

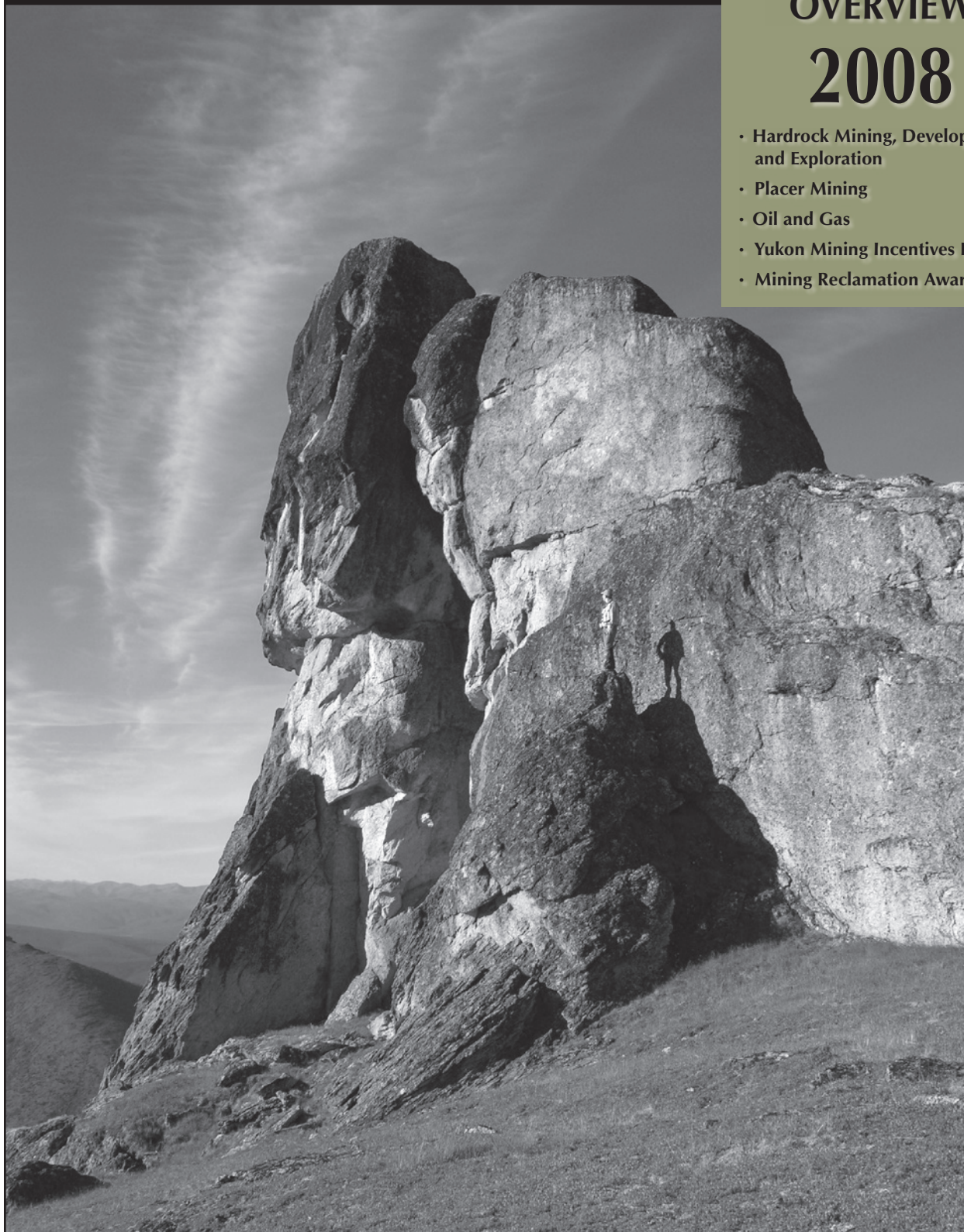
Energy, Mines and Resources • *Yukon Geological Survey*

# YUKON

## EXPLORATION & GEOLOGY OVERVIEW

# 2008

- Hardrock Mining, Development and Exploration
- Placer Mining
- Oil and Gas
- Yukon Mining Incentives Program
- Mining Reclamation Awards





# **YUKON**

## **EXPLORATION & GEOLOGY OVERVIEW**

# **2008**

Edited by  
L.H. Weston, L.R. Blackburn and  
L.L. Lewis

Yukon Geological Survey  
Energy, Mines and Resources  
Government of Yukon

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FRONT COVER PHOTOGRAPH: The mega-tors of Britton Ridge, east of Wellesley Lake, southwest Yukon. Photo by Lesley Dampier.



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# Prospector J.P. Ross

1948 TO 2008

***John Peter Ross, known among friends as J.P., died suddenly at his home in Whitehorse, Yukon in early May, 2008.***

J.P. was a Yukon resident for nearly 35 years. He was a dedicated member of the Yukon Prospectors' Association, where, at the time of his death, he was vice-president.

Before coming to the Yukon, he graduated from McGill University in 1970 with a Bachelor of Science in chemistry and a minor in biology. He began his Yukon career at the United Keno Hill Mines' mill at Elsa where he worked on five different occasions.

Inquisitive, he began exploring the northland as soon as he set foot in the Yukon. He read prodigiously and interviewed prospectors and miners who sparked his interest in pursuing independent mineral prospecting as a primary vocation in 1985. A smart business person, his new-found career began to flourish. In 1995, the Yukon Prospectors' Association selected John Peter Ross as Prospector of the Year. The award, based on a prospector's successes in uncovering new mineral discoveries, recognized his good fortune in finding the Killermun Lake gold property in the Ruby Range-Aishihik area in the vicinity of Haines Junction.

J.P. liked being out alone where there were no pressures, and he enjoyed listening to the sounds of silence. "There's a certain music in nature — the wind, rock avalanches, bears at 3 a.m., gurgling streams and wind in the grass. Even the stars seem to have a sound to them."

He will be missed by his prospecting friends. Besides his vast interest and knowledge on an eclectic array of subjects, J.P. shared his information willingly, indeed an extraordinary trait for a person operating in the highly competitive prospecting and exploration business where most people keep their secrets close to their vest.

J.P. was definitely his own person. His staunch individualism earned him rite of passage into Jim Robb's illustrious Colourful Five Percent club.

*Jane Gaffin*



# George W. Gilbert

1925 TO 2008

***George Gilbert passed away in Whitehorse, February 14, 2008, at the age of 82. He was a man of many professions, all of them self-taught.***

George was a geologist, hard-rock miner, prospector, naturalist, as well as a government inspector of mining, fisheries and land use. He was a published author and self-described rock-hound. He counted amongst his friends not only regular folk, but those who served in high office such as Ed Schreyer, Governor General of Canada; James Smith, Commissioner of Yukon; and various heads of state and scientific organizations from across the world.

Born in Vancouver, British Columbia, in 1934 George moved with his family to the Cariboo mining town of Wells when it was just being established. He joined the Air Force near the end of World War II and served two years, returning to work at the Cariboo Gold Quartz (CGQ) mine in 1946. George eventually became the manager of the CGQ mine.

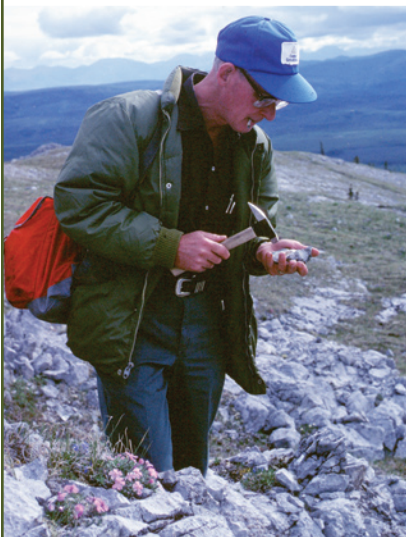
In 1967, when the CGQ mine ceased operations, George moved to Whitehorse to take on the position of Newmont Mining's resident geologist. While with Newmont, George and his prospecting crews explored many grassroots properties and mineral deposits in Yukon, including those in the Kluane Ranges and the Bonnet Plume area.

In 1970, George joined Keno Hill Exploration Ltd. and managed several exploration programs for three years before joining the Geology Division of the Department of Indian Affairs and Northern Development in the mid-1970s. He eventually became the Chief Mining Inspector of the Placer Mining Division, where he remained until he retired in 1989. He maintained his contacts with the mining industry and former colleagues throughout his retirement, even attending the annual Yukon Geoscience Forum two months before his passing.

George was a loving father and friend and will be greatly missed by all of his family, his colleagues and friends, and anyone who ever had the pleasure of his company. *Bill LeBarge*



*George inspecting claims.  
(Photo by Robin Armour)*



*George prospecting.  
(Photo by Robin Armour)*



*Part of Ishpa Glacier, British Columbia  
(Courtesy of "Kicked by a dead moose" (G. Gilbert))*



