

# SOUTH-CENTRAL REGION

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## SUMMARY AND TRENDS

Exploration activity in South-Central BC increased dramatically in 2007 to approximately \$84.4 million (Figure 4.1): an increase of almost double compared to 2006 and another record-setting total. There were some very large exploration programs in the region and several that were completing pre-feasibility and feasibility level studies that require large amounts of capital which is captured in these statistics as pre-production decision spending. Junior companies were responsible for virtually all of the region's investment which is an ongoing trend seen for many years now. Many companies continued to benefit from the confidence in the investment community which supported their ability to raise capital in various financings.

With current high metal prices numerous projects are under revamped exploration programs utilizing larger conceptual deposit geometries and new mining methodologies or realizing previously over-looked resources. These companies are primarily targeting bulk-mineable copper-gold, copper-molybdenum and molybdenum porphyry deposits, high-grade gold-silver veins, and stratiform polymetallic massive sulphide deposits.

Drilling activity was up substantially at about 330 000 m (Figure 4.2) an increase of 88% over 2006. The number of significant projects, *i.e.*, those with drilling or trenching and over \$500 000 in spending or significant regional impact, is estimated at 33 (*For 2007, the threshold for measuring significant projects has been adjusted upward from the old benchmark of \$100 000 owing to rising costs for exploration programs and a robust industry; therefore, comparison with previous years is not possible*).

The **New Afton** (copper-gold) project received a *Mines Act* permit on October 30 and is being advanced toward production sometime in late 2009. A positive feasibility study for **Prosperity** (copper-gold) project was completed and the project is continuing through the permitting process. Several projects are undergoing advanced exploration, pre-feasibility and feasibility level studies and could enter permitting processes in the near future. The most advanced are **Afton** (copper-gold) (Ajax, DM-Audra-Crescent), **Elk** (gold), **Blue River** (tantalum-niobium), **Copper Mountain** (copper-gold), **Harper Creek** (copper), **J&L** (zinc-lead-silver) and **Ruddock Creek** (zinc-lead-silver) projects.

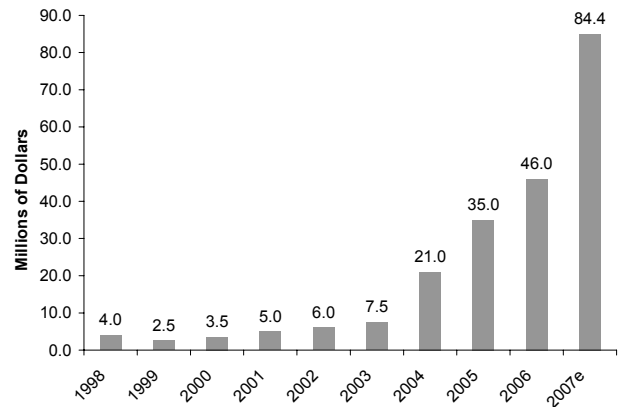


Figure 4.1. Annual exploration spending, in millions of dollars, South-Central Region.

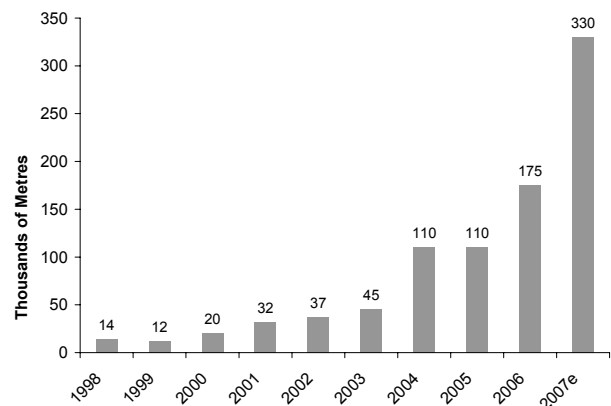


Figure 4.2. Annual exploration and development drilling, in thousands of metres, South-Central Region.

It was a particularly encouraging year for significant new discoveries, many of which are at existing properties but may be previously unknown zones or the result of new exploration concepts. These include: the U-Zone at the **Ruddock Creek** project, the BK Zone at the **Bralorne Mine** (gold), possible red bed-style mineralization at the **Chilanko** (copper) project, sub-thrust fault mineralization at the **Crazy Fox** (molybdenum-tungsten) project, deep mineralization at the **New Afton** project, the Peach 1 zone at the **Lac La Hache** (copper-gold) project, the Ridley Creek zone at the **Fox** (tungsten-molybdenum) property, new carbonatites at

Lower Gum and Switch Creek at the **Blue River** (tantalum-niobium) property and epithermal gold at the **Shovelnose** property.

Amongst the operating mines, the highlight of the year was the decision to extend the mine life to 2019 at **Highland Valley Copper**. This includes a major capital investment in pit expansion, equipment procurement and on site improvements.

All of the operating mines in the region are listed in Table 4.1 and shown on the map (Figure 4.3). In addition, the major exploration projects are listed in Table 4.2.

## METALS

**Highland Valley Copper**, a partnership of Teck Cominco Ltd (97.5%) and Highmont Mining Company

Ltd (2.5%), continued to be a highly profitable mine in light of onsite developments and elevated currency exchanges.

For the over 1000 employees of the operation, the February decision to extend the mine life from 2013 to 2019 was welcome news. The additional capital investment for this extension is reported to be \$300 million and involves a push back of the west wall in the Valley pit, exploitation of other known resources on the property (Lornex and Highmont pits) as well as equipment and mill upgrades. The east wall push back on the Valley pit is well underway with overburden stripping to continue for the next 1-2 years (Figure 4.4). The in pit crushers and conveyors have been moved out of the Valley pit and now reside on its east rim. The companies invested an estimated \$170 million this year as part of both the 2013 and 2019 mine life extensions.

**TABLE 4.1. SOUTH-CENTRAL FORECAST MINE PRODUCTION 2007**

Mine	Operator	Deposit Type / Commodity	Forecast Production in 2007 (tonnes or kilograms)	Number of Employees	Proven and Probable Reserves (at Jan. 1, 2006)
<b>Metals</b>					
Highland Valley Copper	Teck Cominco Ltd / Highmont Mining Company Ltd	Calc-alkalic porphyry Cu-Mo	142 000 Mt Cu, 1700 Mt Mo, minor Au and Ag	>1000	318 700 000 Mt at 0.43% Cu and 0.008% Mo
<b>Coal</b>					
Basin	Compliance Energy Corp	Thermal coal	0	On care and maintenance	
<b>Industrial Minerals</b>					
Ashcroft	IG Machine and Fiber Ltd (IKO Industries Ltd)	Basalt (roofing granules)	~350 000 Mt	55 (plant & quarry)	
Bud	Absorbent Products Ltd	Bentonite		see Red Lake	
Buse Lake	Lafarge Canada Inc	Volcanic ash (alumina-silica)		see Harper Ranch	
Craigmont	Craigmont Mines Joint Venture	Magnetite tailings	60 – 70 000 Mt	~30 (plant; seasonal)	
Decor	Pacific Bentonite Ltd	Alumina, landscape rock		~2 (including trucking)	
Falkland	Lafarge Canada Inc	Gypsum	6000 Mt	see Harper Ranch	
Harper Ranch	Lafarge Canada Inc	Limestone	~220 000 Mt	32 (plant & 3 quarries)	
Kettle Valley quarries	Kettle Valley Stone Company	Ashlar, flagstone, thin veneer		~40 (plant & quarries)	
Pavilion	Graymont Western Canada Inc	Limestone	190 000 Mt	~34 (plant & quarry)	
Red Lake	Absorbent Products Ltd	Diatomaceous earth, leonardite		40 (plant & 3 quarries)	
Z-2	Industrial Minerals Processors	Zeolite		~3 (plant and quarry; intermittent)	
Zeotech Bromley Creek	Heemskirk Canada Ltd	Zeolite			

