

# NORTH-CENTRAL REGION: A SNAPSHOT<sup>1</sup>

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<sup>1</sup>The regional geologist position for the North-Central and Northeast regions was vacant from June until December 2009. Therefore this report is based only on information published by companies.

## SUMMARY AND TRENDS

Gibraltar copper-molybdenum mine continued with a major expansion project that, together with expanded ore reserves, will maintain the operation for at least 25 years at current copper prices. The Kemess copper-gold mine will close in 2011. Exploration at the Mount Polley copper-gold mine continued to be successful, in particular at discovering higher grade zones below open-pit depth. A combination of underground and open-pit mining may occur within a few years to maintain the operation beyond 2015.

The proposed Mt. Milligan copper-gold mine received approval from both provincial and federal agencies. It is poised for development, depending on successful financing of the estimated \$915 million cost to build the mine.

Exploration activity focused on copper-gold porphyry projects in the Quesnel Terrane both north and south of Prince George. Gold Fields Limited and Newcrest Mining Limited, both major mining companies, were attracted to the region and optioned promising projects from junior explorers. Major programs were conducted at the Pine property in the Toodoggone district and at Woodjam North in the Likely area. In the same belt, continued exploration on the Kwanika property identified an important structural control to copper-gold mineralization (Figure 3.1).

There were significant developments in two gold districts. On the Nechako plateau, a promising zone of epithermal gold mineralization was discovered on the Blackwater-Davidson property. In the Wells-Barkerville area, new estimates of gold resources were announced on the Spanish Mountain, Frasergold and Bonanza Ledge properties.

A significant discovery of rare earth metals (cerium, lanthanum, neodymium) was made in the Wicheeda carbonatite complex northeast of Prince George near the Rocky Mountain Trench.

## METAL MINES

**Mount Polley** copper-gold mine is located 100 km by road northeast of Williams Lake and is wholly-owned by Imperial Metals Corp. A total of 6.9 Mt of ore were mined in 2008 producing 27 350 t Cu, 1460 kg Au and 16 200 kg Ag. Reserves at the beginning of 2009 were 46.2 Mt grading 0.34% Cu, 0.29 g/t Au and 0.95 g/t Ag.

Estimated production in 2009 is 19 000 t Cu, 1650 kg Au and 7200 kg Ag. Most ore mined in 2009 came from the Springer pit where 85% of property reserves are located. Springer ore is highly oxidized and consequently metal recoveries were low, in the order of 60% for copper and 70% for gold. Ore was also supplied from the Southeast and Wight pits, with the last of Wight ore mined in mid-year. The Pond zone was developed and the first ore is expected to be delivered to the mill in early 2010. The current mine life is to the end of 2015.

Mount Polley is an alkalic porphyry copper deposit. Exploration at Mount Polley focused on drilling in the Boundary zone, although the Pond zone and northwest of the Springer pit were also tested. A highlight drillhole in the Boundary zone returned a 157 m intersection grading 1.73% Cu, 1.11 g/t Au and 10.5 g/t Ag beginning at 158 m below surface. This and other high grade intercepts are considered unsuitable to be mined by open pit, in consideration of depth and strip ratio, and will be explored for potential underground mining. Beginning in 2010 the Boundary zone will be drilled from an underground ramp to be driven from the north wall of backfilled Wight pit. High copper grade was also intersected in the Pond zone with a 9.3 m intersection grading 6.40% Cu, 0.89 g/t Au and 67.7 g/t Ag in skarn-type mineralization. Continued drilling targeted an underground mineable resource. Exploration drilling near the Springer pit targeted a potential expansion of open-pit resources.

The **Kemess South** copper-gold mine is located 430 km northwest of Prince George or 240 km north of Smithers and is 100% owned by Northgate Minerals Corporation (Figure 3.2). The mine operates at 52 000 tonnes-per-day and employs 400 people full-time. Production in 2009 is forecast at 5340 kg Au (171 600 ounces) and 23 500 t Cu. Reserves at the beginning of 2009 stood at 34.2 Mt grading 0.41 g/t Au and 0.17% Cu. In 2008, Kemess processed 16.9 Mt of ore producing 5760 kg Au (185 162 ounces) and 23 545 t of Cu. Metal recoveries were 67% for gold and 79% for copper. Improvements to the metallurgical process in 2009 are expected to significantly improve metal recovery. Mine closure is scheduled in early 2011.