# EXPLORATION, DEVELOPMENT AND MINING HIGHLIGHTS

## Yukon Hardrock Mining, Development and Exploration Overview 2008

*Mike Burke, Lara Lewis and Steve Traynor*

*Yukon Geological Survey*

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*William LeBarge*

*Yukon Geological Survey*

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*Bernie Adilman*

*Oil and Gas Resources, Energy, Mines and Resources, Government of Yukon*

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*Steve Traynor*

*Yukon Geological Survey*

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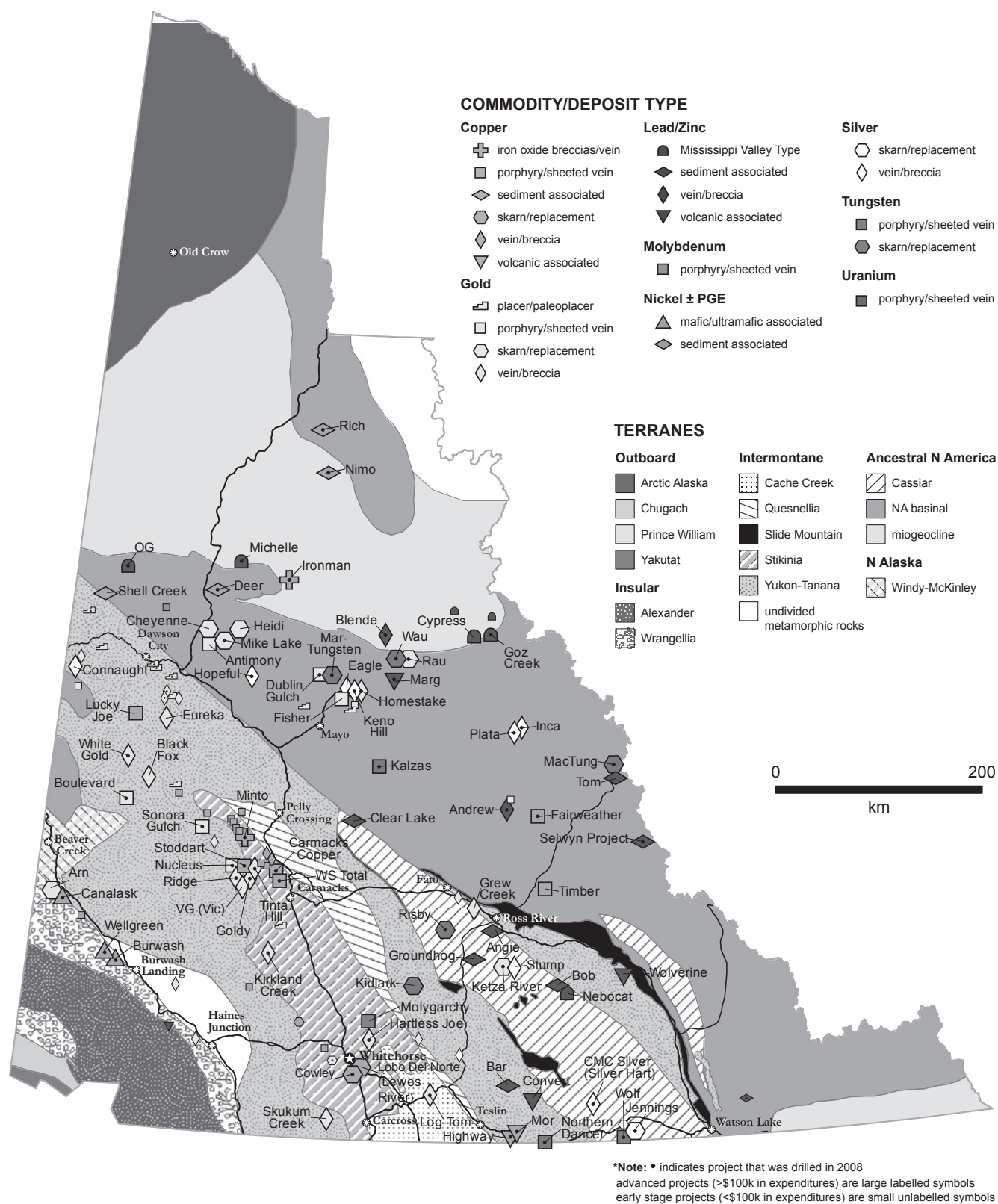


Figure 1. Yukon advanced exploration projects, 2008.

# Yukon Hardrock Mining, Development and Exploration Overview 2008

*Mike Burke<sup>1</sup>, Lara L. Lewis and Steve Traynor*  
*Yukon Geological Survey*

Burke, M., Lewis, L. and Traynor, S., 2009. Yukon Mining, Development and Exploration Overview 2008. In: Yukon Exploration and Geology 2008, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds.), Yukon Geological Survey, p. 2-37.

## ABSTRACT

Mineral exploration in Yukon in 2008 remained strong – exploration expenditures were estimated to be \$100 million. Several advanced exploration projects returned significant drill results, highlighting the under-explored potential of these properties even at an advanced stage of exploration. Yukon's untapped mineral potential is exemplified by several significant new discoveries made on exploration properties this year. Mine development expenditures were incurred at the Minto copper-gold-silver mine where the mill underwent a phase 3 expansion, and at the Wolverine zinc-silver-copper-gold-lead deposit where development has begun and production is scheduled for the 3<sup>rd</sup> quarter of 2010.

There were over 150 active hard rock exploration projects in Yukon: 73 projects recorded expenditures of greater than \$100 000, and 22 spent more than \$1 million. The remaining projects were regional or grassroots generative projects.

## RÉSUMÉ

En 2008, le secteur de l'exploration minière au Yukon est demeuré fort, et les dépenses liées à l'exploration sont estimées à 100 millions de dollars. Plusieurs projets d'exploration avancés ont donné lieu à des forages aux résultats importants, ce qui met en évidence le potentiel peu exploré de ces propriétés de prospection même à un stade d'exploration avancé. Le potentiel minier non exploité du Yukon est illustré par plusieurs nouvelles découvertes importantes faites sur des propriétés de prospection cette année. Des dépenses ont été effectuées afin de mettre en valeur la mine cupro-auri-argentifère Minto, où l'usine de concentration a fait l'objet d'un agrandissement (phase 3), et la mine de zinc, d'argent, de cuivre, d'or et de plomb Wolverine, où les travaux de mise en valeur sont commencés et où la production est prévue pour le troisième trimestre de 2010.

On dénombre plus de 150 projets actifs d'exploration des roches métamorphiques au Yukon, dont 73 ont eu des dépenses supérieures à 100 000 \$ et 22 ont dépensé plus d'un million de dollars. Les autres projets sont des projets génératifs locaux ou régionaux.

<sup>1</sup>mike.burke@gov.yk.ca

## INTRODUCTION

The Yukon mineral industry experienced a very successful year: Minto Mine completed its first full year of mining, development occurred at a number of deposits, and exploration was directed at a wide variety of commodities and deposit types. Expenditures are estimated at \$110 million for exploration (Figs. 1 and 2), and mine development costs were approximately \$10 million. The mineral potential of Yukon is highlighted by the outstanding exploration results that continue to expand resources at the high-grade Minto deposit. Other known deposits in Yukon that benefited from large exploration programs consistently had results that expanded or upgraded resources. In addition, there have been several new discoveries made on Yukon exploration properties this year, which highlights the territory's untapped mineral potential and ability to produce significant new mineral discoveries.

Mine development expenditures were incurred at the Minto copper-gold-silver mine, with phase 2 expansion of the mill to 2400 tonnes per day and subsequent phase 3 expansion to 3200 tonnes per day, and at the Wolverine zinc-silver-copper-lead-gold deposit, where upgrading of road access to the mine, site preparation for the construction camp, and diversion ditches in the tailings pond area were completed. Final development of the Wolverine polymetallic deposit will begin in 2009, with a production target of the 3<sup>rd</sup> quarter of 2010. The Carmacks Copper deposit, a copper-silver-gold project, is in the final stages of permitting, and a production decision is expected to be made in 2009. The Bellekeno silver-lead-zinc deposit is in the final stages of exploration to upgrade resources in support of a production decision and final permitting of the project in 2009. Claim staking remained at high levels, with a total of 13 834 claims staked in 2008 (Fig. 3). The number of claims in good standing rose to a total of 79 734 by year-end (Fig. 4).

The under-explored potential of Yukon is demonstrated by the quality of new discoveries that underwent drilling for the first time in 2008, or received further work based on significant drill results in 2007. Drilling on previously undrilled properties produced consistent results in a number of holes on the White Gold,

Rau and Ridge (Freegold Mountain) precious metals properties. Follow-up drilling on the Sonora Gulch and Mike Lake precious metals projects confirmed the significance of discovery holes drilled in 2007. The discovery of new zones of mineralization, or perhaps the recognition of a much larger mineralized system with discrete higher grade areas, was made in 2008 at the Minto copper project. At the Andrew zinc-lead project, the Darcy zone was intersected by several holes when following up on a single historical drillhole. The Michelle zinc-lead property returned several more drill intersections on the heels of a 2007 discovery hole, and drilling at the huge Selwyn zinc-lead project (Howards Pass) continued to intersect new areas of mineralization well outside areas of known mineralization.

The reader is reminded that this exploration overview is by no means a comprehensive overview of the activity in Yukon. Many results are still pending at the publication

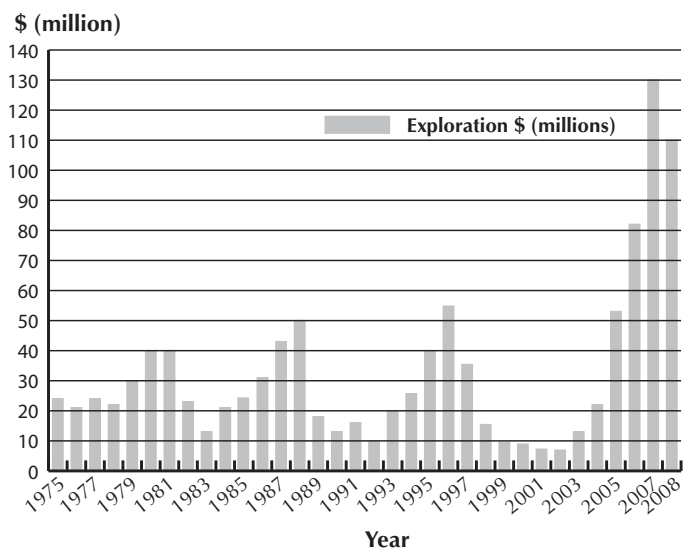


**Figure 2.** Exploration and development expenditures in Yukon, 1972 to 2008.

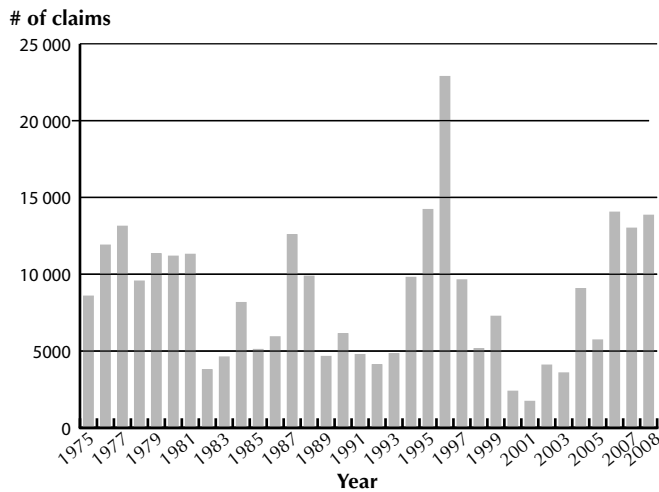


**Figure 3.** Mineral claims staked, 1976-2008.

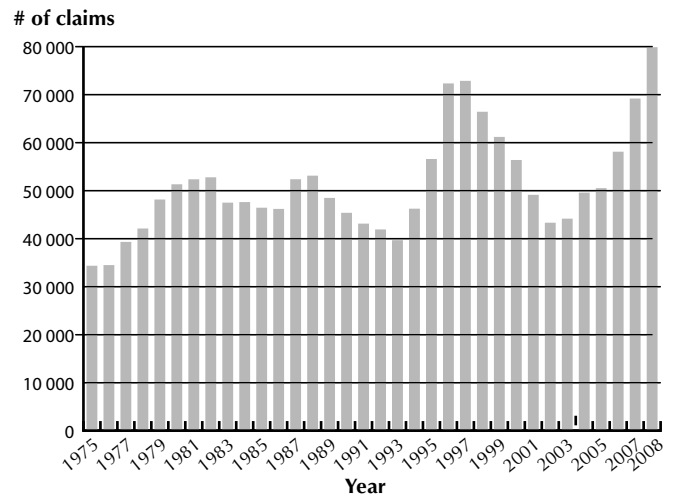


**Figure 4.** Mineral claims in good standing, 1976-2008.

deadline of this volume and, thus, the contents are preliminary in nature. This publication is available on the Yukon Geological Survey (YGS) website ([www.geology.gov.yk.ca](http://www.geology.gov.yk.ca)) in colour. Links to company websites are available in this report. These websites contain much more comprehensive information including, in many cases, up-to-date results, maps and sections.