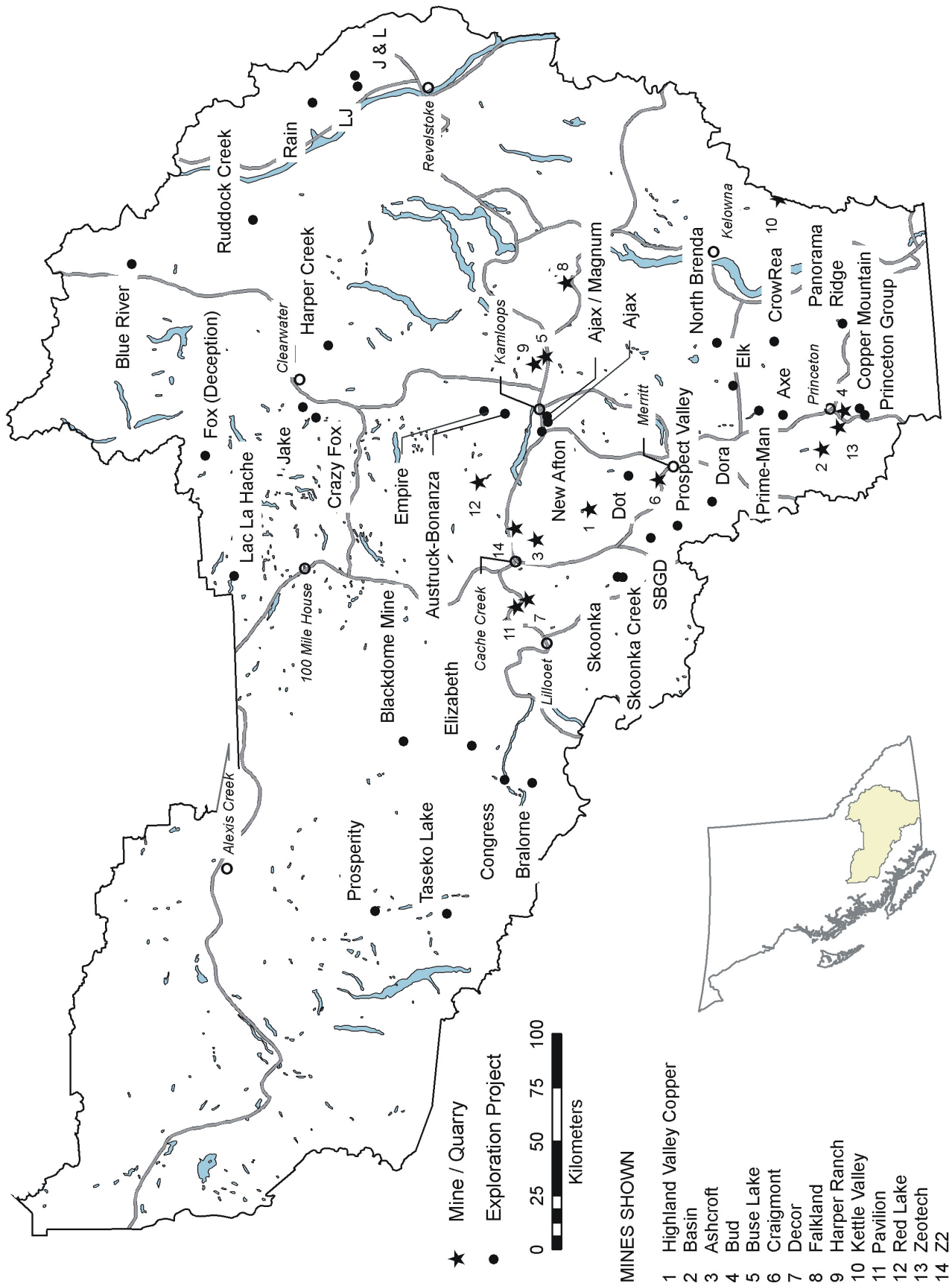


Figure 4.3. Mines, quarries and major exploration projects, South-Central Region, 2007.

**TABLE 4.2. MAJOR EXPLORATION PROJECTS, SOUTH-CENTRAL REGION, 2007**

<b>Property</b>	<b>Operator</b>	<b>MINFILE</b>	<b>Commodities</b>	<b>Deposit Type</b>	<b>Work Program</b>
Afton Area (West Ajax, East Ajax, DM-Audra-Crescent)	Abacus Mining and Exploration Corp	092INE012, 013, 092INE028, 030, 026	Cu, Au, Ag, Pd	Alkalic Porphyry	DD (~30 000 m), EN, FS, MS, PF
Ajax / Magnum	New Gold Inc	092INE012, 013	Cu, Au	Alkalic Porphyry	DD (~8000 m)
Austruck-Bonanza	American Creek Resources Ltd		Au, Cu	Vein?	DD (3985 m)
Axe	Westar Resources Corp/ Bearclaw Capital Corp	092HNE143, 040, 142	Cu, Au, Ag	Alkalic Porphyry	DD (3200 m)
Blackdome Mine	J-Pacific Gold Inc	092O 053, 051, 052	Au, Ag	Epithermal Vein	DD (2080 m)
Blue River Tantalum/Niobium (Upper Fir)	Commerce Resources Corp	083D 005, 035	Ta, Nb	Carbonatite	MS, PF, DD (~6000 m), EN, G
Bralorne Camp (King, Shaft and BK veins)	Bralorne Gold Mines Ltd	092JNE164, 001	Au, Ag	Mesothermal Vein	DD (~3000 m)
Congress	Levon Resources Ltd	092JNE029, 131, 132, 133	Au, Ag, Cu, Sb	Mesothermal Vein	TR, P, DD (~5000 m)
Copper Mountain (Similco)	Copper Mountain Mining Corporation		Cu, Au	Porphyry	DD (51 000 m), PF
Crazy Fox	Newmac Resources Inc	092P 014, 015, 106	Mo, W	Porphyry	TR, DD (6900 m)
CrowRea / Empress	Goldrea Resource Corp / Molycor Gold Corp	092HNE138, 044	Mo	Vein; Porphyry	DD (~8500 m), TR
Dora (Clapperton, Spence, McKay, Stobart, Fame)	Appleton Exploration Inc		Au	Epithermal Vein	P, GC, G, GP, TR, DD (~1500 m)
Dot	Dot Resources Ltd	092ISE023, 019, 063, 156, 024	Cu	Porphyry	G, GP-IP, GP-MAG, DD (~3000 m)
Elizabeth	J-Pacific Gold Inc	092O 012	Au, Ag, Cu, Mo	Mesothermal Vein	DD (1725 m)
Elk (Siwash North)	Almaden Minerals Ltd	092HNE096	Au, Ag	Mesothermal Vein	DD (~2000 m), EN, PF
Empire (Bullion/Jamieson)	American Creek Resources Ltd		Au, Ag	Vein, porphyry	DD (1785 m)
Fox	Happy Creek Minerals Ltd	none	W, Mo, Zn, Au	Skarn	TR, DD (~2000 m), GC, G, P
Harper Creek	Yellowhead Mining Inc	082M 008, 009	Cu, Ag, Au, Zn, Mo	Stratiform disseminated	DD (~14 000 m), GP-IP, GC, G, MS
J & L	Merit Mining Corp	082M 003	Zn, Pb, Ag, Au	Stratiform/VMS	UG (~1000 m), DD (1363 m), UG-DD (~5000 m)

