NOTES ON EXPLORATION AND MINING IN THOMPSON-OKANAGAN-CARIBOO REGION

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FOREWORD

Mid-summer changes in staff and a mid-autumn decision to prepare *Exploration and Mining in BC 2011* have resulted in reduced scope of this chapter. It is intended as a brief update of *Exploration and Mining in BC 2010* with less discussion and fewer illustrations. Exploration spending and drilling figures are incomplete at press time. All information in this article has been compiled from company web sites, news releases, and reports submitted to regulatory authorities, supplemented by a few telephone or email inquiries.

OVERVIEW

The Thompson-Okanagan-Cariboo has long been an active region for exploration and mining. The Ministry of Energy and Mines lists as "active" no fewer than 16 metal mines, 36 industrial mineral mines, 56 rock quarries, 480 sand and gravel pits, and 704 placer mines. Even though the "active" classification refers more to the status of the mine's permit than to the nature of the activity at a given site (and thus includes mines that are undergoing reclamation and closure), the numbers are noteworthy.

The region has 6 producing metal mines and more than 15 producing industrial mineral mines.

Metal mines include two underground and four open pit operations. Operating metal mines (and commodities produced) are: **Bralorne** (Au), **Copper Mountain** (Cu, Au, Ag), **Gibraltar** (Cu, Mo), **Highland Valley Copper** (Cu, Mo), **Mount Polley** (Cu, Au, Ag) and **QR** (Au).

Two mining projects (**New Afton** (Cu, Au) and **Bonanza Ledge** (Au)) are in the development stage.

2011 was an active year for exploration and other permitting. At time of writing, 317 Notice of Work applications had been received: 147 applications for mineral and coal (exploration); 6 for mineral and coal (other); 125 for placer; and 39 for sand and gravel.

Porphyry, gold, and stratiform base metal deposits were the focus of exploration interest.

These notes offer some highlights from operating metal and industrial mineral mines, mine development projects, mine evaluation projects, and mineral exploration projects.

MINES AND QUARRIES

Table 1 lists operating metal and industrial mineral mines discussed in this report. Figure 1 shows their locations.

METAL MINES

Two mines (**Bralorne** and **Copper Mountain**) held ceremonies marking the official commencement of operations.

On 27 May 2011 Bralorne Gold Mines Ltd. held what was termed a "grand re-opening" of the **Bralorne** mine which included the pouring of its first gold brick. The company is mining gold-bearing mesothermal quartz veins in relatively undeveloped areas between three former mines: Bralorne, King and Pioneer. Ore is drawn from the BK and North veins, stockpiled and then fed to an 85 ton per day mill. A resource estimate (dated 20 October 2011; not in conformity with NI 43-101) reports 28 833 tonnes grading 9.4 g/t Au in the measured category and 129 491 tonnes grading 8.9 g/t in the indicated category.

On 18 August 2011, **Copper Mountain** mine held its official opening. The event was attended by: representatives of the governments of Japan, British Columbia, the Upper Similkameen Indian Band and the Town of Princeton; executives from mine owners Copper Mountain Mining Corporation (75%) and Mitsubishi Material Corporation (25%); mine staff and over 1700 people from around the province. The mine processed its first ore in May, completed construction in June, and in September shipped its first load of concentrate to Japan (11 200 wet tonnes totalling 2.54 million kg Cu, 1263 kg payable Ag and 76.8 kg payable Au) (Figures 2, 3, 4). Mining has achieved its planned rate of 140 000 tonnes per day. Work is underway to ensure the mill reaches its planned capacity of 70 000 tonnes per day. Reported proven and probable reserves (April 2009) are 211 million tonnes of 0.36% Cu with anticipated gold and silver credits. The mine plan forecasts copper production at 47 600 t/y for the first 12 years and a 17 year mine life.

TABLE 1. THOMPSON-OKANAGAN-CARIBOO REGION MINE PRODUCTION 2011

Mine	Operator	Deposit Type / Commodity	Production (tonnes or kilograms; Estimated by government for 2011, except where noted)	Number of Employees (date)	Proven and Probable Reserves (tonnes; date published)
Metals					
Bralorne	Bralorne Gold Mines Ltd	Vein Au	91 kg Au	47 (October 2011)	Not available (resource estimate 20 Oct 2011):
Copper Mountain	Copper Mountain / Mitsubishi Materials	Alkalic porphyry Cu	8400 t Cu; with Au and Ag credits	270 (18 August 2011)	211 000 000 t at 0.36% Cu (28 July 2009)
Gibraltar	Taseko Mines Limited / Cariboo Copper Corp	Sub-alkalic porphyry Cu, Mo	35 000 t Cu, 560 t Mo	480 (10 May 2011)	727 000 000 t at 0.30% Cu and 0.008% Mo (10 May 2011)
Highland Valley Copper	Teck Highland Valley Copper Partnership	Sub-alkalic porphyry Cu, Mo	93 300 t Cu; 3100 t Mo	1267 (30 Nov 2011)	623 700 000 t at 0.31% Cu and 0.009% Mo (31 Dec 2010)
Mount Polley	Imperial Metals Corporation	Alkalic porphyry, Skarn Cu, Au, Ag	21 500 t Cu, 2000 kg Au, 7863 kg Ag	370 (30 Nov 2011)	37 946 000 t at 0.313% Cu, 0.266 g/t Au and 0.703 g/t Ag (9 Dec 2011)
QR (shut down 9 November 2011)	Barkerville Gold Mines Ltd	Skarn Au	110 000 t at 3.8 g/t Au (Jan to Nov 2011)	~70	Depleted
Coal					
Basin	Coalmont Energy Corp	Thermal coal	0 (mining to resume in 2012)	Not available	Not available
Industrial Minerals					
Ashcroft	IG Machine and Fiber Ltd (IKO Industries Ltd)	Basalt (roofing granules)	350 000 t	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 t	~30 (plant; seasonal)	
Decor	Pacific Bentonite Ltd	Alumina, landscape rock		~2 (including trucking)	
Falkland	Lafarge Canada Inc	Gypsum	6000 t	see Harper Ranch	
Harper Ranch	Lafarge Canada Inc	Limestone	220 000 t	34 plus 10 contractors (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 t	~34 (plant & quarry)	
Red Lake	Absorbent Products Ltd	Diatomaceous earth		40 (plant & 3 quarries)	
Zeotech Bromley Creek	Heemskirk Canada Ltd	Zeolite			

