

SOUTHWEST REGION

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SUMMARY AND TRENDS

The Southwest region hosts one metal mine, one coal mine and numerous industrial mineral and aggregate quarries and sand and gravel operations.

Exploration activity indicators for Southwest British Columbia are positive for 2005. The total exploration expenditures, number of major exploration projects started during the period and total metres of drilling are all up from the previous year (Figures 6.1 and 6.2). Exploration spending for 2005 is estimated to be \$10.5 million, up significantly over the 2004 estimate of \$4 million. Three 2005 projects had budgets greater than \$1 million compared to only one project in 2004 and nine 2005 projects had budgets greater than \$250 000 compared to only four in 2004.

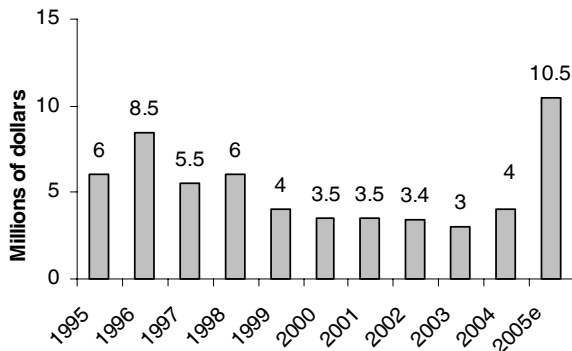


Figure 6.1. Annual exploration spending, in millions of dollars, Southwest British Columbia.

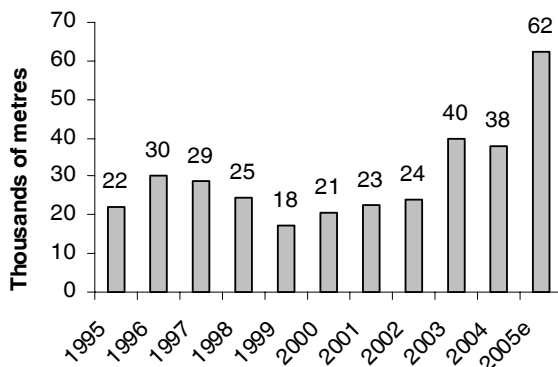


Figure 6.2. Annual exploration and development drilling, in thousands of metres, Southwest British Columbia.

Orca Sand and Gravel Ltd (Polaris Minerals Corp) received environmental certification and other authorizations including a mining permit to place its 4 to 6 million tonne per year **Orca** sand and gravel project near Port McNeil into production.

There are three projects in the Environmental Assessment pre-application stage: the Cogburn Magnesium project of North Pacific Alloys Limited (Leader Mining International Inc) with the company now looking for a project owner/operator, the Sechelt Carbonate project of Pan Pacific Aggregates Ltd that entered the preparatory stage in late November, and the Hills Bar Aggregate project of Qualark Resources Inc that entered December 2003.

MINES AND QUARRIES SUMMARY

There are a variety of mines and quarries in southwestern British Columbia, including a number of industrial mineral mines, numerous aggregate operations, one metal and one coal mine (Figure 6.3 and Table 6.1).

The **Myra Falls** zinc-copper-gold-silver mine, in operation since 1966, has been owned and operated by NVI Mining Ltd (Breakwater Resources Ltd) since July 2004. It is estimated that just over 900 000 tonnes of ore will be milled by year's end, slightly less than the 1 million or more tonnes milled on average through the years 1995 to 2000. Designed mill capacity is 1.4 Mt/y.

Hillsborough Resources Ltd through its wholly owned subsidiary Quinsam Coal Corporation, increased production again in 2005 at its **Quinsam** underground thermal and PCI coal mine located west of Campbell River. The forecast 2005 production is about 760 000 tonnes of raw coal or 532 000 tonnes of clean coal, up 30% on the 410 000 tonnes produced in 2004.

Three large quarries on Texada Island, locale of significant western North America limestone production, will produce close to 6 million tonnes this year. During the year, the **Blubber Bay** quarry made a transition from a long-time chemical-grade and cement limestone producer to a smaller scale limestone aggregate and dolomitic limestone producer. The **Gillies Bay** quarry has increased cement limestone and aggregate rock production (Figure 6.4) and the **Vananda** quarry will again produce almost a quarter million tonnes of chemical-grade limestone in 2005.

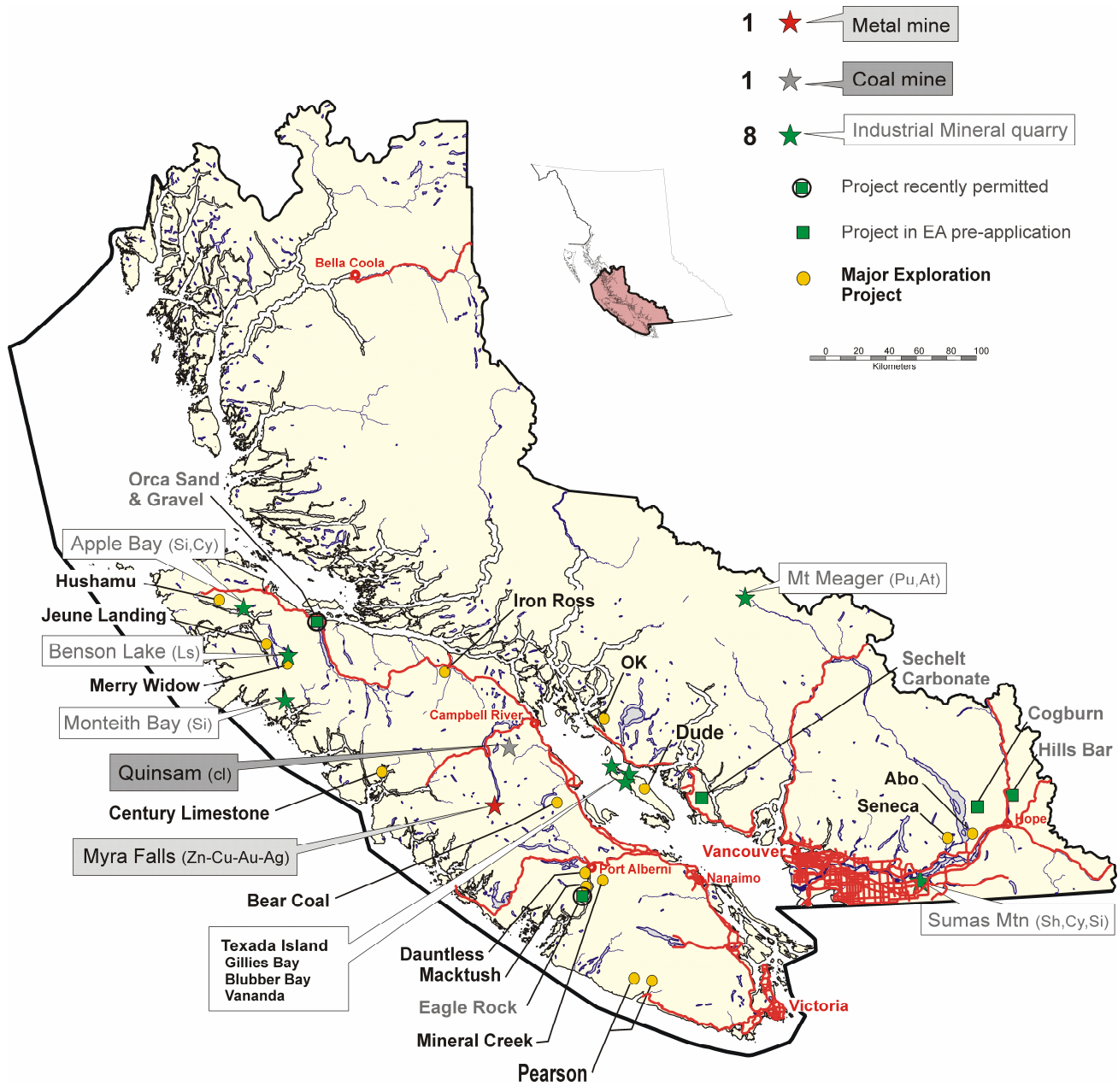


Figure 6.3. Mines, quarries and major exploration projects – Southwest British Columbia 2005.