TABLE 4.2. CONTINUED

Property	Operator	MINFILE	Commodities	Deposit Type	Work Program
Jake	Island Arc Exploration Corporation/Rimfire Minerals Corp		Au	Mesothermal vein	GP-IP, TR, DD (~900 m)
Lac La Hache (Aurizon, Peach 1 Zones)	GWR Resources Inc	092P001, 002, 034, 035, 108, 120, 153	Cu, Au	Porphyry	TR, DD (20 000 m)
LJ	Venturex Explorations Inc	082M 264	Zn, Pb, Cu, Au, Ag	SEDEX / Besshi VMS	DD (2600 m), GC, P
New Afton	New Gold Inc	092INE023	Cu, Au, Pd, Ag	Alkalic Porphyry	DD (~15 000 m), UG, FS, EN
North Brenda	Bitterroot Resources Ltd		Cu, Mo, Au, Pb	Porphyry, vein?	DD (~3900 m); GP-IP, GC, P
Panorama Ridge	Goldcliff Resource Corp	082ESW052, 259	Au	Skarn	DD (2827 m), TR (1008 m)
Prime-Man	Candorado Operating Company Ltd		Cu, Au	Porphyry	DD (5000 m); GP-IP
Princeton Group	Anglo Canadian Uranium Corp	092HSE033	Cu, Au, Pd	Intrusive/Porphyry	DD (3000 m), IP
Prospect Valley	Consolidated Spire Ventures Ltd		Au, Ag	Epithermal Vein	DD (5000 m), TR, GC, GP
Prosperity	Taseko Mines Ltd	092O 041	Cu, Mo, Au	Porphyry	FS, BS, ES, DD (~2100 m), TR
Rain	International Bethlehem Mining Corp	082M 156	Cu, Mo, W, Pb, Zn	VMS/Besshi	DD (2133 m), GC, P
Ruddock Creek	Selkirk Metals Corp	082M 082, 083	Zn, Pb, Ag	Stratiform	DD (~12 000 m), UG (~1000 m), MS, EN
SBGD (Mag, LP, Silk, Southern Belle, Inn, Manning)	Strongbow Exploration Inc		Au, Ag	Epithermal Vein	GC, G, P
Skoonka (B4, B5, B6, Boothanie 1,2,3)	Anglo-Canadian Uranium Corp		Au	Epithermal Vein	GP-MG, GP-IP, GC, G, DD (2000 m)
Skoonka Creek (Deadwood, Blackburn, Ember,JJ)	Strongbow Exploration Inc	092ISW104, 105	Au, Ag	Epithermal Vein	AB-MG-RD, GC,TR,GP,DD (3144 m)
Taseko Lake	Galore Resources Inc		Cu, Mo, Au, Ag	Porphyry	AB-EM,MG,G,P,GC, DD (~2400 m)

**Work Program Abbreviations:**

A = access; trail, road construction on claims; AB-EM = airborne electromagnetics; AB-MG = airborne magnetics; AB-RD = airborne radiometrics; BU (X tonnes) = bulk sample (weight in tonnes if known); CD = condemnation drilling; CQ = coal quality testing; CT = carbonization test (coal); DD (Xm) = diamond drilling totaling X metres; EN = environmental baseline studies/monitoring, remediation work; FS = feasibility studies; G = geology, mapping, etc; GC = geochemical sampling (rock, soil, silt, etc); GD = geotech drilling; GP = geophysics (general); IP = Induced Polarization; 3D-IP; MG = magnetics; MK = marketing-primarily for industrial mineral products; MS = metallurgical studies; OB = overburden drilling; OP-BU = open-pit bulk sample; P = prospecting; PD = percussion drilling; PF = pre-feasibility studies; PP = Pilot plant, R = reclamation; RC = reverse circulation drilling; TR = trenching, UG (X m) = X metres of underground development; UG-BU = underground bulk sample; UT = UTEM; VLF; WT = washability test (coal)



Figure 4.4. The Valley Pit at Highland Valley Copper showing trace of moved in pit conveyor and east wall overburden stripping.

Average daily mill throughput is estimated at around 112 000 tonnes/day or approximately 41 million tonnes for the year which is down roughly 10% from 2006. Copper production is estimated at 142 000 tonnes, a reduction of approximately 17% from 2006, and a reflection of the inclusion of lower grade ore from the Lornex and Highmont pits during the current push back and reduced mining at the Valley Pit. Molybdenum production is forecasted at around 1700 tonnes which is down around 14% from 2006. The mine also produces minor by-product gold and silver.

The proposed on site copper refinery was delayed indefinitely owing to an inconclusive feasibility study. The mine produces relatively clean concentrates and there was no obvious advantage to utilizing a process designed for less desirable concentrates at a growing capital cost of at least \$500 million.

Several other mine-mill complexes remain on care-and-maintenance status. Many of these have been closed since the mid-1990s, awaiting higher metal prices and/or discovery of additional ore. They have permits and substantial infrastructure in place and represent excellent opportunities for renewed mining or custom milling. These complexes include the **Goldstream** copper-zinc, **Blackdome** gold-silver, **Bralorne** gold and **Similco** copper-gold mines. Efforts at bringing these mines back into production are discussed in latter sections.

## COAL

Located near the town of Coalmont, the small **Basin** thermal coal mine of Compliance Energy Corporation was placed on seasonal care and maintenance status in September 2006 and did not operate in 2007. The high volatile, bituminous B and C rank coal is sold mainly to cement plants and other niche markets in southern BC. A

stockpile of 4500 tonnes was sold to meet some contractual arrangements.

The company's subsidiary, Compliance Power Corporation, is studying options for its Princeton Power project which was to utilize coal from the Basin mine along with wood-waste to produce up to 56 megawatt of power. The company is reviewing this proposal in light of Government's vision for energy production as set out in the Energy Plan.

## INDUSTRIAL MINERALS

There are more than fifteen industrial mineral quarries and processing plants employing over 250 people in the region. These operations provide stable jobs in many small to medium-sized communities including Kamloops, Kelowna, Lillooet, Cache Creek, Ashcroft, Princeton and Merritt. There are very good opportunities for additional growth in this sector due to the wide variety of rock types and deposits in the region, excellent transportation infrastructure, proximity to growing markets in western North America, and the relative ease of permitting.

The **Kamloops** cement plant and **Harper Ranch** limestone quarry of Lafarge Canada Inc continue to supply cement to meet due to strong demand in western Canada. Lafarge also draws materials from the **Falkland** and **Buse Lake** quarries, which provide gypsum and alumina-silica rock respectively.

The **Decor** pit of Pacific Bentonite Ltd supplies alumina-rich burnt shale to the Lafarge cement plant in Kamloops. The shale beds occur directly above the Hat Creek coal deposit, located west of Cache Creek. Although most of the material is sold to Lafarge, a few thousand tonnes were also sold for surfacing of baseball diamonds. The property is also known to host a large bentonite deposit which is being investigated for municipal engineering and tile manufacture applications.

Also near Cache Creek, Graymont Western Canada Inc operates the **Pavilion** limestone quarry and lime plant on the Pavilion Indian Reserve. Graymont has a forty-year lease with the Ts'kw'aylaxw First Nation who form the bulk of the employees at the mine.

East of Ashcroft, IG Machine and Fiber Ltd, a subsidiary of IKO Industries Ltd, operates the **Ashcroft** basalt quarry and roofing granule plant. The granules are sized and coated with one of several distinct colours on site, and then shipped by rail and truck to IKO asphalt shingle plants in Calgary, Alberta; Sumas, Washington; Chicago, Illinois and elsewhere in North America.

Craigmont Mines Joint Venture operates the **Craigmont** magnetite operation located near Merritt where tailings from the old Craigmont copper mine are processed. The plant normally operates on a seasonal basis (March to December), however, due to strong demand, processing may continue through the winter

months. The magnetite is used in coal washing plants in western Canada and the Centralia mine in Washington State. Remaining tailings are forecast to be exhausted within the next one to two years and the company is evaluating several other possible feed sources.

At its plant in Kamloops, Absorbent Products Ltd manufactures cat litter, barn deodorizer, industrial absorbents, and carriers for agricultural products. These are prepared from diatomaceous earth mined from the **Red Lake** quarry northwest of Kamloops, and bentonite mined from the **Bud** quarry at Princeton (Figure 4.5).

The **Z1** (Ranchlands) zeolite quarry near Cache Creek is a small intermittent producer. Heemskirk Canada Ltd continues to market agricultural and absorbent products, produced from stockpiled zeolite at its plant in Lethbridge, Alberta. Zeolite is also mined from the nearby **Z2** quarry by Industrial Mineral Processors, a private company based in Calgary. The plant produces industrial absorbents for oil field clean-up, soil conditioner, barn deodorizers, feed binders, and cat litter.

At Princeton, the **Zeo-Tech/Bromley Creek** zeolite quarry is operated by Heemskirk Canada Ltd who transport the material to Lethbridge and prepared for use as lightweight cement for oil and gas wells.

Opal Resources Canada Inc produces attractive fire opal gemstones and jewelry from the **Klinker** property, located west of Vernon. Opal occurs as fracture and vesicle-fillings in andesitic to basaltic laharic breccia of the basal Kamloops Group (Eocene). Presently the gemstone jewelry is marketed from a retail store in Vernon and is aimed at the BC tourist market; however, the company aims to develop other North American markets.

