

SOUTHWEST REGION

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INTRODUCTION

The Nanaimo Regional Office of the Mines Branch of the Ministry of Energy and Mines is a small, client-focused group which advocates, monitors, and enforces provincial legislation for, all exploration and mining activities in the Southwest Region. These include mineral, placer, coal, industrial mineral, and sand and gravel projects. Since April, 2000 a Regional Geologist position has been based in Nanaimo. The district was formerly covered from the Vancouver office by Robert Pinsent, P. Geo., who remains with the Geological Survey Branch as a Research Geologist with the Vancouver Mineral Development Office.

HIGHLIGHTS

- Boliden-Westmin (Canada) Ltd. achieved planned production levels of Cu-Zn-Au-Ag ore at its Myra Falls Operation near Campbell River and positive exploration results on several mine-site area targets. The precious metal-rich Becherer Zone, was delineated and mined in part by open pit methods at the site of the former Lynx Mine. This deposit contributed significantly to maintaining the modest profitability of the mine. Boliden also announced its intent to seek a funding partner for the Myra Falls Operation as part of its corporate strategy to focus primarily on its Scandinavian operations. Several potential partners visited Myra Falls during the latter part of the year.
- Tilbury Cement Ltd. completed a successful drilling program to define the potential of deposits of chalky geysierite (silica) at its Pem 100 Project near Port Hardy. Bulk sampling is planned. The geological resource is estimated at 5 million tonnes at grades of 80-85% Si₂O₃ and 2-20% Al₂O₃.
- Graymont Western Canada Inc. also completed a promising drill program to delineate a limestone deposit at its Nimpkish Project near Port McNeil.
- The Hope - Harrison Lake area saw 750 claim

units staked and preliminary prospecting activity targeting gabbroid associated Ni-Cu-PGE's in the highly metamorphosed nickel belt northwest of the past producing Giant Mascot Mine of Homestake Canada Inc. Stakeholders include Santoy Resources Ltd., partners John Chapman and Gerry Carlson, David Deering and associates, and Prospector's Assistance Program grantees David Haughton and Murray McClaren.

- In late 2000 and early 2001, several junior companies sold flow-through share issues to fund noteworthy exploration programs primarily to evaluate the potential and grades of previously discovered gold quartz veins on Vancouver Island. These include SYMC Resources Ltd.'s Mctush Project near Port Alberni, Beau Pre Explorations Ltd.'s Valentine Mountain Project near Victoria, and pending work by Newmex Minerals Inc. at their Privateer Mine Project near Zeballos.

EXPLORATION AND PRODUCTION TRENDS

Unlike the positive upturn seen elsewhere in the province, exploration activity continued to decrease in the Southwest Region during 2000. Only three exploration projects had expenditures exceeding \$100,000 (Table 1), with an additional six projects having expenditures between \$50,000 and \$100,000 (Table 2). Estimated total expenditures for the district are only \$3.5 million; both major projects and

Table 1. Southwest Region, 2000, Major Exploration Projects (> \$100,000).

Project & Owner	MINFILE & NTS	Commodities & Deposit Type	Work Items & Amounts
Pem 100 Tilbury	092L 063,150,269 092L 12E	Chalky Geysierite Epi/hydrothermal	dd - 24 h - 627 m
Nimpkish Graymont	092I 186 092I 07W	Limestone Sedimentary	dd - 22 h. - 2,464 m
Myra Falls Boliden	092F 071,073,330 092F 12E	Cu,Zn,Au,Ag Volc. Mass. Sulf.	dd-u/g-15km -surface-2km.

Table 2. Southwest Region, 2000 - Significant Exploration Projects (\$50,000 - \$100,000).