TABLE 6.1. MAJOR MINES AND QUARRIES – SOUTHWEST BRITISH COLUMBIA 2005

Mine / Quarry Operator	Location / community	Commodities	Forecast production in 2005	Employment -person years	Reserves as of January 1, 2005
Myra Falls NVI Mining Ltd (Breakwater Resources Ltd)	Campbell River	Zn-Cu-Au-Ag	50 000 t Zn, 7900 t Cu, 974 kg Au, 36 400 kg Ag	~400	6.392 Mt @ 6.7% Zn, 1.1% Cu, 1.4 g/t Au, 49 g/t Ag (M and I)
Quinsam Quinsam Coal Corp (Hillsborough Resources Ltd)	Campbell River	Thermal & PCI coal	532 000 t clean coal	85	11 years of production
Apple Bay Electra Gold Ltd	Northern Van Island	Geyselite	120 000 t	6	5 million t
Benson Lake Imasco Minerals Inc	Northwest Van Island	Limestone	36 000 t	3	100+ years
Blubber Bay Ash Grove Cement Corp	Texada Island	Limestone aggregate, dolomitic lst	580 000 t lst agg 40 000 t dol lst	14	
Gillies Bay Texada Quarrying Ltd (Lafarge Canada Inc)	Texada Island	Limestone, lst aggregate	5+ million t	72	100+ years
Vananda Imperial Limestone Company Ltd	Texada Island	Limestone	235 000 t	8	50 years
Monteith Bay Lehigh Northwest Cement Ltd	Northwest Van Island	Geyselite	29 500 t	2.25	
Mount Meager Great Pacific Pumice Ltd	Pemberton	Pumice	10 000 cubic metres	4	100+ years
Sumas Mtn Clayburn Industries Ltd and cement manufacturer partners	Abbotsford	Clay, shale and sandstone	~ 500 000 t	10-20	~70 years

Note: Blubber Bay and Gillies Bay produce limestone for industrial mineral applications and aggregates - other large aggregate only operations are not included in this table.

TABLE 6.2. MAJOR EXPLORATION PROJECTS – SOUTHWEST BRITISH COLUMBIA 2005

Property	Operator	Minfile (NTS)	Commodity	Deposit Type	Program	Electoral Region
Abo	Eagle Plains Resources Ltd	095HSW092	Au-Ag-Zn-Cu	Vein	DD(3068m)	Chilliwack-Kent
Bear Coal	Compliance Energy Corp	092F 313	Coal	Sedimentary	G; TR; RD/DD(1550m, 33 holes)	Comox Valley
Century Limestone	Doublestar Resources Ltd	(92E/10E)	limestone	IM	GC; MAG; DD(3000m planned)	North Island
Dauntless	SYMC Resources Ltd	092F 168	Cu-Ag	Vein	DD(1062m, 15 holes); TR(400m, 15); A(2.5km)	Alberni-Qualicum
Dude	Pathfinder Resources Ltd	092F 276	Cu±Mo±Au	Porphyry	GC; RC(1270m, 5 holes)	Powell River - Sunshine Coast
Hushamu	Lumina Resource Corp	092L 240	Cu-Au-Mo±Ag	Porphyry	AB-MG,EM(2600 line km); P; G; GC; DD(4600m, 22 holes)	North Island
Iron Ross	Homegold Resources Ltd	092K 043	Magnetite	IM	DD(250m, 2 holes); BU (4800 tonnes)	North Island
Jeune Landing	Sechelt Industrial Minerals Corp	(92L/06)	Dolomite	IM	DD(300m, 7 holes); A(150m); hydrographic survey	North Island
Macktush	SYMC Resources Ltd	092F 012	Au-Ag-Cu±Mo	Porphyry, Vein	DD(1500; 20 holes); A(1.4km)	Alberni-Qualicum
Merry Widow	Grande Portage Resources Ltd	092L 044	Au-Ag±Cu±Co	Skarn	IP(55 line km)	North Island
Mineral Creek	Bitterroot Resources Ltd	092F 079, 331	Au-Ag	Vein	DD(2000m, 15 holes)	Alberni-Qualicum
Myra Falls mine	NVI Mining Ltd (Breakwater Resources Ltd)	92F 330, 071, 072, 073	Cu-Zn-Au-Ag-Pb	VMS	DD(36 000); UG(800m)	North Island
OK Copper-Moly	Goldrush Resources Ltd	092K 008, 057, 155	Cu-Mo	Porphyry	DD(968m, 6 holes)	Powell River - Sunshine Coast
Quinsam Coal mine	Quinsam Coal Corp (Hillsborough Resources Ltd)	092F 319	Thermal coal	Sedimentary	RD (1200m, 6 holes)	North Island
Pearson (Bugaboo, Reko)	Emerald Fields Resource Corp	092C 022, 191	PGE, Ni, Cu	Mag, skarn	AB-GP; DD (460m, 3 holes at Bugaboo); DD (300m, 4 holes at Reko)	Malahat-Juan de Fuca
Sechelt Carbonate	Pan Pacific Aggregates Ltd	092GNW031, 052	Dolomite and other	IM	A (3.1 km road); DD(5-6000m, 32 holes)	Powell River - Sunshine Coast
Seneca	Carat Exploration Inc	092HSW013, 039, 165	Zn-Cu-Pb-Ag-Au	VMS	G; P; GC; IP/EM(25 line km); AB-EM(325 line km); DD(3700m)	Maple Ridge-Mission

A = access; trail, road construction on claims; AB-EM = airborne electromagnetics; AB-MG = airborne magnetics; BU (X tonnes) = bulk sample (weight in tonnes); DD (Xm) = diamond drilling totaling X metres; EN = environmental baseline studies/monitoring, remediation work; G = geology, mapping, etc; GC = geochemical sampling (rock, soil, silt, etc); GP = geophysics (general); EM = electromagnetics; IP = induced polarization; 3D-IP; MG = magnetics; MS = metallurgical studies; P = prospecting; TR = trenching, UG (X m) = X metres of underground development; UT = UTEM



Figure 6.4. Gillies Bay quarry aggregate crushing plant and a stockpile of overseas bound coal from the Quinsam Coal mine.

Clay from the **Sumas Mountain** clay, shale and sandstone quarry located about 8 km east of Abbotsford, is utilized in the manufacture of brick and other clay products at Clayburn Industries Ltd, and shale and sandstone by cement manufacturers (Figure 6.5). In July 2005 the company and two community associations celebrated 100 years of clay and brick production in the Abbotsford area.



Figure 6.5. Clay, shale and sandstone is quarried at the Sumas Mountain operation of Clayburn Industries Ltd and partners.

The local demand for aggregate remained strong again this year reflecting the continuing construction boom in the province. Nineteen large aggregate quarries and pits in the Lower Mainland and coastal area produced about 17 million tonnes in total in 2005 - these operations with approximate 2005 production are: **Cox Station** on the south side of the Fraser River at Sumas Mountain - 2 million tonnes; three other crushed aggregate quarries on **Sumas Mountain** - 1.73 million tonnes combined; **Central Aggregates Mission** sand and gravel pit - 0.45 million tonnes; **Allard Mission** pit - about 0.2 million tonnes; **Central Aggregates Vedder Mountain** operation - 0.20 million tonnes; four large natural sand and gravel pits in the **Bradner Road** area located west of the Abbotsford airport - 2.4 million tonnes combined; **Pitt River** crushed aggregate quarry - 0.95 million tonnes; **Allard Pipeline Road** pit in the Coquitlam River valley - about 0.4 million tonnes; **Cewe Pipeline Road** pit in the Coquitlam River valley - about 0.9 million tonnes; **Central Aggregates Pipeline Road** pit - 0.45 million tonnes; **Earls Cove** pit on the Sunshine Coast - 1.4 million tonnes; **Sechelt** pit on the Sunshine coast - 5.2

million tonnes; **Blubber Bay** quarry on Texada Island - 0.4 million tonnes; and **Gillies Bay** quarry on Texada - 0.5-1.5 million tonnes in 2005.