## MINING AND MINE DEVELOPMENT

The **Minto** mine (Yukon MINFILE 1151 012) is a high-grade copper-gold deposit (Fig. 5) operated by Capstone Mining Corp. ([www.capstonemining.com](http://www.capstonemining.com)). Production at Minto for 2008 is forecast to be 24.9 million kg (55 million pounds) of copper, 693 530 g (22 300 ounces) of gold and 10 138 600 g (326 000 ounces) of silver. Cash costs of production to the end of the 3<sup>rd</sup> quarter of 2008 were US\$1.37 per pound, but these costs are expected to drop significantly due to higher copper production, reduced stripping requirements, recently completed connection to grid electrical power, and falling input costs, such as fuel. Current total resources for all deposits at the Minto mine



**Figure 5.** Open pit at Minto mine site.

**Table 1.** NI 43-101-compliant resource for Minto deposit (2008).

| Class     | Tonnage  | Grade*                                   |
|-----------|----------|------------------------------------------|
| measured  | 11.4 Mt  | 1.77% Cu,<br>0.66 g/t Au,<br>6.85 g/t Ag |
| indicated | 7.83 Mt  | 0.91% Cu,<br>0.29 g/t Au,<br>3.24 g/t Ag |
| inferred  | 15.07 Mt | 0.88% Cu,<br>0.25 g/t Au,<br>2.61 g/t Ag |

\*0.5% cut-off grade

7(Table 1) have increased 140% in the last two years and do not incorporate any of the 2008 drilling results (see Table 22, page 21) which hit significant ore-grade intersections outside of the known resource areas.

Yukon Zinc Corporation ([www.yukonzinc.com](http://www.yukonzinc.com)) began development of the **Wolverine** project (Yukon MINFILE 105G 072), which has a production target of the 3<sup>rd</sup> quarter of 2010. Development includes upgrading the mine access road, preparing foundations for the camp, and completing civil works including diversion ditches for the tailings pond. In July 2008, Yukon Zinc Corporation was acquired by Jinduicheng Molybdenum Group Ltd. and Northwest Nonferrous International Investment Company Ltd., and is now operated as a private company. Jinduicheng is the largest producer of molybdenum and associated products in Asia and reportedly the third largest molybdenum producer in the world. It is publicly traded on the Shanghai Stock Exchange after a recent US\$1.3 billion initial public offering. Jinduicheng's operations are concentrated in Shaanxi province, China. Northwest represents the Shaanxi state geological bureau. In terms of revenue and technical capacity, Northwest is one of the top five exploration and mining bureaus in China. Wolverine is a high-grade polymetallic volcanogenic massive sulphide deposit in the Finlayson Lake District of east-central Yukon. It remains open down-dip under ground held by Teck Corporation. Yukon Zinc Corporation has several other property holdings in the Finlayson Lake District with considerable exploration potential.

## EXPLORATION

### PRECIOUS METALS - GOLD

#### SKARN/REPLACEMENT

**Table 2.** NI 43-101-compliant resource for Ketza deposit (2008).

| Class     | Tonnage     | Grade (g/t Au) |
|-----------|-------------|----------------|
| measured  | 712 200 t   | 6.4            |
| indicated | 3 369 500 t | 4.61           |
| inferred  | 1 075 600 t | 3.26           |

Yukon Nevada Gold Corporation ([www.yukon-nevadagold.com](http://www.yukon-nevadagold.com)), formerly YGC Resources Ltd., continued with exploration and completed geotechnical work required for mine planning and metallurgical test work at its **Ketza River** (Yukon MINFILE 105F 019) gold property in south-central Yukon. The company is working on a pre-feasibility study for mining the sulphide deposits (Table 2) at the mine, which produced over 3 100 000 g (100,000 ounces) of gold from oxide deposits in 1988-1990. Mineralization at Ketza River consists of massive pyrrhotite-pyrite replacement manto-style bodies hosted in Lower Cambrian limestone, and quartz-pyrrhotite-pyrite veins (Shamrock area) hosted in a slightly older Lower Cambrian argillite. Exploration in 2008 consisted of 30 151 m of drilling in 223 holes (Table 3) which was successful in expanding the known mineral resources. Exploration results from 2007 and 2008 will be incorporated into a future resource estimate.

**Table 3.** Selected 2008 drill intersections for Ketza property.

| Drillhole | Zone       | Depth of intersection (m) | Intersection         |
|-----------|------------|---------------------------|----------------------|
| Manto     |            |                           |                      |
| KR08-1362 | Peel       | 32.6                      | 14.47m @ 8.95 g/t Au |
| KR08-1365 | Peel       | 19.7                      | 3.8 m @ 20.6 g/t Au  |
| KR08-1378 | Tarn       | 11.3                      | 9.14 m @ 7.13 g/t Au |
| KR08-1347 | Penguin    | 48.7                      | 4.0 m @ 6.60 g/t Au  |
| KR08-1288 | Break      | 20.4                      | 1.9 m @ 22.4 g/t Au  |
| KR08-1270 | Lab        | 54.1                      | 2.87 m @ 16.8 g/t Au |
| Shamrock  |            |                           |                      |
| KR08-1293 | QB vein    | 44.8                      | 7.27 m @ 56.0 g/t Au |
| KR08-1367 | QB vein    | 39.5                      | 3.6 m @ 21.2 g/t Au  |
| KR08-1304 | Gully vein | 51.2                      | 6.77 m @ 19.1 g/t Au |

Dynamite Resources Ltd. ([www.dynamiteresources.com](http://www.dynamiteresources.com)) explored the **Mike Lake** gold-copper-tungsten property (Yukon MINFILE 116A 012), which covers a number of intrusion-related gold targets associated with Cretaceous Tombstone Suite stocks, dykes and sills. The property is located 25 km north of the former producing Brewery Creek gold mine. The company concentrated its efforts on the Skarn Ridge area with an extensive drill program that consisted of 10 004 m of helicopter-supported diamond drilling in 68 holes (Table 4). The mineralization at Skarn Ridge was discovered in 2007, in diamond drillhole SK-2007-01, which returned 89.31 m grading 0.61% Cu, 1.383 g/t Au and 13.6 g/t Ag. Mineralization consists of an earlier pyroxene-scapolite and pyroxene-garnet skarn with pyrrhotite-chalcopyrite and coarse scheelite mineralization associated with a later cross-cutting skarn vein event.

**Table 4.** Selected 2008 drill intersections for Skarn Ridge, Mike Lake property.

| Drillhole | Depth of intersection (m) | Intersection                    |
|-----------|---------------------------|---------------------------------|
| SKDH08-17 | 43.1                      | 23.85 m @ 0.26% Cu, 1.97 g/t Au |
| SKDH08-18 | 23.1                      | 21.85 m @ 0.29% Cu, 3.53 g/t Au |
| SKDH08-19 | 37.3                      | 75.89 m @ 0.69% Cu, 2.86 g/t Au |
| SKDH08-28 | 18.2                      | 33.01 m @ 0.22% Cu, 1.62 g/t Au |

Atac Resources ([www.atacresources.com](http://www.atacresources.com)) made a significant new discovery of skarn and replacement-style gold mineralization on its **Rau** property (Yukon MINFILE 106D 005), located east of the Keno Hill area in central Yukon. The discovery was made following up on a 99<sup>th</sup> percentile regional stream sediment survey sample (Hornbrook *et al.*, 1990) of 150 ppb gold plus elevated tungsten. Following conventional soil geochemistry and Variable Time-domain Electromagnetic (VTEM) airborne surveys, the property was drilled for the first time in 2008; the discovery hole returned an intersection of 68.7 m grading 1.24 g/t gold in replacement-style mineralization within a stratabound carbonate horizon. A total of 3423 m of drilling was completed in 18 holes with most of the significant assay intervals (Table 5; Fig. 6) clustered in a 300 by 200 m zone at the west end of the drill area. The main gold zone is one of a series of thick sulphide-rich horizons vertically stacked near the crest of a broad anticline of dolomitized limestone. The area of drilling is

located along the trend of the anticline approximately 2.7 km from a high-level Late Cretaceous pluton. The area is within a 6 km trend of anomalous soil geochemistry and coincident geophysical anomalies.