The **Gibraltar** copper-molybdenum mine continued a major expansion and modernization program in 2009 that will lead to a 50% increase in copper output in 2010. The mine is located near Williams Lake and is 100% owned by Taseko Mines Limited. Late in the year Taseko announced a tentative agreement to sell 25% interest in

Operating Mines and Selected Major Exploration Projects in North Central British Columbia 2009

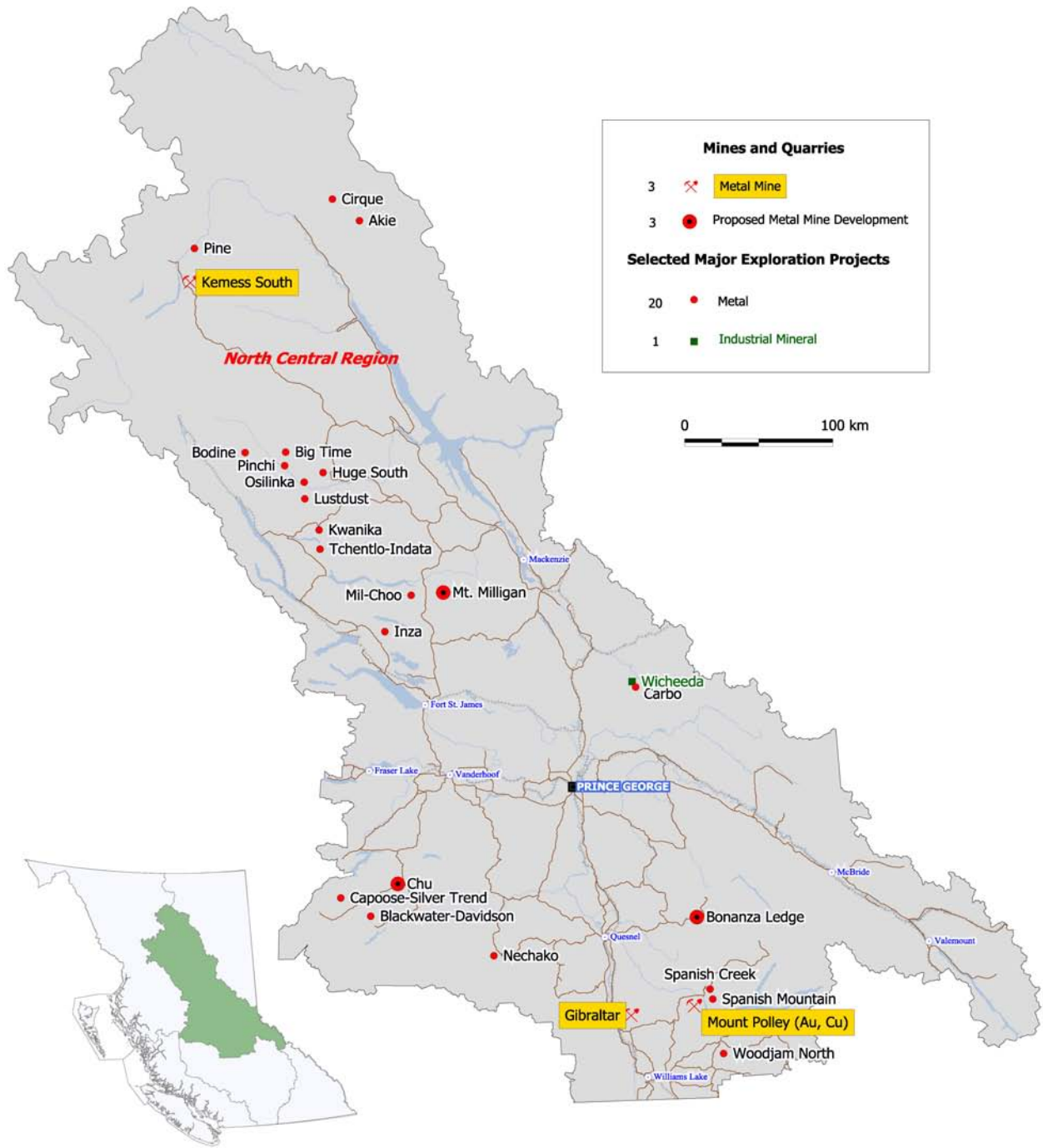


Figure 3.1. Mines, Development and Major Exploration Projects in North-Central Region, 2009.



Figure 3.2. Mining of the Kerness South deposit.

Gibraltar to Sojitz Corporation for \$180 million. Taseko would manage the new Joint Venture operation. A total of \$250 million was spent in 2008 and 2009 on new mining equipment and concentrator upgrades. Ore reserves at the beginning of 2009 were 428 Mt at a grade of 0.315% Cu and 0.008% Mo, sufficient for 25 years of mine life at the new milling rate of 49 900 tonnes-per-day, with an additional 870 Mt of measured and indicated resources grading 0.298% Cu and 0.008% Mo. Production in 2008 amounted to 34 900 t Cu and 380 t Mo from 12.3 Mt of ore milled. Metal recoveries were 76% for copper and 32% for molybdenum. A small proportion, roughly 3% of the copper, was produced from oxidized stockpiles by solvent extraction and electrowinning. Gibraltar is expected to produce 32 000 t Cu and 310 t Mo in 2009, based on projection of data from the end of the third quarter to year-end (Table 3.1).

## MINE DEVELOPMENT PROJECTS

Terrane Metals Corporation prepared a feasibility update for development of the **Mt. Milligan** copper-gold deposit. The project has a BC environmental assessment certificate and a BC Mines Act permit to build a 60 000 tonne-per-day open-pit mine and, on December 1, 2009 received a federal environmental assessment certificate. Proven and probable ore reserves are stated at 482 Mt

