

NORTH-CENTRAL REGION

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SUMMARY AND TRENDS

The North-Central Region was a hotbed of mineral exploration in 2007, with major increases over 2006 with respect to the number of significant projects, drilling activity, and expenditures. The principal focus of interest continued to be porphyry copper-gold prospects in the Quesnel and eastern Stikine terranes. In addition to porphyries, exploration targets included mesothermal and epithermal vein deposits in the Barkerville, Quesnel and Stikine terranes; and sedimentary-exhalative polymetallic deposits and a carbonatite-hosted deposit in the Foreland Belt.

In June 2007 Geoscience BC announced its **QUEST (Quesnellia Exploration Strategy)** program, a regional geophysics/geochemistry survey covering much of the Quesnel Terrane from Williams Lake to west of Mackenzie. Within two months of the announcement some 438 000 ha of new mineral tenure had been acquired. Interest in mineral exploration and development was so high throughout the region, however, that in some cases companies found it difficult to obtain appropriate drilling equipment and/or experienced crews, and in some cases professional staff; and commonly experienced long delays in receiving assay results.

Exploration expenditures increased for the eighth consecutive year, and at an estimated \$94.6 million were slightly more than double the 2006 amount. Likewise, exploration drilling, at 302 600 m, was about 70 per cent higher than the 2006 figure (Figures 3.1, 3.2).

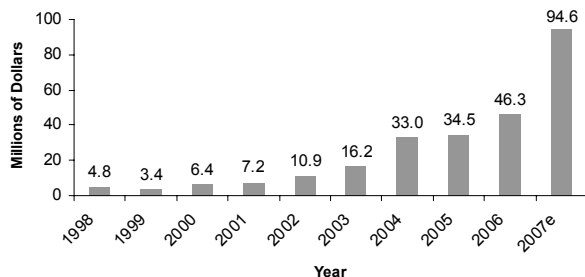


Figure 3.1. Annual exploration expenditures, North-Central Region.

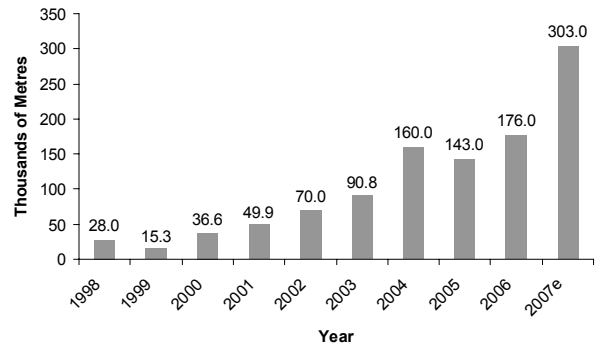


Figure 3.2. Annual Exploration Drilling, North-Central Region.

Exploration highlights, in alphabetical order, included:

- intensive diamond drilling on the Akie zinc-lead-silver sedimentary exhalative prospect in the Gataga-Kechika Trough area;
- an encouraging discovery of a deep gold-copper porphyry deposit at the Brenda property in the Toodoggone Camp;
- major drilling program at the Chu porphyry molybdenum prospect to define the extent of the mineralized zone;
- a very active drilling program on the Gibraltar mining lease with the aim of further extending reserves;
- a major drilling program in the Giscome area to define a limestone resource;
- an extensive drilling and geophysical exploration program on the Orus and Alta zones in the Kemess East area;
- continuation of a systematic drilling program to delineate alkaline porphyry mineralization at Kwanika;
- drilling at the Mount Milligan property in advance of competing a feasibility study of the project;
- extensive drilling in and around the Mount Polley mine aimed at extending reserves;

- extensive drilling and geophysics at Nithi Mountain to define the porphyry molybdenum deposit there, especially in the “Gamma zone”;
- extensive underground exploration of the North and West zones at the QR mine;
- systematic drilling at Spanish Mountain to define the “sediment-hosted vein” gold deposit there;
- discovery and exploration of the “Southeast zone” at the Woodjam copper-silver porphyry prospect.

Production continued from the three open pit metal mines in the Region – Gibraltar, Mount Polley and Kemess – with all three enjoying a productive and profitable year. In November 2007, however, Northgate Minerals Corp “wrote down” its investment in exploring

and developing Kemess North after a joint Canada-BC Review Panel concluded that “development of the...Kemess North Project in its present form would not be in the public interest.”

In late November 2007 Cross Lake Minerals’ QR mine began full production from its gold skarn deposit near Likely. Initial production is from two existing open pits, with additional production to be underground. The Shasta underground gold mine in the Toodoggone area did not process any ore in 2007, but preparations were well underway for production to begin again in 2008.

Estimated production and reserves of operating mines are provided in Table 3.1. Locations of mines and exploration projects discussed in this report and considered to be of regional significance are shown in Figure 3.3.

TABLE 3.1. FORECAST MINE PRODUCTION, NORTH-CENTRAL REGION, 2007

Mine	Operator	Mine Workforce	Forecast Production (tonnes or kilograms)	Proven and Probable Reserves (effective date)
Metals				
Mount Polley	Imperial Metals Corp	~350	25 million kg Cu, 1560 kg Au, 12 600 kg Ag	59.9 million tonnes grading 0.36% Cu, 0.27 g/t Au, 0.73 g/t Ag (January 2007)
Gibraltar	Taseko Mines Ltd	~300	23.5 million kg Cu 263 100 kg Mo (fy ending 30 Sept.)	384 million tonnes proven grading 0.31% Cu, 0.009% Mo (September 2007)
QR	Cross Lake Minerals Ltd	~45	At start of production	356 000 tonnes grading 5.7 g/t Au (September 2007)
Kemess south	Northgate Minerals Corp	~400	7825 kg Au, 31 200 tonnes Cu	67.3 million tonnes (May 2007)
Industrial Minerals				
Giscome	Pacific Lime Products Ltd	2 (seasonal)		
Nazko	Lightweight Advanced Volcanic Aggregates Inc	5 (seasonal)		44 million tonnes "proven resource"
Hunterstone	Hunterstone Quarries	~2 (seasonal)		
Giscome	Canadian National Railway Company	~5 (seasonal)		