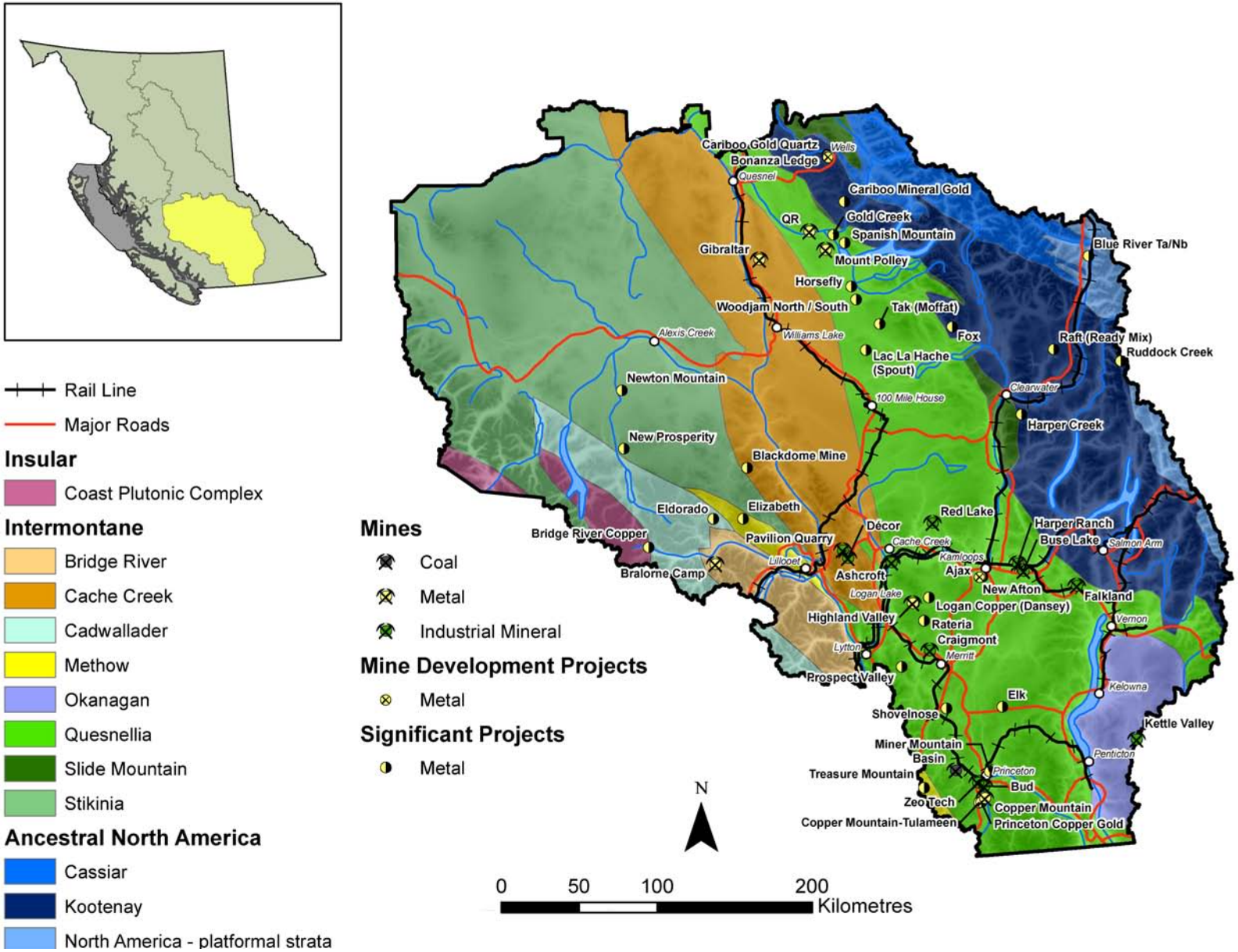

Figure 1. Mines, quarries, mine development evaluation projects, and selected exploration projects Thompson-Okanagan-Cariboo Region, 2011.

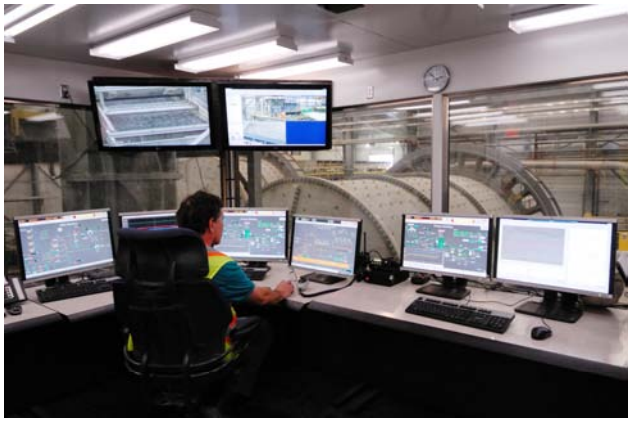

Figure 2. The mill control room at the new Copper Mountain mine near Princeton (courtesy of Copper Mountain Mining Corporation).

Figure 4. Ore concentrate load out facility for the Copper Mountain mine where the first concentrate was shipped (courtesy of Copper Mountain Mining Corporation).

Figure 3. The Copper Mountain mine's new 70 000 tonne per day mill was operational in May (courtesy of Copper Mountain Mining Corporation).

Gibraltar mine is operated by of Taseko Mines Limited and Cariboo Copper Corp. Spring 2011 saw the start of the third phase and final of a multiyear development plan. Construction started on a 55 000 tonne per day concentrator (to complement the same-size concentrator now operating) and a new molybdenum recovery facility. Once completed, the operation will increase annual production of copper to around 81 600 tonnes and molybdenum to 450 tonnes per year. In May 2011, Taseko announced an 80% increase in reserves, which now stand at 727 million tonnes grading 0.30% Cu and 0.008% Mo (0.20% Cu cut-off) in the proven and probable category.

Highland Valley Copper mine is operated by Teck Highland Valley Copper Partnership (97.5% Teck and 2.5% Highmont Mining Company Ltd.). The Partnership reported that the mine's plan has been approved until 2025. The Partnership also reports successful completion of mine enhancements including the completion of the two-year waste stripping and buttress emplacement project on the east wall of the Valley pit. A $475 million modernization project was announced in September 2011. The project will replace the existing, 40 year old mill and is expected to be completed by the end of 2013.

Mount Polley mine of Imperial Metals Corporation produced an average of 20 000 tonnes/day in 2011. Most ore came from the Springer pit. Mining has been completed at the Southeast and Pond pits. The Boundary zone has been stripped in preparation for future mining. Underground and surface exploration continued in 2011 (see notes below).

QR mine of Barkerville Gold Mines Ltd. operated for most of 2011 but shut down in early November due to depletion of ore. Approximately 70 people worked at the mine while it was operating. The mill processed 110 000 tonnes of ore grading 3.8 g/t Au at a rate of 800 to 900 tonnes per day. The mill now awaits shipments of ore from the Bonanza Ledge mine, anticipated in April 2012. On-site exploration amounted to approximately 40 short (~100 m) drill holes.

COAL MINE

In mid 2011 Coalmont Energy Corp., a subsidiary of Arthon Industries Limited, acquired the rights to the **Basin** mine near Coalmont which contains thermal-grade coal. The mine had been on care and maintenance since 2007. A company representative stated there was an unpublished resource estimate of 125 million tonnes with an 8:1 stripping ratio. The company intends to put the mine into operation in mid-2012 once they have installed a new wash plant and other equipment.

