clinopyroxenites are enclosed by finer grained, biotite and magnetite-rich, PGE-poor clinopyroxenites.

TEXTURE/STRUCTURE: Cumulus and intercumulus textures are most common; poikilitic textures may predominate locally, especially in hornblende-bearing lithologies. Comparatively rare macroscopic layering. Euhedral to subhedral chromite concentrations form networks around olivine or discrete wispy or thin layers in dunite. Chromitites typically form schlieren and nodular masses due to syndepositional remobilization. Magnetite-rich accumulations usually form thin to thick bedded layers in hornblende clinopyroxenite. Tectonic deformation, commonly in the form of ductile shear fabrics, is locally superimposed on magmatic textures, and is especially prevalent at intrusive contacts.

ORE MINERALOGY (Principal and *subordinate*): Three types of PGE mineral (PGM) associations are recognized in lode occurrences: 1) chromitite-PGM association, principally chromite and Pt-Fe(-Cu-Ni) alloys (e.g. tetraferroplatinum, isoferroplatinum, rare *native platinum, tulameenite)* and minor *Os-Ir* and *Pt-Ir alloys, Rh-Ir sulpharsenides (hollingworthite-irarsite series), sperrylite (PtAs2), geversite (PtSb2), and laurite (RuS2)*; 2) magnetitite-PGM association (not well documented), principally magnetite (Ti-V-rich in certain cases) and Pt-Fe and Os-Ir alloys, and rare cooperite (PtS); 3) clinopyroxenite-PGM association (known from a single locality - Fifield, NSW, Australia), principally Pt-Fe alloys (isoferroplatinum-tetraferroplatinum), erlichmanite (OsS2), cooperite, and sperrylite-geversite. Minor amounts of *base metal sulphides (chalcopyrite, pentlandite, pyrrhotite, pyrite, bornite, violarite, bravoite, millerite, heazlewoodite)* generally accompany the PGM in all three associations.

GANGUE MINERALOGY (Principal and *subordinate*): The principal gangue minerals include olivine, chrome spinel, clinopyroxene, and hornblende in ultramafic rocks; hornblende, clinopyroxene and plagioclase in gabbroic/dioritic rocks; and hornblende, quartz (rare) and alkali feldspar in leucocratic differentiates. Orthopyroxene is characteristically absent as a cumulus phase but may form very rare intercumulus grains. Accessory magnetite and apatite are generally common, and locally abundant in hornblende clinopyroxenite; sphene and zircon occur in felsic differentiates; phlogopite-biotite is particularly widespread as an accessory phase in British Columbia.

ALTERATION MINERALOGY: Secondary PGM are minor and closely associated with the primary PGM alloys. Remobilization of PGE is believed to be extremely limited and may be commonly related to postmagmatic serpentinizaton processes acting during regional metamorphism and deformation.

WEATHERING: It has been argued by some that the PGE found in placer occurrences may owe their origin to the hydromorphic dispersion and precipitation of PGE during normal weathering processes. The debate continues, but it is clear from a variety of textural, mineralogical and isotopic (Re-Os) data that the common placer PGE occurrences are the products of mechanical degradation of magmatic lode occurrences and not surficial remobilization processes.

ORE CONTROLS: The PGM appear to be restricted to chromitite, magnetite-rich or clinopyroxenite layers which formed by primary magmatic crystallization processes. The chromite is typically associated with dunite whereas the magnetite is found with clinopyroxenite.

GENETIC MODEL: The origin of the PGE in Alaskan-type deposits is magmatic with very limited low-temperature remobilization. A low sulphidation, relatively high oxidation magmatic environment (subduction-related?) appears to be an important genetic control. The chromitites in dunite and, to a much lesser extent, the magnetite-rich layers in clinopyroxenite, appear to be the ultimate source of the placer PGE.

ASSOCIATED DEPOSIT TYPES: Placer deposits (C01, C02) are extremely important since they have been the only significant economically recoverable source of PGE associated with Alaskan-type complexes. Some lode deposits have been worked in Russia but their documentation is extremely poor.