grading 0.20% Cu and 0.39 g/t Au. Capital cost is estimated to be \$915 million. To assist in financing construction of the mine, Terrane Metals and Goldcorp Inc. (majority owner of Terrane) signed an option agreement whereby Goldcorp may convert its equity interest in Terrane into a participating joint venture in the Mt. Milligan project. If developed, the mine is expected to have a life of 22 years. Late in the year the provincial and federal governments announced plans to upgrade a connector road between Mackenzie and Fort St. James, anticipated to improve access to the mine from both communities. Mt. Milligan is an alkalic porphyry copper-gold deposit with a measured and indicated resource of 706.7 Mt grading 0.18% Cu and 0.33 g/t Au.

## MINE EVALUATION PROJECTS

At the **Bonanza Ledge** gold project in the Wells-Barkerville area, International Wayside Gold Mines Ltd conducted mechanical trenching and drilling in order to upgrade the inferred gold resource to measured and indicated categories. A 2009 technical report on the property disclosed resources of 264 264 t averaging 6.51 g/t Au (measured), 193 086 t averaging 4.46 g/t Au (indicated) and 206 742 t averaging 3.77 g/t Au (inferred) at a cut-off grade of 1.7 g/t Au. International Wayside reported a pre-feasibility study for a 200 tonne-per-day open-pit gold mine with ore to be trucked 110 km to the idle QR mill for treatment. The QR mill is owned by Cross Lake Minerals Ltd which is undergoing restructuring under creditor protection. International Wayside struck a non-binding agreement-in-principle with Cross Lake to purchase the QR mill at an undisclosed price.