INDUSTRIAL MINERAL MINES

There are more than fifteen industrial mineral quarries and processing plants employing over 250 people in the region. These operations provide employment in many communities including Kamloops, Kelowna, Lillooet, Cache Creek, Ashcroft, Princeton and Merritt. Opportunities for growth in this sector appear to be good due to the region's variety of rock types and deposits, transportation and power infrastructure and proximity to markets. Obtaining permits for industrial mineral operations is usually easier than for metal mines.

The **Kamloops** cement plant and **Harper Ranch** limestone quarry of Lafarge Canada Inc. continue to supply cement to meet 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, other uses exist such as the surfacing of baseball diamonds. The property is also known to host a large bentonite deposit which is being investigated for municipal engineering and tile manufacturing applications. The company has patented a product ("Fibre-clay" panels) which combines pulp fibre and clay. It is nearly impermeable and suitable for liners and covers for mining and municipal water.

Also west of Cache Creek, Graymont Western Canada Inc. operates the **Pavilion** limestone quarry and lime plant on Indian reserves. The operation produces quicklime, high calcium limestone fines, screened high calcium stone products, lime kiln dust and rip rap. Graymont has a forty-year lease with the Ts'kw'aylaxw First Nation. Most of the operation's employees are Ts'kw'aylaxw members.

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.

Imperial Metals Corporation has installed a recovery plant at its **Mount Polley** concentrator to capture magnetite from its tailings stream. The operation is intended to provide dense media for coal washing operations.

Craigmont Mines Joint Venture operates the **Craigmont** magnetite operation located near Merritt where tailings from the old Craigmont copper mine are processed. These are forecast to be exhausted shortly.

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.

Heemskirk Canada Ltd continues to market agricultural and absorbent products mined from a stockpile at the **Zeo-Tech/Bromley Creek** zeolite quarry near Princeton. The material is transported to its plant in Lethbridge.

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 lower members of Eocene Kamloops Group. Gemstone jewelry is sold to visitors and tourists from a retail store in Vernon. The company hopes 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 mines gneiss, dacite ash and basalt at the **Nipple Mountain**, **Kettle Valley**, **Canyon** and **Gemini** quarries. Kettle Valley's workforce has grown to about 40 people year round, mainly employed in the Kelowna processing facility. Products include flagstone, ashlar, facing stone and landscape rock. Markets include residential and commercial building projects in western USA and Canada.

ROCK QUARRIES, AGGREGATE PITS AND PLACER MINES

Ministry of Energy and Mines staff advise that there are 56 quarries, 480 sand and gravel pits and 704 placer mines (701 surface operations and 3 underground) classified as "active". As noted above, the "active" classification refers to the status of the permit. The number therefore includes mines that are exhausted and undergoing reclamation and closure. It also includes many operations that are small, seasonal or intermittent, and which supply products on an as-needed basis.

Statistical information (e.g., production; reserves; employment) on these operations has not been obtained. Nevertheless the number of operations reflects the magnitude of often-overlooked types of mining. The number also indicates the diversity of opportunities for mineral resource development that exist in the region. One can infer that these types of mines make an important contribution to the region's economy.

MINE DEVELOPMENT PROJECTS

In early December 2011, the **Bonanza Ledge** project of Barkerville Gold Mines Ltd. received approval under the *Mines Act* to develop an open pit gold mine near Wells. Some site preparation occurred in 2011, but it is expected that construction will proceed in 2012 (Figure 5). The company reports that the current mine plan is to extract approximately 73 000 tonnes of gold ore per year (grading 9.05 g/t Au) over a period of four years. Ore would be trucked around 100 km to the QR mill for processing. Ore consists of native gold in quartz veins within carbonaceous and chloritic phyllite.

Stated reserves (as of August 2009) include 130 724 tonnes grading 10.227 g/t Au in the proven category and 166 808 tonnes grading 8.114 g/t Au in the probable category.

Construction of the **New Afton** mine by New Gold Inc. continues on a schedule that should see production in mid-2012 (see Figure 1 for location). New Gold announced that underground mining operations officially started on 9 September 2011 with blasting of its first drawbell. Almost 14 000 tonnes of ore are now stockpiled at surface (Figure 6). Underground workings have been extended 2210 metres. Approximately 600 workers are on site (Figure 7). Project spending by end of third quarter was $182 million.

Stated reserves (probable category; as of 31 December 2010) are 47.4 million tonnes grading 0.95% Cu, 0.69 g/t Au and 2.03 g/t Ag.

MINE EVALUATION PROJECTS

Six mining projects are in formal review processes. These are: **New Prosperity**, **Harper Creek**, **Ruddock Creek**, **Ajax**, **Spanish Mountain** and **Treasure Mountain**.

New Prosperity gold-copper deposit (owned by Taseko Mines Limited) received an environmental certificate from the BC Environmental Assessment Office in January 2010. In November 2010, however, the Canadian Environmental Assessment Agency (CEAA) determined that the project was "likely to cause significant adverse environmental effects that cannot be justified in the circumstances." In February 2011 Taseko submitted a revised proposal which was accepted for review by the CEAA in November 2011. The federal review panel is expected to take one year to evaluate the revised project. The deposit is located 125 km southwest of Williams Lake. It is described as a gold-copper porphyry with proven and probable reserves of 830 million tonnes grading 0.42 g/t Au and 0.23 % Cu.

Harper Creek copper-gold-silver deposit (owned by Yellowhead Mining Inc.) is in the pre-application stage of the BC Environmental Assessment Office review process. Its application start date is September 2008. The deposit is located near Vavenby, about 90 km northeast of Kamloops. It is a stratiform copper-gold-silver deposit within metamorphosed volcanic and volcano-sedimentary rocks of the Eagle Bay Formation. Activity in 2011 consisted of a preliminary economic assessment (filed with SEDAR 1 April 2011); initiation of a feasibility study (expected early in 2012); studies required for the environmental review; exploration drilling (4100 m to 31 July 2011); metallurgical and comminution testing; and purchase of land for processing and loading operations near Vavenby.

Ruddock Creek zinc-lead deposit (owned by Imperial Metals Corporation) is in the pre-application stage of the BC Environmental Assessment Office review process. Application start date is February 2009. The deposit is described as sedimentary exhalative, Monashee or Broken Hill type, within marble, gneiss and calc-silicate rocks. The property was actively explored in 2011: see notes below.

Ajax and Spanish Mountain entered the BC Environmental Assessment Office review process in February and August 2011 respectively. These projects are also in the pre-application stage.

Ajax is a copper-gold porphyry deposit operated as a joint venture between Abacus Mining and Exploration Corporation and KGHM Polska Miedz SA. Its location on the outskirts of Kamloops has generated local debate. In 2011 work focused on studies required for environmental review and preparation of a feasibility study which is expected to be published late in 2011. KGHM Ajax opened a community relations office in downtown Kamloops in August, 2011.