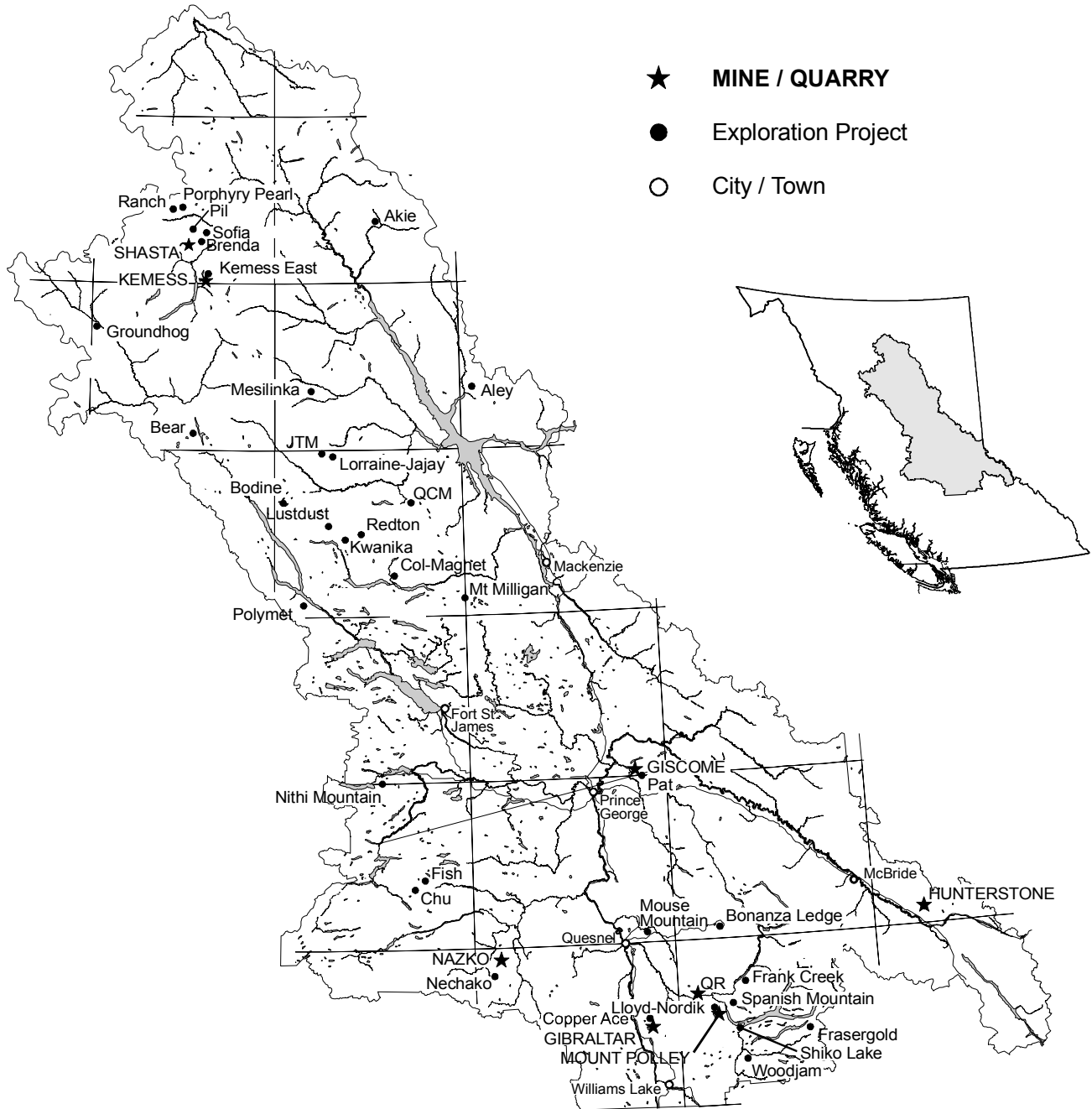


Figure 3.3. Operating mines, major exploration projects and selected smaller projects, North-Central Region, 2007.

MINES AND QUARRIES

METAL MINES

Imperial Metals Corporation's **Mount Polley** alkalic porphyry copper-gold mine, located west of the town of Likely and about 56 km northeast of Williams Lake, increased production in 2007 by about 20 per cent over 2006, with an expected output of 25 million kg of copper, 1560 kg of gold, and 12 600 kg of silver. Total proven and probable reserves as of January 1, 2007 were 59.9 million tonnes grading 0.36% Cu, 0.27 g/t Au and 0.73 g/t Ag – an increase of 18.9 million tonnes over the January 1, 2006 estimate. This increase extended mine life to May, 2015. About 32 000 m of on-lease diamond drilling in 2007 (See "Exploration Highlights," below) may allow a further extension. Production was blended from the Bell and Wight Pits, with the Wight Pit providing about 50% of the mill feed. With about 6 million tonnes remaining in the Wight Pit and 7.3 million tonnes in the Bell, both should be exhausted by the end of 2008. Stripping has begun on the Springer zone, with at least minor ore production expected before the end of 2007, and large scale production beginning early in 2008.

A 200 000 tonne test heap was operated in 2007 to prove the feasibility of leaching metal from the copper oxide cap that covers the Springer pit sulphide mineralization (Figure 3.4). Copper recoveries are expected to be in the range of 85 per cent.

The **Gibraltar** mine, owned and operated by Taseko Mines Ltd, is located about 19 km east of McLeese Lake. Production is from a copper-molybdenum calcalkalic porphyry, the so-called "mine series tonalite" (Figure 3.5). In September 2007 Taseko announced an ore reserve increase to 348 million tonnes grading 0.31% Cu and 0.009% Mo, which could provide mill feed for the next 16 years. During 2007, the company undertook a major on-lease exploration program of about 44 000 m of diamond drilling with the goal of adding to the mine's reserve base.