**Table 5.** Selected 2008 drill intersections for the Rau property.

| Drillhole | Depth of intersection (m) | Intersection         |
|-----------|---------------------------|----------------------|
| Rau08-02  | 52.7                      | 68.7 m @ 1.24 g/t Au |
| Rau08-03  | 9.1                       | 53.4 m @ 1.73 g/t Au |
| Rau08-04  | 98.6                      | 71.6 m @ 1.59 g/t Au |
| Rau08-05  | 71.5                      | 78.5 m @ 1.71 g/t Au |
| Rau08-06  | 6.7                       | 62.0 m @ 1.50 g/t Au |
| Rau08-07  | 172.9                     | 65.0 m @ 1.52 g/t Au |
| Rau08-016 | 19.8                      | 46.4 m @ 2.92 g/t Au |



**Figure 6.** Rau property drill core (DDH08-05) with arsenopyrite, pyrite and pyrrhotite mineralization.

VEIN/BRECCIA

A significant new gold discovery was made by Underworld Resources ([www.underworldresources.com](http://www.underworldresources.com)) on the **White Gold** property (Yukon MINFILE 1150 011,012), 90 km south of Dawson, which was drilled for the first time in 2008 (Fig. 7). Two near-surface gold mineralized zones – the Golden Saddle and Arc – were intersected in drilling. Both zones are open in all directions for expansion. The discovery hole on the Golden Saddle zone returned an impressive 4.03 g/t Au over 19.58 m, and the discovery hole on the Arc zone intersected 1.18 g/t Au over 28.5 m. Drilling has traced continuous gold mineralization at Golden Saddle for



**Figure 7.** Geologist Al Doherty and prospector Shawn Ryan examine visible gold in core at the White Gold property.

450 m along strike and to 170 m down-dip. The Arc zone soil anomaly, which is characterized by gold values exceeding 80 ppb, extends over 2 km. The two drillholes that intersected mineralization on the Arc Zone were located 600 m apart (Table 6). The two-phase drilling program on the property consisted of 3431 m in 27 holes. Mineralization consists of quartz veins and breccia zones with minor pyrite and arsenopyrite associated with low-angle thrust faulting hosted in altered gneiss and schist of the Yukon-Tanana terrane. The property has been extensively soil-sampled and contains several more areas of anomalous geochemistry that are still untested by drilling. Underworld completed additional geological and structural mapping on the property and has financed the 2009 drilling program.

**Table 6.** Selected 2008 drill intersections for the White Gold property.

| Drillhole          | Depth of intersection (m) | Intersection          |
|--------------------|---------------------------|-----------------------|
| Golden Saddle zone |                           |                       |
| WD08-04            | 14.5                      | 18.08 m @ 4.35 g/t Au |
| WD08-013           | 63.6                      | 24.58 m @ 5.60 g/t Au |
| WD08-021           | 96.0                      | 50.70 m @ 3.10 g/t Au |
| WD08-24            | from surface              | 15.0 m @ 2.91 g/t Au  |
| Arc zone           |                           |                       |
| WD08-14            | from surface              | 28.5 m @ 1.18 g/t Au  |
| WD08-17            | 100.0                     | 29.0 m @ 1.47 g/t Au  |

The **Sonora** property (Yukon MINFILE 115J 008) of Northern Tiger Resources ([www.northerntigerresources.com](http://www.northerntigerresources.com)) is host to yet another new gold discovery in Yukon. Drilling in 2008 consisted of 10 holes for 2238 m (Table 7). The Nightmusic zone returned several intersections including a 4.8 m intercept with visible gold grading 2.31 g/t Au, 19.8 g/t Ag and 0.737% Cu. The drilling was following up on a single

drillhole in 2007 that intersected gold and silver epithermal-style mineralization occurring adjacent to an ultramafic body. The Nightmusic zone is characterized by an extensive soil geochemical anomaly which extends for over 2 km along the southern contact of an ultramafic body. This ultramafic body crosses the headwaters of Sonora Gulch, an area known for producing spectacular gold-tetradymite nuggets. Northern Tiger also completed drilling on the Amadeus zone, which is centred on a Cretaceous granitic stock, where previous drilling intersected gold-silver mineralization. The company conducted geochemical and geological programs on several other claim holdings in the Dawson Range acquired through an exploration alliance with Minto Explorations, a wholly owned subsidiary of Capstone Mining Corp. (formerly Sherwood Copper Corporation), operator of the nearby Minto copper-gold-silver mine.

**Table 7.** Selected 2008 drill intersections for the Sonora property.

| Drillhole       | Depth of intersection (m) | Intersection                                |
|-----------------|---------------------------|---------------------------------------------|
| Nightmusic zone |                           |                                             |
| SG-08-25        | 42.7                      | 1 m @ 0.35 g/t Au, 57.3 g/t Ag, 0.58% Cu    |
|                 | 51.7                      | 2 m @ 1.41 g/t Au, 2 g/t Ag                 |
|                 | 95.7                      | 2 m @ 0.96 g/t Au, 17.4 g/t Ag              |
|                 | 108.5                     | 4 m @ 0.52 g/t Au, 16.8 g/t Ag, 0.05% Cu    |
|                 | 117.4                     | 4.8 m @ 2.31 g/t Au, 19.8 g/t Ag, 0.74% Cu  |
|                 | 160.0                     | 1.4 m @ 0.91 g/t Au, 13.8 g/t Ag, 0.07% Cu  |
| SG-08-27        | 70.0                      | 26.6 m @ 4.96 g/t Au, 11.9 g/t Ag, 0.23% Cu |
| including       | 70.0                      | 4 m @ 25.76 g/t Au, 6.5 g/t Ag              |
| Amadeus zone    |                           |                                             |
| SG-08-31        | 64.0                      | 8 m @ 0.52 g/t Au, 16.7 g/t Ag              |
|                 | 154.0                     | 31 m @ 1 g/t Au, 4.2 g/t Ag                 |
| Jupiter zone    |                           |                                             |
| SG-08-26        | 216.5                     | 2 m @ 1.18 g/t Au, 81.9 g/t Ag              |

Northern Freegold Resources ([www.northernfreegold.com](http://www.northernfreegold.com)) completed an extensive program on its **Freegold Mountain** property including diamond drilling of 97 holes totalling 22 773 m on five different targets within their extensive road-accessible land package in the southern Dawson Range. The **Nucleus** zone (Yukon MINFILE 115I 107) consists of Cretaceous granodiorite sills intruding metasedimentary rocks, which were later intruded by quartz-feldspar porphyry dykes. Drilling in 2008, consisting of 13 287 m (53 holes), was directed at defining a NI 43-101-compliant resource in the low-grade bulk-tonnage Nucleus zone. Early season drilling results were spectacular due to the discovery of high-grade zones consisting of massive sulphide mineralization with visible gold (Table 8). Mineralization in the Nucleus zone occurs in all rock types (Fig. 8) and typically consists of: sulphide-bearing hydrothermal breccias; quartz, quartz-sulphide and sulphide veins and stockworks; disseminated sulphides; and, the newly discovered massive sulphide skarn-type mineralization. At the **Golddy** zone (Yukon MINFILE 115I 112), epithermal-style quartz-sulphide veining, silicified zones, and extensive alteration are associated with a shear zone; altered quartz-feldspar-porphyry dykes were intersected in drill core. A total of 1500 m was drilled in eight holes. Drilling in 2008 built on previous

**Table 8.** Selected 2008 drill intersections for Freegold Mountain.

| Drillhole    | Depth of intersection (m) | Intersection                                                     |
|--------------|---------------------------|------------------------------------------------------------------|
| Nucleus zone |                           |                                                                  |
| GRD08-68     | 42.2                      | 37.8 m @ 10.41 g/t Au, 0.29% Cu                                  |
| GRD08-73     | 102.4                     | 46.96 m @ 9.6 g/t Au, 0.22% Cu                                   |
| Goldy zone   |                           |                                                                  |
| GY08-23      | 3.4                       | 4.72 m @ 3.47 g/t Au                                             |
| GY08-27      | 25.0                      | 23.7 m @ 2.84 g/t Au                                             |
| Ridge zone   |                           |                                                                  |
| 08RZ-03      | 37.6                      | 1.4 m @ 1.88 g/t Au, 11.0 g/t Ag, 0.17% Cu                       |
| 08RZ-04      | 71.8                      | 24.5 m @ 1.18 g/t Au, 36.6 g/t Ag, 0.11% Cu, 1.2% Pb, 0.53% Zn   |
| 08RZ-09      | 100.3                     | 0.9 m @ 10.62 g/t Au, 243.0 g/t Ag, 0.31% Cu, 2.08% Pb, 0.19% Zn |

success by continuing to return significant assays for gold and silver (Table 8). At the **Tinta Hill** zone (Yukon MINFILE 115I 058) – an intrusion-hosted gold-silver-copper mineralized vein – drilling (3807 m in 17 holes) was directed at defining a NI 43-101-compliant resource. Previous drilling intersected the vein system to a depth of 300 m within a small 100 m length of the vein which has been traced for approximately 1 km on surface. Results from the drilling were pending at year-end. The company also drilled 10 holes totaling 2560 m in the **Stoddart** zone (Yukon MINFILE 115I 050), a copper-molybdenum-gold porphyry target that was discovered in drilling in 2007. Results from the Stoddart drilling were pending at year-end. Drilling was also completed on the **Ridge** zone (1 km from the Stoddart zone), where high-grade gold-silver-copper mineralization was discovered in trenching in 2007. Nine holes totaling 1079 m were drilled into the shear zone that

**Figure 8.** Sulphide mineralization (pyrrhotite-pyrite) in drillcore at the Nucleus property.



**Figure 9.** Dan Lui of Rimfire Minerals examines core at the Boulevard property.

**Table 9.** NI 43-101-compliant resource for Skukum Creek (2007).

| Class     | Tonnage   | Grade*<br>(g/t)   |
|-----------|-----------|-------------------|
| measured  | 195 000 t | 5.8 Au,<br>240 Ag |
| indicated | 880 000 t | 6.5 Au,<br>174 Ag |
| inferred  | 206 000 t | 6.8 Au,<br>155 Ag |

\*4 g/t Au cut-off grade

hosts the mineralization along the contact of two granite bodies. The shear zone is a prominent linear feature that can be traced on surface for over 2 km. The drilling returned several significant intersections (Table 8), which again define a new gold discovery in Yukon.

The **Boulevard** property is a new target approximately 135 km south of Dawson City, in the Dawson Range. The property was discovered by regional exploration conducted by Rimfire Minerals Corporation ([www.rimfireminerals.com](http://www.rimfireminerals.com)) and Northgate Minerals Corporation ([www.northgateminerals.com](http://www.northgateminerals.com)) targeting Pogo-style mineralization. Soil sampling on the claims outlined a 2.0 by 0.4 km arsenic-antimony-gold anomaly. Kubota trenching on the property encountered gold mineralization hosted in strongly sericite-clay-altered schists with disseminated pyrite, arsenopyrite, stibnite and specular hematite that envelopes quartz and massive stibnite veins. Two trenches, spaced 100 m apart, encountered 7.04 g/t Au over 6 m and 6.43 g/t Au over 2 m. Diamond drilling consisting of 525 m in seven holes was completed (Fig. 9); results are pending.

Tagish Lake Gold ([www.tagishgold.com](http://www.tagishgold.com)) suspended exploration activity at the **Skukum Creek** deposit (Yukon MINFILE 105D 022) to concentrate on finding a partner to advance the deposit (Table 9) towards production. At year-end, Tagish was negotiating a merger with Yukon-Shaanxi Mining Co. Inc., a private company formed in 2007 by Yukon-Nevada Gold Corp. and Northwest Non-Ferrous International Investment Co. Ltd., a Chinese investment company.