Spanish Mountain (owned by Spanish Mountain Gold Ltd.) is a low grade, large tonnage gold-silver deposit within fine grained sedimentary rocks. Drilling in 2011 continued to expand the area of mineralization. More than 18 000 metres were drilled in the Main and North zones. In November the company released a resource estimate with 91 090 000 tonnes grading 0.62 g/t Au and 0.64 g/t Ag (at a 0.30 g/t Au cut-off). A pre-feasibility study, started in August, is scheduled for completion in April 2012. Drilling also occurred at a new zone of mineralization in northern Cedar Creek approximately 2 kilometres west of the Main zone. In this discovery, called the Phoenix Zone, mineralization grading about 0.5 g/t Au can be traced for at least 1 kilometre strike length.

Figure 5. Site preparation is underway on Barkerville Mountain where the new Bonanza Ledge mine has been permitted

Figure 6. The ore conveyor emerges from the New Afton underground mine development scheduled for opening in 2012 after a five leg, 4.5 km long journey from preparatory underground mining operations.

Figure 7. Site work is well underway at the New Afton project where a new tailings storage facility is being constructed and the Afton pit is being dewatered into the former Pothook pit.

Treasure Mountain project (owned by Huldra Silver Inc) entered the *Mines Act* permitting process in April 2011. Treasure Mountain deposit is a high grade silver-lead-zinc vein in Cretaceous sedimentary rocks of the Pasayten Group. A resource estimate (indicated, but not in conformity with NI 43-101) prepared in 2009 was 33 000 tonnes grading 828 g/t Ag, 4.16% Pb, and 3.6%, at a 311 g/t Ag cut-off.

MINERAL EXPLORATION PROJECTS

The following notes provide updates on properties discussed in EMBC 2010. Projects are arranged by deposit type and geography. Table 2 lists exploration projects discussed in this report. Figure 2 shows their locations.

TABLE 2. SIGNIFICANT EXPLORATION PROJECTS, THOMPSON-OKANAGAN-CARIBOO REGION, 2011

Property	Operator	MINFILE (NTS ref.)	Commodity	Deposit Type	Work Program
Afton Area (West Ajax, East Ajax)	Abacus Mining and Exploration Corp. / KGHM	092INE012, 013, 028, 030	Cu, Au, Ag, Pd	Porphyry	FS, EN
Blackdome Mine	Sona Resource Corp.	092O 053, 051, 052	Au, Ag	Vein / Breccia	DD (3176 m), PFS
Blue River Tantalum/Niobium (Upper Fir)	Commerce Resources Corp.	083D 005, 035	Ta, Nb	Magmatic	DD (8715 m), PFS, MS
Bonanza Ledge	Barkerville Gold Mines Ltd.	093H 140	Au	Vein / Breccia	EN, DD, TR, MS,
Bralorne Camp	Bralorne Gold Mines Ltd.	092JNE164, 001	Au, Ag	Vein / Breccia	UG, G, PP, FS
Bridge River Copper	Cresval Capital Corp	092JW 010	Cu, Mo, Au	Porphyry	DD (~2030 m)
Cariboo Gold Quartz	Barkerville Gold Mines Ltd.	093H 019	Au	Vein / Breccia	DD (~55000 m), EN, PFS
Cariboo Mineral Gold	Noble Metal Group		Au	Vein	GC, GP
Copper Mountain-Tulameen	Goldcliff Resource Corp		Cu, Au, Ag	Porphyry	GC, G, 3D-IP
Eldorado	Gold Fields Horsefly Exploration Corp		Au	Vein	DD, GC, G, AB-EM, AB-MG
Elizabeth	Sona Resources Corp.	092O 012	Au, Ag, Cu, Mo	Vein / Breccia	DD (7355 m), UG
Elk (Siwash North)	Almaden Minerals Ltd.	092HNE096	Au, Ag	Vein / Breccia	DD (~14000 m), PF
Fox	Happy Creek Minerals Ltd.		W	Porphyry	DD
Gold Mountain / Horsefly	Tiex Inc				GP-IP, GC, DD (~2000 m)
Harper Creek	Yellowhead Mining Inc.	082M 008, 009	Cu, Ag, Au, Zn, Mo	Massive Sulphide	PF, EN, MS, DD (~30 000 m)
Highland Valley Mine (Exploration)	Teck Highland Valley Copper Partnership	092ISE013	Cu, Mo	Porphyry	DD (~10 000 m)
Lac La Hache (Aurizon, Peach L	GWR Resources Inc.	092P 001, 002, 034, 035	Cu, Au, Fe, Ag	Porphyry	DD (~25 000 m), TR, GC, GP-MAG, G
Logan Copper (Dansey)	Logan Copper Inc.	092ISE012, 190	Cu, Mo, Ag	Porphyry	DD (2828 m), GP-MAG

TABLE 2. CONTINUED

Property	Operator	MINFILE (NTS ref.)	Commodity	Deposit Type	Work Program
Miner Mountain	Sego Resources Inc	092HSE078, 203	Cu, Au, Ag	Porphyry	PD, GP, G, GC, TR
Mount Polley (Exploration)	Imperial Metals Corp	093A 008, 164	Cu, Au	Porphyry	DD (11 564 m), G, UG
New Prosperity	Taseko Mines Ltd	092O 041	Cu, Mo, Au	Porphyry	FS, EN, GD
Newton Mountain	Amarc Resources Ltd	092O050	Au, Cu	Porphyry	DD
Princeton Copper Gold	Anglo Canadian Mining Corp		Au, Cu	Porphyry	DD
Prospect Valley (Discovery South)	Altair Ventures Inc		Au, Ag	Vein / Breccia	DD (722 m), G, GC, P
QR (Exploration)	Barkerville Gold Mines Ltd	093A 121	Au	Skarn	DD
Raft (Ready Mix)	Newmac Resources Inc	082M 056	Au, Ag, W	Magmatic	GC, GP-IP, GP-EM
Rateria	Happy Creek Minerals Ltd	092ISE092, 150, 060	Cu, Mo	Porphyry	DD (~10 000 m)
Ruddock Creek (Exploration)	Imperial Metals Corp	082M 082, 83	Zn, Pb, Ag	Massive Sulphide	DD (14 133 m), UG (309 m)
Shovelnose	Westhaven Ventures Inc		Au	Vein / Breccia	P, GC, G, DD
Spanish Mountain	Spanish Mountain Gold Ltd	093A 043	Au, Ag	Vein / Breccia	DD (~18 000 m), PFS, MS
Tak (Moffat)	Fjordland		Au, Cu, Mo	Porphyry	DD (739 m)
Treasure Mountain (Exploration)	Huldra Silver Inc	092HSW016 , 018	Ag, Pb, Zn	Vein / Breccia	DD (5073 m)
Woodjam North / South	Gold Fields Horsefly Exploration Corp	093A 078	Cu, Au	Porphyry	DD (26 044 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); CD = condemnation drilling; CQ = coal quality testing; CT = carbonization test (coal); DD (X m) = X metres of diamond drilling; EN = environmental baseline studies/monitoring, remediation work; FS = feasibility studies; G = geology, mapping, etc; GC = geochemical sampling (rock, soil, silt, etc); GD = geotechnical 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)

PORPHYRY PROJECTS

Thompson River - Shuswap Lake

At **Highland Valley Copper** mine, Teck Highland Valley Copper Partnership reports that, due to permitting delays, exploration was confined to areas under lease. The work consisted of 10 000 metres of diamond drilling. Results have not been published.