Decorative rock and dimension stone are produced at numerous small quarries throughout the region. The best known producer is the Kettle Valley Stone Company of Kelowna which sells flagstone, ashlar, facing stone and landscape rock mined from the **Nipple Mountain, Kettle Valley, Canyon** and **Gemini** quarries. Kettle Valley's



Figure 4.5. Bentonite near Princeton at the Bud Quarry of Absorbent Products Ltd.

workforce has grown to about 40 people year round, mainly employed in the Kelowna processing facility. The products include dacite ash, gneiss and basalt, and are mainly used in high-end residential and commercial developments in the western U.S.A. and in the Vancouver-Whistler area.

South of Revelstoke, D.G. Olsson produces, by hand, small amounts of micaceous-quartzite flagstone and facing stone at the **Begbie** quarry. Other small, hand-operated flagstone quarries exploit micaceous quartzite in the North Thompson area.

## EXPLORATION HIGHLIGHTS

### **KAMLOOPS - HIGHLAND VALLEY**

Strong prices for copper, molybdenum and gold have focused exploration interest on the productive porphyry-hosting districts of southern BC, and in particular the Guichon Creek and Iron Mask batholiths.

Major exploration projects within the Iron Mask batholith are maturing into development projects and future mines. This second life of large-scale mining is generally sited at former producing deposits such as the Afton and Ajax mine but with rethought approaches such as new mining methods or increased economies of scale. These approaches have given new life to a prolific mineralized area that a decade ago was on the wane.

The most advanced project in the batholith, and the south central region, was the **New Afton** porphyry copper-gold project of New Gold Inc. New Afton is located on the northwestern end of the Iron Mask batholith and centered on the former Afton open-pit mine site, ten kilometres west of Kamloops. The year started aggressively with an application for a *Mines Act* permit in January followed by the completion of a feasibility study in April. Through the summer the company successfully raised enough capital to see the project through to production as set out in the feasibility study. In late October the company received a permit allowing it to proceed with mine construction and operation.

In the midst of all these activities the company has been successfully identifying new resources below those that are set out in the present mine plans. In 2006 the C-Zone was discovered which provided new potential resources below the main zone and in 2007 hole AF-125 passed through both zones into a new zone of mineralization which yield an intersection of 122 m grading 1.23% Cu and 1.01 g/t Au (Figure 4.6). These deep intersections have illuminated mineralization at the deposit at a depth of 1.3 kilometres below the surface and with an overall vertical extent of 1.1 kilometres.

New Gold Inc was also active in the central region of the Iron Mask batholith where they drilled around the

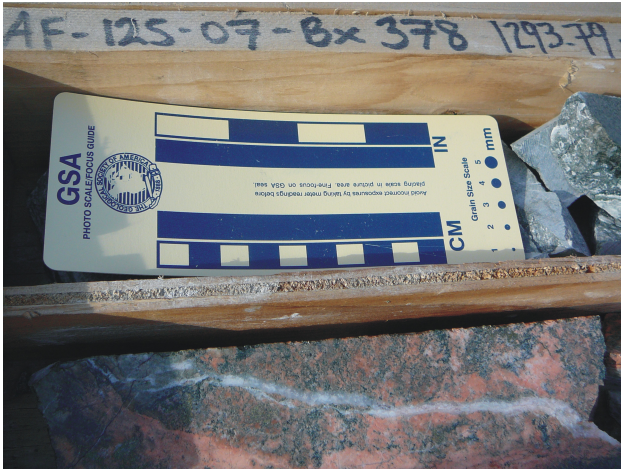


Figure 4.6. A deep hole of nearly 1.3 km at the New Afton mine. Alteration and mineralization continue to at least these depths.

**Ajax** pits and the **Magnum** property. A letter of intent signed in November with neighboring company Abacus Mining and Exploration Corp around the Ajax pits ensures the company will have access to underground mineral resources below a conceptual pit being contemplated by Abacus.

Abacus Mining and Exploration Corp are maintaining an aggressive rate of exploration at their large property holdings in the Iron Mask batholith. In the first quarter the company released results indicating the **Ajax West** deposit contained inferred mineral resources of 147 million tonnes grading 0.36% Cu and 0.22 g/t Au at a cut-off of 0.2% Cu. The company drilled the **Ajax East** deposit in support of defining a resource estimate in early 2008. The signing of letters of intent with New Gold Inc in November have enabled the company to expand its efforts in defining a larger mineral resource around the **Ajax West** and **East** deposits where previously the land base was fractured by separate titles held by the two companies. A drill program of up to 20 000 m has been proposed in the newly available exploration area aimed at providing the company with supporting data for a combined super pit with a potential strike length of 1.5 kilometres.

Abacus Mining and Exploration Corp continued to drill the **DM-Audra-Crescent Zone** which presently is open at depth and along strike. A recalculated resource for this zone is expected in early 2008.

North of Kamloops Lake, Candorado Operating Company Ltd flew a high resolution multi-parameter airborne geophysical survey over its **K-CR** property. This survey is contiguous to the 1995 survey area over the Afton camp and is intended to provide the company with a similar quality of data that has previously proven useful in defining exploration targets for follow-up within the Iron Mask batholith. Similarly, with funding from the Targeted Geoscience Initiative (**TGI-3**) the Geological Survey of Canada initiated a multi-parameter airborne geophysical survey over the immediate Kamloops area to

provide southern coverage contiguous to the 2006 Bonaparte survey.

Near Roper and Dominic Lakes, west-southwest of Kamloops, Global Hunter Corp completed four confirmatory holes at the **Rabbit South** molybdenum porphyry property. Previous work outlined a horseshoe-shaped mineralized zone associated with quartz monzonite of the Roper Lake stock where it intruded andesites and basalts of the Nicola Group. The program was successful in confirming previous results at the property as demonstrated in hole DRL0701 which intersected 0.030% Mo over 207 m.

The **Galaxy** property held by Discovery-Corp Enterprises Inc is strategically located between the Afton and Ajax properties and contains an historical resource estimate of 3.2 million tonnes grading 0.65% Cu and 0.34 g/t Au. This year saw the company confirming the locations of the Bill Nye showings within their property and preparing for infill drilling to upgrade the resource estimate.

Exploration activity occurred throughout the year at the **Highland Valley Copper** mine, which is centred in the Guichon Creek batholith, where operator Teck Cominco Ltd drilled several targets aimed at supporting the expansion plans at the mine. Most of the work was around the **Highmont** pit but the company also did some drilling near the Iona pit on the **Bethlehem** property.

Just north of the Highland Valley mine, Getty Copper Inc announced the commencement of a pre-feasibility engineering study focused on potential cathode copper production at the **Getty North** and **Getty South** porphyry copper deposits. The study will focus on mining and treating or concentrating both oxide and sulphide resources with a finishing process of solvent extraction and electro-winning to produce cathode copper. The company is still engaged in evaluating the effectiveness of a proprietary Continuous Vat Leach technology for its oxide ore.

About 6 kilometres southeast of the Highland Valley mine, Happy Creek Minerals Ltd drilled for porphyry copper-molybdenum at the **Rateria** property. The program encountered bornite and chalcocite mineralization and hole R07-05 returned an assay of 134.0 m grading 0.16% Cu with an interval of 33 m containing 0.33% Cu. Further south in the Guichon batholith, Dot Resources Ltd undertook drilling at the **Dot** property to test targets identified in last year's geophysical program. Additional geophysical, geochemical and geological work was done on this property which contains the former producing Aberdeen Mine and Vimy showings. TNR Gold Corp drilled five targets at the **Tyner Lake** property in search of copper-molybdenum porphyry mineralization: results were disappointing.

Just outside of Merritt, Christopher James Gold Corp conducted another small drill program on the **Betty** claims located three kilometres west of the past producing



**Craigmont** copper mine. The objective was to test for Craigmont-style skarn mineralization at the contact between limestone rocks and the Guichon Creek batholith.

American Creek Resources Ltd started the year strong at the **Austruck-Bonanza** and **Empire (Jamieson-Bullion)** properties on its very large land holdings north of Kamloops on the southern Bonaparte plateau. This land package is underlain largely by Devonian to Triassic Harper Ranch and Upper Triassic Nicola Group rocks that have been intruded by Late Triassic to Jurassic granodiorite to quartz diorite plugs. Numerous targets were drill tested with mostly disappointing drill results leading the company to focus its efforts on other properties it holds pending evaluation of how to further test these properties' potential.