The **Hartless Joe** property (Yukon MINFILE 105D 203) hosts low-sulphidation gold and silver-rich quartz veins, breccias and replacement zones. Mineralized specimens of quartz vein material taken from talus slopes commonly grade from 2 to 10 g/t Au and 30 to 70 g/t Ag, and occasionally return bonanza-type values to 251 g/t (7.32 oz/ton) Au and 5780 g/t (168.6 oz/ton) Ag. Three diamond drillholes totaling 612.2 m were completed as follow-up to soil sampling, prospecting and geophysical targeting (VTEM and Induced Polarization) by ATAC Resources ([www.atacresources.com](http://www.atacresources.com)), and funding from Ferus Resources Ltd. Drilling encountered pyritic dykes and veins that cut through a thick section of predominantly volcanic rocks. Assay results are pending.

The **Kirkland Creek** (Yukon MINFILE 115H 057) property of New Shoshoni Ventures ([www.newshoshoni.com](http://www.newshoshoni.com)) was drilled with seven holes totaling 1158 m. Drilling at this property in south Yukon targeted gold geochemical anomalies and ground and airborne geophysical anomalies overlying Tertiary and Eocene volcanic rocks. The volcanic complex is a target for epithermal-type mineralization.

The **Log-Tom** Property (Yukon MINFILE 105D 069) owned by 1356139 Alberta Inc. consists of 145 contiguous quartz claims in the Marsh Lake area. In 2008, Aurora Geosciences Ltd. was retained to conduct a five-hole (663 m) diamond drill program, 61 line-km of ground magnetics, 15 line-km of IP, a soil sampling program, mapping and prospecting. Drilling was directed at a quartz-carbonate alteration zone that occupies the sheared north-trending contact between Laberge Group greywacke, argillite and conglomerate, and a serpentinite body associated with

Cache Creek volcanic rocks. Diamond drill core samples recovered from two holes returned 1.215 g/t Au over 6 m with the best individual assay returning 4.78 g/t Au over 1 m, and 0.998 g/t Au over 12 m with the best individual assay returning 3.175 g/t Au over 1 m.

Strategic Metals Ltd. ([www.strategicmetalsLtd.com](http://www.strategicmetalsLtd.com)) conducted helicopter-borne VTEM, magnetic and soil geochemical surveys, and a three-hole, 884 m diamond drill program on the **Fairweather** property (Yukon MINFILE 105J 010) in Central Yukon. The property hosts copper-gold porphyry, skarn and vein targets associated with high-level Tombstone Suite intrusions. Analytical results are not yet available.

### PORPHYRY/SHEETED VEIN

StrataGold Corp. ([www.stratagold.com](http://www.stratagold.com)) conducted 4249 m of drilling in 15 holes at the Eagle zone deposit (Table 10) on its **Dublin Gulch** property (Yukon MINFILE 105D 025). The Eagle zone, an analogue of the Fort Knox deposit in Alaska, is an intrusion-hosted gold deposit consisting of sheeted veins within a Tombstone-age granodiorite stock. Drilling was successfully directed at expanding the deposit outside of its current known limits. Results include drill intercepts of 100.2 m at 0.90 g/t Au (DG08-357C) and 19.5 m at 2.74 g/t Au (DG08-342C). The deposit remains open in several directions and to depth. An updated resource estimate utilizing drilling from 2006 to 2008 is being produced.

## PRECIOUS METALS - SILVER

### VEIN/BRECCIA

Alexco Resources Corporation ([www.alexcoresource.com](http://www.alexcoresource.com)) continued with a comprehensive exploration program on its **Keno Hill** (Yukon MINFILE 105M 001) project (10 360 m of diamond drilling; Fig. 10). Over the past century, the silver mines at Keno Hill have produced approximately 214 million ounces (6 656 000 kg) of silver at an average grade of 40.4 ounces/ton (1389 g/t) Ag, 5.62% Pb and 3.14% Zn. Alexco's 2008 exploration program includes a new 650 m decline to access existing workings and approximately 2300 m of underground rehabilitation at the historic **Bellekeno** mine.

To upgrade resources (Table 11), 10 000 m of underground drilling is planned for Bellekeno, in addition to test mining and collection of a bulk sample to confirm earlier metallurgical testwork. The company's goal is to achieve a production decision for the Bellekeno deposit by early 2009. Alexco completed a positive Preliminary Economic Assessment (PEA) on the Bellekeno deposit earlier in the year for a 250 tonne-per-day operation. The PEA estimated the cost to bring the mine into production would be \$61.2 million. Details of the PEA can be viewed on the company website. Alexco also negotiated a silver purchase agreement with Silver Wheaton Resources Corp. for 25% of the life-of-mine silver production from the mines at Keno Hill. The purchase agreement includes a US\$50 million

**Table 10.** NI 43-101-compliant resource for the Eagle zone, Dublin Gulch (2006).

| Class     | Tonnage  | Grade* (g/t) |
|-----------|----------|--------------|
| indicated | 66.54 Mt | 0.916 Au     |
| inferred  | 14.39 Mt | 0.803 Au     |

\*0.5 g/t Au cut-off grade

**Table 11.** NI 43-101-compliant resource for Bellekeno (2008).

| Class    | Tonnage   | Grade*                                               |
|----------|-----------|------------------------------------------------------|
| inferred | 537 400 t | 1016 g/t Ag,<br>10.7% Zn,<br>13.5% Pb,<br>0.4 g/t Au |

\*1000 g/t Ag-equivalent cut-off grade



**Figure 10.** Coarse galena in drillcore from Keno Hill (Bellekeno).

up-front payment which will provide the company with the capital needed to place the mine into production. Although exploration efforts have focused on Bellekeno, several other targets have been tested with drilling including Lucky Queen, Onek, Keno 700, Hector-Calumet and Leo. Partial results available at this time confirm high-grade intercepts on some of these targets (Table 12).

**Table 12.** Selected 2008 drill intersections for the Keno Hill project.

| Drillhole | Zone        | Intersection                                |
|-----------|-------------|---------------------------------------------|
| K08-132   | Leo         | 4.34 m @ 16.4% Zn, 0.1 g/t Au, 25.7 g/t Ag  |
| K08-141   | Onek        | 5.45 m @ 18.2% Zn, 0.6 g/t Au, 182.7 g/t Ag |
| K08-153   | Onek        | 5.71 m @ 22.3% Zn, 0.7 g/t Au, 143.5 g/t Ag |
| K08-161   | Lucky Queen | 2.45 m @ 2249 g/t Ag, 8.3% Pb, 0.4% Zn      |

The contiguous **Connaught** (Yukon MINFILE 115N 040) and **Mag** property of ATAC Resources ([www.atacresources.com](http://www.atacresources.com)) and Klondike Silver ([www.klondikesilver.com](http://www.klondikesilver.com)) host a number of silver-gold veins within a 13 by 5 km area of anomalous geochemical response that approximately coincides with a pronounced magnetic high. Where exposed, the veins are typically 0.3 to 2 m wide and grade 100 to 2000 g/t Ag with 0.3 to 2 g/t Au and 3 to 60% Pb. A program of soil sampling and excavator trenching at Connaught and Mag, which are located in the Stewart River area, began in late June 2008.

The **Hopeful** property (Yukon MINFILE 115P 047; Fig. 11) of ATAC Resources ([www.atacresources.com](http://www.atacresources.com)) consists of a silver-rich greisen zone along the contact between a Cretaceous syenite stock and surrounding Ordovician quartzites, shales and carbonate rocks. The zone is 10 to 30 m thick and consists of quartz-tourmaline greisen veins flanked by kaolinite-hematite-limonite-talc altered wallrocks. Historical diamond drilling has tested the zone for a length of 260 m along strike and to a depth of 50 to 90 m below surface. The mineralized veins are tourmaline-rich but contain few sulphide minerals. The main silver mineral is jamesonite. Six diamond drillholes totalling 685 m were completed at the main silver zone in early July, 2008 (Table 13).



**Figure 11.** Exploration Camp at the Hopeful property.

**Table 13.** Selected 2008 drill intersections for the Hopeful property.

| Drillhole | Depth of intersection (m) | Intersection                    |
|-----------|---------------------------|---------------------------------|
| HF-08-01  | 171.4                     | 4.6 m @ 207.5 g/t Ag, 1.55% Pb  |
| including | 171.4                     | 1.42 m @ 558 g/t Ag, 3.89% Pb   |
| HF-08-02  | 112.3                     | 5.3 m @ 149.1 g/t Ag, 1.06% Pb  |
| HF-08-04  | 77.5                      | 9.75 m @ 225 g/t Ag, 0.54% Pb   |
| including | 83.85                     | 2.1 m @ 931 g/t Ag, 1.54% Pb    |
| HF-08-06  | 122.12                    | 1.93 m @ 249.2 g/t Ag, 0.42% Pb |

CMC Metals Ltd., ([www.cmcmetals.ca](http://www.cmcmetals.ca)) conducted trenching, diamond drilling and bulk sampling on the **Silver Hart** (Yukon MINFILE 105B 021) property. The company is proposing a small-scale mine project for a

20 000 tonne-per-year mine and an 80 tonne-per-day mill facility. The property has a historical (non-NI 43-101-compliant) inferred resource of 45 634 tonnes grading 2088 g/t Ag. High-grade polymetallic silver-lead-zinc veins are hosted in the mid-Cretaceous Cassiar Batholith and Cambrian or older biotite-quartz schist, limy hornfels and calcareous horizons. Additional studies, including metallurgical work, can be viewed on the company website. During trenching and bulk sampling of the TM zone, three additional veins were encountered. They returned grades in the range of the existing historical resources using a portable Niton XRF analyzer. Laboratory assays are pending.