Getty Copper Inc. reported it terminated its option with EffiSolar Energy Corp / Zhejiang Guogang Science and Technology Group on 29 December 2010. Results of their 2010 Titan 24 geophysical survey over the **Getty North** deposit, **Getty South** deposit, and **Getty West** zone were released in March 2011. The survey found 39 anomalies, of which 12 were considered high-priority drill targets. No further work was reported.

Happy Creek Minerals Ltd. continued drilling at the **Rateria** porphyry copper-molybdenum property, located 12 km southeast of Highland Valley Copper mine (Figure 8). The focus is on Zone 1 and Zone 2, approximately 2 km apart. In both zones, drilling returned intersections with ~0.5 % Cu over ~100 metres in widely-spaced drill holes. Molybdenum, silver and rhenium values have been reported.

The **Dot** property, 17 kilometres south of Highland Valley Copper mine, owned by Dot Resources Ltd. appears to have been inactive in 2011. A revised resource estimate (conforms with NI 43-101), issued December 2010, increased indicated resources to 5 328 200 tonnes grading 0.45% Cu, 3.28 g/t Ag, 0.05 g/t Au, and 0.006% Mo (at a 0.20% Cu cut-off).

The **Logan Lake** Project, owned by Logan Copper Inc. (formerly SNL Enterprises Ltd.), comprises four main targets: **Dansey (Midway)**, **Duffy**, **Bertha Molly** and **TW**. The 55 000 ha claim block extends from the Guichon batholith in the south-west to the Iron Mask batholith in the north-east (host to Afton and Ajax deposits). Work in 2011 consisted of 112 line kilometres of ground geophysics (VLF and magnetometer) and 2 828 m of diamond drilling (11 holes) on the Dansey prospect. Eight holes intersected copper mineralization grading >0.20% Cu, some with grades >1% Cu over narrow widths. The longest mineralized intersection (hole 11-LCD-24) returned 68.6 metres at 0.20% Cu.

Figure 8. Drilling within the Guichon Batholith at the Rateria copper-molybdenum-rhenium project continues at Zones 1 and 2, located 12 km southeast of the Highland Valley mine.

Cariboo

At the **Mount Polley** mine (owned by Imperial Metals Corporation) surface exploration focused on the C2, Cariboo, Junction and Polley Mountain zones and consisted of 11 564 m of diamond drilling in 24 holes, with 2 rigs. Underground diamond drilling confirmed the continuity of high-grade copper-gold-silver mineralization in a brecciated monzonite. The best hole (NDU11-189) intersected 35 metres with 4.80% Cu, 2.76 g/t Au, and 39.17 g/t Ag. Underground exploration was conducted from a 550 metre decline driven from the Wight pit to about halfway to the Boundary zone. The intent is to ramp down to breccia ore beneath the Boundary zone and ramp up to surface. A resource of about 300 000 tonnes has been blocked out.

Gold Fields Horsefly Exploration Corporation continued to explore the **Woodjam South** and **Woodjam North** properties, comprising 56 150 ha located 45 km east of Williams Lake, under option from Fjordland Exploration Inc (60%) and Cariboo Rose Resources Ltd (40%), now represented by a new company: Consolidated Woodjam Copper Corp (Figure 9). Drilling at Woodjam South totaled 20 065 metres in 78 holes (Figure 10). At Woodjam North: 5979 metres in 21 holes. Analytical results match those released in 2010 but further define the area of mineralization.

Drilling on Fjordland's **Tak** property's Moffat zone consisted of three widely spaced holes totalling 739 metres. The target was a coincident IP and geochemistry anomaly. Chalcopyrite and pyrite mineralization occurs in all three holes as disseminations, fracture fillings and in veins within potassic-altered and magnetite rich diorite to monzodiorite phases of the Takomkane batholith and Nicola Group volcaniclastic rocks. The Tak property is under option to Capstone Mining Corp.

In September, Candorado Operating Company Ltd. optioned its **Murphy Lake** property to GWR Resources Inc.

Tiex Inc. reported the completion of approximately 45 mine-kilometres of IP in two surveys in the Viewland and Elbow areas of the **Horsefly** property (which covers 79 379 ha). Soil geochemical surveys were conducted on 7 targets. A drilling program commenced in October, with plans for 2000 metres of reverse circulation drilling in the Viewland area. Results are pending.

At the **Lac La Hache** property, GWR Resources Inc, focused on the Spout Lake skarn deposit and the Peach Lake area (see notes below). Copper-gold porphyry targets (e.g., Aurizon South SuperGold zone) may be followed up in 2012.

At the **Fox** tungsten property, 75 km northeast of 100 Mile House, Happy Creek Minerals Ltd. reported encouraging results from their first drilling of the Ridley Creek zone. The two best results were from holes F11-07 and F11-08. F11-07 intersected 4.7 m grading 1.02% WO_2, 0.42% Zn, and 2.3 g/t In, with a 0.4 m section of

Figure 9. Intensive drilling continues at the Woodjam project Southeast Zone by Gold Fields Horsefly Exploration Corporation under option from Consolidated Woodjam Copper Corp (photo courtesy of Consolidated Woodjam Copper Corp).

Figure 10. Several years of drilling at the Woodjam projects means large core facilities at Horsefly (photo courtesy of Consolidated Woodjam Copper Corp).

9.6% WO_2. F11-08 intersected 12.4 m grading 0.74% WO_2, 0.15% Zn and 0.9 g/t In, with 0.65 m of 8.15% WO_2.

Chilcotin

Amarc Resources Ltd. continued exploration of its **Newton Joint Venture** property within the **Plateau Gold Copper Belt** (thought to extend from Blackdome gold mine in the south to Blackwater and Capoose deposits in the north). Targets are disseminated gold, copper and molybdenum mineralization with epithermal and porphyry characteristics. In February, the company completed a widely-spaced, 28 hole drilling program across the Newton sulphide system to test IP and soil geochemical targets. In May, Amarc acquired an 80% interest in the Newton property. In October, the company commenced delineation drilling at the Newton gold deposit. Preliminary results include the thickest mineralized interval encountered to date: 293.6 m of 0.6 g/t Au. Amarc considers there are close lithological and geophysical similarities between the Newton prospect and the Blackwater deposit to the north.

Strongbow Exploration Inc continued to find encouraging results from surface exploration at its **Piltz Mountain** and **Mons Creek** properties located 90 km southwest of Williams Lake. Both properties were expanded, to 5 778 ha and 6 545 ha respectively.

The **Taseko** porphyry copper, gold and molybdenum property of Galore Resources Inc. was inactive in 2011.