The Solvent Extraction and Electrowinning plant at Gibraltar was refurbished by the end of 2006, and by mid-2007 about 590 000 kg of copper cathode had been produced. The facility has the capability of producing over 3 million kg annually from oxidized copper ore stockpiled on the property.

A first phase of mill expansion was to be completed by the end of 2007, which will enable throughput to reach 46 000 tonnes/day. A further expansion to 55 000 tonnes/day is planned for 2008. At that point Gibraltar's annual production is expected to be 54 million kg of copper and 650 000 kg of molybdenum. Concentrate is shipped by rail through the port of North Vancouver.

A gold pour in late November 2007 at Cross Lake Minerals Ltd's **QR** mine marked the start of full



Figure 3.4. Test heap leaching area at the Mount Polley mine.



Figure 3.5. Ore truck at the Gibraltar mine.

production from the operation. The Cross Lake project, located about 58 km southeast of Quesnel and a few km north of the Mount Polley mine, involved reactivating an open pit and underground mine that had been operated by Kinross Gold Corp until 1998. An operating permit for the refurbished mine was received in September 2006, and the mill was recommissioned in September 2007 (Figure 3.6). Initial production is from the new Northwest pit to be followed by the West pit, and the intent is to mine from underground on the West and Midwest zones beginning in about April 2008. Startup reserves of about 356 000 tonnes at 5.7 g/t Au allow for a mine life of about two years, but the company is optimistic that this can be extended.

Northgate Minerals Corp continued operations on its **Kemess** copper-gold mine, located in the Toodoggone area about 300 km northwest of Mackenzie. The East and West lobes of the Kemess South open pit are developed in a porphyry deposit within the late Triassic quartz monzonite "Maple Leaf" pluton, and encounter uniform grades throughout (Figure 3.7). As of May 2007, total



Figure 3.6. Crusher and Mill at the QR mine.



Figure 3.8. Ball mill in operation in the Kemess mine concentrator.



Figure 3.7. Kemess South mine area.



Figure 3.9. Screening operation at the Nazko quarry.

reserves stood at 67.3 million tonnes, and projected 2007 production is 7200 kg gold and 29 400 million kg copper. About 50 million tonnes per year are mined to feed a 52 000 tonne/day mill (Figure 3.8), and the projected mine life is to 4th quarter 2010. Production forecasts for 4th quarter 2007 were reduced by the need to realign a portion of the ramp system in the west end of the Kemess South pit. Realignment is expected to be complete in January 2008, and the milling schedule restored.

Hopes for extending mine life had been pinned on development of the **Kemess North** deposit, located a few kilometres away across a small mountain, and in 2007 concentrated exploration activity on the nearby Kemess East area. In September 2007 the Canada-BC Joint Review Panel concluded that “development of the...Kemess North Project in its present form would not be in the public interest.” Northgate had proposed to dispose of tailings from Kemess North in nearby Duncan (Amazay) Lake, and this the panel had found especially problematic even though it met the formal environmental requirements. Subsequently, and without waiting for a Ministerial response to the recommendation, Northgate

suspended exploration activity and wrote down its investment in the project. Kemess North proven and probable reserves, as of the end of 2006, were 423.9 million tonnes grading 0.30 g/t Au and 0.16% Cu.

QUARRIES

During 2007 Lightweight Advanced Volcanic Aggregates Inc reinitiated small-scale production of lightweight aggregate and scoria from its **Nazko** quarry about 100 km west of Quesnel. Up to 50 000 tonnes/yr have been removed historically from this, the only quarry of its type in Canada, with the product used as fill for construction, concrete blocks, barbecue rock and landscaping (Figure 3.9). The volcanic materials being extracted are the product of an eruption that took place about 7200 years ago. In October 2007, renewed minor seismic activity took place in the area, indicating magmatic activity at depths in excess of 20 km. Renewed volcanic activity might be in the area’s distant future.

Chemical Lime Company of Canada Inc operates a small limestone quarry about 5 km southeast of **Giscome**. The 2007 year appears to have been inactive for Chemical Lime, with any shipments being from stockpiled material. Within the community of Giscome itself, Canadian National Railway Company continued production from its **Giscome** volcanic rock quarry to supply road ballast requirements for maintenance of its main line and spur line. **Hunterstone** Quarries, near Valemont, continued low-level production of talus-derived quartzite dimension stone for specialty construction.

EXPLORATION HIGHLIGHTS

Significant exploration projects in the North-Central Region are listed in Table 3.2. The compilation, from which the tabulated information and the information in the text was derived, was assembled prior to the end of the calendar year and contains estimates as well as hard data. There were 37 major exploration projects (in excess of about \$500 000 in expenditure) – a substantial increase from 2006 – and among that group, eighteen had expenditures of \$1 000 000 more. Table 3.2 offers a more comprehensive summary of exploration activity.