## **NORTH THOMPSON**

Commerce Resources Corp continues to advance its Blue River tantalum and niobium project which is being studied as a potential producer of high technology metals. It has dramatically increased its land holdings south of Blue River to cover additional land with higher mineral potential and infrastructure needs if they proceed through to production. This year's focus was largely aimed at drilling the **Upper Fir** carbonatite which presently has an indicated resource of 8.6 million tonnes grading 208.2 g/t Ta<sub>2</sub>O<sub>5</sub> and 1372.6 g/t Nb<sub>2</sub>O<sub>5</sub> at a cut-off grade of 150 g/t Ta. Early reports suggest the drilling was successful in extending the Upper Fir in strike length to over 1100 m and some holes intersected the Bone Creek carbonatite confirming that both carbonatites are part of a larger continuous system. Two new carbonatite showings were discovered in 2007, the **Lower Gum Creek** and **Lower Switch Creek** which are both slated to receive more exploration. The company has expanded its environmental and community outreach programs this year in support of a proposed pre-feasibility study. Commerce Resources Corp undertook very successful financings again in 2007 and has significant capital available to aggressively advance this project.

Newmac Resources Inc drilled the **Crazy Fox (Anticlimax)** porphyry molybdenum-tungsten property north of Little Fort over two occasions this year. Previously, long intersections of mineralization suggested the potential for a large, low-grade bulk-mineable deposit; however, a thrust fault seemed to define the lower limits of the deposit by displacing the intrusive rocks. A hole was drilled in the fall to test if mineralization might be encountered in intrusive rocks of the footwall of the thrust in the southwestern portion of the known deposit. Hole CF07-41 passed through the thrust and into a lengthy section of mineralization within intrusive rock (Figure 4.7). Early reports indicate the mineralization appears to be more abundant than previous holes drilled on the property. Assay results for this hole are pending.



Figure 4.7. Strong molybdenite mineralization as both fracture filling and disseminations below the offsetting thrust fault at the Crazy Fox (Photo courtesy of Newmac Resources Inc).

At the **Harper Creek** copper deposit located 10 kilometres southwest of Vavenby, private company Yellowhead Mining Inc undertook a highly accelerated program. The deposit is comprised of tabular shaped zones of volcanogenic sulphide mineralization that are hosted within highly deformed Late Devonian metavolcanic rocks of the Eagle Bay assemblage. The company completed a third phase of drilling in the fall and commenced a fourth phase which is planned to entail 30 000 m of drilling when complete. A major milestone for the company was achieved in releasing a resource estimate for the deposit which includes an indicated resource of 450 million tonnes grading 0.323% Cu and an inferred resource of 142 million tonnes grading 0.326% Cu, both at a 0.2% Cu cut-off. The company is proceeding with baseline environmental and community consultation work as well as scoping studies which will lead to a proposed feasibility study in 2008. Additional targets are being defined on the property, particularly at the M-anomaly which is some 3 kilometres along strike to the east of the existing deposits and better defined by a recent induced polarization survey.

Partners Island Arc Exploration Corp and Rimfire Minerals Corporation were busy at the **Jake** property, a 2005 gold discovery by prospector Mo Kaufman, located west of Clearwater. At the property mineralization consists of quartz with pyrrhotite, chalcopyrite, pyrite and bismuthinite in veins and stingers hosted by sheared andesite tuffs of the Devonian to Permian Fennell Formation. Elevated copper and bismuth characterizes the geochemical signature of the mineralization. An induced polarization survey was completed which successfully delineated chargeability highs in the immediate vicinity of the discovery showing. Trenching of the anomalies was generally successful in reaching bedrock where auriferous sulphide-bearing veins were found. Around the Jake discovery 2007 sample results are reported to include 7.7 g/t Au over 2.8 m in a channel sample across the structure which included an interval of

19.3 g/t Au over 0.6 m. The “Jake Offset” which lies 300 m north of the discovery showing yielded an intersection of 12.5 g/t Au over 0.1 m in a trench that exposed narrow sulphide-bearing veins. A fall drilling program was conducted at the property with results pending.

CMC Metals Ltd trenched and drilled the **CK** property located northwest of Clearwater. This property boasts numerous mineralized occurrences of the Broken Hill-type and at the CK occurrence an historical resource of 1.643 million tonnes grading 8.6% Zn and 1.4% Pb is recorded. The company was focused on in fill drilling and trenching the New zone which has been traced over a strike length of 1300 m and to depths of over 100 m downdip.

West of Little Fort, Candorado Operating Company Ltd trenched and drilled the **Deer Lake** property in search of skarn and porphyry copper-gold mineralization. Grab samples from the properties have returned assay results that range from 2.75-3.8% Cu and 9.89-14.9 g/t Au.

On Samatosum Mountain, near the former Samatosum mine, Zab Resources Inc announced a drill program for the **Extra High** property. The company hopes to expand the K7 zone, a massive sulphide zone that has been defined over a strike length of 180 m and to a depth of 150 m with thickness on average of around 6 m.

Two new grassroots discoveries have been made by prospector David J. Piggis west of Adams Lake and north of the Samatosum mine. At the **Honeymoon** property mineralization is hosted in orthogneiss with nearby intrusive rocks and grab samples assayed up to 0.78 % Cu with 35.3 g/t Ag (quartz vein) and 0.86% Cu (sulphide mineralization). At the **Spapilem** property a quartz-magnetite vein within an intrusive hostrock assayed up to 6.01 g/t Au in the magnetite and up to 1.29 g/t Au in a quartz vein.

Sheffield Resources Ltd flew an airborne magnetic survey over the **Golden Loon** property just west of Little Fort. The company is pursuing nickel and cobalt mineralization within the Dum Lake Intrusive complex: a Triassic to Jurassic Alaskan-type ultramafic intrusive.

On the **Moore** property near East Barriere Lake, Almo Capital Corp proposed to follow up targets identified by a recent induced polarization survey with drilling. The target is VMS mineralization within metamorphosed andesite to rhyolite rock of the Eagle Bay Assemblage.

Kingsman Resources Inc trenched and drilled the **Luxor** property northeast of Barriere to expand on known molybdenum mineralization within intrusive rocks of the Baldy batholith.

### **SOUTHERN CARIBOO - CHILCOTIN**

Exploration for porphyry copper-gold deposits was the focus of most work in the Cariboo-Chilcotin in 2007; however, programs around high-grade gold-silver veins

provided much excitement in the region. Both the provincial and federal geological surveys were active in the region conducting geoscience programs aimed at bolstering exploration activity and off setting the impacts of the Mountain Pine Beetle on the area’s economy (Figure 4.8). Explorationists should make themselves aware of the vast quantities of information gathered and released in 2006 and 2007 which should provide a significant step toward a better understanding of the mineral opportunities in this part of the province.

The most significant project in this area is the **Prosperity** porphyry gold-copper deposit of Taseko Mines Limited, located southwest of Williams Lake. The company has achieved some significant milestones this year: the upgrading of stated mineral resources and the completion of a feasibility study. In January the company reported the property contains 487 million tonnes of proven and probable reserves at 0.22% Cu and 0.43g/t Au. These reserves were incorporated into the September feasibility study which confirmed the projects viability in contemplating a 70 000 tonne per day mine over a 20 year mine life. A recent court decision on the status of aboriginal rights and title in the area has given the company more clear direction on how to develop the project with respect to the First Nations communities in the area.

At the **Taseko Lake** property, located 15 km south of the Prosperity projects, Galore Resources Inc completed a large airborne time-domain and magnetic survey. Follow-up drilling of porphyry copper, gold and molybdenum targets was started late in the fall. Nearby, Great Quest Metals Ltd drilled the Granite Creek and Empress areas at the **Taseko** property: a property that has seen little work since the early 1990s. The Empress area hosts an historical resource of 10 048 000 tonnes of 0.61% Cu and 0.79 g/t Au. Also nearby, Hi Ho Silver Resources Inc



Figure 4.8. Numerous geoscience activities are underway within the area affected by the Mountain Pine Beetle. Here a till sampling program is conducted by the Geological Survey of Canada on the Bonaparte Plateau.

completed an airborne geophysical survey over the **Tasco** property where in 1981 drillhole 81-2 intersected 288 m grading 0.28% Cu and 0.023% Mo (Figure 4.9).