In September, private company Highpointe Exploration Inc. announced plans for a 1 000 metre, 3 hole drill program on the **Tasco** property where they were searching for porphyry-style mineralization. Discovery Consultants of Vernon will supervise the program. Results are pending.

Gold Bridge-Bralorne-Lillooet

Cresval Capital Corp. conducted a drilling program at its **Bridge River Copper** project, located 40 kilometres west-northwest of Goldbridge. The property contains at least six showings suggestive of calc-alkaline porphyry-style copper-molybdenum-gold mineralization. These showings include: the Nichol, Russnor, BR, Copper Plateau, Windy Copper, and Canyon. The 2011 program consisted of ~2030 metres in nine holes. Five holes tested the Copper Plateau zone, while four holes tested the Russnor breccia. Drilling intersected broad zones of copper mineralization. Analytical results are pending.

Similkameen River

Copper Mountain Mining Corporation reports that exploration at the **Copper Mountain** mine was on hold for 2011 while efforts focused on mine construction and commissioning. 2012 is anticipated to be an active year, with a focus on the Alabama, Virginia, Voigt and Oriole zones.

Approximately 4 km south of the Copper Mountain project, Anglo Canadian Mining Corp drilled six holes on its **Princeton Copper Gold** project this year. At the Combination Zone hole Pr-11-18 intersected 102.72 metres grading 0.138% copper from surface. A larger drill program is permitted and planned for next year

Sego Resources continued exploration at its **Miner Mountain** property, a porphyry copper-gold project approximately 4 km northeast of Princeton. Several phases of percussion drilling were completed in 2011. Drilling at the Cuba zone, an induced polarization anomaly, yielded highlight holes PDH 66 which intersected 12 m of 1.13% Cu and 0.806 g/t Au and PDH 67 which intersected 2 m of 1.67% Cu and 0.93 g/t Au. Both intersections are less than 8 meters from the top of

the hole. The Cuba zone is currently 200 by 150 m and open in several directions: it is part of the greater Cuba-Granby zone that measures 350 by 1500 m. A third phase of percussion drilling is underway at the time of writing with diamond drilling to follow in early January 2012.

Goldcliff Resource Corporation was active at its **Copper Mountain-Tulameen** project this year where it advanced exploration primarily around the Whipsaw target. The company reports the discovery of the Trojan showing, a noteworthy event in this mature camp. Grab samples along former logging roads yield anomalous values of 0.019-0.655% Cu and significant accompanying Ag values of up to 4.8 g/t. Underlying the Trojan and Eagle showings at the project is the newly surveyed Bolas 3D-induced polarization survey that has highlighted twelve chargeability anomalies. No work has been reported on from its nearby Panorama Ridge gold project where ten gold showings and four zones with significant potential have been delineated over the last decade.

Okanagan

In August Jasper Mining Corp issued a conceptual resource estimate for its **Isintok** property based on drilling done between 2005 and 2008 but assayed in 2010. The potential quantity and grade is 50 to 110 million tonnes with 0.08 to 0.12% Cu, 0.01 to 0.02% Mo, 0.02 to 0.03 g/t Au and 0.80 to 1.10 g/t Ag. No work was done on the property in 2011.

SKARN PROJECTS

Cariboo

GWR Resources Inc. released results from its winter 2010-2011 drilling program at their **Spout Lake** skarn deposit. The drilling program on the **Spout North** zone consisted of 143 holes totaling 15 462 metres. Results to date have extended the strike length of this zone by 500 metres and confirmed the tenor of mineralization. A fall program with a planned 15 000 metres of drilling is underway on the **Spout South** zone. Permit delays resulted in a late start to drilling at the Peach Lake target, which has a geophysical anomaly that is similar to Spout.

VEIN AND BRECCIA PROJECTS

Thompson Rivers and Shuswap Lake

Newmac Resources Inc was active at its **Raft Property** located approximately 35 km northeast of Clearwater. The company completed 34 km of magnetometer and VLF-EM geophysical surveying, 52 km of induced polarization geophysics surveying and a soil sampling program. Although the primary target is intrusion-related gold, perhaps related to Cretaceous granites in the area, a copper-lead-zinc-nickel-in-soil anomaly has been identified which may be indicative of volcanogenic massive sulphide potential.

American Creek Resources Ltd reports the following results from metallurgical work on samples collected from its **Iron Mist** property located 60 km north of Kamloops: DTR tests indicated weight recovery of 73% at 45 microns with an iron grade of 66.3%, silica at 0.4%, 2.6% Al2O3 and 3.4% TiO2; 57% rejection of tails at 80% passing 500 microns and greater than 20% at the first separation size of 80% passing 3mm; and Vanadium content is between 0.6% and 0.8%. More drilling is required.

Cariboo

A remarkable year has unfolded for Barkerville Gold Mines Ltd at its **Cariboo Gold Quartz** and **Bonanza Ledge** projects located substantially on Cow and Barkerville Mountains near Wells. These projects contain seven past producing mines and two proposed open pit mines in the Barkerville gold camp – a central feature of the province's gold rush history. The company undertook a massive effort this year successfully demonstrating there is outstanding potential for additional discoveries.

An estimated 55 000 m of drilling was directed toward expanding resources in, around and below current resources at the proposed Cariboo Gold Quartz and Bonanza Ledge open pits, BC Vein and additional discoveries the company has made.

Near the Cariboo Gold Quartz proposed pit the company has targeted a large increase in resources by extending the open pit another 100 meters below the current calculated depth. By mid-year up to six drills were making some highly encouraging discoveries such as hole CM11-25B which was located outside and below the current pit design and intersected 19.9 m of 83 g/t Au (Figure 11). Improved understandings of the orientation of the hole indicate it cut structure sub-parallel so the true width will be reduced somewhat, but the discovery is none-the-less significant. The intersection has brought to light the significance of a quartz-cosalite ($Pb_2Bi_2S_5$) relationship to high-grade gold mineralization in addition to more typical pyrite-quartz relationship. Similarly, hole CM11-102 intersected the zone in a similar orientation and yielded 62.3 m of 14.2 g/t Au. This new zone appears to have a current explored strike length of over 300 m and is subject of ongoing drilling. The huge volume of information on the project makes for challenging interpretations, but the company reports a second zone has been encountered parallel to the one defined by hole CM11-25B. In this second zone hole CM11-85 has cut 3.4 m of 459 g/t Au at a depth of approximately 307 m and reinforces the significance of the visible gold-cosalite-pyrite-quartz mineralization style. Most quartz veins are hosted in quartzite, phyllite and argillite of the Downey Succession.

Figure 11. A remarkable drill intersection outside of the proposed pit limits at the Cariboo Gold Quartz project of Barkerville Gold Mines Ltd. Hole CM11-25B intersected 19.9 m of 83 g/t Au (not true width) of gold-cosalite-pyrite-quartz mineralization.

Figure 12. The very large BC vein in outcrop near the upcoming Bonanza Ledge mine on Barkerville Mountain near Wells. The vein can be traced for over 2.2 km and attain widths of up to 36 m. Gold mineralization is now being explored for and discovered in both hanging and footwall portions of the vein.