COMMENTS: All of the world's most important Alaskan-derived placers appear to be related to concentrations of PGE in chromitites. Gold in these placers appears to have been derived from a separate source. Magnetite accumulations in clinopyroxenites of the Tulameen Complex have been explored for magnetite. EXPLORATION GUIDES

GEOCHEMICAL SIGNATURE: Primarily Pt, with subsidiary Os, Rh and Ir; other elements such as Cu, Ni, and Cr may be locally important. Geochemical pathfinder elements for PGE, such as As and Sb, may also be important.

GEOPHYSICAL SIGNATURE: Primarily magnetic; gravity may be important.

OTHER EXPLORATION GUIDES: Stream sediment sampling of heavy mineral concentrates for PGE is a key exploration tool; in favourable circumstances PGE geochemistry and platinum nugget mineralogy can uniquely distinguish an Alaskan-type heritage from all other common PGE environments.

ECONOMIC FACTORS

TYPICAL GRADE AND TONNAGE: PGE concentrations in grab samples from lode deposits are extremely spotty such that reliable tonnages and grades are not available. The associated placer deposits are likewise extremely variable. Maximum grade of Pt from the Goodnews Mining Company records, Alaska (1957) was approximately "$37 per cubic yard" at February 1993 prices. Placers in the Tulameen district reportedly yielded some 620 kg of impure platinum between 1889 and 1936. Some of the placer deposits in the former Soviet Union have yielded exceptional platinum nuggets of up to 11.3 kg.

ECONOMIC LIMITATIONS: The chromitite-PGE association appears to be the most important in British Columbia; without exception, all of these chromitite occurrences are small, dispersed throughout a dunite host, and all have been remobilized soon after deposition within the high-temperature magmatic environment. A small open pit operation appears to be the only potentially economic method of PGE extraction. The occurrence of the PGE as small micrometre-size inclusions in refractory chromite poses problems for processing.

END USES: PGE are primarily used as high-temperature catalysts in a variety of industries, perhaps the most familiar being platinum for automobile catalytic converters. Other uses include medical and electronic (fuel cells, thermocouples), and platinum is used in jewelry.

IMPORTANCE: PGE are classed as a strategic commodity. The most important producers are South Africa and Russia.

REFERENCES

Duparc, L. and Tikonowitch, M.N. (1920): Le Platine et les Gites Platiniferes de l'Oural et du Monde; *Sonor*, Geneve.

Hurlbert, L.J., Duke, J.M., Eckstrand, O.R., Lydon, J.W., Scoates, R.F.J., Cabri, L.J. and

Irvine, T.N. (1988): Geological Environments of the Platinum Group Elements; *Geological Association of Canada*, Cordilleran Section Workshop, February 1988, Vancouver, 151 pages.

Johan, Z., Ohnenstetter, M., Slansky, E., Barron, L.M. and Suppel, D. (1989): Platinum Mineralization in the Alaskan-type Intrusive Complexes near Fifield, New South Wales, Australia Part 1. Platinum-group Minerals in Clinopyroxenites of the Kelvin Grove Prospect, Owendale Intrusion; *Mineralogy and Petrology*, Volume 40, pages 289-309.

Mertie, J.B. Jr. (1976): Platinum Deposits of the Goodnews Bay District, Alaska; *U. S. Geological Survey*, Professional Paper 938, 42 pages.

Nixon, G.T. (1992): Platinum-group Elements in Tulameen Coal, British Columbia, Canada - A Discussion; *Economic Geology*, Volume 87, pages 1667-1677.

Nixon, G.T. and Hammack, J.L. (1991): Metallogeny of Ultramafic-mafic Rocks in British Columbia with Emphasis on the Platinum-group Elements; in Ore Deposits, Tectonics and Metallogeny in the Canadian Cordillera, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Paper 1991-4, pages 125-161.

Nixon, G.T., Cabri, L.J. and Laflamme, J.H.G. (1990): Platinum-group Element Mineralization in Lode and Placer Deposits associated with the Tulameen Alaskan- type Complex, British Columbia; *Canadian Mineralogist*, Volume 28, pages 503-535.

Page, N. J. and Gray, F. (1986): Descriptive Model of Alaskan PGE; in Mineral Deposit Models, Cox, Denis P. and Singer, D.A., Editors, *U.S. Geological Survey*, Bulletin 1693, page 49.