Project & Owner	MINFILE & NTS	Commodities & Deposit Type	Work Items & Amounts
Privateer Newmex	092L 008 092L 02E	Au, Ag Au Quartz Veins	staking, u/g bulk sampling
Raven Cream	New Discovery 092E 10W	Cu,Zn,Au,Ag Volc. Mass. Sulf	staking, airborne geophysics
Yew 555 Corp.	092F 364,516 092F 10E	Au,Ag,Cu Cu Skarn	bulk sampling test milling
Mctush SYMC	092F 012,168 092F 02W	Cu,Mo,Au,Ag Porphyry, Veins	trenching, dd 6 h; 350 m
Valentine Beau Pre	092B 108,075 092B 12W	Au,Ag,Cu Au Quartz Veins	bulk sampling dd.8h.,182 m
Pt.Douglas Platinate	092GNE 041, etc. 092G 09,15,16	Cu,Zn,Au,Ag VMS & Veins	staking,geol., geochem

total spending are all-time annual lows for the region.

Mine-site exploration at Boliden-Westmin's Myra Falls operation accounted for more than half the exploration expenditures, and more than three quarters of the exploration drilling in the southwest in 2000. Figures 1, 2 and 3 show key exploration indicators for the region over the past ten years: annual major exploration projects, annual exploration expenditures and annual exploration drilling. Figure 5 shows the locations of major exploration projects, and the six projects with expenditures between \$50,000 and \$100,000. With the help of changes in flow-through funding regulations in late 2000, and the extended field season available on Vancouver

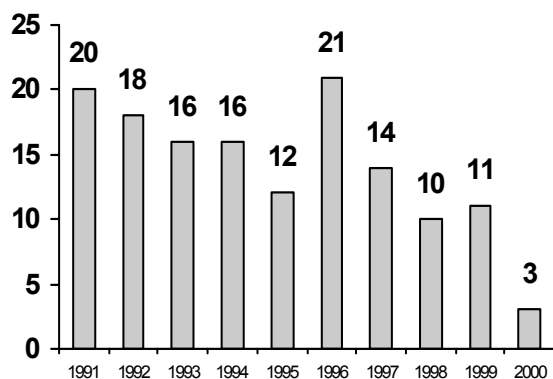


Figure 1. Number of Major Exploration Projects (>\$100,000) Annually in the Southwest Region.

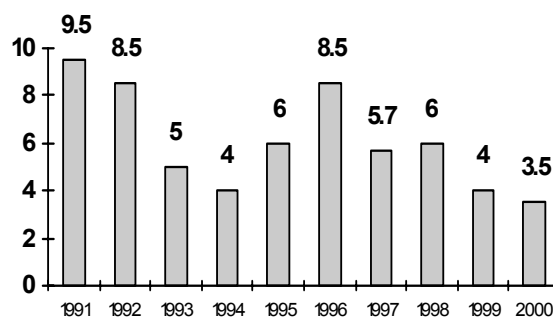


Figure 2. Annual Exploration Expenditures, Southwest Region (in C\$ Millions).

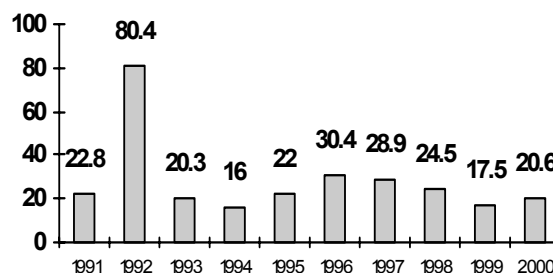


Figure 3. Annual Exploration Drilling, Southwest Region (in thousands of meters).

Island, up to three of these projects could achieve major status in early 2001.

Both the tonnage and value of mineral production in the region increased in 2000, as stability was restored at most of the operations and commodity prices generally increased. One major metal mine, one coal mine and two major limestone quarries operated in the Southwest Region in 2000, as well as several smaller but noteworthy industrial mineral operations. Major mines and quarries in the region (Figure 4), prospector activity (Figure 6) and the exploration projects demonstrate both the diversity of mineral deposit types and the innovation of operators and explorationists working in the region.

PRODUCING MINES AND QUARRIES

In addition to the four major mines and quarries, there are many large sand and gravel operations and several small industrial mineral producers in the Southwest Region. Industrial minerals produced are limestone, silica, fireclay, pumice and dimension stone; some of the operations are new and may point to appreciable growth in the years ahead.