Nearby, on Barkerville Mountain, the company has been equally busy bringing the Bonanza Ledge open pit closer to production with site preparation and road improvements while it waited for *Mines Act* permitting. The BC Vein is a major geological feature and centered on gold mineralization in this part of the camp. The vein has been traced for 2.2 km from the vicinity of the Bonanza Ledge deposit on Barkerville Mountain (Figure 12) through to Cow Mountain where it attains widths of up to 36 m. Within the footwall of the vein lies the Bonanza Ledge deposit where the company has announced discoveries of mineralization this year that are extending the potential of the deposit. Encouraging discoveries are also being made in the hangingwall portion of the vein such as hole BCV11-06 that intersected 14.1 m of 6 g/t Au. The company has not closed off the mineral potential of the BC Vein along strike or at depth.

Barkerville Gold Mines Ltd completed the purchase the Goldstream mill, currently located north of Revelstoke, with the intention of relocating it to the Barkerville Gold Camp, refurbishing it and increasing the capacity to 3000 t/d with an eye to bringing it on-stream in 2013. The company purchased several strategic properties this year as well including the Antler Creek, Craze Creek, Roundtop Mountain, Myrtle-Prosperpine and Promise properties to firm up its assets in the camp.

Noble Metal Group Incorporated explored its holdings northwest of Cariboo Lake at the **Cariboo Mineral Gold** Property. Centered on the historical Keithly Creek area, the company is exploring for gold-bearing quartz veins hosted in Hadrynian(?) to Paleozoic aged metasedimentary rocks of the Snowshoe Group. This year the company focussed on the Weaver Creek area where it completed geochemical and geophysical surveys.

Chilcotin

Sona Resources Corp. undertook drilling at both the **Elizabeth** mesothermal gold-vein deposit (developed prospect) and **Blackdome** epithermal gold-vein deposit (past producer). Their intention is to bring Blackdome into production within two years while advancing development potential of the Elizabeth.

At Elizabeth, surface drilling consisted of 3182 metres (in 20 holes) and underground drilling of 4173 metres (in 35 holes). In the surface drilling program, fifteen of the holes tested the southwest and northeast on-strike extensions of the Southwest vein, to add resources to inventory, while the five holes on the No. 9 Vein tested the structure for additional gold mineralization. The 35 holes in the underground drilling program were collared from the Upper Adit and drilled into the West Vein (24 holes), the Main Vein (7 holes), and the Southwest and D veins (4 holes). The company reports that drilling has furthered understanding of structure, continuity, mineralogy and grade.

At Blackdome, surface drilling consisted of 3176 metres (in 16 holes). The exploration program was designed to drill for new gold-bearing structures or extensions of known areas of mineralization, and to outline potential areas for economic development of gold-bearing ore. One highlight of the program is a hole drilled in an area south of any previous drilling (BD11-08) that returned an assay of 13.6g Au/t over 1.50 metres core length. Sona reports that this has opened up a new area of potential high-grade gold mineralization for future drill testing.

Fraser River

Altair Ventures Incorporated has released the first resource calculation for the **Prospect Valley** property located 30 km west of Merritt. Based on 6940 m of drilling the North and South Discovery zones contain 10.08 Mt of 0.511 g/t Au at a 0.3 g/t cut-off grade. At the zones, low-sulphidation epithermal gold mineralization is controlled by a northerly-trending, moderately-dipping fault zone which has been traced over 1500 m in strike length. Further prospecting on the property this year discovered new mineralization and potential outside the Discovery zone, including a grab sample that assayed 6.2 g/t Au in an area uphill from last season's significant Northeastern Extension zone (NEZ) discovery. Last winter an abbreviated 722 m drill program tested the NEZ to discover its mineralization potential and relationship to the Discovery zones: a lack of significant values shows more work is required to better understand how the zones may be related.

Westhaven Ventures Inc conducted the first ever drill program at the **Shovelnose** epithermal gold property located 30 km south of Merritt. The Line 6 and Mik showings were tested in a modest program where previous trenching produced encouraging gold-mineralized intervals. Exploration on the property has generated two new prospective areas that lead to the acquisition of an additional 5287 ha of tenures and follow-up prospecting and geochemical surveying. Mineralization has been previously reported to be related to shallow to moderately west dipping colloform-banded quartz veins hosted within silicified and clay altered felsic volcanic rock of the Cretaceous Spences Bridge Group.

Gold Bridge-Bralorne-Lillooet

The most advanced project in the famous Gold Bridge mesothermal gold-quartz vein camp is at the **Bralorne** mine of Bralorne Gold Mines Ltd. It operated continuously from 1928 to 1971 and was the dominant contributor to the approximately 130 million grams (4.15 million ounces) of gold produced at this camp. Infrastructure on the property includes extensive underground workings, a partially completed tailings pond and a 100 t/d gravity/flotation pilot mill.

Although not fully operational, significant work on the site is being completed in preparation for the resumption of formal production. On May 27 the company celebrated an official opening of operations at the project with the pouring of a gold-silver dore bar estimated to contain 7900 grams of gold and 1835 grams of silver. Since then the mill has been tested with roughly 70-75 t/d of stockpiled ore brought up from several veins being mined. By the third quarter almost 10 000 tonnes of ore grading 7.9 g/t Au had been processed.

Underground exploration work started in earnest in April with the start of a roughly 300 meter decline to access the BK3 zone where several sub-levels and raises are proposed to test the zone for mill feed. The zone was reached in late November and the first results included an un-cut grade of 10.44 g/t over 4.4 m in horizontal channel samples. Surface drilling of the BK3 Zone was conducted this year as well as other parallel structures in an around the BK zone. In the BK Gap, north of the BK zone, the company intersected the highest grade encountered to date in their exploration of the property: hole SB11-21 cut 1764 g/t over 0.9 m and represents the discovery of a new structure parallel to the BK vein.

After a lengthy period of land-use uncertainty significant exploration occurred at the **Eldorado** gold project which is partially contained within a mining and tourism area established under the *Environment and Land Use Act* (Figure 13). In a portion of the province where the metallic mineral potential was characterized as some of the highest rank having modern exploration is welcomed. Gold Fields Horsefly Exploration Corporation undertook a helicopter supported drill program as part of a first pass exploration effort to test some of the previous high-grade gold mineralization known to exist (Figure 14). Mineralization is genetically related to the Late Cretaceous to Paleogene Eldorado stock, a four by two kilometer quartz diorite to granodiorite body and associated hornfels alteration. Nearby, the Robson deposit was mined in 1939 and 1940 producing a total of 34 tonnes of ore which yielded 18 kg Ag, 2.2 kg Au, 193 kg Cu and 2640 kg Pb. In 1986, a 0.79 m drill interval of the vein structure assayed 469 g/t Ag and 45 g/t Au.