MINES AND QUARRIES

Metals

At the **Myra Falls** zinc-copper-gold-silver mine approximately 25 million tonnes of massive sulphide copper-zinc-gold-silver ore has been mined over the past 29 years from several orebodies within the known 6-kilometre deposit trend. Ore mined to date has averaged 5.0% zinc, 1.8% copper, 2 g/t gold and 52 g/t silver.

In nine months ending September 30 of this year, the company reported 685 694 tonnes of ore were milled, producing 37 493 tonnes of zinc, 5942 tonnes of copper, 23 490 ounces of gold and 878 502 ounces of silver. This actual production equates to a forecast 2005 figure of about 914 000 tonnes ore milled and 50 000 tonnes of zinc, 7900 tonnes of copper, 974 kg of gold and 36 400 kg of silver. Myra Falls continues to employ approximately 400 people.

Proven and probable reserves are 6.392 Mt at 6.7% Zn, 1.1% Cu, 1.4 g/t Au and 49 g/t Ag.

Breakwater Resources Ltd also reports that since its acquisition of the mine last year, it continues to work on mine design and planning and on improving materials handling as well as metallurgical improvements in the mill. The company is increasing its tailings storage capacity to provide sufficient storage to 2017. Work on a new lead flash flotation test cell is proceeding, and if successful, should result in lead concentrate of marketable quality and in higher-grade copper concentrates with less penalty lead and zinc. A gold shaking table is also to be installed late this year to allow for the production of gold dore, thus eliminating some of the higher cost smelter recovery of gold.

Work began on the Lynx ramp designed to provide access to untested parts of the deposit trend(s) and to provide secondary access for equipment and improve ventilation and safety. The ramp will access areas west of the Marshall trend, between the Battle-Gap zones and old Lynx mine, and north of the Ridge zones. This will facilitate drilling planned for 2006 in the area between the Battle-Gap zones and old Lynx mine.

A large underground drilling program was underway in 2005 to expand the polymetallic massive sulphide reserves near mining areas and to identify new resources in a frontier trend. About 36 000 metres of core drilling was to be completed by year's end to test the Extension zone west of the Battle-Gap zone and to test for extensions of the 43 Block and HW zone, and along the Marshall trend where significant potential for additional ore has been identified with previous drilling. Eight hundred metres of new underground development was completed across the Marshall trend in 2005 to provide

for drill stations closer to targets. Drill intersections to date on the Marshall trend include 26.5 metres at 10.1% zinc, 1.3% copper, 3.6 g/t gold and 234 g/t silver; and 33.5% zinc, 2.0% copper, 8.4 g/t gold and 221 g/t silver over 8.8 metres.

Coal

Hillsborough Resources Ltd has increased production more than 50% at the mine over 2 years. The forecast 2005 production is about 760 000 tonnes of raw coal or 532 000 tonnes of clean coal, up 30% on the 410 000 tonnes mined in 2004 and up 56% from the 340 000 tonnes extracted in 2003. The mine has expanded its workforce to 85 workers to achieve the increased output. A contractor transports the coal 25 km from the mine to its Middle Point barge loading facility at Campbell River. The coal is shipped directly to North American customers from the Middle Point facility or transferred to a ship loading facility on Texada Island (the loading facility at the Gillies Bay quarry of Texada Quarrying Ltd - Lafarge Canada Inc) for shipment to overseas customers in Chile and Japan.

In 2005, the company started on a long-term exploration strategy to significantly increase resources and reserves to expand the Quinsam Coal mine life beyond the current 11 years. About 1200 metres of exploratory drilling was planned for 2005 to support detailed mine planning, further test the Quinsam North area and test for coal quality and thickness trends in the Quinsam East area.

Industrial Minerals

Limestone / Dolomitic Limestone / Aggregate

Triassic Quatsino Formation limestone is a significant resource on **Texada Island** for the three quarries, Gillies Bay, Blubber Bay and Vananda. Texada Quarrying Ltd (Lafarge Canada Inc) operates the **Gillies Bay** limestone and aggregate quarry, Ash Grove Cement Corporation operates the **Blubber Bay** limestone aggregate/dolomitic limestone quarry and Imperial Limestone Company Ltd operates the **Vananda** limestone quarry.

As of early 2005 the **Blubber Bay** quarry of Ash Grove Cement Corporation produced limestone aggregates and dolomitic limestone (a newly developed product for the agricultural market in Oregon), and ceased production of cement and chemical-grade limestone that were the mainstays of the operation since the 1880s (Figure 6.6). The company expects to produce about 580 000 tonnes of limestone aggregates for marketing through Ross West Distributors in Vancouver, and 30 000 or 40 000 tonnes of dolomitic limestone (16.75% MgO or better). High MgO content in parts of the dolomitic

limestone pit may allow future marketing as a higher value plastic filler.

Located on the west side of the island, the **Gillies Bay** quarry of Texada Quarrying Ltd (Lafarge Canada Inc) is the largest of the three Texada Island quarries. It is expected to produce 5+ million tonnes in 2005 consisting of: 3 million tonnes of cement limestone; 0.6 million tonnes of chemical-grade limestone; 0.5 to 1.5 million tonnes of crushed aggregate (limestone, volcanic and granitic rock) and rip-rap; and, 40-50 000 tonnes of high brightness white limestone. Approximately 6 million tonnes will be quarried with up to 1 million tonnes stockpiled depending upon final contracts.



Figure 6.6. Between 1965 and 2005 approximately 100 million tonnes of limestone was produced from Pit #6 at the Blubber Bay quarry on Texada Island.

The aggregate resource is a combination of limestone and volcanic material from stockpiles of past producing copper, iron mines that lie within the Gillies Bay property (primarily MINFILE 092F 106 Prescott-Texada Mines), and newly quarried limestone, volcanic rock and granitic rock. Product is blended as per customer requirements.

A new aggregate plant with a designed capacity of 1.5 million tonnes per year feeds a barge and ship loader that is currently being expanded to 400 tonne/hour. In addition a new limestone crushing plant (cement and chemical-grade) feeds a second loader with 2500 tonne/hour capacity. Five thousand to 12 000 tonne barges are utilized. Riprap is loaded on barges with a ramp.

Approximately half of the Gillies Bay limestone production is marketed in Canada and half in the US to cement and lime manufactures. The aggregate market includes marine works contracts and starting in August 2005, the Lower Mainland area.

At its **Vananda** quarry, Imperial Limestone Company Ltd estimates that about 235 000 tonnes of chemical-grade limestone will be extracted and marketed for use in the Seattle building market in 2005, the same amount as in 2004.

The forecast 2005 production of approximately 36 000 tonnes of high brightness limestone at Imasco Minerals Inc's **Benson Lake** quarry near Port Alice is also approximately the same as last year. The pulverized limestone product is used primarily as a filler / extender in manufacture of paints, PVC, rubber products, paper, glass and ceramic glaze.

Aggregate

Aggregates are crushed stone and natural materials including sand, sand and gravel, and a variety of sizes of crushed product. Sand and gravel pits may produce as much 25% crushed product from the oversize material of a sand and gravel deposit in addition to natural sand and gravel products. Crushed stone quarries manufacture products from mostly granitic, volcanic and limestone rock types.

Production in 2005 at the **Cox Station** crushed stone quarry of Mainland Sand & Gravel Ltd located along the south side of the Fraser River at the base of Sumas Mountain, is expected to match or better last year's figure of 1.97 million tonnes (Figure 6.7). It is one of the top ten aggregate producers in Canada.



Figure 6.7. 1600 and 3100 tonne barges are loaded with aggregate at the Cox Station quarry of Mainland Sand & Gravel Ltd, located on the south side of the Fraser River at Sumas Mountain, central Fraser Valley.