Newmac Resources Inc was active on several of its properties on the Chilcotin Plateau. Near Bluff Lake, the company drilled the **Bluff** property where in 2006 high grade samples of copper mineralized quartz tourmaline breccia rubble were discovered and an induced polarization survey identified targets for follow up. Results have not been released for this program. At the **Chilanko** property located north of Tatla Lake, the company completed a winter IP program which successfully delineated strong response targets through a window in the Miocene age basalts which cover most of the plateau area. Subsequent trenching and drilling successfully intersected native copper, chalcocite and bornite mineralization that is reported to be similar to a red bed-style of deposition. Further drilling is planned over the winter to test a fault which may be a controlling influence on mineralization

The **Blackdome** gold-silver mine and mill of J-Pacific Gold Inc is located northwest of Clinton and remains on care and maintenance. This underground mine operated in the 1980s and again briefly from October 1998 to May 1999. Mineralization consists of narrow, high-grade epithermal quartz veins. The 200 tonne-per-day mill is intact and the property has an historic inferred mineral resource of 124 120 tonnes grading 12.8 g/t Au and 33.7 g/t Ag. In 2007, the company resumed a program started last year aimed at testing the relationships between several of the former producing veins, particularly the No.'s 1 and 2 and other known veins such as the No. 17 vein. The company completed wide spaced drilling to test an area underneath Blackdome peak – a basalt cap rock that forms a prominent topographical high in the region (Figure 4.10). Success is reported in tracing a mineralized zone containing the No. 17 vein under and through the peak as well as confirming it does not appear to be a continuation of the No. 1 and 2 veins but rather a separate structure. Hole B07-15 returned an assay of 1.75 m of 5.73 g/t Au from the No. 17 vein and shows the potential for ore-bearing structures in an area of little previous exploration. Drilling the No. 1 and 2 veins at depth was also completed to test if the veins merge: only low grades of mineralization were encountered.

J-Pacific Gold Inc was also active at the **Elizabeth** property where the Southwest gold zone was drilled. The property is well known for bonanza-grade mesothermal veins within the Blue Creek diorite intrusions hosted in a broader environment of the ultramafic Shulaps Complex. This year produced some exceptional results as is best shown in hole E07-43 which intersected 37.5 g/t Au over 11.2 m and 4 other intersections that ranged from 10.52-21.26 g/t Au over lengths of 1.15-4.33 m (Figure 4.11). Being located 30 kilometres away from the company's mill at the Blackdome mine creates opportunities for this property to produce mill feed in support of reopening of the mine.



Figure 4.9. Technicians at Aeroquest International Ltd prepare the AeroTEM II for helicopter mounting and airborne EM and Magnetic surveys of the Tasco, Yalakom and Piebiter properties in the southern Chilcotin and Bralorne area (Photo courtesy of John Chapman).



Figure 4.10. Blackdome Peak with the Blackdome mine in foreground.



Figure 4.11. High-grade gold mineralization within quartz veins at the Elizabeth property of J-Pacific Gold Inc (Photo courtesy of J-Pacific Gold Inc).

Anglo-Canadian Uranium Corp drilled the **Stirrup** property located west of Clinton where epithermal gold-sulphide-quartz veins are hosted within marine sedimentary rocks of the Lower Cretaceous Jackass Mountain group. The program was designed to follow-up on previous drilling where hole 2005-2 yielded results as high as 17.19 g/t Au over 0.8 m and 9.75 g/t Au over 0.7 m.

At the **Lac La Hache** porphyry copper-gold property of GWR Resources Inc, much of this year's work was focused on exploring the Aurizon zone of the Ann property. Early in the year trenching successfully located surface mineralization as reported for trenches SH-A and SH-B which exposed 85 m of 0.27% Cu and 0.38 g/t Au and 33 m of 0.59% Cu and 3.64 g/t Au respectively. Drillholes under each trench have intersected lower grades of mineralization but do expand the overall extents of mineralization at the Aurizon zone. Another hole in the zone, AZ-07-21, was drilled to better define the geometry of the zone and yielded confirmation values of 90 m of 0.387% Cu and 0.61 g/t Au. In late fall the company reported that mineralization at the Aurizon zone has been traced over a distance of approximately 700 m. About 1 kilometre west of the Aurizon zone, the company reported a new discovery at the **Peach 1** property. Trenching on the property exposed low grade mineralization in a 65 m long trench that was subsequently drilled to test the mineralization at depth. Hole P07-01 did not encounter near surface mineralization but did intersect a deeper zone that yielded 86 m of 0.50% Cu and 0.42 g/t Au.

Happy Creek Minerals Ltd was active on their portfolio of properties in the south Cariboo region. Significant advances were made at the **Fox** property where field work is revealing what is reported to be large scale tungsten and molybdenum skarn mineralization beginning at the Nightcrawler and Discovery zone. Mineralization is reported to be related to the Deception granite intrusion, a roughly 106.4 million year old body that is slightly older than the Boss Mountain intrusive rocks located 30 kilometres to the west. Ten drillholes completed this year encountered mineralization over a strike length of 1.5 kilometres and in Ridley Creek, which is 4 kilometres to the north, positive soil and rock geochemistry is reported to have a very similar mineralization style. Adjacent to the Boss Mountain mine, the company continued to evaluate fracture-controlled and sheeted quartz veins within the Takomkane batholith at the **Silverboss** property. A 3000 m long molybdenum-tungsten-copper-in-soil anomaly was the target for a small fall drill program. The company also pursued alkalic porphyry mineralization at the **Hen** and **Hawk** properties located southeast of Boss Mountain.

Just south of Canim Lake, the Candorado Operating Company Ltd optioned the **Rayfield River** property and planned a late fall drill program. The property contains a window through the Miocene plateau basalts that form much of the Bonaparte Plateau and exposes volcanic and sedimentary arc sequences of the Nicola Group.

## **GOLD BRIDGE**

The most advanced project in the famous Gold Bridge mesothermal gold-quartz vein camp is at the **Bralorne** mine of Bralorne Gold Mines Ltd which operated continuously from 1928 to 1971 and was the dominant contributor to the approximately 4.15 million ounces of gold that came from this camp. The mine received a Mine Development Certificate in 1995 and has completed some limited test milling in recent years. In addition to the underground workings, infrastructure on the property includes an assay lab, mine offices and dry, a partially completed tailings pond and a small gravity/flotation pilot mill with a capacity of about 100 tonne-per-day.

In 2007, the company focused on underground drilling to better characterize last year's bonanza-grade hole SB-06-109B that intersected 402.58 g/t Au over 0.34 m and 246.99 g/t Au over 0.37 m further downhole. This program has revealed that the intersected structure is likely a deeper extent of the King vein rather than the Shaft vein and will be explored in subsequent programs. The highlight of the program, after forty-one holes were completed, was the delineation of the newly discovered BK zone which contains high-grade mineralization and strong structure within a large unexplored gap between the King and Bralorne mines. The structure was explored over a horizontal length of approximately 275 m and over a vertical extent of 200 m. Intersections ranged in length from 0.6 to 5.5 m with grades from 2.74 to 86.08 g/t Au. The company has approved a substantial plan to develop a cross cut from existing workings through to the BK zone to test its potential for adding additional tonnage to the properties overall resources.

Covenant Resources Ltd flew an airborne EM-Magnetic survey over the **Piebiter** property located 6 kilometres southeast and along strike from many of the structural zones of the Bralorne camp. The property hosts numerous recorded mineral occurrences and a large multi-element soil anomaly that remains untested.

The **Congress** gold property of Levon Resources Ltd is located 11 kilometres north of the Bralorne mine and on the north side of Carpenter Lake. The property has had some mining and substantial exploration between 1913 and 1989 including six adits with over 2300 m of underground workings. Results from a late 2006 drill program at the **Golden Ledge**, **Lou**, and **Howard** zones were released with the best intersections ranging from 1 to 3 m and 6.41 to 10.7 g/t Au. Importantly the program extended the Lou zone structure by 500 m to the north and validated the Golden Ledge zone which was discovered in 2005. In 2007, a very active program culminated with drilling in the Gun Creek canyon where the nature of mineralization reportedly appears to be controlled by porphyry-style stockworks within intrusive rocks rather than veins as is typical on the property. Within this area **Gun's Gold Sill** was trenched and a rock chip sample returned a value of 3.104 g/t Au over 9 m.