Rockhaven Resources Ltd., ([www.rockhavenresources.com](http://www.rockhavenresources.com)) explored the **Plata** property (Yukon MINFILE 105N 003) with a diamond drill program consisting of 4113 m in 51 holes, excavator trenching and a VTEM geophysical survey. The primary target was vein mineralization emplaced within the Plata thrust fault, a moderately dipping structure that strikes east-west across the property. The Plata property hosts a 1996 historical resource on the Plata #4 vein or Plata Thrust Vein (453 592 t at 376.71 g/t Ag, 10% Pb+Zn and 3.77 g/t Au), which consists of arsenopyrite-pyrite-quartz. The property also hosts numerous other polymetallic silver-lead-zinc veins consisting of galena-tetrahedrite-siderite, several of which have been subjected to historical selective high-grade mining. The Plata comprises over 14 veins that occur over a 2 by 5 km area. Veins are hosted in fault or fracture zones cutting the structural fabric in Proterozoic and/or Lower Cambrian limestone, quartzite and shale, which unconformably overlie Devonian shale and chert. Drilling was successful at outlining an area of mineralization over 500 m downdip and 850 m along strike (Table 14). Exploration on the property also uncovered new areas of mineralization with average grades in chip samples from two trenches located 200 m apart of 1060 g/t Ag, 3.57 g/t Au and 6.6% Pb over 1.87 m (Fig. 12).



**Figure 12.** Trail building at the Plata property. Photo provided by Rockhaven Resources.

**Table 14.** Selected 2008 drill intersections for the Plata property.

| Drillhole | Depth of intersection (m) | Intersection*                                            |
|-----------|---------------------------|----------------------------------------------------------|
| PL-08-02  | 101.02                    | 1.30 m @ 769.00 g/t Ag, 3.60 g/t Au, 2.42% Pb, 3.00% Zn  |
| PL-08-16  | 12.81                     | 2.44 m @ 778.81 g/t Ag, 0.80 g/t Au, 11.25% Pb, 0.79% Zn |
| PL-08-17  | 14.94                     | 1.52 m @ 711.00 g/t Ag, 4.57 g/t Au, 7.24% Pb, 6.17% Zn  |
| PL-08-45  | 55.47                     | 1.83 m @ 203.15 g/t Ag, 1.64 g/t Au, 3.48% Pb, 4.89% Zn  |

\*Intersection represents 95-100% of the true width of the vein.

The A-1 vein on the **Stump** property (Yukon MINFILE 105F 056) of Klondike Silver Corp. ([www.klondikesilver.com](http://www.klondikesilver.com)) was subjected to additional bulk sampling in 2008, following up on an 80 ton bulk sample that was collected in 2007 (Table 15) and processed at Klondike Silver's Sandon mill in southeastern British Columbia. In 2008, an additional 2500 to 3000 tonnes were excavated and shipped to the Sandon mill. Exact tonnages and grades will be determined during processing. The A-1 vein is located approximately 5 km east of the Ketzka River gold property, and the dominantly galena-rich vein is hosted in upper Cambrian and Lower Ordovician thinly bedded silty limestone.

**Table 15.** Head grades for Stump property bulk sample, Sept./Oct. 2007.

| Sample            | Tonnage<br>(short tons) | Pb (%) | Ag (g/t) | Zn (%) |
|-------------------|-------------------------|--------|----------|--------|
| Head sample Lot B | 8.7                     | 39.87  | 1578     | 0.38   |
| Head sample Lot C | 31.5                    | 37.41  | 1416     | 0.37   |
| Head sample Lot E | 27                      | 39.32  | 1559     | 1.34   |
| Head sample Lot F | 13.5                    | 42.62  | 1612     | 0.3    |

Monster Mining spent approximately \$1 million trenching and drilling its newly acquired properties in the Keno Hill Mining District, east of the past-producing mines in the area. The Caribou Zone, Alice Zone and **Homestake** (Yukon MINFILE 105M 011) were trenching, and intersected sulphide-mineralized veins with visible galena. In total, 17 holes of diamond drilling (1928 m) and 53 holes (1763 m) of rotary air blast drilling were completed. In addition to prospecting historical showings in the area, Monster rebuilt the portal at Homestake (Fig. 13) in anticipation of future underground exploration.



**Figure 13.** Prospector Matthias Bindig, geologist Lauren Blackburn and an investor visiting the rebuilt portal at the Homestake property.

Mega Silver Inc., ([www.megasilver.ca](http://www.megasilver.ca)) explored the **Eagle** project (Yukon MINFILE 105M 021) which comprises the SpiderMan property, the Fisher property and the recently acquired Eagle property in the historic Keno Hill silver district. The company performed airborne magnetometer and VLF geophysical surveys, trenching, soil sampling and geological mapping in 2008, and compiled previously unreported historical information. Historical trenches at the Eagle vein expose silver-lead-zinc mineralization at surface. The Eagle vein is the only known significant mineralized transverse vein-fault on Galena Hill that has not been developed and explored by underground drifting. The Eagle vein is located roughly 1.5 km south of, and parallel to, the vein structures of the Hector-Calumet mine, which produced almost half of all metal in the Keno Hill camp from 1935 to 1972. The Eagle vein varies from 0.6 to 4.9 m wide with mineralized lenses of silver-rich galena, sphalerite and tetrahedrite in a siderite, pyrite and quartz gangue hosted in Keno Hill quartzite. Historical drilling is reported to have intersected values of up to 1886 g/t Ag over 2.1 m. Mega Silver is financed and intends to conduct a major drill program on the property in 2009.

## BASE METALS – ZINC

### SEDIMENTARY

In 2008, Selwyn Resources Ltd. ([www.selwynresources.com](http://www.selwynresources.com)) completed a large program on its **Selwyn** (Howards Pass; Yukon MINFILE 105I 12, 37, 38) zinc-lead property located on the Yukon/NWT border, 160 km northeast of Ross River. The Selwyn Sedex deposit is one of the largest zinc-lead resources in the world (Table 16). Fine-grained, rhythmic laminations of sphalerite, pyrite and galena are hosted in black shale of the Ordovician-Silurian Road River Formation. The 2008 program focused on exploring for high-grade mineralization, with 3857 m drilled in 13 drillholes. A new area of high-grade mineralization was discovered in the XY West zone, which remains open for expansion; deep drilling in the Don East deposit confirmed the continuity of the mineralized ‘active member’ at depth (Table 17). The company also continued comprehensive baseline environmental studies and a technical program focused on metallurgy, mining techniques and project infrastructure.

**Table 16.** NI 43-101-compliant resource for the Selwyn deposit (2007).

| Class                              | Tonnage   | Grade                  |
|------------------------------------|-----------|------------------------|
| indicated                          | 154.35 Mt | 5.35% Zn,<br>1.86% Pb  |
| inferred                           | 231.54 Mt | 4.54% Zn,<br>1.42% Pb  |
| High-grade resource (January 2008) |           |                        |
| indicated                          | 16.064 Mt | 10.25% Zn,<br>4.43% Pb |
| inferred                           | 23.156 Mt | 8.86% Zn,<br>2.8% Pb   |

**Table 17.** Selected 2008 drillhole intersections for the Selwyn property.

| Drillhole     | Depth of intersection (m) | Intersection*                    |
|---------------|---------------------------|----------------------------------|
| XY West zone  |                           |                                  |
| XYC-172       | 257.10                    | 9.10 m @ 8.16% Zn and 2.88% Pb   |
| including     | 257.10                    | 3.71 m @ 14.81% Zn and 5.49% Pb  |
| including     | 258.30                    | 1.96 m @ 21.68% Zn and 8.84% Pb  |
| and           | 282.60                    | 5.11 m @ 5.98% Zn and 2.07% Pb   |
| XYC-174       | 105.10                    | 35.84 m @ 9.99% Zn and 3.34% Pb  |
| including     | 139.70                    | 10.36 m @ 16.08% Zn and 5.71% Pb |
| including     | 140.40                    | 4.62 m @ 22.48% Zn and 8.74% Pb  |
| Don East zone |                           |                                  |
| DON-142       | 968.50                    | 4.24 m @ 7.07% Zn and 2.07% Pb   |
| including     | 968.50                    | 2.55 m @ 7.88% Zn and 2.21% Pb   |

\*Approximate thickness given is calculated based on true thickness being 70% of intercept length

Copper Ridge Exploration ([www.copper-ridge.com](http://www.copper-ridge.com)) explored its **Clear Lake** sedimentary exhalative property (Yukon MINFILE 105L 045), located 110 km northwest of Faro. The zinc-lead-silver-barite massive sulphide deposit is hosted by carbonaceous argillite, siltstone, chert and tuff of the Devonian to Mississippian Earn Group within Selwyn Basin. A 235 km VTEM airborne geophysical survey was completed over the property in 2008. A number of targets that could represent buried massive sulphide bodies similar to Clear Lake have been identified. The Company is awaiting final interpretation of results before planning further exploration on the property.

**Table 18.** JORC Code (Australia) compliant resource base for the Andrew Zinc Deposit (2008).

| Class     | Tonnage     | Grade*                                             |
|-----------|-------------|----------------------------------------------------|
| measured  | 88 000 t    | 7.2% Zn,<br>1% Pb,<br>4.9 g/t Ag,<br>26.3 g/t Ge   |
| indicated | 4 100 000 t | 7.7% Zn,<br>1.8% Pb,<br>5.7 g/t Ag,<br>18.5 g/t Ge |
| inferred  | 856 000 t   | 6.6% Zn,<br>1.3% Pb,<br>4.1 g/t Ag,<br>11.7 g/t Ge |
| total     | 5 044 000 t | 7.5% Zn,<br>1.7% Pb,<br>5.4 g/t Ag,<br>17.4 g/t Ge |

\*3% Zn cut-off grade

## VEIN/BRECCIA

The **Andrew** (Yukon MINFILE 105K 089) is a zinc-lead-silver-germanium property owned by Overland Resources ([www.overlandresources.com](http://www.overlandresources.com)), an Australian-based exploration company. At the Andrew, sphalerite-galena-calcite-quartz veins and breccias occupy fractures in Upper Devonian to Mississippian Earn Group clastic rocks. Drilling in 2008 resulted in the completion of 134 drillholes at the property (Fig. 14), located 105 km north of Ross River. The 23 545 m drill program was designed to expand and upgrade the resource (Table 18) and test other exploration targets on the property. Ore grade intercepts were drilled outside the limits of the proposed open pit, including drillholes collared in the newly discovered Darcy Zone (Table 19), approximately 600 m southeast of the Andrew Zinc Deposit. Drilling on the new Adrian and Darin prospects and a new zone to the west of the Andrew Zinc deposit also produced significant intersections in several holes (Table 19). The Company has begun the permitting process for the property and is re-evaluating the proposed mine design based on new drilling data.