Mainland has produced about 15 million tonnes at Cox since 1985 and has 2-3 years of reserves left in its original pit and about 200 million tonnes of granitic rock in its newly developed East pit area. About 25 people work at the operation. Ninety-five per cent of product is shipped by 1600 and 3100 tonne barges down river to company depots and customers in the Vancouver area, 4% is trucked and 1% is shipped by rail that passes through the property.

The company acquired the used crusher from the closed Similco mine operation this year and plans to install it over the next year. Mainland S&G is partnered with two other crushed aggregate operations located on Sumas Mountain and also distributes aggregate products from the Blubber Bay quarry on Texada Island through the Lower Mainland-based Ross West Distributors.

There are three other operating crushed aggregate quarries on **Sumas Mountain** that will produce a combined 1.73 million tonnes in 2005: the **Highland** quarry of Highland Quarries Ltd will produce an estimated 410 000 tonnes; the **Summit** quarry operated through Lafarge Canada Inc, will crush and sell about 520 000 tonnes this year; and the **Western Rock** quarry of Western Rock Products will produce about 800 000 tonnes and sell products through Mainland Sand & Gravel Ltd. The **Jamieson** crushed aggregate quarry also located on Sumas Mountain, was operated by Mainland Sand & Gravel Ltd until the spring of this year.

In the **Bradner Road** area west of the Abbotsford airport, four separate operations produce natural sand and gravel and crushed stone products from a local resource that is estimated by the Aggregate Producers Association of BC to be a six-year supply. The operations of Central Aggregates Ltd (Lafarge Canada Inc), Fraser Valley Aggregates Ltd, Imperial Paving Ltd and West Coast Aggregates Ltd will produce in 2005 a total of about 2.4 million tonnes.

Within the confines of one of the Bradner Road pits is a processing plant of Target Products Ltd that generates a variety of sand products. Just a few km north of the active operations is a good example of reclamation and post-mining use of aggregate land where a previously producing pit has been transformed into a vineyard. Agricultural use of old pit land is common in the Fraser Valley (Figure 6.8).

The **Pitt River** crushed stone quarry of Pitt River Quarries Ltd (Lafarge Canada Inc) is located on the east side of the Pitt River just south of Pitt Lake. About 20 million tonnes has been produced since 1968. Operations were intermittent from 1968 to 1989 and continuous since then. Granodiorite is crushed primarily for aggregates for use as road base and in asphalt applications. Riprap and other coarse construction and drainage/armouring products are also marketed. Approximate production for each of 2004 and 2005 is about 950 000 tonnes. Product is shipped by barge and truck. Twenty to twenty-five people are currently employed. The company plans to move forward with a southerly extension of the existing pit with development of a 39 million tonne resource.

Allard Contractors Ltd have four operations producing natural and crushed stone aggregates in pits in Maple Ridge, Mission, Coquitlam and Victoria and employ about 80 to 90 people in total. The Allard **Pipeline Road** sand and gravel pit is the largest Allard operation and is one of the three pits in the Coquitlam River valley that produce from the 150 ft thick 'main seam gravels' and from mixed sand, gravel and glacial till. The Allard Pipeline Road pit has resources reported to be sufficient for 20 years of production. The other two operations are the 0.9 million tonne per year **Cewe Pipeline Road** pit owned by Jack Cewe Ltd and the 0.45 million tonne per year **Central Aggregates Pipeline Road** pit of Central Aggregates Ltd (Lafarge Canada Inc).



Figure 6.8. Lotusland Vineyards is an example of agricultural use of reclaimed aggregate land in the central Fraser Valley.

Reclamation and post mining use of past producing sand and gravel pits in the Coquitlam area provide good examples of productive resource and end land use. A local high school and a Douglas College campus now occupy past producing Allard pits and current land uses of other reclaimed pits include Coquitlam's Town Centre Park and Lafarge Lake.

Located on the Sunshine coast at Sechelt is another one of the top ten aggregate producers in Canada – the **Sechelt** sand and gravel pit of Construction Aggregates Ltd (Lehigh Northwest Materials Ltd). Forecast production for 2005 is expected to be about the same as last year at 5.2 million tonnes of natural and crushed aggregates. The mine is located immediately adjacent to the developed town site of Sechelt, but mostly hidden from view with large buffer berms with grass and tree growth. The mine and plant is located on a combination of Sechelt Indian Band land, private land and Crown land.

The property has an impressive resource up to 150 ft thick, covered by only 1 to 10-15 ft of overburden, that is estimated to be about 250 million tonnes and sufficient for production to 2035. Some of the five percent of the material that might normally be waste at the extraction point is used at the neighbouring municipal land fill site as cover and the small fraction of waste silt from the processing plant (another 5%) is stored in an old pit area on the west side of the property. About 25% of total production is crushed product from over-size pit material. Products are fill materials, road bases, crushed rock and washed aggregates. Sixty-five unionized workers and about 12 staff are employed. Three 70-tonne and four 50-tonne trucks are used. Twenty-two km of conveyor move material within the mine site and to the barge / ship loading facility that loads 1800 to 5000 tonne barges and 35 000 tonne and 70 000 tonne ships. Markets include Vancouver, California, Alaska and Washington State. About half of the annual production goes to the local and Lower Mainland markets and half to markets in the United States.

Progressive reclamation and sustainable operations at the site are demonstrated by retention of a waterfowl pond

adjacent to one of the reclamation areas that has a good growth poplars that are designed to be harvested for fibre for local pulp mills. Biosolids from the City of Vancouver as used to promote vegetation growth on reclamation areas. The use of an old pit area for tailings storage also reduces the total footprint of the operation.

Orca Sand & Gravel Ltd (Polaris Minerals Corp) received environmental certification and other authorizations including a mining permit to place its 4 to 6 million tonne per year **Orca** sand and gravel project into production. The project is located about 3.5 km west of Port McNeill on Vancouver Island. The 127 million tonne sand and gravel deposit covers an area approximately 3000 by 800 metres with 1 to 3 metres of overburden. A conveyor is proposed to move material approximately 1.7 km to a barge and ship load out facility (Figure 6.9). The project is designed for export of the natural aggregate gravel and sand products to North American markets, particularly California. The Namgis First Nation is a partner with Orca Sand & Gravel Ltd.



Figure 6.9. Marine drill rig for geotechnical testing of the ship loading facility site of the newly certified and permitted Orca Sand and Gravel project near Port McNeill.

The **Hills Bar Aggregate** project of Qualark Resources Inc is in the pre-application stage of Provincial Environmental Assessment, however little progress on the project has been made since 2003.

Silica-alumina and Silica Rock

Silica-alumina and silica rock is used in cement making. At the **Apple Bay** quarry located west of Port Hardy on Vancouver Island, Electra Gold Ltd completed its second year of operation with production of about 120 000 tonnes of geyserite in 2005. The operation employs about 6 workers.

In 2005 Lehigh Northwest Cement Limited produced 29 500 tonnes from its quarry at **Monteith Bay** (geyserite as a silica-alumina product) on western Vancouver Island. This operation was inactive the previous year.

Clay, Shale and Sandstone

Production of shale, clay and sandstone continued at the **Sumas Mountain** quarry located about 8 km east of

Abbotsford. Clay is utilized in the manufacture of brick and other clay products at the Clayburn Industries Ltd plant located near old downtown Abbotsford. The plant makes about 8 to 12 million bricks per year including face brick and more valuable refractory brick used in industrial applications and fireboxes.

Clayburn Industries uses about 35 000 tonnes annually of the 500 000 tonnes of clay, shale and sandstone that are quarried each year. The remainder of production is used by Lehigh Northwest Materials Ltd and Lafarge Canada Inc as silica-alumina in the making of cement in the Lower Mainland and in Kamloops. The mineral resource of this quarry is currently well utilized, however with high land values in the Fraser Valley actual quarry life may be shorter than the estimated 70 years of resource.