The company also planned to drill northern extension of the Lou zone toward the newly discovered **Boo Coo** high-grade surface discovery where assay results from chip samples ranged from 0.19 to 27.68 g/t Au.

Near the Congress property, Avino Silver & Gold Mines Ltd drilled a few follow-up holes on the **Minto** property. The 2006 program yielded intersections of 0.25 to 0.9 m grading 1.04-7.58 g/t Au with one interval of 0.25 m grading 45.4 g/t Au from hole MO-06-01. No results have been released from 2007 drilling. East of the Congress property near Marshall Lake, Gray Rock Resources Ltd drilled the **Silver Stream** property to test gold-bearing shear zones uncovered in previous trenching programs.

### **FRASER RIVER - MERRITT - ASHCROFT**

Several large programs were aimed at low-sulphidation epithermal gold-silver targets in the maturing Spences Bridge gold belt, located between Merritt, Spences Bridge and Lytton. Senior project geologist Larry Diakow of the BC Geological Survey has completed a second season of field research within Spences Bridge Group rocks and his insights into the genesis, history and mineral potential of this under explored belt will be of great interest to the exploration community (Figure 4.12).

The **Prospect Valley** property of Consolidated Spire Ventures Ltd continues to produce encouraging results. Located 30 kilometres west of Merritt, the company proposed an aggressive program aimed at exploring newly recognized zones around the known mineralization at the RM/RMX Zone. A spring airborne geophysical program kicked off the exploration season followed by a large trenching program at both the **Discovery South** and **Discovery North Zones**. Within the **Discovery South Zone**, a gold-mineralized stockwork zone has been identified that ranges from 50-90 m in width and up to



Figure 4.12. Dacitic ash-flow tuff near the base of the Spences Bridge Group south of Merritt.

300 m in strike length. Some of the better assays from the trenching program yielded intervals such as 32.5 m of 0.82 g/t Au and 5.69 g/t Ag from trench 02-07. Drilling is currently underway at the property at both **Discovery South** and **North Zones** and at the **Dome Zone** as well: a recently discovered zone located 400 m north of the Discovery North Zone.

On the large **Skoonka Creek** project, Strongbow Exploration Inc focused on advancing several zones within the Discovery-Backburn trend to a point of readiness for drill testing. The trend is reported to be a 3000 m long east-west trending structural corridor within volcanic rocks defined by variable levels of clay and silica alteration and a coincident gold-in-soil anomaly. A total of thirteen holes were drilled with the majority of them at the **Deadwood** showing. The remaining holes were drilled at the **Backburn Central**, **Backburn East**, **Ember** and **JJ** showings. The company was also active on the **Ponderosa** property that it optioned from Almaden Minerals Ltd where in 2006 the Axel Ridge showing was hand trenched over a 77 m length to produce results that ranged from 1.5-2.8 g/t Au over intervals of 6.5-11.8 m. This year's program at the property started with ground geophysics, mapping and trenching and concluded with the drilling of six holes.

Strongbow Exploration Inc made several new discoveries at the **Shovelnose** property located 30 kilometres south of Merritt. Solid grass roots exploration including airborne geophysics, soil and rock geochemistry and prospecting discovered the **Mik** and **Line 6** showings located west of the **Tower** showing which was discovered in 2006. At the Mik showing three bedrock chip samples returned between 2.73 to 2.97 g/t Au over lengths of 3.0 to 3.75 m. Gold mineralization is reported to be epithermal-style and related to shallow to moderately west dipping colloform-banded quartz veins hosted silicified and clay altered felsic volcanic rocks.

Appleton Exploration Inc was active on the **Dora**, **Stobart** and **Fame** properties this season undertaking effective geochemistry, prospecting and trenching methods to identify zones favourable for low-sulphidation epithermal gold mineralization within Spences Bridge Group rocks. Other grassroots programs in the belt include: the **LP**, **Mag**, **Southern Belle** and **Goldpan** (Strongbow Exploration Inc), and the **Merit** and **Brookemere** (Williams Creek Exploration Ltd) properties.

Anglo-Canadian Uranium Corp advanced its **Skoonka (B4, B5, B6)** project to a drilling phase after identifying targets utilizing ground magnetic and IP surveys, prospecting and MMI soil sampling. Results from this late season program are pending.

Near Ashcroft Avalon Ventures Ltd flew an airborne electromagnetic survey at their **Red Hill** massive sulphide copper-zinc-silver property.

## **ASPEN GROVE - PRINCETON - KEREMEOS**

This part of the region saw a dramatic rise in exploration activity mainly focused on porphyry copper-gold-molybdenum prospects. Anchoring this area is the **Similco** (Copper Mountain-Ingerbelle) copper-gold mine at Princeton which has been on care and maintenance since 1996. Starting early in the year Copper Mountain Mining Corporation embarked on one of the Province's largest drilling campaigns at the **Copper Mountain** project with the intention of confirming known resources and expanding those resources through the saddle zones between Pits 1, 2 and 3. Drilling through to late summer supported a restatement of the property's global resources to include measured and indicated resources of 205.9 million tonnes grading 0.37% Cu and inferred resources of 178.9 million tonnes grading 0.31% Cu using a 0.2% Cu cut-off. The company has contracted a proprietary deep penetrating multi-parameter geophysical survey to enlighten the subsurface geological structure and potentially identify further mineralization. Ongoing drilling at the project is intended to allow further evaluation of the property's resources and the commissioning of a feasibility study.

Approximately 12 kilometres south of Princeton and five kilometres south of the Ingerbelle Mine, Anglo-Canadian Uranium Corp continued drilling the **Princeton Copper** project to test the contact of the Copper Mountain intrusions with Nicola Group volcanic and sedimentary rocks for copper-gold-palladium mineralization. At the Friday Creek showing a late 2006 program intersected 6.08 m of 1.494% Cu in hole DDH-12 and drilling was completed on several other geophysical anomalies identified in a recent survey. A second target called the Rico zone is described as a bedded exhalite that grades into fine sediments and chert of the Nicola Group. A massive section of pyrrhotite mineralization near the exhalite yielded a 1.5 m chip sample that ran 2.025% Cu and 11.18 g/t Au. The Rico was also drilled this summer.

Weststar Resources Corp is continuing its exploration at the **Axe** porphyry copper-gold prospect located 20 kilometres north of Princeton. Historic resources total 39.0 million tonnes grading 0.38% Cu (indicated) plus 32 million tonnes of 0.38% Cu (inferred). Much of the drilling is focused on expanding the West Zone and testing the mineralization at depth and for the presence of higher-grade gold-bearing sections. One of the better intersections reported includes 288 m of 0.27% Cu and 0.14 g/t Au in hole A07-06: one of the longest interceptions of mineralization ever reported from the property. Skarn-style mineralization is also reported from the property and evidenced in hole A07-08 which returned an intercept of 10.5 m of 1.55% Cu and 0.85 g/t Au in a zone of massive chalcopyrite and magnetite mineralization.

North of the Axe property Candorado Operating Company Ltd. optioned the **Man/Prime** property and

completed an IP survey and drilling program. Exploring for porphyry copper-gold mineralization within rocks of the Nicola Group, this program yielded encouraging results such as 120 m of 0.21% Cu and 0.92 g/t Au in hole 694-008. Also north of the Axe and near Kentucky Lake, Bold Ventures Inc drilled near several historical showings including the Tom Cat, Bunker Hill, Bluey and AR at the **Kentucky Lake** property. East of Kentucky Lake, Victory Resources Corporation drilled the **TOE** property to test copper-zinc-gold MMI soil anomalies where they coincide with previously identified geophysical targets.

Goldcliff Resources Corp has been continuously active for several years at the **Panorama Ridge** gold skarn project a few kilometres east of the historic Nickel Plate gold mine at Hedley. The property has numerous showings with wide zones of near-surface low-grade gold mineralization which are effectively explored by trenching and drilling. Initial results from over a kilometre worth of trenching indicates the two most developed zones, the Nordic and York-Viking zones, remain open for further expansion. The majority of the analytical results are pending; however, early results such as 18.7 m at 2.15 g/t Au from trench ND142 are confirming good potential for expansion of known mineralization. Late in the year the company reported discovering bonanza-grades in continuous channel samples in the southwestern portion of the York-Viking zone. Two samples ran 525.0 and 168.0 g/t Au over 1.0 and 1.5 m respectively.