MYRA FALLS OPERATION

Boliden-Westmin (Canada) Ltd. mines a large, geologically complex, volcanogenic massive sulphide deposit in Paleozoic Sicker Group rocks at its Myra Falls Operation, near Campbell River. They employ about 440 people, and have a nominal mill capacity of 3850 tonnes per day.

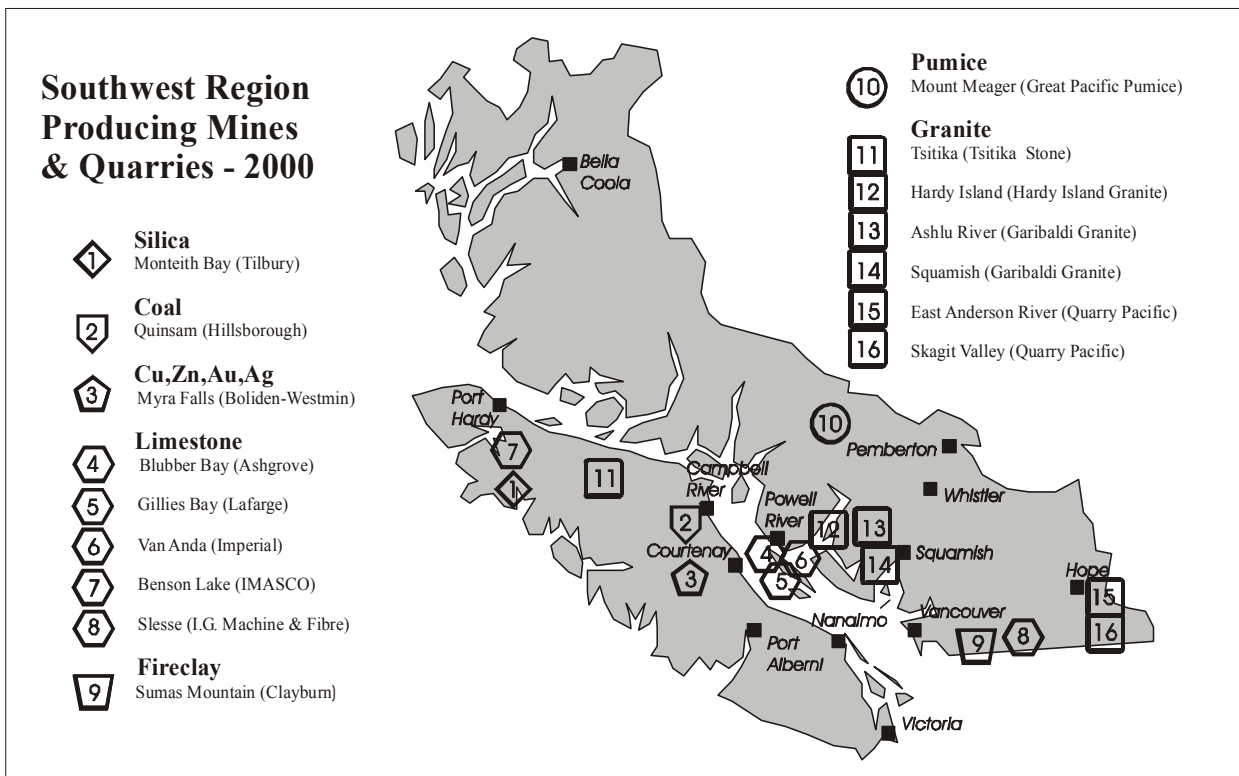
As of January 1, 2000, Myra Falls had a mining reserve of 7,720,000 tonnes at 1.4% Cu, 7.3% Zn, 0.5% Pb, 1.4 g/t Au and 38.9 g/t Ag. This global reserve is derived from a number of clustered orebodies, including the Lynx, Battle-Gap, 43-Block, Extension, H-W, Myra, and Price deposits. They should provide about 7 years of mill-feed at the current production rate of about 3000 tonnes per day. The mine also had a geological resource of 5,550,000 tonnes at 1.4% Cu, 7.2% Zn, 0.7% Pb, 1.6 g/t Au and 56.5 g/t Ag. This resource reflects the higher precious metals grades of the smaller peripheral parts of the deposits and their extensions. If successful, highly focused exploration work conducted annually on the Myra Falls property will convert these resources into reserves.