Rublee, V.J. (1986): Occurrence and Distribution of Platinum-group Elements in British Columbia; *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1986-7, 94 pages.

December 17, 1995

[M03] [M04] [M05] [M06] [M07] [M08] [Published Profile Index]
[Deposit Profiles]

This page was updated: September 12, 2007.

MAGMATIC Ti-Fe±V OXIDE DEPOSITS
M04

by G.A. Gross[1], C.F. Gower[2], and D.V. Lefebure[3]
[1]Geological Survey of Canada
[2]Newfoundland Department of Mines and Energy
[3]British Columbia Geological Survey

B.C. MINERAL DEPOSIT PROFILES

Gross, G.A., Gower, C.F., and Lefebure, D.V. (1997): Magmatic Ti-Fe±V Oxide Deposits, in Geological Fieldwork 1997, British Columbia Ministry of Employment and Investment, Paper 1998-1, pages 24J-1 to 24J-3.

IDENTIFICATION

SYNONYMS: Mafic intrusion-hosted titanium-iron deposits.

COMMODITIES (*BYPRODUCTS*): Ti, Fe

EXAMPLES (British Columbia - *Canada/International*): Bearpaw Ridge? (093I 028); *Methuen, Unfravile, Matthews-Chaffrey, Kingston Harbour (Ontario, Canada); Lac-du-Pin-Rouge, Lac Tio, Magpie (Quebec, Canada), Sanford Lake (New York, USA), Tellnes, Egersund (Norway), Smaalands-Taberg, Ulvno* (Sweden).

GEOLOGICAL CHARACTERISTICS

CAPSULE DESCRIPTION: Ilmenite, hemo-ilmenite or titaniferous magnetite accumulations as cross-cutting lenses or dike-like bodies, layers or disseminations within anorthositic/gabbroic/noritic rocks. These deposits can be subdivided into an ilmenite subtype (anorthosite-hosted titanium-iron) and a titaniferous magnetite subtype (gabbro-anorthosite-hosted iron-titanium).

TECTONIC SETTING: Commonly associated with anorthosite-gabbro-norite-monzonite (mangerite)-charnockite granite (AMCG) suites that are conventionally interpreted to be anorogenic and/or extensional. Some of the iron-titanium deposits occur at continental margins related to island arc magmatism followed by an episode of orogenic compression.

DEPOSITIONAL ENVIRONMENT / GEOLOGICAL SETTING: Deposits occur in intrusive complexes which typically are emplaced at deeper levels in the crust. Progressive differentiation of liquids residual from anorthosite-norite magmas leads to late stage intruions enriched in Fe and Ti oxides and apatite.

AGE OF MINERALIZATION: Mainly Mesoproterozoic (1.65 to 0.90 Ga) for the ilmenite deposits, but this may be a consequence of a particular combination of tectonic circumstances, rather than any a priori temporal control. The Fe-Ti deposits with titaniferous magnetite do not appear to be restricted in time.

HOST/ASSOCIATED ROCKS: Hosted by massive, layered or zoned intrusive complexes - anorthosite, norite, gabbro, diorite, diabase, quartz monzonite and hornblende pyroxenite. The anorthosites are commonly emplaced in granitoid gneiss, granulite, schist, amphibolite and quartzite. Some deposits associated with lower grade rocks.

DEPOSIT FORM: Lensoid, dike-like or sill-like bodies of massive ore, or disseminated in mafic host rocks. Some ore is disseminated as layers in layered intrusions. Typically the massive material has sharp, cross-cutting contacts with its anorthositic hosts, forming lenses tens to hundreds of metres wide and several hundred metres long. The massive ore may have apophyses cutting the host rock, be associated with intrusive breccias and contain anorthositic xenoliths. In layered deposits individual layers range in thickness from centimetres to metres and may be followed up to several thousand metres. Lean (disseminated) ore grades into unmineralized host rock. Lac Tio and Tellnes ore bodies are very large examples of the ilmenite subtype. Lac Tio is an irregular, tabular intrusive mass, 1100 m long and 1000 m wide. The Tellnes ore body, which is 400 m thick and 2.5 km long, is part of a 14 km long dike.