Southwest of the village of Tulameen, along the Tulameen River, Huldra Silver Inc continues to propose a mine at the **Treasure Mountain** vein silver-lead-zinc project that would see 33 000 tonnes mined over an eight month period each year. Historical resources at the property are reported to be 133 000 tonnes grading 870 g/t Ag, 4.5% Pb and 5.3% Zn.

## **OKANAGAN - SOUTHERN MONASHEES**

Porphyry molybdenum deposits and gold-quartz vein deposits were the main exploration targets in the Okanagan in 2007.

Almaden Minerals Ltd was active at the **Elk** (Siwash North) mesothermal gold-quartz vein project 45 kilometres southeast of Merritt, and just 2 kilometres south of Highway 97. This year the company focused on the collection of baseline environmental and social economic data in support of the putting the mine back into commercial production. Additional drilling was completed to infill and step out in areas of known mineralization on the Siwash and WD vein packages. The company completed an internal scoping study of the potential for open pit and underground as well as onsite mineral processing.

Partners Molycor Gold Corp and Goldrea Resources Corp were active at the **CrowRea** and **Empress** properties west of Summerland. The CrowRea property

was discovered by Goldrea in 1995. It has been described as a mineralized aplite dike containing an historical resource of approximately 500 000 tonnes grading 0.19% Mo in the Webb Zone. The companies drilled the property to confirm this resource and expand it if possible with an overall intention of attaining a bulk sample to allow planning for small-scale mining of the mineralized body. Results from the first phase of drilling show the dike is continuous for over 650 m; however, grades vary due to pinching and swelling of the mineralization. Significant assays from this program range from 0.15-0.60 m grading between 0.046 to 1% Mo. At the Empress property the companies are drilling porphyry targets within granodiorite to monzonite intrusive rocks of the Osprey Lake batholith.

Jasper Mining Corp proposed a late season drill program at the **Isintok** molybdenum-copper-silver prospect, located southwest of Summerland. Previous work has reportedly confirmed near surface, consistent low-grade porphyry mineralization that was previously drilled by Anaconda Canada Exploration Ltd and Canex Aerial Exploration Ltd.

Just 1100 m to the north of the former Brenda mine, Bitterroot Resources Ltd drilled the **North Brenda** property in two campaigns. The Brenda mine operated from 1970 to 1990 and produced 276 227 tonnes of copper and 67 928 tonnes of molybdenum. Hole NB06-01 was drilled only to 60.3 m depth and returned an intersection of 28.8 m grading 0.0095% Mo and 0.03% Cu.

At the **Barnes Creek** property, located near the Monashee Pass and 70 kilometres southeast of Vernon, Columbia Yukon Explorations Inc drilled several promising gold-arsenic anomalies at the Holmes Lake gold zone. Despite a history of placer gold mining, this area has had little bedrock exploration. Results have yet to be reported.

### **REVELSTOKE - SHUSWAP - NORTHERN MONASHEES**

This area is best known for its stratiform base-metal deposits hosted in cover sequences of the Monashee Complex. The deposits in this area have many characteristics of "Broken Hill-type" deposits although some more closely resemble classic Besshi and sedex deposits.

International Bethlehem Mining Corporation through a wholly owned subsidiary owns the **Goldstream** copper-zinc mine-mill complex north of Revelstoke. This custom mineral processing plant lies in the heart of this mineralized region with a 1360 dry metric tonnes per day capacity to process off-site mineral deposits as well. This year the company completed a 100 hole program at the mill's tailings pond to ascertain the thickness and grades of known zinc and copper within the pond. Average hole

length into the sediments was reported to be around 6 m and the majority of the holes returned assay results of greater than 1.5% Zn with a lesser number of greater than 2% Zn. The company plans to perform more detailed drilling in higher grade areas and then proceed with an evaluation of the economic viability of processing the tailings. Nearby the company was active on the **Rain** property, one of several properties known collectively as the Big Bend Metals project, where it drill tested geophysical and geochemical anomalies thought to be correlative to the mine section at the Goldstream Mine.

Selkirk Metals Corp continued a very aggressive program at the **Ruddock Creek** property located within the Script Ranges about 100 kilometres north of Revelstoke. The company has begun an exploration decline aimed at underground drilling and engineering studies of the E-Zone (Figure 4.13). Collared in early September, the 1000 m decline will undercut the western portions of the E-Zone and should be completed by the second quarter of 2008. The decline will allow the company to effectively delineate the zone at some of its deeper extents and permit drilling through the winter months. Much of this year's surface drilling was focused on other zones along the Ruddock Creek sulphide horizon which stretches in excess of 5 kilometres in strike length. The Creek Zone, which was discovered in 2006, was tested by wide spaced holes aimed at significantly expanding its extents. The company has reported very encouraging results from this campaign indicating the mineralization style and character is very similar to the E-Zone. The decline will also provide underground drilling opportunities for the Creek Zone. At the westernmost extents of the Ruddock Creek sulphide horizon and in the Oliver Creek Valley, the Q-Zone was drilled and realized an intersection of 5.32 m of 6.18% Zn and 1.36% Pb in hole RD-Q-2. Further work appears warranted in this area despite the more challenging drilling conditions.

The Ruddock Creek sulphide horizon is reported to be an increasingly predictable host of significant massive sulphide mineralization. Zones which have been recognized on or near the surface are now being shown to have consistent and predictable behaviour at depth. In 2007 the company drilled the U-Zone surface showings to reveal new mineralization at depth which is reflected in results such as 7.7 m of 21.48% Zn and 2.5% Pb in hole RD-07-U2. Furthermore, the recognition by the company of multiple horizons of mineralization in some the recently drilled zones are thought to reflect proximity to the source of mineralizing solutions for the greater sulphide-bearing horizon.

Venturex Explorations Inc was active at the **LJ** property located 35 kilometres north of Revelstoke and completed twelve drillholes at the Carnes Creek showing. The holes were testing what is reported to be Sedex-style mineralization hosted in the limbs and hinge of a reclined synformal fold. Early reports indicate the mineralized horizon was encountered in all the holes of the program. Results are pending with regard to assays and new



Figure 4.13. Portal to permit year round drilling of the E-Zone and Creek Zone at the Ruddock Creek property of Selkirk Metals Corp (Photo courtesy of Selkirk Metals Corp).

structural interpretations. Some holes also cut zones of skarn and disseminated mineralization, the significance of which is yet to be understood.

Just east of the LJ property is the **J & L** property where Merit Mining Corp has quickly established an aggressive program to advance this developed prospect through to feasibility studies. The J&L is gold-silver-lead-zinc stratiform deposit with an historical combined resource of 3.607 million tonnes of 7.24 g/t Au, 81 g/t Ag, 3.0% Pb and 3.93% Zn from the Main Zone and 1.03 million tonnes of 52.5 g/t Ag, 2.47% Pb and 7.09% Zn from the Yellowjacket Zone. The company has established an all weather camp to allow it work through the winter on underground development that will include 1000 m of cross cutting and 5000 m of underground drilling. A pre-feasibility study is underway as are environmental and baseline studies.

## OUTLOOK FOR 2008

The varied geology of the south-central region hosts many favorable environments for exploration including porphyry, high-grade vein and stratiform deposits. The area has been fortunate to have numerous highly motivated junior companies providing sizeable budgets to evaluate some of the high quality deposits in the region. The New Afton project should be well into construction with much of the costly work out of sight in the preparation of the underground development. The Prosperity project should benefit from recent clarifications on the rights and title First Nations communities have in that region. Feasibility studies are anticipated from the Afton (Ajax) project, Copper Mountain, Harper Creek and the J&L projects with the Blue River, Elk and Ruddock Creek projects not far behind. The Bralorne, Blackdome and Goldstream mines should have a busy year again in their quests to identify more resources and re-open.

Overall exploration spending for this region may decline slightly in 2008 owing to some very large field projects and feasibility studies being completed and projects moving into development (*e.g.* New Afton). With companies still holding on to portions of budgets that went unspent in 2007 it is challenging to predict where these might be allocated for next year

The Ministry's Regional Geologists will continue to deliver outreach activities to area communities, governments and at any venue that would benefit from a better understanding of their regions mineral resources and opportunities (Figure 4.14).



Figure 4.14. Expanding outreach activities of Regional Geologists are extending geoscience to many First Nation communities in BC.

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