The **Chu** molybdenum project, located 80 km south of Vanderhoof, entered the BC environmental assessment process in 2009. However, project owner TTM Resources Inc conducted little fieldwork on the property due to tight financing, particularly for molybdenum projects. Measured plus indicated resources at Chu are estimated at 313.25 Mt grading 0.060% Mo at a cut-off grade of 0.04% Mo. Quartz-molybdenite veinlets are developed in an elongate zone where a swarm of granodiorite dikes have invaded hornfelsed sedimentary and volcanic rocks.

TABLE 3.1. MINE PRODUCTION AND RESERVES, NORTH-CENTRAL REGION, 2009

Mine	Operator	Production (2008)	Tonnes milled (2008)	Reserves (Dec.31, 2008)
Gibraltar	Taseko Mines Limited	34 900 t Cu, 380 t Mo	12 300 000	428 000 000 t at 0.315% Cu, 0.008% Mo
Kerness South	Northgate Minerals Corp	23 545 t Cu, 5760 kg Au	16 900 000	34 200 000 t at 0.17% Cu, 0.41 g/t Au
Mount Polley	Imperial Metals Corp	27 350 t Cu, 1460 kg Au, 16 200 kg Ag	6 900 000	46 200 000 t at 0.34% Cu, 0.29 g/t Au, 0.95 g/t Ag

## EXPLORATION

### Porphyry Copper Projects

Gold Fields Toodoggone Exploration Corp conducted a major exploration program on the **Pine** porphyry copper-gold property located 23 km north of the Kemess mine (Table 3.2). The program comprised geological mapping, geophysics and a planned 4000 m of core drilling. Geophysical work included a low-level airborne magnetic survey and a 420-km IP and gravity grid. Mineralization occurs in early Jurassic granodiorite near the contact of coeval Toodoggone volcanic rocks. A crew of 35 to 40 were employed in the field.

Serengeti Resources' **Fleet** property is located 50 km south of the Kemess copper-gold mine in the Quesnel Terrane. Several porphyry-style copper-molybdenum-gold showings occur on the Fleet property, some with historic copper intercepts. An untested induced polarization anomaly near the 1970-era drillholes is considered a prime exploration target by Serengeti.

On the **Croy Bloom** copper-gold project, a planned drilling program by Newcrest Mining Limited was deferred due to First Nations' access issues. Newcrest has an option to earn 51% interest in the property from Serengeti Resources Inc. The deferred drill program was to follow-up on four holes drilled by Newcrest in 2008 that intersected widespread, but low grade mineralization. Croy Bloom is located 85 km south of the Kemess mine.

The **Pinchi** porphyry copper-gold property located 270 km northwest of Prince George was acquired by Amarc Resources Ltd. Drilling began in September to explore strong, extensive and coincident magnetic and induced polarization anomalies in an area of glacial gravel with no rock outcrop. The property adjoins the Lorraine prospect and is underlain by rocks of Quesnel Terrane about 120 km south of the Kemess mine.

The **Big Time** porphyry copper-molybdenum property was explored by Amarc Resources Ltd and Falkirk Resources Corp. The property is located west of the Pinchi fault and west of the Lorraine deposit. IP and soil geochemical surveys were completed but drilling was deferred.

Serengeti Resources drilled six widely-spaced holes on the **Osilinka** property, located 35 km northwest of Kwanika. Three of the holes, whose location was guided by geochemical and geophysical anomalies, intersected weak copper and gold mineralization associated with zones of silica and potassic alteration.

On its **Kwanika** copper-gold project, Serengeti Resources Inc continued drilling in the South zone (Figure 3.3). Early in 2009, the company announced an

indicated resource in the Central zone of 182.6 Mt grading 0.29% Cu and 0.28 g/t Au at a cut-off grade of 0.25% Cu equivalent. The property is located 140 km northwest of Fort St. James in the Quesnel Terrane. Mineralization is constrained between the Pinchi fault to the west and the Hogem batholith to the east. Drilling in 2009 identified the West fault, a structurally controlled mineralized zone along the west side of the South zone (Figure 3.4). Defined by seven holes, the West zone is 350 m long by 500 m in depth and has an average drill intercept width of 126.6 m that grades 0.41% Cu, 0.09 g/t Au and 0.022% Mo. This newly recognized structure has an untested target length of 2.3 km.