TABLE 3.2. SIGNIFICANT EXPLORATION PROJECTS, NORTH-CENTRAL REGION, 2007

Property	Operator	MINFILE (Map ref.)	Commodity	Deposit Type	Work Program
Ace, Frank & SCR	Barker Minerals Ltd	093A 142, 152, 203	Cu-Zn-Pb- Au-Ag	VMS; Mesothermal Vein	TR, DD (~1000 m)
Addie 2	Dajin Resources Corp	(093A.043,044)	Au	Mesothermal Vein	A, TR
Akie	Mantle Resources Inc	094F 031	Zn-Pb-Ag	Sedimentary Exhalative	G, DD (15 000 m)
Aley	Taseko Mines Ltd	094B 027	Nb	Carbonatite	A, DD (1379 m)
Axelgold	Caracle Creek Int'l Consulting Ltd	093N 196	Au-Ag-Sb-Cu	Epithermal Vein	G, GC
Baldy	NovaGold Resources Inc	(093G.075, 065,066)	Cu-Au	Porphyry	DD (700 m)
Bear	Imperial Metals Corp	094D 068	Mo-Cu	Porphyry	IP, DD (946 m)
Black Pete	Sable Resources Ltd	(094E.035)	Au-Cu	Vein	A, Tr
Bonanza Ledge (and Mucho Oro) (Incl. Cariboo Gold Quartz)	International Wayside Gold Mines Ltd	093H 019	Au	Mesothermal Vein	PF, A, G, DD (787 m)
Brenda	Canasil Resources Inc	094E 147	Au-Cu	Porphyry	A, IP, DD (1708 m)
Burns Mountain	Gemco Minerals Inc	(093H.002, 003)	Au	Mesothermal Vein	A, DD (~1000 m)
Captain	Orestone Mining Corp	(093J/13)	Cu-Au	Porphyry	IP, MG, GC
Carp	Geoinformatics Exploration Canada Inc	093J.072	Cu-Au	Porphyry	IP
Christina Jean/ Wildcat	Terrane Metals Corp	(093O,001)	Au-Cu	Porphyry	DD (1808 m)
Chu	TTM Resources Ltd	093F 001	Mo	Porphyry	A, MG, IP, GC, DD (6131 m)
Chuchi	High Ridge Resources Ltd	093N 159	Cu-Au	Porphyry	A, G, Tr, GC, IP, DD (~2000 m)
Clisbako	Global Geological Services Ltd	093C 016	Au-Ag	Epithermal Vein	Tr, IP
COL-Magnet	Solomon Resources Ltd	093N 101	Cu-Au	Porphyry	G, Tr, Gc, DD (~3500 m)
Copper Ace	Copper Ridge Explorations Inc	093B 062	Cu-Mo	Calc-Alkalic Porphyry	A, GC, IP, DD (3219 m)
Cowtrail	Dajin Resources Corp	(093A.043, 044)	Cu-Au	Porphyry	A, DD (~1000 m)

TABLE 3.2. CONTINUED

Property	Operator	MINFILE (Map ref.)	Commodity	Deposit Type	Work Program
Craze Creek	Golden Cariboo Resources Ltd	093H 003	Au	Mesothermal Vein	A, DD (~1000 m)
Falls Creek	Imperial Metals Corp	094D 123	Ag-Pb-Zn	Vein, Dissemination	G, GC, DD (1278 m)
Fish	Conwest Explorations Inc	(093F.028,037-039, 047-049, 056-057, 066)	Cu-Au	Porphyry	IP, 3D-IP
Fogmess	BC Gold Corp	094E 070	Cu-Au	Porphyry	A, IP
Fran	Yankee Hat Minerals Ltd	(093K.099)	Au-Cu	Alkalic Porphyry	TR, G, IP, GC, DD (~1000 m)
Frank Creek/SCR	Barker Minerals Ltd	093A 152	Cu-Zn	Volcanogenic Massive Sulphide	TR
Frasergold	Hawthorne Gold Corp	093A 150	Au	Mesothermal (?) Vein	G, Tr, GP, DD (~5000 m)
Germansen and Valteau	Serengeti Minerals Inc	(093N.046)	Cu-Au	Porphyry	IP
Gibraltar	Taseko Mines Ltd	093B 005-008, 011-013	Cu-Mo	Calk-alkalic Porphyry	DD (43 677 m)
Hepburn Lake	Acrex Ventures Ltd	(093A.053, 054,063)	Au	Mesothermal Vein	TR, DD (2446 m)
Hixon Creek	Cayenne Gold Mines Ltd	(093G.048)	Au-Ag	Vein	DD (596 m)
Indata	Eastfield Resources Ltd	093N 192	Au-Ag	Vein	GC, Tr
Jan/Tam/Misty	Teck Cominco Ltd	093N 001, 093	Cu-Au	Alkalic Porphyry	DD (~5000 m)
Jean	Newstrike Resources Ltd	093N 079	Cu-Mo	Porphyry	DD (~1500 m)
Kangaroo Gold	Barker Minerals Ltd	(093A.062)	Au	Vein and Porphyry	IP, DD (2008 m)
Kemess Ora & Altus Zones	Northgate Minerals Corp	(094E.006, 007)	Au-Cu	Porphyry	G, GC, 3D-IP, DD (18 133 m)
Kwanika	Serengeti Resources Inc	093N 018, 073	Cu-Au-Mo	Alkalic Porphyry	A, DD (~22 000 m)
Lloyd-Nordik	Valley High Ventures Ltd	093A 160	Cu-Au	Porphyry	A, DD (~3000 m)
Lorraine-Jajay	Teck Cominco Ltd	093N 002,066, 224	Cu-Au	Porphyry	G, IP, MG
Lustdust	Alpha Gold Corp	093N 008, 009	Au-Ag-Cu-Zn-Pb	Skarn, Manto, Mesothermal Vein	A, G, GC, IP, DD (2757 m)
Mar1 - Mar 4	Bullion Gold Corp	(093A.063)	Au	Vein	G, GC, Mg, DD (~2000 m)
Mesilinka	Geoinformatics Exploration Canada Inc	094C 015, 041, 042, 142	Cu-Au-Hg	Sedimentary-Exhalative	G, IP, DD (3000 m)
Mount Milligan	Terrane Metals Corp	093N 191,194	Au-Cu	Alkalic Porphyry	EN, PF, CD, DD (11 444 m)
Mount Polley	Imperial Metals Corp	093A 008, 164	Cu-Au-Ag	Alkalic Porphyry	G, TR, Mg, DD (32 000 m)
Mouse Mountain	Richfield Ventures Corp	093G 003	Cu-Au	Alkalic Porphyry	A, DD (1000 m)
Nechako and Alexis	Goldmember Ventures Corp	(093B.081)	Au-Ag	Epithermal Vein	A, 3D-IP, GC