In 2000, the Myra Falls Operation milled 1,171,031 tonnes grading 1.72% Cu, 5.04% Zn,

1.59g/t Au, and an estimated 25.3 g/t Ag at an average cash cost of US\$0.40 per pound of zinc (quoting all payable metals as zinc equivalent). Underground ore sources consisted of the H-W, 43-Block and Battle-Gap deposits, with open pit ore coming from the Lynx deposit. In October, 2000 Boliden Ltd. announced that they would seek a funding partner to assist with future capital expenditure requirements at the Myra Falls Operations. This represents part of its corporate strategy, which is to focus on its Scandinavian assets, reduce costs, improve productivity and defer non-discretionary expenditures. Exploration staff and budgets at the Toronto office were significantly reduced, and exploration activities throughout North America, including regional work on Vancouver Island, curtailed.

Exploration during 2000 by Boliden-Westmin been focused entirely on gaining additional information on known resources at Myra Falls in order to upgrade their reserve/resource categories and to better assess their mining potential. Estimated year 2000 expenditures for minesite exploration were C\$2 million, which funded 17,184 meters of drilling, mostly from underground. Deposits tested by underground drilling included the East and West Ridge Zones, which are located to the west of the Battle-Gap deposit, and the Extension Zone, which lies

Figure 4. Southwest Region Producing Mines and Quarries - 2000



west of the H-W deposit; as well, the Price Deposit was tested by surface drilling from Thelwood Valley. A particularly successful hole (LX10-2045) tested the Ridge Zone West from the Lynx 10 Level. It intersected 20.9 m. of 1.90% Cu, 2.03% Pb, 18.67% Zn, 2.5 g/t Au and 138.8 g/t Ag. This intercept is close to the true thickness of the zone, which is hosted by distal facies rocks of the H-W horizon that consist of silicified rhyolite ash/chert beds, coarse tuffs and lapilli tuffs.

In 2001, it is anticipated that exploration efforts will continue in the Ridge Zones with drilling from, and required development on, the Lynx 10 Level. Drilling will also be carried out from the Price 13 Level to test an area east of the H-W deposit, from the Price 4 Level to test the Price deposit, and from surface in the area between the former Lynx and Myra mines.

Production is expected from a new surface ramp that will be collared from the bottom of the Lynx pit to extract the down-plunge extension of the Becherer Zone. Other plans are to construct a paste backfill plant at Myra Falls, which would permit the use of mine tailings as ground support underground and also make surface tailings more manageable than liquid tailings presently produced.

QUINSAM COAL MINE

Hillsborough Resources Ltd. holds 100% interest in Quinsam Coal Corporation, owner/operator of a small underground coal mine near Campbell River, on Vancouver Island. During 2000, the companies were successful in restructuring their finances, and resumed commercial production in early October. Production during 2000 from the Quinsam Coal mine was 236 536 tonnes of clean, bituminous grade thermal coal from underground flat-lying seams in the Cretaceous Nanaimo Group. The seams are accessed by ramps. The mine operated on a single-shift basis in 2000, and shipped only to markets in the Pacific Northwest. Due to operational improvements and commodity price increases, the mine achieved profitability.

Hillsborough also holds a 75% interest in T'Sable River Coal Corporation, which has an undeveloped coal deposit south of Courtenay in similar rocks. Although plans to develop this deposit are currently on hold, interest has been increasing in the coal bed methane potential of both properties.

LIMESTONE QUARRIES

Texada Island hosts the two largest suppliers of limestone in the Pacific Northwest, and these are also the largest and third largest quarries in Canada, based on total annual production. Between them, the Blubber Bay Quarry of Ash Grove Cement Corporation, and the Gillies Bay Quarry, of Lafarge Canada Inc. (through Texada Quarrying Ltd.) are estimated to have produced 5 million tonnes in year 2000. Most is used in production of cement. In contrast, chemical grade limestone is produced both by the Van Anda Quarry, of Imperial Limestone Co. Ltd., and from some of the Gillies Bay Quarry output. All three operations produce from the thick massive, flat dipping Triassic Parsons Bay Formation limestone; it is up to 500 meters thick and covers much of northern Texada Island.