**Table 19.** Selected 2008 drill results for the Andrew property.

| Drillhole                    | Zone/Area      | Depth of intersection (m) | Intersection               |
|------------------------------|----------------|---------------------------|----------------------------|
| AN08-051                     | open pit       | 158.00                    | 16.0 m @ 9.4% Pb           |
|                              |                | 178.80                    | 10.2 m @ 2.3% Zn, 13.0% Pb |
| AN08-068                     | NE of open pit | 122.40                    | 45.0 m @ 8.7% Zn           |
| AN08-110                     | W of Andrew    | 246.10                    | 7.8 m @ 6.2% Zn, 0.9% Pb   |
|                              |                | 262.70                    | 6.4 m @ 7.6% Zn, 11.6% Pb  |
| DY08-002<br>including<br>and | Darcy          | 85.70                     | 28.3 m @ 13.6% Zn          |
|                              |                | 85.70                     | 10.8 m @ 22.4% Zn          |
|                              |                | 139.30                    | 43.9 m @ 11.9% Zn          |
| AD08-004                     | Adrian         | 25.80                     | 2.0 m @ 4.6% Zn            |



**Figure 14.** Aerial view of Andrew property.



**Figure 15.** Drilling at the Blende property. Photo courtesy of Eagle Plains Resources.

**Table 20.** NI 43-101-compliant resource for the Blende property (2004).

| Class    | Tonnage | Grade                                 |
|----------|---------|---------------------------------------|
| inferred | 15.3 Mt | 3.23% Pb,<br>3.04% Zn,<br>67.5 g/t Ag |

Eagle Plains Resources ([www.eagleplains.com](http://www.eagleplains.com)) and option partner Blind Creek Resources Ltd. ([www.blindcreekresources.com](http://www.blindcreekresources.com)) explored the **Blende** zinc-lead-silver property in central Yukon with seven holes (1047 m) in 2008 (Fig. 15). The deposit (Table 20) is hosted by Lower Proterozoic Gillespie Group dolomite. Epigenetic mineralization occurs in breccia along a shear zone about 6 km long and up to 200 m wide. The 2008 program was designed to outline and expand known mineralized zones and provide samples from the West and Far West zones to carry out metallurgical test work. Two holes were completed in the West zone; five holes were collared in the Far West zone (one hole was abandoned). Drilling results are pending.

#### MISSISSIPPI VALLEY TYPE/REPLACEMENT

The **Michelle** property (Yukon MINFILE 116A 016) of Zinccorp Resources Inc. ([www.zinc-corp.com](http://www.zinc-corp.com)), located 130 km northeast of Dawson, represents a new base metal discovery for Yukon. The discovery was made while drilling in 2007, and results were announced in 2008. The discovery hole returned an impressive 7.94 m that averaged 22.72% Zn, 17.38% Pb and 510.7 g/t Ag. Early Proterozoic Gillespie Lake Group dolomite hosts the carbonate-replacement mineralization in fractures and breccia zones. Structural controls on mineralization are evident at the Peak showing, which is hosted in an easterly trending fault, and at the Gully showing,

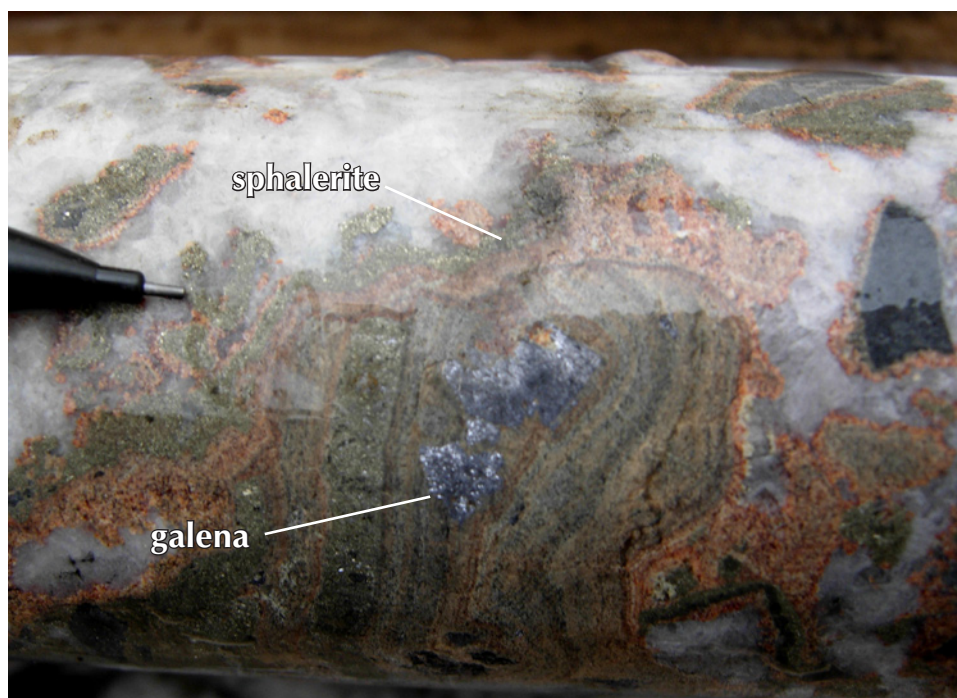


**Figure 16.** Galena, red sphalerite and pyrite in Og property core.

where the mineralization occurs in a northerly trending structure. A total of 3113 m (26 holes) of drilling was completed in 2008 on the Peak and Gully showings. Mineralization and geochemical anomalies overlying these zones have been traced for about 600 m along strike and remain open to extension. Results from the 2008 drilling are pending.

Full Metal Minerals' ([www.fullmetalm minerals.com](http://www.fullmetalm minerals.com)) **Og** property (Yukon MINFILE 116B 083), optioned by Ashburton Ventures Inc., covers several sediment-hosted and carbonate replacement zinc-silver-lead prospects (Fig. 16). Full Metal drilled eight holes (2182 m) on the land package, located 40 km north of Dawson City – the first drill holes on the property in over 30 years. Full Metal also performed a ground-based gravity survey in 2008. Results are pending.

The **Goz** property (Yukon MINFILE 106C 020), which hosts a carbonate-replacement deposit occurring in stratabound and discordant zones within Late Proterozoic dolostone, was explored with drilling in 2008 by Tarsis Resources ([www.tarsis.ca](http://www.tarsis.ca)). The historical non-NI 43-101-compliant resource for Goz is 2.49 Mt grading 11% Zn. Drilling (773 m in seven holes) was completed along a 160 m portion of the interpreted structural trend hosting sphalerite-rich mineralization defining the Main Zone. Most drillholes were located along historical lines to test previously reported intersections. Significant intersections included an intercept of 62.05% Zn and 45.10 g/t Ag over 0.70 m. Select drill results are provided in Table 21. Trial gravity surveys were conducted on two grids in 2008. At the Main Zone, the survey highlighted a linear residual gravity anomaly approximately 200 by 40 m. Results from the Walt Ridge survey, a zinc-lead soil geochemical anomaly, are pending. The company is currently conducting detailed geological modelling and working towards the completion of a NI 43-101-compliant resource estimate for the deposit.

**Table 21.** Selected 2008 drillhole results for the Goz property.

| Drillhole | Depth of intersection (m) | Intersection                      |
|-----------|---------------------------|-----------------------------------|
| GZ-08-58  | 35.51                     | 40.68 m @ 13.55% Zn, 29.88 g/t Ag |
| including | 48.28                     | 27.91 m @ 17.19% Zn, 39.67 g/t Ag |
| and       | 93.80                     | 14.69 m @ 8.56% Zn, 6.76 g/t Ag   |
| GZ-08-60  | 24.13                     | 25.31 m @ 7.00% Zn, 5.10 g/t Ag   |
| including | 48.74                     | 0.70 m @ 62.05% Zn, 45.10 g/t Ag  |
| GZ-08-61  | 25.54                     | 27.50 @ 12.83% Zn, 10.91 g/t Ag   |
| including | 28.74                     | 9.29 m @ 19.48% Zn, 14.47 g/t Ag  |
| including | 37.01                     | 1.02 m @ 43.20% Zn, 7.06 g/t Ag   |

## BASE METALS – COPPER

### PORPHYRY/SHEETED VEIN

Capstone Mining ([www.capstonemining.com](http://www.capstonemining.com)) drilled 120 holes for a total of 23 840 m on the Area 2, Area 118 and Ridgetop deposits at its copper-gold **Minto** property (Yukon MINFILE 1151 012; see page 5 for development summary). Multiple ore-grade intercepts were intersected, particularly on the Ridgetop deposit (Table 22), which remains open to the east. The 2008 drilling expanded the resources in these areas peripheral to the main Minto deposit, providing data to support a pre-feasibility study for developing these deposits. Completion of the pre-feasibility study is targeted for mid-2009. The study will incorporate results of 2008 drilling for all deposits and evaluate development options, as well as determine optimal throughput levels, including a possible mill expansion to 4000-5000 tonnes per day.

**Table 22.** Selected 2008 drill intersections for Ridgetop East target, Minto property.

| Hole ID   | Depth of intersection (m) | Intersection                               |
|-----------|---------------------------|--------------------------------------------|
| 08SWC-358 | 53.4                      | 61.9 m @ 0.97% Cu, 0.26 g/t Au, 2.5 g/t Ag |
| including | 53.4                      | 6.5 m @ 3.99% Cu, 1.11 g/t Au, 6.3 g/t Ag  |
| and       | 97.9                      | 10.1 m @ 1.9% Cu, 0.41 g/t Au, 6.3 g/t Ag  |
| including | 104.0                     | 4.0 m @ 3.15% Cu, 0.64 g/t Au, 9.5 g/t Ag  |
| 08SWC-359 | 39.2                      | 60.6 m @ 0.72% Cu, 0.16 g/t Au, 1.5 g/t Ag |
| and       | 78.9                      | 20.9 m @ 1.04% Cu, 0.38 g/t Au, 2.8 g/t Ag |
| including | 78.9                      | 6.8 m @ 2.12% Cu, 0.82 g/t Au, 5.1 g/t Ag  |

In 2007, Western Copper Corp. ([www.westerncoppercorp.com](http://www.westerncoppercorp.com)) reported the key findings of the independent feasibility study by M3 Engineering and Technology Inc. of Tucson which supports the development of the **Carmacks Copper** deposit (Yukon MINFILE 1151 008), located 192 km north of Whitehorse. The Yukon government issued a decision document in September, 2008, agreeing with the recommendation of the Yukon Environmental and Socio-economic Assessment Board (YESAB) that Western Copper Corp.'s Carmacks copper project proceed. The issuance of the positive decision document completed the assessment process under the *Yukon Environmental and Socio-economic Assessment Act* (YESAA).