TABLE 3.2. CONTINUED

Property	Operator	MINFILE (Map ref.)	Commodity	Deposit Type	Work Program
Nighthawk	Geoinformatics Exploration Canada Inc	(093N.016, 026)	Cu-Au	Porphyry	G, GC, IP, DD (650 m)
Nithi Mountain	Leeward Capital Corp	093F 006-016	Mo	Calk-Alkalic Porphyry	A, GC, GP, DD (26 000 m)
(Pat) Giscome	Graymont Western Canada Inc	093J 025	Limestone	Sedimentary	DD (~7000 m)
Pil (Atlas East)	Finlay Minerals Ltd	094E 024	Cu-Au	Porphyry	GC, IP, MG, GP, DD (2410 m)
Pine	Cascadero Copper Corp	094E 016	Cu-Au-Mo	Porphyry	G, DD (1000 m)
Polymet/Bodine	Amarc Resources Ltd	(093N.002)	Au-Cu	Porphyry	GC, IP, MG
Porphyry Pearl	Starfire Minerals Ltd	094E 084	Au-Cu	Porphyry	DD (1798 m)
Prosperine	International Wayside Gold Mines Ltd	(093H.003)	Au	Vein	DD (1267 m)
QCM	Equity Engineering Ltd	(093N.067, 068, 077, 078)	Cu-Au	Porphyry	GC, DD (1400 m)
QR	Cross Lake Minerals Ltd	093A 121	Au	Skarn	UG (1700 m), DD (2000 m)
QUEST (<u>Q</u> uesnellia <u>E</u> xploration <u>S</u> trategy)	Geoscience BC	N/A	Regional Survey	N/A	GC, AB-EM, Gravity
Quest Regional Survey	Serengeti Minerals Inc/Fjordland Exploration Inc	N/A	Regional survey	N/A	AB-MG
Ranch	Christopher James Gold Corp	094E 079, 085	Au	Epithermal vein	A, AB-MG, IP, DD (7193 m)
Shasta	Sable Resources Ltd	094E 050	Au-Ag	Epithermal Vein	UG (300 m), DD (2216 m)
Shiko Lake	NovaGold Resources Inc	093A 058	Cu-Au	Alkalic Porphyry	A, IP, DD (2295 m)
Sickle-Sofia	BC Gold Corp	094E 237, 238	Cu-Au	Porphyry	G, IP, DD (1514 m)
Spanish Mountain	Skygold Ventures Ltd	093A 043	Au	Mesothermal Vein	A, GC, DD (35 000 m)
Swan	Golden Dawn Minerals Ltd	(094E.035)	Ag	Vein	IP, DD (1817 m)
Takla-Redton	Geoinformatics Exploration Canada Ltd	(093N.025- 063)	Cu	Porphyry	G,GC, IP
Weedon	Geoinformatics Exploration Canada Ltd	(093J.055,56)	Cu	Porphyry	IP, DD (1000 m)
Woodjam	Fjordland Exploration Inc/Cariboo Rose Resources Ltd	093A 078	Au-Cu	Calc-Alkalic Porphyry	A, IP, MG, DD (3000 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).

TOODOGGONE - KEMESS AREA

In 2007 Northgate Minerals Corporation concentrated its exploration in the **Kemess East** area (Orus and Alta zones) close by the Kemess North and the Kemess South deposits. The company had completed 18 132 m of diamond drilling and 31 km of 3D-IP survey (Figure 3.10) before activities were suspended in November.

Canasil Resources Inc had very positive results from drilling at its **Brenda** project, located about 25 km northwest of the Kemess mine. Activities in 2007 included a 3D-IP survey and 1708 m of diamond drilling. In previous attempts, relatively shallow boreholes exploring this potential gold-copper porphyry deposit had bottomed in barren monzonite sills. Two of the deeper 2007 holes, drilled to depths of 530 and 562 m respectively, intersected Au-Cu mineralization open at depth. The average grade of 3 intercepts below 450 metres, totalling 92.84 m, was 0.68 g/t Au and 0.116% Cu; and the geophysical survey returned “strong anomalies.” Copper and gold mineralization is in quartz-magnetite stockworks in strongly potassically-altered volcanic rocks.

Sable Resources Ltd continued re-development of its **Shasta** underground gold mine about 30 km north of the Kemess South mine, tapping a series of structurally-controlled quartz-carbonate breccia veins. About 500 tonnes of ore were stockpiled and the goal is to resume shipments in 2008, making use of the Baker mill located about 11 km distant. Earlier production was by open pit in 1989, moving underground in 1990, and then by open pit in 2004-05; the earlier production yielded ore grades of 7.8 g/t Au and 530 g/t Ag. Current underground development is in the Creek zone with 500 m of underground development planned, while surface drilling targeted the East zone, Jock zone and O zone.

Finlay Minerals Ltd continued exploration of its **Pil** property, concentrating on the **Atlas East** epithermal gold-silver target. Soil and rock geochemistry, and an IP program, provided context to a 7 hole 2410 m drilling program, the results of which have not yet been released.

Christopher James Gold Corp undertook an extensive program on its 9300 ha **Ranch** high-sulphidation epithermal gold prospect, located about 310 km north of Smithers, concentrating on the Bonanza zone (Figure 3.11). Forty-five boreholes totalling 7193 m were drilled, intersecting impressive near-surface grades in an area about 300 m long by 20 m wide. Hole A07-26 returned 6.88 g/t Au over a 6 m interval. Gold grades below depths of about 60 m were insignificant, however.

During 2007 Starfire Minerals Ltd acquired the **Porphyry Pearl** property, located about 55 km north of the Kemess South mine, from Arnex Resources Ltd. A 1798 m drill program was completed, but results have not as yet been released.



Figure 3.10. Drilling on the Altus Zone, Kemess East.



Figure 3.11. Core splitting at the Ranch project.