On Vancouver Island, International Marble and Stone Co. Ltd. continued to produce white, chemical grade limestone from its Benson Lake Quarry near Port Hardy. During the year, I.G. Machine and Fibre Ltd. completed test mining from its South Slesse Creek limestone quarry near Chilliwack, but no further mining is planned at this time.

DIMENSION STONE QUARRIES

Several of the dimension stone processors in the lower mainland and on Vancouver Island use local stone. Generally, stone is produced on a seasonal basis from small quarries that are worked when material is required. Varieties of granitic rock are the most common product. Stone-processing plants are operated by Westcoast Manufacturing Inc. in Delta, Margranite Industry Ltd. in Surrey, Garibaldi Granite Group Inc. in Squamish, and Matrix Marble Corporation in Duncan.

Margranite processes a variety of imported granite, but also local granite from two of its quarries that are located in the Southwest Region near Hope; one is at East Anderson River and one in the Skagit Valley. Garibaldi Granite processes local granite from its quarry sites at Squamish, and just to the north at Ashlu River. Garibaldi also produces some specialty products from columnar basalt and rhyolite sources.

Tsitika Stone Industries on northern Vancouver Island produces grey granite from its Tsitika Quarry, and Hardy Island Granite Quarries Ltd. produces granite from its quarry south of Powell River. Most of this material is processed in the lower mainland.