TEXTURE/STRUCTURE: Massive, disseminated or locally in layers. No zoning of ore minerals, but there may be variation in modal proportions of associated silicates. Medium or coarse grained, primary magmatic textures. Exsolution intergrowths of either ilmenite and hemo-ilmenite, or titanomagnetite, titaniferous magnetite or ilmenite in magnetite. Locally the massive ore, particularly near contacts with host rock, contains abundant xenoliths and xenocrysts derived from the associated intrusive.

ORE MINERALOGY (Principal and *subordinate*): Ilmenite, hemo-ilmenite, titaniferous magnetite and magnetite. Proportions of ilmenite and magnetite generally correlate with host rock petrology. Fe-sulphides such as *pyrrhotite, pentlandite and chalcopyrite.*

GANGUE MINERALOGY (Principal and *subordinate*): Silicate minerals, especially plagioclase, orthopyroxene, clinopyroxene and olivine, with apatite, minor *zircon and pleonaste spinel*. Orthopyroxene is rare to absent in the island arc-related titaniferous magnetite deposits.

ALTERATION MINERALOGY: Not normally altered.

WEATHERING: Rarely residual enrichment may occur in weathering zone.

ORE CONTROLS: The key control is the development of a late, separate Ti and Fe-rich liquid from a fractionating magma under stable conditions. Many deposits occur in elongate belts of intrusive complexes emplaced along deep-seated faults and fractures. Ilmenite deposits are associated with lower magnesian phases of anorthositic intrusions. Titaniferous magnetite deposits are commonly associated with magnesian, labradorite phases of anorthositic intrusions or gabbroic phases near the margins of the stock. In layered intrusions the titaniferous magnetite seams are commonly within the upper stratigraphic levels and in marginal zones of complex intrusive bodies.

GENETIC MODELS: Progressive differentiation of liquids residual from anorthosite-norite magmas leads to late enrichment in Fe and Ti. Typically plagioclase crystallization results in concentration of Fe and Ti in residual magmas which typically crystallize to form ferrodiorites and ferrogabbros. Layers form by crystal settling and accumulation on the floors of magma chambers and the disseminated deposits are believed to have formed in-situ. The origin of the discordant deposits, primarily associated with the Proterozoic anorthosites, is not well understood. Two genetic models have been suggested - remobilization of the crystal cummulates into cracks or fractures or emplacement as a Fe-Ti-oxide-rich immiscible melt with little silica.

ASSOCIATED DEPOSIT TYPES: Ni-Cu-Co magmatic sulphide deposits (M02), chromite deposits (e.g. Bushveld Complex), platinum group deposits (e.g. Stillwater Complex, Bushveld Complex), and placer ilmenite, magnetite, rutile and zircon (C01, C02).

COMMENTS: Titaniferous magnetite deposits associated with zoned ultramafic complexes in

Alaska and British Columbia, such as Lodestone Mountain (092HSE034) and Tanglewood Hill (092HSE035), are included with Alaskan-type deposits (M05). Some authors would include them with magmatic Fe-TiV oxide deposits. In California in the San Gabriel Range occurrences of the ilmenite-subtype are hosted by anorthosite and ferrodiorite intrusions within a metamorphic complex composed of gneisses.

EXPLORATION GUIDES

GEOCHEMICAL SIGNATURE: Ti, Fe, V, Cr, Ni, Cu, Co geochemical anomalies.

GEOPHYSICAL SIGNATURE: Magnetic or EM response, although if the deposit is particularly ilmenite-rich it may exhibit either a subdued or a strong negative anomaly. Sometimes the subdued response displays characteristic irregular patterns of negative and positive anomalies that show broad smooth profiles or patterns.

OTHER EXPLORATION GUIDES: Heavy mineral concentrations of ilmenite and titaniferous magnetite in placer deposits. Abundant apatite in some deposits. Association with anothosite and gabbro intrusive complexes along deep fracture and fault zones.