GATAGA - KECHIKA TROUGH

Mantle Resources Inc acquired Ecstall Mining Corp in February 2007, and with it the **Akie** Sedex lead-zinc-silver project, located about 250 km northeast of Mackenzie and 50 km north of the north end of Williston Lake. The property is underlain by folded shales and siltstones of the Upper Devonian Gunsteel Formation. The mineralized zone is up to 30 m thick and is characterized by finely laminated sphalerite, galena and pyrite within a thicker pyrite-barite unit. A previous operator (Inmet) estimated the core zone resource at 50 million tonnes grading 8.52% Zn, 1.4% Pb, and 13.2 g/t Au. The 2007 program consisted of 23 drillholes totalling about 15 000 m (Figure 3.12).

Taseko Mines Ltd acquired Aley Corp in November 2007. Part of the package was the **Aley** carbonatite-hosted niobium prospect, located east of Ospika Arm, Williston Lake. Previous exploration drilling had indicated between 20 and 30 million tonnes of mineralized rock with 18 of 20 holes having intersections



Figure 3.12. Drilling platform at the Akie project.

of greater than 8 m in length averaging 0.75% Nb₂O₅. In all, 11 boreholes totalling 1379 m were completed in the 2007 program (Figure 3.13). For 2008, Taseko plans an accelerated drilling and engineering work program aimed at advancing the project towards a feasibility study.

OMINECA MOUNTAINS

Serengeti Resources Inc completed some 22 000 m of diamond drilling on 50 m centres and averaging 500-600 m in depth, to delineate further its **Kwanika** porphyry copper-gold-molybdenum deposit in the Quesnel Terrane, about 40 km east of Takla Landing and 85 km north of Mount Milligan. The 2007 results released to date show impressive copper-gold grades. For example, borehole K-07-29 intersected 48.6 m of 0.75% Cu and 2.5 g/t Au; K-07-28 intersected 322 m of 0.40% Cu and 0.40 g/t Au (Figure 3.14). A supergene copper zone grading 0.76% Cu, 0.21g/t Au extended over 119.6 m. The mineralized system is oriented in a north-northwest direction for up to 750 by 200 m across, and is up to 500 m deep.

Alpha Gold Corp's **Lustdust** property is located about 5 km north of Kwanika and is a phyllite-hosted skarn, manto, mesothermal vein gold-silver-copper-zinc-lead deposit. The claim group is underlain by weakly metamorphosed limestones, siltstones and mafic tuffs of the Carboniferous to Jurassic Cache Creek Group, that have been folded and intruded by the Eocene Glover



Figure 3.13. Heli-supported drilling at the Aley project.



Figure 3.14. Boxes of split core at Serengeti's Kwanika camp.

stock and related dikes and sills. The complex skarn, replacement zone, and vein deposits appear to be related to a deeper-seated mineralized intrusive stock. Previous results in the skarn zone showed highly encouraging intersections. In 2007, about 50 line km of soil geochemistry and IP, mapping, and 11 boreholes totalling about 2757 m were completed. A NI 43-101 resource estimate is expected early in 2008.

Teck Cominco Ltd continued exploration on its **Lorraine-Jajay** and **Jan/Tam Misty** prospects in the Swannell Ranges northwest of Germansen Landing. Exploration targets are alkalic copper-gold deposits in the Duckling Creek Syenite Complex, with mineralization typically of disseminated chalcopyrite and lesser bornite in the syenitic and biotite pyroxenite phases. An extensive drilling program concentrated on testing Jan/Tam Misty mineralization, with a broader review of Lorraine-Jajay including about 24 km of IP and magnetics.

Late in 2007 Canadian Gold Hunter Corp began a 1400 m, 6 borehole, along with soil and silt sampling, program, on its large, low-grade gold system at **Manson Creek (QCM)** in the Germansen area. The intent is to follow-up encouraging results from the 2004, 2005 and 2006 programs, which included 141 m grading 0.78 g/t Au in hole 04-003; 70 m grading 0.69 g/t Au in hole 04-005; and 137 m grading 0.58 g/t Au in hole 05-007.

Geoinformatics Exploration Canada Inc undertook extensive exploration on its **Mesilinka**, **Takla-Redton**, **Weedon**, and **Nighthawk** properties, extending north in the Quesnel Terrane from the Northern Nechako Plateau in the Omineca Mountains area and prospective for copper-gold porphyry-type deposits. The 2007 program consisted of regional reconnaissance and mapping, soil geochemistry, and drilling especially on the Mesilinka prospect north of Tchentlo Lake.

Amarc Resources Ltd undertook an extensive program of silt and soil sampling, IP, and airborne magnetics on its **Polymet** and **Bodine** properties, located southwest of Leo Creek near the south end of Takla Lake,

and about 25 km north of Takla Landing respectively. No results have been released as of yet.

Imperial Metals' **Bear** project (porphyry molybdenum-copper), about 140 km north of Smithers, saw the completion of just under 1000 m of helicopter-supported drilling, the results of which have not yet been reported.

NORTHERN NECHAKO PLATEAU

Terrane Metals Corp's **Mount Milligan** project, located about 155 km northwest of Prince George, continued to be the main focus of interest in the Northern Nechako Plateau. The deposit is hosted by the Witch Lake Succession, and is characterized by augite-phyric volcaniclastic and coeval basaltic andesites with subordinate epiclastic beds. These in turn are intruded by the Mount Milligan Intrusive Complex of coeval Takla and post-Takla monzonites (primarily). The property comprises an advanced stage alkalic porphyry copper-gold deposit with an open pit resource of 122 000 kg gold and 680 million kg copper and a projected mine life of 14.5 years (Figure 3.15). In October 2007, the company announced a preliminary economic assessment that proposed an average annual production of 7748 kg gold and 44 000 tonnes copper for the first six years of a 14.5 year mine life. Activities on the property in 2007 included 11 444 m of drilling, including condemnation drilling, in advance of a feasibility study which will be completed in early 2008.

Solomon Resources Ltd's **COL-Magnet** copper-gold porphyry property covers a total of 30 km of highly prospective ground within the Hogem Intrusive Complex of the Quesnel Terrane, and is located about 35 km southeast of Serengeti's Kwanika deposit and just north of the east end of Tchentlo Lake. Activities in 2007 included an extensive program of geological mapping, soil geochemistry, trenching and drilling. Previous results from trenching and drilling had shown encouraging copper values.