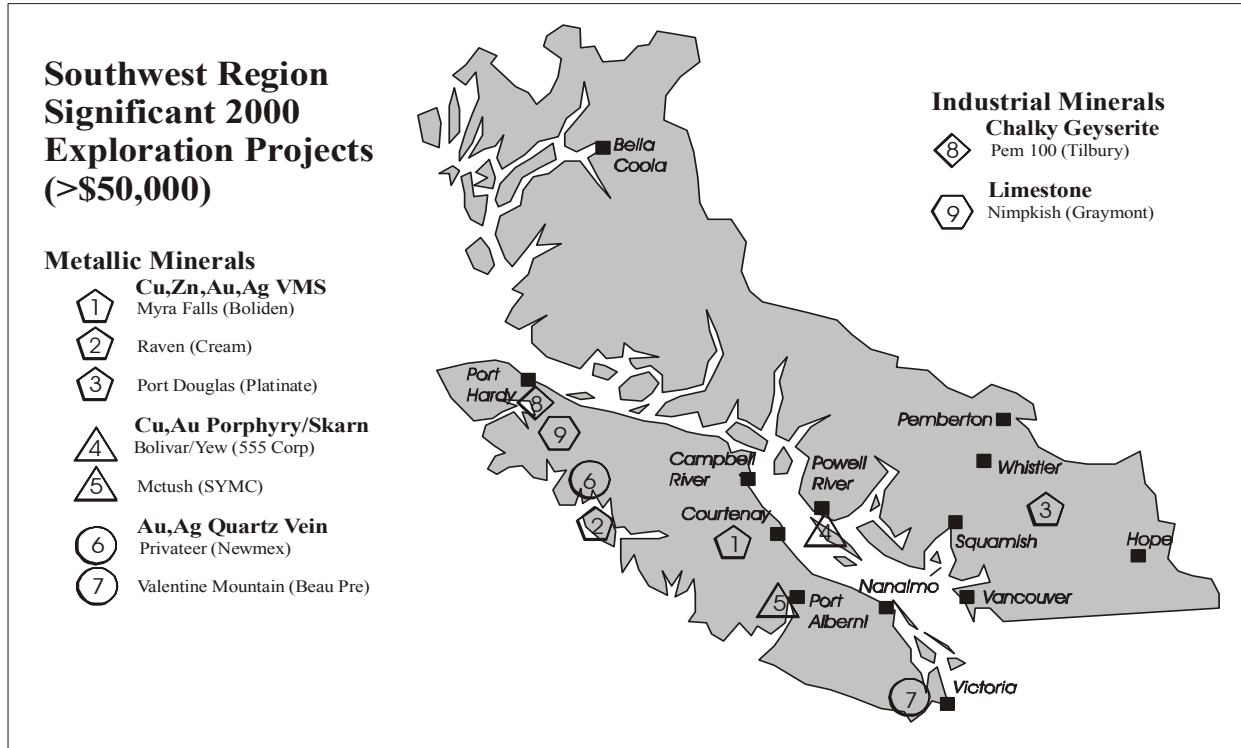


Figure 5. Southwest Region Significant 2000, Exploration Projects (>\$50,000).

OTHER INDUSTRIAL MINERALS

The number and variety of industrial minerals produced in the region continues to increase as local populations and markets grow. Growth is also spurred when the potential of new products, like silica sinter, is recognized. Industrial minerals continue to have positive future development potential in the Southwest Region.

Monteith Bay Resources Ltd., an affiliate of Tilbury Cement Ltd., produced and shipped silica-rich 'chalky geysierite' from its Monteith Bay Quarry on western Vancouver Island to Tilbury's cement plant in Delta. Lafarge Canada Inc. uses limestone from Texada Island, coal from the Quinsam Mine and silica from Fraser River sands in its cement plant in Richmond.

Clayburn Industries Ltd. produces fireclay from its Sumas Mountain Quarry for its nearby plant in Abbotsford, which manufactures a variety of refractory bricks, flueline pipe and facing bricks. Great Pacific Pumice Ltd. is mining pumice from its Mount Meager property near Pemberton. Material produced is used in light weight, high strength concrete and for cosmetics.

EXPLORATION ACTIVITY

VANCOUVER AND INSHORE ISLANDS

PEM 100 (MINFILE 092L 063, -150, -269)

Tilbury Cement Ltd. and partner Homegold Resources Ltd. completed a 25 hole delineation diamond drilling program on the Pem 100 (formerly Apple Bay) chalky geysierite (silica) deposit located near Port Hardy. Bulk sampling of the deposit is planned for 2001.

NIMPKISH (MINFILE 092I 186)

Graymont Western Canada Inc. completed a 2,464 meter drilling program to evaluate a limestone deposit at its Nimpkish Project near Port McNeil.

PRIVATEER (MINFILE 092L 008)

Newmex Minerals Inc. continued underground test mining, bulk sampling, and test milling of gold-bearing quartz veins at its Privateer Mine near Zeballos. Newmex increased its property position in the Zeballos Camp by acquiring the mineral rights to several past producing gold-silver properties, includ-

ing the Mount Zeballos deposit (MINFILE 092L 012). The company also staked 40 mineral claim units to cover an area of favourable geology with potential for replacement type gold deposits. The claim block is immediately to the southwest of the Privateer Mine and covers the area between the Beano (MINFILE 092E 002) and Tagore (MINFILE 092L 006) deposits, both of which are past producers of replacement type ore. Newmex plan a \$150,000 flow through-funded exploration program on the Privateer and adjacent properties for early 2001; it will consist of both underground and surface work.

RAVEN (NEW)

Geologists Michael Moore and Paul Metcalf, along with prospector Seamus Young, discovered and staked a new massive sulphide occurrence in Paleozoic age Sicker Group volcanics on Nootka Island off Vancouver Island’s west coast. They subsequently optioned the property to Cream Minerals Ltd., who completed a Dighem airborne geophysical survey.

MCTUSH (092F 012, -168)

SYMC Resources Ltd. completed exploration

trenching and rock sampling on several gold-bearing quartz vein targets that are spatially associated with porphyry Cu-Mo-Au mineralization in Jurassic Age intrusives. A delineation diamond drilling program at the Mctush Property in the Port Alberni area was started in late 2000 on the Fred, Dave, Sy, Mc and Dauntless veins; it will be continued in 2001.