The **Tchentlo-Indata** area in the southern portion of the Kwanika property, 10-25 km south of the Central zone deposit, was explored by six widely-spaced shallow drillholes. Only traces to minor amounts of mineralization were found.

Serengeti Resources Inc drilled on the adjoining **Choo** and **Mil** copper-gold properties located 15 to 25 km southwest of Mt. Milligan. Two 300 metre-deep holes were drilled at Choo to test large and intense aeromagnetic and induced polarization anomalies below historic shallow drillholes. The historic holes intersected anomalous copper-gold values in altered volcanic rocks.



Figure 3.3. Kwanika; drilling on the copper-gold project.



Figure 3.4. Kwanika; Hugh Samson, project geologist, and Eric Moore, geotechnician, process drill core.

**TABLE 3.2. SELECTED EXPLORATION PROJECTS, NORTH-CENTRAL REGION, 2009**

Project	Operator	MINFILE	NTS (if no MINFILE)	Deposit Type	Work Program
Akie	Canada Zinc Metals	94F 031		Massive Sulphide	G
Aspen	Tsedeka Resources			Industrial Mineral	BU
Big Time	Amarc Resources Ltd		93N.082	Porphyry	GC, IP
Blackwater Davidson	Richfield Ventures Corp	93F 037		Vein	DD (2532 m)
Bodine	Amarc Resources Ltd	93N 179		Massive Sulphide	DD
Bonanza Ledge	International Wayside Gold Mines Ltd	93H 019		Vein	TR, DD (1346 m), EN, PF
Capoose Silver Trend	Silver Quest Resources Ltd	93F 040		Vein	DD (1692 m)
Carbo	Commerce Resources Corp. & Canadian International Minerals Inc		93I.041	Carbonatite	G, GC
Huge South	Amarc Resources Ltd		93M.100	Porphyry	GC, IP
Inza	Strongbow Exploration Inc	93K 111		Porphyry	IP
Kwanika	Serengeti Resources Inc	93N 018, 073		Porphyry	DD
Lustdust	Alpha Gold Corp	93N 009, 044		Skarn	DD (6365 m)
Mil- Choo	Serengeti Resources Inc	93N 227		Porphyry	DD
Mt Polley	Imperial Metals Corp	93A 008		Porphyry	DD
Nechako Gold	Endurance Gold Corp	93B 003		Sedimentary replacement	DD (536 m)
Nonda	Stikine Gold Corp		94N.072	Industrial Mineral	DD (934 m)
Osilinka (Cat)	Serengeti Resources Inc	94C 050		Porphyry	DD
Pinchi	Amarc Resources Ltd		93N.092	Porphyry	DD
Pine	Goldfields Toodoggone Exploration Corp	94E 016		Porphyry	IP & gravity (420 km), DD
Spanish Mountain	Skygold Ventures Ltd	93A 043		Vein	DD (5000 m)
Tchentlo-Indata	Serengeti Resources Inc		93N.034	Porphyry	DD
Wicheeda	Spectrum Mining Corp	93J 014		Carbonatite	DD (1835 m)
Woodjam North	Gold Fields Limited	93A 078		Porphyry	G, GC, GP, DD

**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)

Similarly, drilling on the Mil property targeted deep coincident IP and magnetic anomalies that are associated with a glacial till gold anomaly.

Strongbow Exploration Inc conducted an IP survey on the **Inza** copper-gold porphyry property, located in Quesnel Terrane 55 km north-northwest of Fort St. James. Work by previous operators found copper mineralization in monzonite and Takla Group volcanic rocks and delineated soil geochemical anomalies.

Recent logging has improved access and exposed new copper occurrences.