Sumas Clay Products Ltd, a Sumas First Nation company, owns and operates a small clay quarry and the historic **Kilgard** brick and clay product plant located on reserve land on the south side of Sumas Mountain. This plant was constructed in 1912 just after the first Clayburn plant on the north side of Sumas Mountain in 1905. The Indian Reserve borders the south boundary of the Sumas Mountain clay, shale and sandstone quarry. The Kilgard plant produces a line of products for a small regular clientele located in the western United States and Japan, as well as custom order specialty brick and clay products.

Ironwood Clay Company Inc mines cosmetic/medical clay seasonally as needed from its **De Cosmos Lagoon** on Hunter Island located west of Bella Coola. For 2005 the company reported no production for the second consecutive year. Ironwood relied on its inventory of 850 tonnes extracted in 2003 to make marketable products. Production at the Hunter Island locality is next planned for June 2006.

Carrie Cove Cosmetics Inc also markets clay for cosmetic/medical application, primarily to the international health spa industry. The company uses a mined inventory of approximately 1200 tonnes from its **Carrie Cove** site in the Comox Valley.

Dimension Stone / Construction Rock

Local stone processing plants continue to cut much more imported stone than locally quarried stone to meet demand for currently popular dark and orange-brown coloured products. Margranite Industries Ltd of Surrey planned to produce a small amount of 'Robson Rose' granite from its **Skagit Valley** quarry in 2005. The other southwest region quarry owned by the large Surrey manufacturer, East Anderson River, has been inactive for several years.

Huckleberry Stone Supply Ltd of Burnaby produced basalt, primarily for application in landscape wall construction and as facing stone, from five small quarries in the Whistler and Squamish areas. Total 2005 production from its **Spumoni, Cabin, Freeman, Rubble and Huckleberry** quarries (MINFILE 092GNW100 and others) amounted to about the same as last year's output

of 11 000 tonnes. Mountain High Properties Ltd produced an undetermined amount of stone from its **Spike** basalt and **Gunsight** phyllite quarries in the Whistler area.

Matrix Marble and Stone Corporation processes imported and domestic stones at its plant near Duncan, and extracts marble from two quarries on Vancouver Island for marketing to the high-end building industry (Figure 6.10). In 2005, the company quarried approximately the same amount as in the previous year, about 200 tonnes of 'Black Carmanah' marble from its **Gordon River** site (MINFILE 092C 086) and about 300 tonnes total of 'Island White' and 'Tlupan' Blue' marbles from its **Hisnet Inlet** (MINFILE 092E 020) quarry.



Figure 6.10. Matrix Marble and Stone Corporation quarries and manufactures marble products - this large kitchen sink is milled from its 'Island White' marble.

Hardy Island Granite Quarries Ltd doubled production of the classic light grey granodiorite from its **Hardy Island** quarry (MINFILE 092F 425) on the sunshine coast to about 5000 tonnes in 2005 from 2600 tonnes the previous year. Approximately 600 tonnes of fine-grained andesite was removed from the **Haddington Island** quarry (MINFILE 092L 146) located at Port McNeill. Both of these sites are known as the source of dimension stone utilized in the construction of historic buildings in the province.

The material from the Hardy and Haddington quarries is transported to Bedrock Granite Sales Ltd's stone cutting facility in Coquitlam for processing. End products are primarily used as facing and landscape materials including wall facing, caps and stones and landscape steps and pavers.

Also in the Port Renfrew area, San Juan Quarries, owned by Industrial Stone Supply Ltd of Nanaimo, produced from its **Melanie** slate quarry. This material is marketed primarily on Vancouver Island as patio stone.

Pumice

Great Pacific Pumice Ltd produced about 10 000 cubic metres of pumice in 2005, compared to 14 000 last year, from its **Mount Meager** site north of Pemberton. Labour shortages have challenged the company's ability

to meet market demand for its product which is reported to be about 20 000 cubic metres for the year.

EXPLORATION TRENDS

By year end 2005, seventeen major exploration projects had started compared to twelve major projects for the region in 2004. There were 16 drilling projects for a total amount of about 62 000 metres, up considerably over the final 2004 estimate of 38 000 metres (Figure 6.2). Again this year the amount of drilling at the Myra Falls operation (36 000 m) accounts for a good portion of total metres drilled. The region's major exploration projects are shown in Figure 6.3 and are listed in Table 6.2.

North Island

Lumina Resources Corp consolidated 37 000 hectares of tenure in the North Island copper-gold belt host to the Island Copper mine that produced over 365 million tonnes of ore and 1.2 million tonnes of copper, 32 009 tonnes of molybdenum, 35.5 tonnes of gold, 295.5 tonnes of silver plus rhenium over its 25-year life. Lumina's ground includes the 231 million tonne **Hushamu** deposit grading 0.28% copper and 0.31g/t gold. The company's Hushamu project was started with 2600 line-kilometres of airborne electromagnetic and magnetic geophysical survey, ground-based geophysics and geological and soil geochemistry surveys to help identify additional copper-molybdenum-gold porphyry drill-targets. A first phase of drilling completed in August tested priority targets at Hushamu and the Northwest Expo occurrence. At the time of writing, a second phase of drilling was underway in two main target areas. Total planned drilling was 4600 metres in 22 holes.

The **Jeune Landing** project of Sechelt Industrial Minerals Corp is a dolomite prospect located immediately north of the Village of Port Alice. Exposed near tidewater on Neroutsos Inlet, the 30-metre wide bed of dolomite in the Middle to Upper Triassic Quatsino Formation has returned MgO values of 22.5%. The company drilled 300 metres in 7 holes as a preliminary test and plans a 10 000 tonne bulk sample in late 2005 for testing for use in a Washington state glass-making plant. A hydrographic survey was also completed during the year to facilitate construction of a barge load out. If the bulk sample meets specifications for glass making, Sechelt Industrial Minerals Corp could initially produce as much as 50 000 tonnes per year from a seasonal quarry operation.

Vancouver-based, junior Grande Portage Resources Ltd optioned the **Merry Widow** and surrounding occurrences (MINFILE 092L 044, 045, 046) located 40 km southwest of Port McNeil on Vancouver Island was optioned by in 2004. In late November the company started a 55 line-km IP geophysical survey with a large gold-enriched skarn as the exploration target. The Merry Widow, an iron skarn, and associated deposits produced

almost 1.7 billion kilograms of iron in the 1950s and 1960s. The nearby Old Sport (MINFILE 092L 035) mine, a precious metal-bearing copper skarn, produced 506 million kilograms of iron, 41 million kilograms of copper and 3.84 million grams of gold and 11.7 million grams of silver.

Newmex Minerals Inc completed preliminary work on known gold-bearing veins in the **Zeballos** area (MINFILE 092L 008, 010).

In the Sayward area, Homegold Resources Ltd worked the **Iron Ross** iron skarn magnetite deposit (MINFILE 092K 043). Two core drillholes totaling 250 metres were completed and a 4800 tonne bulk sample was taken for use as heavy media in a heavy concrete application in a hospital x-ray facility.

Also in the Sayward area, Lehigh Northwest Materials Ltd worked its **Sayward** project with exploration of a limestone body with 9.5 line-km of seismic survey.

In the Memekay River area located between Campbell River and Sayward, Merit Mining Corp completed further trenching on the new **Virosa** copper-silver discovery made in late 2004 where a grab sample returned 8.7% copper and 46 g/t silver.

Campbell River / Gold River

Operator of the Basin Coal mine near Princeton, Compliance Energy Corp, initiated its **Bear Coal** project in the historic Cumberland coalfield in the Hamilton Lake area. The property's known coal deposit (MINFILE 092F 313) has a historic resource of approximately 11 million tonnes. The Bear Coal project was designed to upgrade the historic resource estimates of 8.5 million tonnes (Block A) and 2.6 million tonnes (Block B) and test for additional resources. Coal from both blocks is reported to have good coking characteristics and to be marketable as metallurgical coal.

Trenching and a 1550 metre, 33 hole drilling program was completed by summer's end on Block A, B and the newly discovered Block E.