VALENTINE MOUNTAIN (092B 108, -075)

Beau Pre Explorations Ltd. commenced a small definition diamond drilling and trenching program on the Discovery Zone gold quartz vein target on their Valentine Mountain Property north of Sooke. Also, pulp materials from a prior bulk sampling program from the same zone was pilot plant tested using a small, dry-gravity separation system based in Vancouver. Beau Pre plans to use a similar system at Valentine Mountain during 2001 to process crushed gold quartz vein material from the trenching program. Additional blasting, trenching and drilling is planned for 2001.

BOLIVAR / YEW (092F 364, -516)

On northern Texada Island, 555 Corporate Ventures Ltd. completed bulk sampling and test milling

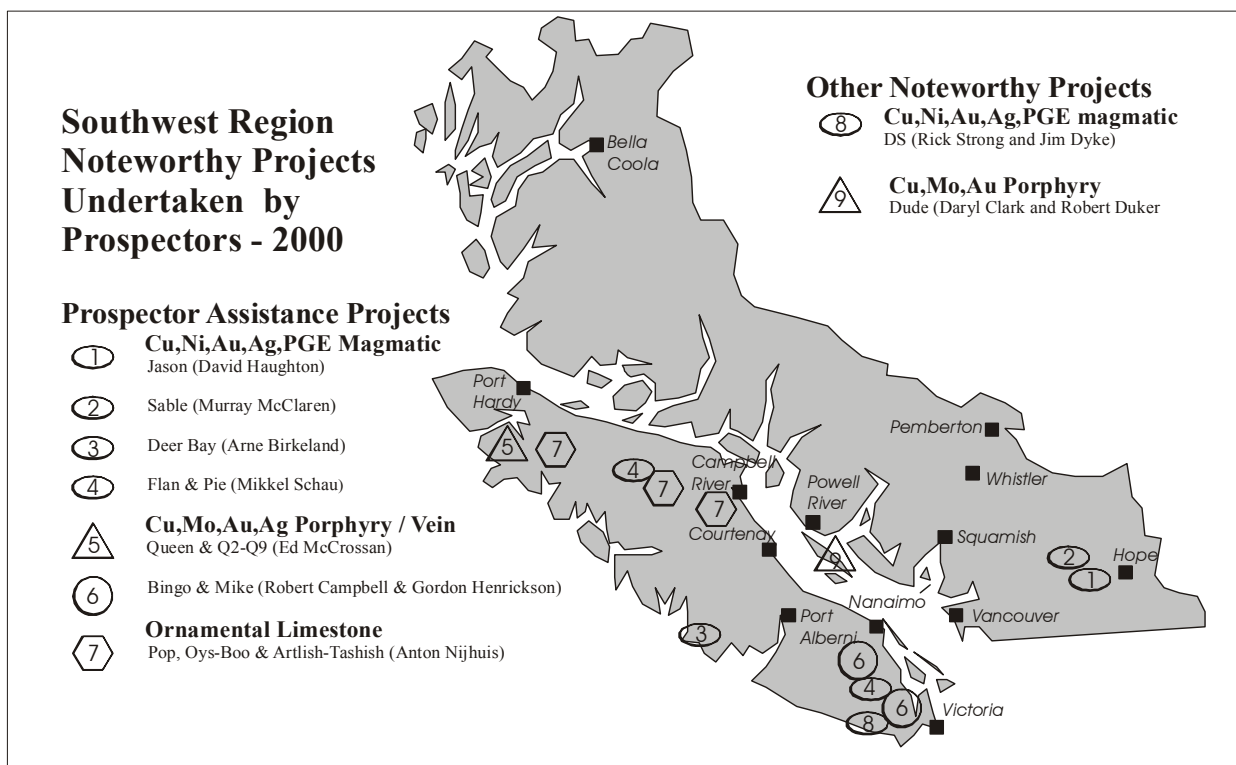


Figure 6. Southwest Region Noteworthy Projects -Undertaken by Prospectors, 2000

at its nearby Bolivar millsite of gold-bearing copper skarn material from the Yew Pit..