Gold Fields Limited, through a subsidiary company, optioned the **Woodjam North** copper-gold property from joint venture partners Fjordland Exploration Inc and Cariboo Rose Resources Ltd. The Woodjam property, located 45 km northeast of Williams Lake, was subdivided into north and south components. Gold Fields conducted a comprehensive program that

included geological mapping, soil geochemistry and a 75 km induced polarization survey, the latter focused on an area north of the Megabuck and Deerhorn zones. A low-level airborne magnetic and radiometric survey was flown over the entire Woodjam property in the search for new zones of porphyry mineralization. Core drilling began in October with 4000 m planned to test the Takom and Deerhorn zones where previous drill intercepts include 0.26% Cu and 0.40 g/t Au over 127 m and 0.25% Cu and 0.62 g/t Au over 51 m, respectively. A further 2000 m of drilling was allotted to test targets arising from the above mentioned surveys.

The Woodjam property lies within the Quesnel Terrane which hosts numerous copper-gold porphyry deposits. Rocks on the property comprise diorite to monzonite of the Upper Triassic Takomkane batholith and coeval mafic volcanic rocks of the Takla Group. No work was done by Fjordland and Cariboo Rose on **Woodjam South** where a 2008 drillhole intersected 1.01% Cu and 0.44 g/t Au over 201 m.

### *Polymetallic Massive Sulphide Projects*

The **Bodine** copper-zinc project of Amarc Resources Ltd. is located northwest of Fort St James in the Sitlika belt of volcanic rocks. Channel samples returned grades of 1.79% Cu over 2.9 m and 1.37% Cu over 2.4 m. A program of three drillholes began in September targeting a volcanogenic massive sulphide deposit. The first hole, with a planned depth of 450 m, explored downdip of two holes drilled in 2008 that intersected broad intervals of stringer-style mineralization with highly anomalous zinc and copper. Drilling in 2008 tested extensive zinc, copper, silver and lead soil anomalies, associated IP signatures and intersected thick sequences of felsic volcanic rocks.

Amarc Resources advanced two other massive sulphide prospects in the Sitlika volcanic belt. Soil geochemical and IP surveys were carried out on the **Huge South** and **Olsen** properties.

There was no drilling at the **Akie** sedex zinc-lead project in 2009. Canada Zinc Metals conducted a regional exploration program in search of new mineralized targets within their extensive mineral tenures. The property is underlain by folded shale and siltstone of the Upper Devonian Gunsteel Formation and has an inferred resource of 23.6 Mt grading 7.6% Zn, 1.5% Pb and 13 g/t Ag. Several new mineral occurrences were identified as a result of the 2009 program. The most prospective are the GPS barite-laminated pyrite showing and the Breccia sphalerite-galena-barite showing on the Pie property. The GPS showing is hosted by black shales similar to, and along strike from, rocks containing the Cirque deposit. The Breccia occurrence is at a shale-limestone contact, a common stratigraphic position for lead-zinc mineralization in the Kechika Trough.

The **Cirque** sedex deposit, also in the prospective Gunsteel Formation, has a geological resource of 38.5 Mt grading 8.0% Zn, 2.2% Pb and 47 g/t Ag that dates from 1986 and is not NI 43-101 compliant. Joint venture partners Teck Corporation and Korea Zinc Company Ltd deferred a planned 7000 m drilling program until 2010.

### *Gold-Silver Projects*

Richfield Ventures Corp optioned the **Blackwater-Davidson** epithermal gold property on the Nechako plateau from Silver Quest Resources Ltd. Results from an initial 2532 m drilling campaign led to a second phase program that continued at the time of writing (Figure 3.5). Intercepts include 1.26 g/t Au over 148 m in one hole and 1.06 g/t Au over 207 m from another. Large diameter core (HQ size) was drilled to maximize recovery. Mineralization is a siliceous breccia, accompanied by pyrite, sphalerite and galena, which is developed in highly altered and brecciated felsic volcanic to subvolcanic rocks interpreted to be a rhyolite dome (Figure 3.6). Blackwater-Davidson is near the Capoose and 3Ts projects, an area of epithermal gold-silver mineralization