Infill and extension drilling conducted at Block B has outlined coal that the company plans to bulk sample in early 2006. In addition, a coal section identified through trenching and drilling in an area about 2 km northeast of Block B, called Block E, is now interpreted to be an extension of one of the Block B coal seams. Block E is one of the two new areas of coal bearing strata discovered on the property in 2005. The company is expecting completion of a 43-101 resource estimate and report before year-end and is also conducting washability tests on the coal to test its suitability for the metallurgical coal market.

In late October Compliance Energy announced that it had entered into an option agreement to acquire all the coal, mineral, coal bed methane and natural gas rights in package of land near the Bear Coal project, the newly acquired tenure includes the **Fox Coal** deposit that has a

historic resource estimate of 38 477 900 tonnes of combined reserves coal (MINFILE 092F 333). The company plans to explore its Bear Coal and Fox Coal properties in 2006.

At the **Myra Falls** zinc-copper-gold-silver mine of NVI Mining Ltd, a large underground drilling program was underway in 2005 to expand the polymetallic massive sulphide reserves near mining areas and to identify new resources in a frontier trend. About 36 000 metres of core drilling is likely to be completed by year's end to test the Extension zone west of the Battle-Gap zone and to test for extensions of the 43 Block and HW zone, and along the Marshall trend where significant potential for additional ore has been identified with previous drilling. Eight hundred metres of new underground development was completed across the Marshall trend in 2005 to provide for drill stations closer to targets. Drill intersections to date on the Marshall trend include 19.6 metres at 11.7% zinc, 0.8% copper, 0/7 g/t gold and 45.9 g/t silver; 26.5 metres at 10.1% zinc, 1.3% copper, 3.6 g/t gold and 234 g/t silver; and 33.5% zinc, 2.0% copper, 8.4 g/t gold and 221 g/t silver over 8.8 metres.

In addition, work began on the Lynx ramp designed to provide access to untested areas with little or no previous drilling and to provide secondary access for equipment and improve ventilation and safety. The ramp will provide access to areas west of the Marshall trend, between the Battle-Gap zones and old Lynx mine, and north of the Ridge zones. This major development will facilitate drilling planned for 2006 in the area between the Battle-Gap zones and old Lynx mine.

Located between Gold River and Tahsis on the west side of Tlupana Inlet, is Doublestar Resources Ltd's **Century Limestone** project. The property includes an existing log load out that might easily be adapted for use as a barge loading facility. Preliminary grid rock sampling completed mid-2005 confirmed the continuity and quality of the Quatsino Formation limestone for calcining to a lime product. For late 2005, the company planned a ground magnetic survey to test for dikes within the limestone body and a drilling program of 3000 metres.

Port Alberni

SYMC Resources Ltd has a number of exploration projects in the Port Alberni area including Dauntless, Macktush, MC and Cameron Valley. An airborne geophysical survey of 1661 line km (magnetic, radiometric and electromagnetic) was completed over a large part of its holdings on the west side of Alberni Inlet that include the Dauntless, Macktush and MC properties and eleven documented MINFILE occurrences.

On its **Dauntless** project SYMC also completed trenching and 1062 metres of drilling in 15 holes on three copper-silver-gold targets - the Dauntless North vein (MINFILE 092F 168) and Herb Jr. vein and Tasha zone. Nine of the 15 holes drilled on the Dauntless North vein further defined the vein structure as eight sub-parallel 0.3 to 1.7 metre thick quartz-calcite-chalcopyrite-pyrite-

bornite-bearing veins that appear to locally merge into veins up to 5 metres thick. Results of the 2005 Dauntless drilling do not match the spectacular 20+ percent copper grades reported with historical surface sampling of the Dauntless North structure. However, drilling on all three targets areas yielded some encouraging intercepts. The company anticipates completing a revised mineral resource estimate for the Dauntless North veins and an assessment for further work.

In November SYMC Resources was still in the process of drilling the gold-silver-copper bearing David and Fred veins of the **Macktush** prospect (MINFILE 092F 012). The plan was to test the veins over a strike length of 350 metre with 1500 metres of core drilling in about 20 holes. SYMC Resources Ltd is planning to complete a GIS compilation and conduct prospecting, mapping and drilling on its Cameron Valley project (includes MINFILE 092F 143) located on the east side of Alberni Inlet in 2006 (Figure 6.12). The company is also planning to follow-up the 2005 airborne geophysical survey over the Macktush, Dauntless and MC properties with targeted prospecting, mapping, trenching and drilling.

SYMC Resources Ltd is planning to complete a GIS compilation and conduct prospecting, mapping and drilling on its **Cameron Valley** project (includes MINFILE 092F 143) located on the east side of Alberni Inlet in 2006. The company is also planning to follow-up the 2005 airborne geophysical survey over the Macktush, Dauntless and MC properties with targeted prospecting, mapping, trenching and drilling (Figure 6.11).



Figure 6.11. One of four summer fieldtrips arranged by the Vancouver Island Exploration (VIX) Group was at the Port Alberni area Dauntless and Macktush properties of SYMC Resources Ltd.

Bitterroot Resources Ltd optioned from Mike Becherer, the **Mineral Creek** property that includes the Debbie and 900 gold prospects (MINFILE 092F 079 and 331 respectively) located about 10 km southeast of Port Alberni. Westmin Resources Ltd explored the property between 1985 and 1991 with over 50 000 metres of drilling and approximately 2 km of underground workings

to test high grade gold-bearing quartz veins, stockworks and siliceous zones in volcanic rocks.

Four areas along a two kilometer-long trend are targeted for the Mineral Creek project over several years; from east to west the areas are: the Mineral Creek and Linda zones that comprise the 'Debbie' MINFILE occurrence, the '900' MINFILE occurrence, and the 1050 zone that was tested and discovered with one drillhole in 1990 with an intersection of 286.9 g/t gold over 1.7 metres.

2005 exploration was to consist of a surface drilling program of 2000 metres in 15 holes primarily on the 1050 zone located about 800 metres west of the 900 zone. As of late November the company had completed 1270 metres of drilling in 12 holes. 1050 zone results this year include 244.0 g/t gold and 92.0 g/t silver over 0.8 metres, and in a hole located 130 metres distant, 34.12 g/t gold and 6.79 g/t silver over 5.3 metres including 402.0 g/t gold and 85.0 g/t silver over 0.4 metres.

The company also has plans to evaluate the known Linda and 900 zones from underground workings with recently acquired permits. Contractors will rehabilitate the 900 zone underground workings in December to facilitate underground mapping, sampling and drilling.

Port Renfrew

Emerald Fields Resource Corp continued with exploration on its **Pearson** project in the Port Renfrew area southwestern Vancouver Island in search for nickel and copper and platinum group elements. The project is focusing on areas underlain by mafic intrusive rocks and on two skarn occurrences, Bugaboo (MINFILE 092C 022) and Reko (MINFILE 092C 091) located 14 km northwest and 14 km northeast respectively of Port Renfrew. Both of the areas were tested with airborne geophysical surveys and core drilling in 2005. Four hundred and sixty metres in 3 holes were drilled at Bugaboo and 300 metres in 4 holes at Reko.

Texada Island / Sunshine Coast

On its **Dude** copper-molybdenum-gold porphyry project (MINFILE 092F 276) on Texada Island, Pathfinder Resources Ltd conducted 1270 metres of reverse circulation drilling in 6 holes on portions of a one km diameter area with anomalous copper-molybdenum soil geochemistry and an IP geophysics chargeability anomaly. Surface surveys completed by Pathfinder earlier this year confirmed previous anomalous soil geochemistry results and also demonstrated the presence of gold in the mineralized system. Drilling results released in mid-December indicated the presence of a low-grade copper system with anomalous molybdenum values and the company announced that no further exploration was planned on the property.

Goldrush Resources Ltd completed a drilling program on its **OK Copper-molybdenum** project located approximately 40 km north of Powell River. Goldrush has optioned the property from Eastfield Resources Ltd.