Okanagan

Gold Mountain Mining Corp (formerly Beanstalk Capital Inc) acquired the **Elk** project from Almaden Minerals Ltd in June 2011. The mesothermal gold-quartz vein project is located midway between the towns of Merritt and Peachland. In the 1990s, the Elk deposit produced 1.6 million grams of gold from 16 700 tonnes of ore extracted from open pit and underground operations. The company completed 14 000 m of drilling in 77 holes this year. Highlight intercepts of the first 45 holes included hole SND11-128 returning 1.60 m of 159.9 g/t Au and 118.3 g/t Ag. The positive results demonstrate the potential that a viable mining project could be launched on the Elk property. A resource update, to include the 2010 and 2011 drill results, is to be conducted.

Bitterroot Resources Ltd announced surface exploration plans on the **North Brenda** property near Peachland where the company is exploring for two styles of mineralization: porphyry copper-molybdenum mineralization similar to the closed Brenda Mine and structurally-hosted epithermal gold similar to the nearby Elk deposit.

Figure 13. Prospector Mel Stewart persevered many years of land planning to realize the opportunity to explore in the Eldorado Basin near Goldbridge. After the release of this area from protected status, modern exploration is underway (photo courtesy of John Hunter).

Similkameen River

Exploration at the **Treasure Mountain** project of Huldra Silver Inc. consisted of 5073 metres of drilling (51 holes) that was focused on delineating the upper 150 metres of the mine and extension of underground workings. The project is located in the headwaters of Tulameen River.

SEDIMENT-HOSTED GOLD PROJECTS

Cariboo

Spanish Mountain Gold Ltd. announced the discovery of new zone of mineralization in northern Cedar Creek approximately 2 kilometres west of the Main zone. In this discovery, called the **Phoenix Zone**, mineralization grading about 0.5 g/t Au can be traced for at least 1 kilometre strike length.

Tiex Inc, reports that a 7000 metre drill program commenced in October at the **Gold Creek** project. Plans are for 1 000 metres of diamond drilling to be followed by 6000 metres of reverse circulation drilling. Results are pending.

STRATIFORM SULPHIDE PROJECTS

Thompson Rivers - Shuswap Lake

Ruddock Creek zinc-lead deposit (owned by Imperial Metals Corporation) reports that exploration in 2011 consisted of underground drilling (76 holes; 14 133 m), and extension of the decline by 309 m (to a total of 1 303 m from surface) in the E zone, as well as surface drilling (10 841 m) in the Creek, V, Q zones. Exploration data will be used to update the company's July 2009 NI43-101 resource estimate. Underground drilling confirmed that the E zone can be traced continuously over 450 metres (east-west) and 500 metres (north-south). The deposit is described as sedimentary exhalative, Monashee or Broken Hill type, within marble, gneiss and calc-silicate rock.

Yellowhead Mining Inc. reports ongoing exploration at the **Harper Creek** copper-gold-silver deposit (now the BC Environmental Assessment Office review process). Activity in 2011 consisted of definition drilling (30 000 metres planned) to refine the ore zone and provide a basis for further metallurgical and feasibility work. One hole from their winter program (HC11-87) returned the best intersection on the property to date: ~242 metres of 0.39% Cu, 1.6 g/t Ag and 0.037 g/t Au.

Southeast of Barriere, Bitterroot Resources Ltd completed geological mapping and gravity surveys on its **SPN** project this year to define drill targets.

Geologist Leo Lindinger continued exploring his **Argent** property located near the Raft River and northeast of Clearwater. Described as manto-type mineralization, last year's chip results gave some outstanding zinc results such as 905692 which graded 40.5% Zn, 12% Pb and 160 g/t Ag and 905693 that gave 13% Zn, 5.1% Pb and 75 g/t Ag.

Cullen Resources reports the discovery of high-grade zinc mineralization on the **TL** property located 5 km east of Mabel Lake on Tsulus Creek. The discovery results from follow-up work on thallium and cadmium anomalies in Douglas fir needles collected from helicopter. Trench results have yielded up to 3 m of 8.98% Zn in a pyrite-pyrrhotite-sphalerite-zone within calc-silicate marble, biotite schist and micaceous quartzite. Anomalous molybdenum and rhenium are also reported but may be related to more recent granitic intrusive rocks in the area. In October, a HeliTEM (helicopter borne electromagnetic) survey was flown over the project area in order to characterize the known mineralization and prioritize targets.

Figure 14. Examining a geological map of the Eldorado gold project which was drilled using helicopter support this year: the first intense exploration of this high-grade gold project since the mid-1980's (photo courtesy of John Hunter).

Cariboo

Barker Minerals proposed drilling its **Blackbear** high-grade silver-gold-lead vein prospect located 74 kilometres northeast of Williams Lake. The program is a follow-up to last year's program that included grab samples reporting up to 3976 g/t Ag, 7.5 g/t Au, and 59 % Pb at the Providence target and 2.1 g/t Au at the Hunt vein. Chip samples from the Hunt vein reported 1165 g/t Ag and 37.1% Pb over a 1 metre width. The company also released results from 2010 trenching at its **Cariboo Zinc** project, located approximately 35 kilometres northeast of Likely. Chip sampling of this Kuroko-style polymetallic sulphide (VMS) target returned values of 29 g/t Ag, 20% Zn, and 6% Pb, over an 8 metre length in a section of the Main zone.

MAGMATIC PROJECTS

Thompson Rivers and Shuswap Lake

In November 2011, Commerce Resources Corp. released a preliminary economic assessment **Blue River** tantalum and niobium project, 30 km north of Blue River. The assessment concludes that the deposit can be developed economically as an underground mine and recommends further work to support a pre-feasibility study. The company carried out definition drilling (8715 metres; 34 holes) on the Upper Fir zone. Work in preparation for a revised resource estimate is underway.

Similkameen River

Near Tulameen, private company Magnetite Ridge Metals and Minerals Ltd of Kamloops, continued to investigate its large magnetite deposit located at its **Magnetite Ridge** project within the Tulameen Ultramafic Complex. The company plans to apply for permits to allow small scale mining and build a pilot plant on-site to experiment with ore processing.

OUTLOOK FOR 2012

Mining operations should officially commence at the New Afton and Bonanza Ledge projects.

As mine evaluation projects submit required baseline studies, the next stages of the review process will be triggered. A Federal decision on New Prosperity is expected towards the end of 2012.

Most of the exploration projects that were active in 2011 have generated positive results and thus remain on track for advancement, barring downturns in metal markets or crises in international finance.

GEOSCIENCE NOTES

The terranes used in base maps are from a new interpretation for the northern Cordillera that was published in December 2011 (Colpron and Nelson, 2011). Digital files are available from web sites of the BC Geological Survey and Yukon Geological Survey.

Of interest to the Thompson-Okanagan-Cariboo and Kootenay-Boundary regions is a new terrane, the Okanagan, that extends between Kelowna and Castlegar. For a discussion of the Okanagan terrane, its genesis and rationale, see Colpron and Nelson (2009).

In December 2011, Geoscience BC announced the release of regional 3D inversion modeling of airborne gravity and magnetic data in its QUEST-South Project.