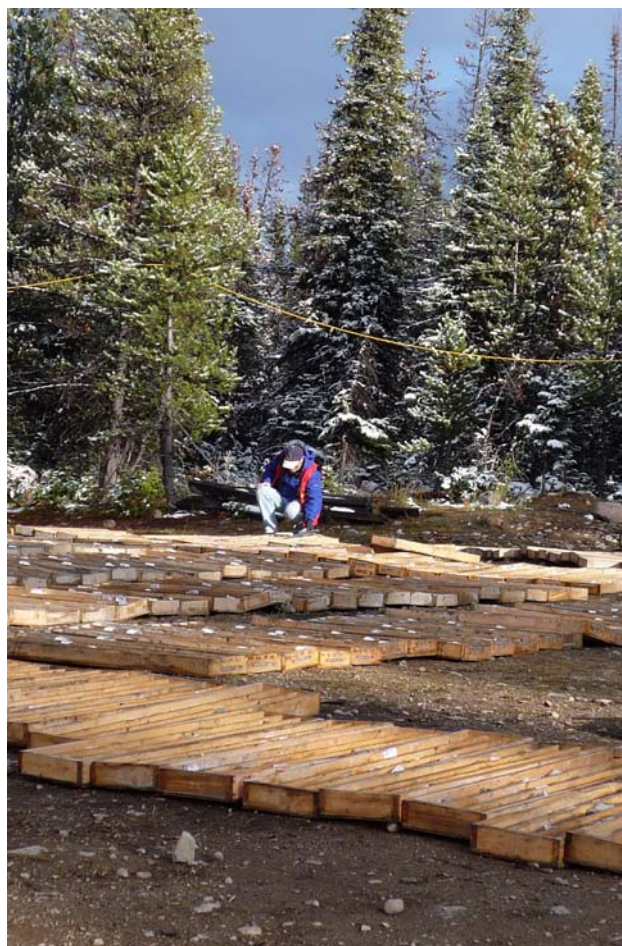


Figure 3.5. Blackwater-Davidson; Andre Panteleyev logs diamond-drill core.



Figure 3.6. Blackwater-Davidson; brecciation and silica veining in flow-banded rhyolite.

located 105 km southwest of Vanderhoof.

On the **Capoose-Silver Trend** project, Silver Quest Resources Ltd completed 13 core holes totalling 1692 m. The property covers three zones of disseminated silver and gold mineralization and a 4.5 km long geochemical anomaly. Historic resources in the Capoose deposit (not NI 43-101 compliant) are estimated at 28.2 Mt grading 36.0 g/t Ag and 0.34 g/t Au. Hostrocks are garnet-bearing rhyolite sills and hornfelsed argillite. The 2009 program was designed to test several targets including a southern extension of the Capoose deposit. Drillhole D-09-100 intersected two zones of significant mineralization; an upper zone graded 67.9 g/t Ag and 0.26 g/t Au across 16 m and a second zone, 29 m deeper in the hole, graded 61.8 g/t Ag and 4.72 g/t Au over 9.0 m.

The **Nechako** Gold property of Endurance Gold Corporation was explored by three diamond-drill holes. The property is located 90 km west of Quesnel. A previous operator discovered widespread low grade gold in flat lying chert pebble conglomerate of the lower Cretaceous Skeena Group. Gold seems to correlate with hematite alteration in the conglomerate. Clay-altered and pyritic quartz porphyritic felsic dikes (or rhyolite flows) were intersected in two holes. A one meter sample from a felsic dike returned 2.33 g/t Au. The third hole intersected a 68 m interval of strong hematite alteration within conglomerate but did not contain significant gold.

On the **Spanish Mountain** gold project, Skygold Ventures Ltd conducted in-fill drilling on its Main zone gold resource and drill-tested regional targets. The property is located 6 km east of Likely. In early 2009, the company announced a measured plus indicated resource of 102.26 Mt averaging 0.785 g/t Au (at a cut-off of 0.5 g/t Au) within the Main zone. In-fill holes recovered HQ-size core and sought to define an area near surface that contains higher gold grade. A minimum of 25 holes totalling at least 4000 m was planned. Twelve regional exploration holes were completed and found that significant gold mineralization extends at least 350 m north of the Main zone. Gold occurs in an orogenic setting; with disseminated pyrite and in quartz veinlets

developed in complexly folded and weakly metamorphosed argillaceous sedimentary rocks.