Nine hundred and sixty-eight metres of core drilling in 6 holes was completed in 2005 as follow-up to a 2004 airborne geophysical survey and a 2005 estimate on the North Lake zone of an inferred mineral resource of 64.02 million tonnes grading 0.34% copper and 0.016% MoS₂ at a 0.20% copper cut-off grade (MINFILE 092K 008). Mineralization occurs in sheeted veins, some stockwork veins and as disseminations hosted in a multi-phase intrusive complex younger than the Coast Plutonic Complex country rock.

This year, 5 of 6 holes were drilled to explore the bounds of the North Lake zone and one hole was drilled on a lesser tested area known as the Claim Lake area where good copper-molybdenum values were encountered with previous drilling. At North Lake, the 5 holes confirmed that mineralization is open in several directions with highlight values that include: 0.30% copper and 0.004% molybdenum (0.007% MoS₂) over 33.1 metres; 0.22% copper and 0.013% molybdenum (0.022% MoS₂) over 83.3 metres; and 0.27% copper and 0.001% molybdenum (0.002% MoS₂) over 39.0 metres. In the Claim Lake area, the single drillhole returned values of 0.15% copper and 0.002% molybdenum (0.003% MoS₂) over 96.9 metres.

The well-known clay resource at **Lang Bay** (MINFILE 092F 137) was assessed by Electra Gold Ltd as a source of alumina-silica for cement manufacturing. Previous evaluations of the clay as high brightness filler have not led to production. The company is considering use of an existing barge load out facility near the Powell River pulp mill.

The **Sechelt Carbonate** (MINFILE 092GNW031) project of Pan Pacific Aggregates Ltd entered the pre-application stage of the Environmental Assessment process in November of this year. Located on the Sunshine Coast 15 km north of the community of Sechelt, it is a proposed limestone / dolomite development. Immediate-term products include chemical-grade and cement limestone.

The company reports an inferred resource of more than 100 million tonnes.

The 2005 exploration program at Sechelt Carbonate consisted of road work, geological mapping, ground-based geophysics, trenching and drilling of 5000 to 6000 metres in 30 holes. Pan Pacific plans to complete additional geological mapping and airborne geophysics early in the new year followed by a second round of drilling in the spring to further assess the resource. A resource estimate is planned for completion later in 2006.

The Mineral Hill limestone-garnetite-wollastonite deposit (MINFILE 092GNW054) is located about 10 km south of the Sechelt Carbonate project area. A small amount of wollastonite was quarried in 1990. During 2005, Pan Pacific gained control of the Mineral Hill property and completed clean-up of the site and drilled two holes to further test the extent of the garnetite-wollastonite. The company is also undertaking

environmental studies and working on a development plan for Mineral Hill separate from the Sechelt Carbonate project. Geological mapping, airborne geophysics and drilling is also planned for Mineral Hill in 2006.

On its **Big Andy** project, Kodiak Explorations Ltd completed prospecting and rock sampling on a known gold-silver-copper vein occurrence (MINFILE 092K122).

Pemberton

Near Pemberton, TTM Resources Inc is following-up on work conducted last year on known occurrences (MINFILE 092JW 007, 017 and 018) and on newly identified mineralization as part of its **Molygold** project. A drilling program of 1500 metres is scheduled to begin in December 2005 on the Breccia, Camp and Road zones that were assessed in 2004 with surface surveys. Porphyry molybdenum-copper deposit and base/precious metal-bearing vein deposit models were used in the 2004 work.

Also near Pemberton, fifty km north of the town, Goldstar Mining prospected and completed geological and geochemical surveys on the **Goldking** lead-zinc-silver skarn occurrence (MINFILE 092JNE054). The company is to become publicly traded and plans to raise funds for further work.

Boston Bar / Harrison Lake / Hope

Southern Rio Resources Ltd acquired the **Ebb** Cu-Mo prospect (MINFILE 092HNW049) located 20 km southeast of Boston Bar and completed a preliminary assessment with a geochemical survey and small IP program. Strong copper and molybdenum soil geochemical anomalies have been identified with previous surveys, but were not reflected in the tenor of mineralization or rock geochemistry samples collected in 2005. Results of the 2005 IP program and any follow-up drilling next year in 2006 might provide some answers to the soil geochemistry values.

Megastar Development Corp acquired the **Monument** prospect (MINFILE 092HNW054) located within the Coquihalla Gold Belt and about 8 km northeast of Yale. Drilling completed on the mesothermal quartz-gold vein in the late 1970s returned significant intersections including 15.4 g/t gold over 3.1 metres. The company completed an initial assessment of the property in 2005 and plans a drilling program to test the prospect.

East of Harrison Lake, magmatic nickel +/-copper +/-cobalt +/-PGE deposits continue to be of interest in a belt of sulphide-bearing ultramafic rocks that are host to the former producing Pacific Nickel mine. The mine recorded production of 3.23 tonnes of nickel and 1.43 tonnes of copper between 1958 and 1974 from the Giant Mascot (MINFILE 092HSW125), Pride of Emory (092HSW004) and Star of Emory (092HSW093) deposits. In addition to nickel and copper there are references made in the literature about the presence of cobalt, palladium and platinum in some ore.

As a joint venture, International Millenium Mining Corp and Sutcliffe Resources Ltd have assembled 43 000 hectares of tenure as its **Harrison Lake Regional** project stretching 30 km northwesterly from the Pacific Nickel mine tenure. In late 2004, 1452 line km of an airborne time domain electromagnetic and magnetic survey were completed over the project area. Fifteen potential target areas were identified with the airborne geophysical survey. The Joint Venture followed up in August 2005 with 24 km of ground UTEM geophysical survey over four of the 15 airborne anomalies to help define drill targets. It has selected one of the four anomalies, 4.3 km long and located in the northwestern part of the property, to conduct a 10 hole, 1500 metre core drilling program in either late 2005 or in 2006. Favourable geology of the target area extends into the Katt / sable project area of Pacific Coast Nickel Corp.

Pacific Coast Nickel Corp is searching for nickel-copper and platinum group element bearing deposits east of Harrison Lake with two projects - its Big Nic / Emery Creek project and Katt / Sable project. At the **Big Nic / Emory Creek** project located several km north of the Pacific Nickel mine and east of the Harrison Lake regional Joint Venture project, the company completed 72.5 line km of airborne magnetic and electromagnetic survey over the Big Nic area and 465 line km of the same over the Emery Creek target area - geological and stream sediment geochemistry surveys were conducted over both areas. The **Katt / Sable** project area extends northwest from the northern end of the Harrison Lake Regional project area and includes the Sable occurrence (MINFILE 092HNW077). The company completed 181 line km and 79 line km of airborne magnetic and electromagnetic survey over the Katt and Sable target areas respectively. Geological mapping and rock sampling was conducted over both Katt and Sable. Pacific Coast will be reviewing results of all four targets areas with the intent of identifying drill targets and testing them in 2006.

Also east of Harrison Lake and 24 km southwest of Boston Bar, Saturn Minerals Inc's **Gem Moly** project targeted the known Gem molybdenum-copper prospect (MINFILE 092HNW001). Twenty drillholes totaling 4402 metres were the basis of a historical resource estimate of 15.8 M tonnes grading 0.125% MoS₂ using a 0.10% MoS₂ cutoff. The deposit occurs within a breccia pipe approximately 400 metres in diameter. The company completed a first round of surface geological and geochemical surveys in the summer of 2005 and expected to complete a second phase later in the year.

Located 130 km east of Vancouver and just 5 km northeast of the Village of Harrison Hotsprings, is the **Abo** project of Eagle Plains Resources Ltd and option partner Northern Continental Resources Inc. The property has been subject to a significant amount of exploration work since 1975 including geological mapping, soil geochemistry, ground geophysics, 444 metres of

underground development and 16 924 metres of drilling including 3068 metres in 2005.

The property is underlain by marine sedimentary and volcanic rocks of the Lower Cretaceous Gambier Group intruded by Oligocene to Miocene quartz diorite stocks. Mineralization consists of gold-silver bearing quartz veins associated with and predominantly confined within several of the quartz diorite stocks (Jenner, Portal, Lake and Hill Stocks) and a gold-silver-zinc and copper / sulphide bearing breccia pipe (Breccia zone) located adjacent to the Hill Stock.