Figure 3.15. Access roads to drill pads at Mt. Milligan.

SOUTHERN NECHAKO PLATEAU

Exploration was very active in 2007 on the **Nithi Mountain** porphyry molybdenum deposit, under development by Leeward Capital Corp. The deposit is located south of the community of Fraser Lake, and about 18 km east of the Endako molybdenum mine. Molybdenite mineralization at Nithi occurs in a potassically-altered quartz monzonite (Nithi Mountain Phase) of the late Jurassic to Early Cretaceous Francois Lake plutonic suite. The several mineralized zones cover an area about 4 by 2 km and are at least 200 m in depth. In 2007, the company completed about 103 boreholes totalling 26 000 m (Figure 3.16). Ninety-three of these were completed on the Gamma zone, seven on the Sigma, and three on the Delta. Leeward also completed a soil sampling program, airborne radiation/magnetics, and a Lidar survey of the property. Based on results to date, the Nithi deposit is in the range of 100 to 150 million tonnes grading 0.06% MoS₂. More intensive drilling is planned to continue in 2008.

Another molybdenum deposit, TTM Resources Inc's **Chu** prospect, is located about 75 km southeast of the Endako mine and 80 km south-southwest of the community of Vanderhoof. The deposit comprises an area of molybdenite mineralized sedimentary rocks adjacent to a granodiorite intrusive stock, with molybdenum showing as a quartz – molybdenite veinlet stockwork in hornfelsed sandstone. The mineralized zone extends for about 2 km in a northwest-southeast direction, is about 300 m wide, and is open at depth below 650 m. During 2007, 27 boreholes were completed totalling about 15 000 m, and also extensive IP and soil surveys. A formal resource estimate is expected to be released early in the New Year. One previous report (not NI 43-101 compliant) described a resource "...well in excess of 50 million tonnes with grade 0.072 to 0.096% Mo."

Conwest Explorations Inc undertook very extensive IP and 3D-IP surveys on an extensive area east of Knewstubb Lake, collectively referred-to as the **Fish**



Figure 3.16. Jim Davis, Brian Grant and Sheila Jonnes examine Nithi Mountain core.

property, in the hope of identifying the geophysical signature of a porphyry system.

Goldmember Ventures Corp followed-up earlier work on epithermal gold-silver prospects with its **Nechako** and **Alexis** projects south of Nazko. Close to 250 line km of 3D-IP, were completed – three grids on Nechako and one on Alexis – and a mobile metal ion geochemical survey was initiated on Nechako.

PRINCE GEORGE AND MACKENZIE AREAS

Graymont Western Canada Inc undertook an extensive drilling program of about 7000 m – on a grid pattern with holes to about 300 m depths – to define a large, high-purity limestone deposit on its Pat group of claims about 8 km southeast of the community of Giscome (Figure 3.17). A much smaller program was completed at an alternate location near Hansard, a few kilometres to the northeast. The company's intent was to develop lime kilns at the community of Giscome, initially burning 600 000 tonnes/yr of limestone to produce 200 000 tonnes/yr of lime with production intended for 2010. Graymont had begun technology studies, environmental baseline studies, land agreements and consultations to move the project forward. In December 2007, however, the Company decided to suspend its consultation and environmental assessment process pending clarification of the provincial government's regulatory intent regarding the production of greenhouse gases (because significant amounts of CO₂ are generated in the production of lime).

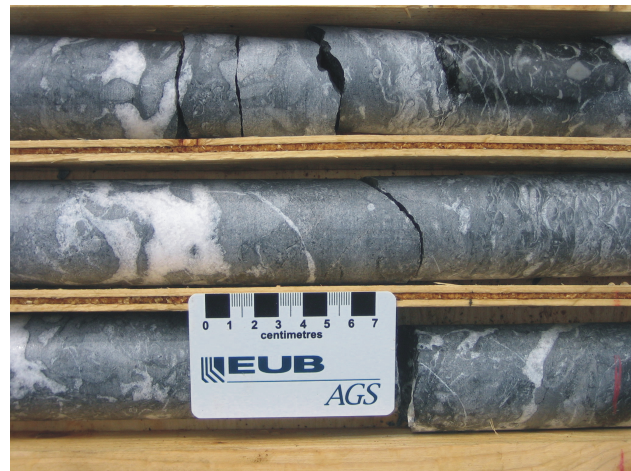


Figure 3.17. Stromatoperoid boundstone in core from the Pat (Giscome) project (courtesy Graymont).

QUESNEL AND WELLS-BARKERVILLE AREAS

Richfield Ventures Corp delayed exploration activity on its **Mouse Mountain** alkalic porphyry copper-gold property, located about 5 km west of Quesnel, until late October and the completion of a planned amalgamation

with Oak Point Capital Corp. The property encompasses mineral occurrences distributed along a 1500 m, north-northwest trending area in which have been defined, from north to south, the Rainbow, Valentine and High-Grade zones. Disseminated and fracture-controlled pyrite and chalcopyrite mineralization is typical, with malachite and azurite in weakly to moderately potassic and silica-altered Nicola Group volcanic rocks. By year-end about 1000 m of a planned 5000 m drilling program had been completed, with the remainder to be drilled in 2008.

In the Wells-Barkerville area, International Wayside Gold Mines Ltd continued work on its **Bonanza Ledge** gold deposit, including the **Mucho Oro** zone along strike, on its **Cariboo Gold Quartz** property.