Hawthorne Gold Corporation disclosed a resource estimate for its **Frasergold** project in 2009, derived from drilling in 2008. Measured plus indicated resources stand at 34.08 Mt averaging 0.559 g/t Au. Metallurgical studies were undertaken. The Frasergold property is located 100 km east of Williams Lake. Gold occurs in a series of quartz veins and segregations developed in strata that were deformed under orogenic conditions.

Alpha Gold Corporation conducted a 6365 m drilling program on its **Lustdust** gold project located 250 km northwest of Prince George. Gold and copper occur in skarn and manto zones developed within a sequence of limestone, siltstone and mafic tuff of the Cache Creek Group, intruded by the dikes and sills of the Eocene Glover stock. The program comprised in-fill holes in the Canyon Creek skarn zone, tested for a northern extension and replicated historical holes that had not been surveyed. Pyrite, chalcopyrite, sphalerite, galena, arsenopyrite and pyrrhotite are associated with garnet and other calc-silicate minerals.

### **Rare Earth Metals**

Drilling results from the **Wicheeda** rare earth elements (REE) project 80 km northeast of Prince George stimulated interest in carbonatites along the Rocky Mountain Trench. The property is owned by Spectrum Mining Corporation, a private company, which conducted an 11-hole program (1835 m) to follow up on promising results from a four-hole program in 2008. Several intrusive bodies of carbonatite and syenite breccia are emplaced over a 15 km distance. The carbonatite consists of massive, coarse-grained dolomite-ankerite to calcite. The breccia comprises syenite clasts in a carbonatite matrix. Minor constituents of the carbonatite include K-feldspar, biotite, cordierite, pyrochlore, columbite, magnetite, pyrite, monazite and a bastnaesite-synchisite-parasite mineral. The latter two mineral species are enriched in rare earth metals. All drillholes returned significant values, for example, 1.3% Ce, 0.64% La and 0.26% Nd over 144 m, beginning at the collar, in hole 2009-09. Preliminary investigation of mineral processing suggests the Wicheeda material is amenable to conventional processing to produce a marketable concentrate.

The **Carbo** project of Commerce Resources Corp and International Minerals Inc is located 5 km southeast of Wicheeda. Geological mapping and prospecting were conducted, as well as rock, silt and soil geochemical surveys. The latter delineated a strong cerium anomaly over a one kilometre distance. Trenching and drilling are planned in 2010.

## ***Industrial Mineral Projects***

The **Nonda** property near the British Columbia border north of Toad River was acquired by Stikine Gold Corporation as a potential source of high-quality silica. Silica sand is used to recover gas by hydro-fracturing the reservoir rock in certain unconventional gas fields. The Horn River basin, located 150 km to the east, is an important new unconventional gas field. Nine holes were drilled in three 3-hole fences to test quartzite strata within the Lower Silurian Nonda Formation.

## **2010 OUTLOOK**

In 2010, a continued high level of exploration work is expected in the Quesnel copper-gold porphyry belt where large deposits will continue to attract the interest of major companies. Gold projects in the Wells-Barkerville and Nechako districts will also figure prominently, due to the high price of gold. The discovery of a rare earth metals prospect northeast of Prince George will spur exploration for other carbonatites along the Rocky Mountain trench. The level of activity in the Kechika sedex lead-zinc belt may increase with a revival of work on the Cirque deposit.

## **ACKNOWLEDGMENTS**

This report may not include some important projects, in particular on industrial mineral quarries. The author regrets the omission of significant properties and exploration programs. The author credits Patrick Saunders for expert work to prepare the map (Figure 3.1) and thanks Richfield Ventures and Serengeti Resources for providing digital photos of their projects. Dave Lefebure, Tania Demchuk and Jay Fredericks reviewed an early draft and George Owsiacski's skill in formatting improved the final product.