The gold-silver bearing vein systems of the Jenner zone and nearby Portal zone comprise the main deposits on the property. Northern Continental Resources Inc released in 2003 a NI 43-101 compliant resource estimate that outlines an indicated resource of 1.845 million tonnes grading 2.79 g/t gold and an inferred resource of 0.6 million tonnes grading 2.8 g/t gold in the Jenner and Portal zones.

Historical results from other zones have included: up to 2.24 g/t gold in the Lake Stock zone; up to 23 g/t gold and 57 g/t silver over 1 metre in the Hill Stock zone; and 29 metres averaging 1.65 g/t gold, 4.4 g/t silver, 0.56% zinc and 0.04% copper in the Breccia zone.

The company completed a 2468 metre, 10 hole program in early 2005. Two holes were drilled at the Portal stock, 1 hole was drilled at the Lake Stock, 5 holes tested the Hill Stock and surrounding area, one tested the breccia pipe and one drillhole was completed at the Slide Stock area.

Results of the 2005 program included discovery of a new mineralized zone along the north-western border of the Hill Stock with highlight values of: 5.0 m @2.7 g/t gold, 1.0 m @ 60.9 g/t gold and 5.0 m @ 6.8 g/t gold. Eagle Plains Resources Ltd and Northern Continental Resources Ltd completed 600 m of additional drilling on the new NW Hill Stock zone in November / December with results yet to be released.

On the west side of Harrison Lake, Carat Exploration Inc worked its **Seneca** project (MINFILE 092HSW013, 039 and 165) to test known polymetallic occurrences and the surrounding area. The company completed a first stage program of 325 line km of airborne electromagnetic geophysics followed by prospecting, geology, stream sediment surveys and 25 line km of ground-based electromagnetic and IP geophysics. Stream sediment geochemistry indicates that potential exists for the discovery of zinc-copper-lead-gold-silver mineralization beyond the currently known mineral occurrences in multiple horizons in the volcanic stratigraphy (Figure 6.12).

The company expanded the size of the property based on stage one results and was mobilizing a core drilling program of 3700 metres in the first week of December to test known zones and stage one anomalies. Drilling will continue into January.

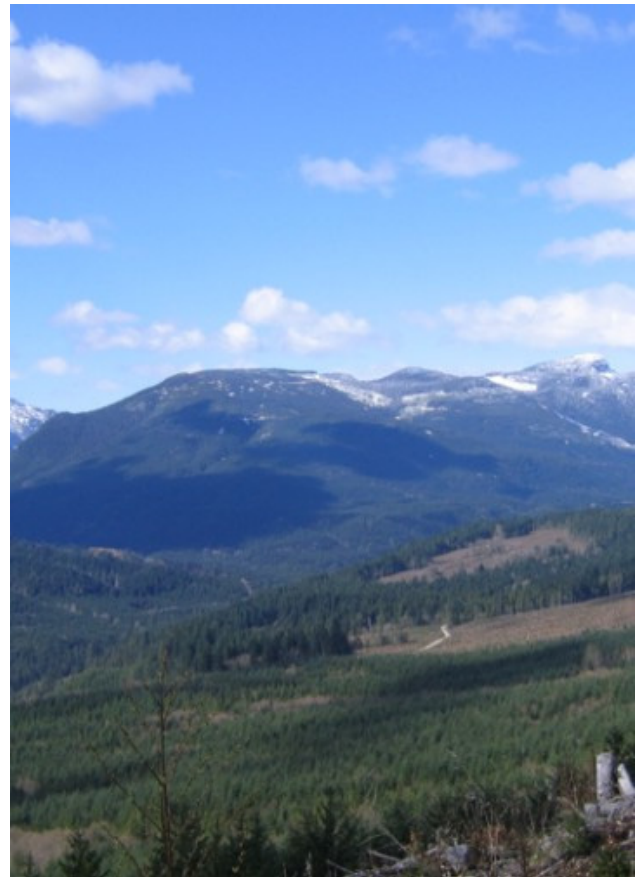


Figure 6.12. Looking north towards the Fleetwood and 33 zones (between cut blocks) of the Seneca project of Carat Exploration Inc.

Another VMS project on the west side of Harrison Lake is the **Thor-Odin** project of Argentor Resources. The company completed geological mapping, an induced polarization geophysical survey and collected soil samples on 20 km of grid on two documented occurrences of zinc-copper-lead-silver-gold mineralization (MINFILE 092HSW140, 164).

North Pacific Alloys Limited, a subsidiary of Leader Mining International Inc continued with its development plans for its **Cogburn** magnesium deposit (MINFILE 092HSW081) located approximately 120 km east of Vancouver on the east side of Harrison lake and 23 km northeast of Hope. The company secured road access to the area and as of March 2005, has been in the pre-application stage of BC environmental assessment. North Pacific announced in late November 2005 that it was looking for a company to be operator or owner of the project.

In 2005 Century Mining Corporation completed rehabilitation / reclamation work at the **Carolyn** gold mine (MINFILE 092HNW007) located northeast of Hope. The company has also planned to undertake exploration at the site and update an earlier feasibility study, but as of late November the work had yet to begin.

Aries Resource Corporation completed a small ground-based magnetic survey on its **Mara** property

(MINFILE 092HNW029) located immediately southeast of Boston Bar. The occurrence is documented as a magmatic nickel-copper-silver showing hosted in ultramafic rocks.

OUTLOOK FOR 2006

Mining activity is anticipated to be strong again in 2006 with continuing production at Myra Falls, Quinsam Coal and the many industrial mineral and aggregate quarries and pits.

The coming mineral exploration season should be another active and successful one. Exploration / development projects that are expected to continue into next year include:

- Underground development and drilling at the **Myra Falls** zinc-copper-gold-silver mine
- Drilling at the **Quinsam Coal** mine
- Compliance Energy Corp will complete bulk sampling at the **Bear Coal** project and exploration at its nearby **Fox Coal** deposit
- SYMC Resources Ltd will be continuing its **Macktush** project with an ongoing drill program on the gold-silver-copper bearing David and Fred veins, and will be initiating work on its **Cameron Valley** project located on the east side of Alberni Inlet. The company is also planning to follow-up the 2005 airborne geophysical survey over the Macktush, Dauntless and MC properties with targeted prospecting, mapping, trenching and drilling
- Bitterroot Resources Ltd's **Mineral Creek** project will test for high-grade gold in the 1050, 900 and Linda zones
- With a late start in 2005, Carat Exploration Inc will continue drilling at its **Seneca** project in January
- With the **Sechelt Carbonate** project, Pan Pacific Aggregates Ltd has plans to continue in 2006 with additional geological mapping, airborne geophysics and drilling to test the carbonate resources. It also plans work at the Mineral Hill limestone-garnetite-wollastonite occurrence located about 10 km south
- It is expected that Sechelt Industrials Mineral Corp will bulk sample its **Jeune Landing** dolomite prospect near Port Alice
- With a planned December mobilization of a drill rig on its **Molygold** project near Pemberton, it is expected that TTM Resources Inc will be drilling in the new year
- In the search for nickel +/-copper +/-cobalt +/-PGE deposits east of Harrison Lake, drilling is likely to be completed on the **Harrison Lake Regional** Joint Venture project of International Millenium Mining Corp and Sutcliffe Resources Ltd, and might be

completed on the **Big Nic/Emory Creek** project and **Katt/Sable** projects of Pacific Coast Nickel Corp

There are a number of projects started in 2006 for which results are not yet available or released. Some of the higher profile projects that might continue into next year, contingent upon results, include:

- The **Merry Widow** project of Grande Portage Resources Ltd contingent on results of an IP survey
- Doublestar Resources Ltd's **Century Limestone** project after completion of a ground-based magnetic survey and core drilling to test the continuity of the limestone body.

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