PROSPECTOR ACTIVITY

Near Jordan River on southern Vancouver Island, prospectors Rick Strong and Jim Dyke successfully located and re-excavated an old forestry quarry site on their DS Property. High grade chalcopyrite-bearing rock fragments had been discovered along several kilometers of forestry road by the prospectors under a previous Prospectors Assistance Program. The excavated quarry site is thought to be the source of the copper-rich rock fragments. Samples yielded similar metal grades and geochemical signatures as samples from the nearby Sunro Mine (092C 073), a past producer of copper, gold, silver and molybdenum.

On southern Texada Island, prospectors Robert Duker, Daryl Clark and George Martin, working for Northstar Mines, investigated both gold-bearing quartz vein mineralization at their Tak Property, and porphyry copper-molybdenum-gold mineralization at their Dude Property. The Dude Property covers both the Tex (092F 276) and Long B (092F 504) porphyry showings previously explored by Falconbridge Ltd. in the 1960s and 1970s.

PROSPECTORS ASSISTANCE PROGRAM

On Vancouver Island, five prospector/geologists were supported under the Prospectors Assistance Program during 2000 to work on a variety of metallic exploration targets in different areas. At his Deer Bay Property near Tofino, Arne Birkeland explored for magmatic Cu-Ni-Au-Ag-PGE mineralization on and around the former Tofino Nickel prospect (092F 029). Mikkel Schau staked and also sought magmatic PGE mineralization both at his Pie Property near Ladysmith, and at his Flan Property west of Campbell River. Ed McCrossan staked and explored for porphyry and related Cu-Mo-Zn-Au-Ag mineralization at his Queen and Q2-Q9 Properties west of Port Alice. Robert Campbell and Gordon Henrickson searched for Au-Ag-Cu-Mo Quartz vein mineralization around the Bingo showing (092B 077) at Cowichan Lake, and around the Mike showing (092C 129) near Chemainus. Prospector Anton Nijhuis explored and sampled ornamental limestone from his Oys, Boo and Pop Properties near Campbell River, and searched for dimension limestone across northern Vancouver Island. He also test-marketed fragments of the ornamental limestone.

LOWER MAINLAND

PORT DOUGLAS (092GNE 041, etc.)

Platinat Minerals and Industries Ltd. completed staking and preliminary exploration work on a very large property located along the west side of the Lillooet River Valley at the north end of Harrison Lake. The program targeted volcanogenic massive sulphide, porphyry copper-molybdenum-gold, gold-copper mesothermal quartz vein and gold-silver epithermal mineralization in the Cretaceous age Fire Lake Group. The Fire Lake Group forms a pendant in the Coastal Plutonic Complex and correlates with the Gambier Group, which hosts the former Britannia Mine (092G 003), a volcanogenic massive sulphide deposit. The Port Douglas Property covers 19 mineral and 2 placer MINFILE occurrences. One of these, the FM 3 / Snow (092GNE 041), is a disseminated polymetallic showing in tuff. Rock chip sampling yielded significant values of gold, silver, copper, lead and zinc. Additional work is proposed at Port Douglas in 2001.

HARRISON LAKE - HOPE AREA

In the Harrison Lake - Hope area, a mini-staking rush occurred this year northwest of the past producing Giant Mascot mine (092HSW 004, -093, -125), which is owned by Homestake Canada Inc. Over 750 mineral claim units were staked to cover this prospective area. The primary exploration target was magmatic Cu-Ni-Au-Ag-PGE mineralization. Most of the claim units are within groups of properties staked by the following: Santoy Resources Ltd. at Emory Creek; partners John Chapman and Gerald Carlson at Cogburn; and David Deering at Harrison Lake. All plan preliminary exploration work in 2001.

PROSPECTORS ASSISTANCE PROGRAM

The Harrison Lake - Hope activity in year 2000 was predated by the success of prospecting geologist David Haughton, who was supported through the Prospectors Assistance Program in 1999. He continued work on and expanded his Jason Property during the year, targeting magmatic Cu-Ni-Au-Ag-PGE mineralization. Geologist Murray McClaren, supported by the 2000 Prospectors Assistance Program, staked and searched for similar mineralization on his Sable Property, located at the north end of the Harrison Lake - Hope area.

ACKNOWLEDGEMENTS

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