LIKELY - HORSEFLY AREA

Imperial Metals completed about 32 000 m of on-lease exploration drilling at its **Mount Polley** mine, supplementing geological mapping, trenching and a ground magnetic survey (Figure 3.18). The drilling focus was on the Pond, Skid, Green (beneath the Wight Pit) and Springer zones, and many of the results reported to date were encouraging. Hole PZ07-06 in the Pond zone returned 145.9 m grading 0.52% Cu, 0.31 g/t Au and 7.54 ppm Ag, raising the priority of the zone for a more intensive drilling campaign. In the Springer zone, hole SD07-20 intersected 454.2 m grading 0.44% Cu and 0.30 g/t Au, while other holes encountered higher grades over shorter distances. The drilling extended the Springer zone mineralization significantly to the south. Immediately to the north and east of the Mount Polley property, Valley High Ventures Ltd completed a drilling project on the **Boundary** and **Frypan** zones on its **Lloyd-Nordik** property.

Exploration to extend reserves at Cross Lake Minerals Ltd's **QR** mine, located near Likely just north of the Quesnel River, were ongoing in 2007. An exploration adit in the West zone was developed to about 400 m by



Figure 3.18. Core Storage at the Mount Polley mine site.

year-end, and is to be followed by a fan-drilling program. Mineralization occurs in propylitically-altered basaltic fragmental rocks, primarily, of the Late Triassic Nicola Group associated with an Early Jurassic diorite stock.

Exploration at the **Spanish Mountain** bulk tonnage gold property of Skygold Ventures Ltd (70%) and Wildrose Resources Ltd (30%) continued at a high level. Gold mineralization is found as a “sediment-hosted vein” deposit in graphitic argillite-mudstone which has undergone complex deformation locally. During 2007, a long-term operations base was constructed just outside Likely, and about 120 drillholes comprising 26 000 m were completed on the Central Main and Placer zones (Figure 3.19). About 20 km of soil geochemistry was completed as well. In December 2007, Skygold and Wildrose agreed to a merger whereby Skygold would acquire a 100% interest in the property.

Just south of Quesnel Lake, NovaGold Resources Inc explored a porphyry-type target on its **Shiko Lake** property, completing 2295 m of diamond drilling in 11 boreholes and 12 km of deep-sensing IP.

Fjordland Exploration Inc, with its 40% partner Cariboo Rose Resources Ltd, concentrated its 2007 activities on the **Megabuck zone** and the newly-discovered **Southeast zone** of its **Woodjam** copper-gold porphyry prospect, located about 10 km south of the village of Horsefly. Ten boreholes totalling about 3000 m (four in the Southeast Zone), and 100 km of IP exploration (which led to the discovery of the Southeast Zone), were completed. Results were favourable. Hole 07-73 in the Southeast zone, for example, returned values of 0.18% Cu and 0.0064% Mo over 243 m, including 0.27% Cu and 0.015% Mo over 66 m. The deposit remains open at depth. Mineralization is associated with a subvolcanic quartz monzonite intrusion, part of the Triassic-Early Jurassic Takomkane batholith.

Hawthorne Gold Corp continued work on its **Frasergold** property, in respect of which it entered into an agreement to acquire up to 60% interest from Eureka



Figure 3.19. An example of drill pad reclamation at Spanish Mountain.

Resources Inc. The prospect is located about 65 km east of Horsefly, along strike from Spanish Mountain, and is an orogenic lode gold deposit hosted within intensely-deformed Quesnel River Group phyllite. Particulate gold is described as occurring primarily in quartz segregations of stringers, veins, boudins and mullions. The deposit has been known since the early 1980s (Figure 3.20), and in 1991 James Askew Associates estimated a resource on the property of 6 million tonnes of mineralized material grading 1.7 g/t Au. In 2007, Hawthorne completed about 5000 m of diamond drilling on the site, and about 1300 km of airborne geophysics.



Figure 3.20. Frasergold portal.

MCLEESE LAKE AREA

Near McLeese Lake, Taseko Mines Ltd conducted extensive on-lease exploration at its **Gibraltar** mine. Some 148 boreholes totalling 43 677 m were completed, further defining the mineralized zones. While the base has been found in the other pits, Gibraltar East remains open at depth. Details have not as yet been released.

Meanwhile Copper Ridge Explorations Inc completed a 13-hole, 3219 m program to the north of the Gibraltar mine on its **Copper Ace** property adjacent to the mine lease area. Eleven of these boreholes intersected what Copper Ridge described as “sericitically altered Mine Series Tonalite with locally anomalous structurally controlled intersections of copper, molybdenum, zinc and gold mineralization,” the results being consistent with “the fringes of a larger body of possibly economic mineralization.”

REGIONAL PROJECTS

In June 2007, Geoscience BC announced its QUEST (Quesnellia Exploration Strategy) project to stimulate exploration activity in the forested area hardest-hit by the mountain pine beetle epidemic, an area which also is characterized by extensive and thick overburden cover.

This regional geophysics/geochemistry program covered some 40 000 square km of the Quesnel Terrane from Williams Lake to west of Mackenzie, and included airborne EM and gravity surveys, collection of 2000 lake and stream sediment samples and the re-analysis of 5000 previously-collected samples. By early January airborne and EM sampling programs were complete, and the airborne gravity survey was about 27% complete. EM results are expected to be made available in late January 2008, and the balance of the program in the spring or summer of 2008.

Fjordland Exploration Inc and Serengeti Resources Inc joined forces as equal partners to conduct a 70 000 line km airborne magnetic survey to coincide roughly with the Geoscience BC survey area and to provide supplementary information, specifically targeting 16 potential Cu-Au targets.

COAL EXPLORATION

Drilling and sampling on Westhawk Development Corp’s **Groundhog** anthracite coal project, west of Thutade Lake, was suspended for 2007 while the company negotiated an agreement with First Nations with interests in the area and completed a NI 43-101 report on the property. That report was released in August, and identified a speculative coal resource of between 154 and 168 million tonnes.

OUTLOOK FOR 2008

The level of exploration activity in the Region is expected to remain high in the context of high metal prices. Even though exploration in the Kemess mine area probably will be much-reduced, a positive feasibility study for Terrane’s Mount Milligan property will be a spur to exploration, and there are several highly prospective properties under development. Geoscience BC’s QUEST project may identify new targets for grassroots exploration.

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