ECONOMIC FACTORS

GRADE AND TONNAGE: Both grade and tonnage vary considerably. The ilmenite deposits are up to several hundreds of millions of tonnes with from 10 to 75% TiO_2, 32 to 45% Fe and less than 0.2% V. The Tellnes deposit comprises 300 Mt averaging 18% TiO_2. The Lac Tio deposit, largest of 6 deposits at Allard Lake, contains more than 125 mt of ore averaging 32% TiO_2 and 36% FeO. Titaniferous magnetite deposits can be considerably larger, ranging up to a billion tonnes with grades between 20 to 45% Fe, 2 to 20% TiO_2 and less than 7% apatite with V contents averaging 0.25%.

ECONOMIC LIMITATIONS: The economic deposits are typically coarse, equigranular aggregates which are amenable to processing depending on the composition and kinds of exsolution textures of the Fe-Ti-oxide minerals.

USES: Titanium dioxide is a nontoxic, powdered white pigment used in paint, plastics, rubber, and paper. Titanium metal is resistant to corrosion and has a high strengthtoweight ratio and is used in the manufacturing of aircraft, marine and spacecraft equipment.

IMPORTANCE: Apart from placers, this type of deposit is the major source of TiO_2. These deposits were an important source of iron (pig iron) in the former Soviet Union. They have been mined for Fe in Canada, however, the grades are generally lower than those in iron formations and iron lateritites. The only current iron production is as a coproduct with TiO_2 in pyrometallurgial processing of ilmenite ore.

SELECTED BIBLIOGRAPHY

Ashwal, L.D. (1993): Anorthosites; *SpringerVerlag*, Berlin, 422 pages.

Force, Eric R. (1986): Descriptive Model of Anorthosite Ti; *in* Mineral Deposit Models, Cox, Denis P. and Singer, D.A., Editors, *U.S. Geological Survey*, Bulletin 1693, pages 32-33.

Force, E.R. (1991): Geology of Titanium-mineral Deposits; *Geological Society of America*, Special Paper 259, 113 pages.

Gross, G.A. (1965): General Geology and Evaluation of Iron Deposits; Volume I, *in* Geology of Iron Deposits in Canada, *Geological Survey of Canada*, Economic Geology Report 22, 111 pages.

Gross, G.A. and Rose, E.R. (1984): Mafic Intrusion-hosted Titanium-Iron; *in* Canadian Mineral Deposit Types: A Geological Synopysis; Geological Survey of Canada, Economic Geology Report 36, Eckstrand, O.R., Editor, page 46.

Gross, G.A. (1995): Mafic Intrusion-hosted Titanium-iron; in Geology of Canadian Mineral Deposit Types, Eckstrand, O.R., Sinclair, W.D. and Thorpe, R.I, (Editors), Geological Survey of Canada, Geology of Canada, Number 8, pages 573-582.

Hammond, P. (1952): Allard Lake Ilmenite Deposits; *Economic Geology*, Volume 47, pages 634-649.

Hancock, K.D. (1988): Magnetite Occurrences in British Columbia, Open File 1988-28, B.C. Ministry of Energy, Minerals and Petroleum Resources, 153 pages.

Korneliussen, A., Geis, H.P., Gierth, E., Krause, H., Robins, B. and Schott, W. (1985): Titanium Ores: an Introduction to a Review of Titaniferous Magnetite, Ilmenite and Rutile deposits in Norway; *Norges Geologiske Undersøkelse Bulletin*, volume 402, pages 723.

Lister, G.F.(1966): The Composition and Origin of Selected Irontitanium Deposits; *Economic Geology*, volume 61, pages 275310.

Reynolds, I.M. (1985): The Nature and Origin of Titaniferous Magnetiterich Layers in the Upper Zone of the Bushveld Complex: a Review and Synthesis; *Economic Geology*, volume 80, pages 10891108.

Rose, E.R. (1969): Geology of Titnaium and Titaniferous Deposits of Canada; *Geological Survey of Canada*, Economic Geology Report 25, 177 pages.

Wilmart, E., Demaiffe, D. and Duchesne, J.C. (1989): Geochemical Constraints on the Genesis of the Tellnes Ilmenite Deposit, Southwest Norway; *Economic Geology*, Volume 84, pages 1047-1056.

January 14, 1998

[M03] [M04] [M05] [M06] [M07] [M08] [Published Profile Index]
[Deposit Profiles]

Last Updated September 13, 2007