A technical report with a new NI 43-101-compliant resource estimate for the **Carmacks Copper** property was released in January 2008 (Table 23). The deposit has a measured and indicated resource estimate of 16 million tonnes containing 351.7 million pounds of copper (159.9 million kg), 206,600 ounces of gold (6 425 260 g) and 2.1 million ounces of silver (65 310 000 g). Geotechnical drilling, engineering studies and water sampling were conducted in 2008 in preparation for mine development. The next steps for the

company are to obtain its Quartz Mining Licence and Class A Water Licence, which will complete permitting of the project. The property is being developed as an open-pit operation that will use solvent extraction/electrowinning technology to produce 14 500 tonnes of LME Grade A cathode copper annually from the oxide deposits.

**Table 23.** NI 43-101-compliant resource for Carmacks Copper (2008).

| Class                  | Type              | Tonnage | Grade*                                                        |
|------------------------|-------------------|---------|---------------------------------------------------------------|
| measured and indicated | oxide resource    | 12 Mt   | 0.86% Cu oxide, 0.21% Cu sulphide, 0.457 g/t Au, 4.578 g/t Ag |
| measured and indicated | sulphide resource | 4.3 Mt  | 0.03% Cu oxide, 0.73% Cu sulphide, 0.221 g/t Au, 2.369 g/t Ag |

\*0.25% total Cu cut-off grade

Western Copper Corp. ([www.westerncoppercorp.com](http://www.westerncoppercorp.com)) completed a pre-feasibility study in August 2008 on the porphyry copper-gold-molybdenum **Casino** property (Yukon MINFILE 115J 028) in west-central Yukon (Fig. 17). The study determined the property could be developed economically as an open-pit mine with an initial capital cost of \$2.1 billion. Initial development on the property would target the deposit's oxide cap (see Table 24 for resource estimate). Preliminary production estimates for the project are 5.1 million ounces of gold (158.6 million g), 3.6 billion pounds of copper (1.63 billion kg) and 320 million pounds of molybdenum (145.5 million kg) over a 30-year mine life. The Casino deposit is hosted by the Casino Complex, a Cretaceous plutonic suite with an intense hydrothermal alteration overprint. In 2008, the company refurbished the camp, drilled three holes totalling 1163 m, and continued baseline environmental studies.



**Figure 17.** Aerial view of the refurbished Casino camp.

**Table 24.** NI 43-101-compliant resource for the Casino property (2008).

| Class                       | Tonnage | Grade*                          |
|-----------------------------|---------|---------------------------------|
| Leached cap/oxide gold zone |         |                                 |
| inferred                    | 1 Mt    | 0.1% Cu, 0.45 g/t Au, 0.01% Mo  |
| measured and indicated      | 38 Mt   | 0.07% Cu, 0.57 g/t Au, 0.02% Mo |

\*0.40 g/t Au cut-off grade

| Class                  | Tonnage | Grade*                          |
|------------------------|---------|---------------------------------|
| Supergene oxide zone   |         |                                 |
| inferred               | 9 Mt    | 0.26% Cu, 0.18 g/t Au, 0.01% Mo |
| measured and indicated | 46 Mt   | 0.31% Cu, 0.33 g/t Au, 0.02% Mo |

\*0.25% Cu-equivalent cut-off grade

| Class                   | Tonnage | Grade*                          |
|-------------------------|---------|---------------------------------|
| Supergene sulphide zone |         |                                 |
| inferred                | 23 Mt   | 0.21% Cu, 0.14 g/t Au, 0.01% Mo |
| measured and indicated  | 133 Mt  | 0.31% Cu, 0.31 g/t Au, 0.02% Mo |

\*0.25% Cu-equivalent cut-off grade

| Class                  | Tonnage | Grade*                          |
|------------------------|---------|---------------------------------|
| Hypogene zone          |         |                                 |
| inferred               | 200 Mt  | 0.15% Cu, 0.18 g/t Au, 0.02% Mo |
| measured and indicated | 200 Mt  | 0.19% Cu, 0.21 g/t Au, 0.02% Mo |

\*0.25% Cu-equivalent cut-off grade

## VOLCANIC

The **Mor** property (Yukon MINFILE 105C 061) of Tarsis Capital Corp.([www.tarsis.ca](http://www.tarsis.ca)) is a volcanogenic massive sulphide target discovered in drilling in 2004. It is located 35 km east of Teslin and just 1.5 km north of the Alaska Highway. An eight-hole, 1703 m drill program in 2008 tested the Discovery horizon (down-dip and along-strike) and the new SD zone (Fig. 18), 2 km south of the Discovery horizon, a target identified by an airborne geophysical survey in 2007 (Table 25). Massive sulphide mineralization at the Mor occurs within mafic volcanoclastic strata of the Big Salmon Complex and is commonly flanked by moderately heavily disseminated sulphide above and below the mineralization.



**Figure 18.** Yukon Geological Survey geologist Maurice Colpron and Mark Blythe of Tarsis Resources at the SD zone, Mor property.

**Table 25.** Selected 2008 drill intersections for the Mor property.

| Drillhole      | Depth of intersection (m) | Intersection*                                                    |
|----------------|---------------------------|------------------------------------------------------------------|
| Discovery zone |                           |                                                                  |
| MOR07-03       | 141.44                    | 5.46 m @ 1.36 g/t Au, 55.80 g/t Ag, 1.20% Cu, 0.83% Pb, 2.85% Zn |
| MOR08-06       | 93.53                     | 9.95 m @ 0.63 g/t Au, 21.60 g/t Ag, 0.45% Cu, 0.3% Pb, 1.9% Zn   |
| including      | 96.17                     | 1.15 m @ 0.58 g/t Au, 51.00 g/t Ag, 0.24% Cu, 0.93% Pb, 6.74% Zn |
| MOR08-07       | 124.83                    | 5.78 m @ 0.26 g/t Au, 13.20 g/t Ag, 0.47% Cu, 0.08% Pb, 0.55% Zn |
| SD zone        |                           |                                                                  |
| MOR08-12       | 96.51                     | 0.79 m @ 0.01 g/t Au, 0.21% Cu                                   |
|                | 207.25                    | 0.87 m @ 0.14 g/t Au, 3.10 g/t Ag, 0.45% Cu                      |

\*Thicknesses represent true thickness

Yukon Gold Corporation ([www.yukongoldcorp.com](http://www.yukongoldcorp.com)) conducted an exploration program on the **Marg** (Yukon MINFILE 106D 009) deposit that consisted of 3674 m of drilling in 10 holes. A preliminary economic study on the deposit was also initiated by the company. Six drillholes produced metallurgical test samples and four holes were designed to test the extension of known mineralization (Table 26). The property, located 80 km northeast of Mayo, is host to a volcanogenic massive sulphide deposit (Table 27) occurring within Devonian to Mississippian Earn Group volcanoclastic and sedimentary rocks.

**Table 26.** Selected 2008 drillhole results for the Marg property.

| Drillhole            | Depth of intersection (m) | Intersection                                                      |
|----------------------|---------------------------|-------------------------------------------------------------------|
| Main zone            |                           |                                                                   |
| M-109                | 145.80                    | 11.55 m @ 1.72% Cu, 1.72% Pb, 3.64% Zn, 42.41 g/t Ag, 0.63 g/t Au |
| Exploratory drilling |                           |                                                                   |
| M-114                | 418.60                    | 1.50 m @ 0.38% Cu, 0.48% Pb, 0.86% Zn, 10.74 g/t Ag, 0.13 g/t Au  |
| including            | 419.60                    | 0.5 m @ 0.90% Cu, 1.16% Pb, 2.03% Zn, 25.80 g/t Ag, 0.24 g/t Au   |
| M-116                | 361.35                    | 1.15 m @ 1.60% Cu, 0.86% Pb, 2.61% Zn, 24.16 g/t Ag, 0.44 g/t Au  |
| including            | 361.95                    | 0.55 m @ 3.05% Cu, 1.55% Pb, 4.78% Zn, 42.30 g/t Ag, 0.81 g/t Au  |

**Table 27.** NI 43-101-compliant resource for the Marg property (2007).

| Class     | Tonnage | Grade                                                  |
|-----------|---------|--------------------------------------------------------|
| indicated | 1.72 Mt | 1.97% Cu, 4.59% Zn, 2.4% Pb, 59.7 g/t Ag, 0.95 g/t Au  |
| inferred  | 4.8 Mt  | 1.81% Cu, 4.64% Zn, 2.28% Pb, 55.4 g/t Ag, 0.78 g/t Au |

In early June 2008, a 215 m diamond drillhole was completed at the new **Highway** property of Strategic Metals ([www.strategicmetalsLtd.com](http://www.strategicmetalsLtd.com)) in south Yukon. The single drillhole tested a VTEM anomaly defined by a survey flown in 2007 over stratigraphy known to host volcanogenic massive sulphide deposits. This hole intersected a deep section of conductive clays deposited in an old lake bottom.

## SKARN

Yankee Hat Minerals ([www.yankeehatminerals.com](http://www.yankeehatminerals.com)) explored the **Lobo del Norte** property (formerly Cowley Park; Yukon MINFILE 105D 053, 059) and drilled 20 holes for a total of 2000 m in 2008 (Table 28). The claims are located in the Whitehorse copper belt and contain several mineralized occurrences associated with the intrusion of the mid-Cretaceous Whitehorse Pluton into Triassic carbonates and calcareous siltstones, forming copper-molybdenum skarn. Several other near-surface deposits on the property remain to be tested.

**Table 28.** Selected 2008 drillhole results for the Lobo Del Norte property (Cowley Park zone).

| Drillhole   | Depth of intersection (m) | Intersection                  |
|-------------|---------------------------|-------------------------------|
| CP-140-2008 | 32.18                     | 3.00 m @ 0.53% Cu             |
|             | 36.33                     | 7.87 m @ 3.85% Cu, 0.1% Mo    |
|             | 55.03                     | 1.00 m @ 2.65% Cu, 0.4% Mo    |
|             | 62.67                     | 1.34 m @ 8.37% Cu             |
| CP-142-2008 | 48.77                     | 8.66 m @ 2.31% Cu, 0.07% Mo   |
| CP-144-2008 | 16.76                     | 7.62 m @ 0.51% Cu             |
|             | 32.28                     | 41.77 m @ 1.62% Cu, 0.04 % Mo |

## BASE METALS – NICKEL + PLATINUM GROUP ELEMENTS (PGE)

## MAFIC/ULTRAMAFIC

Northern Platinum Ltd. continued exploration on its **Wellgreen** (Yukon MINFILE 115G 024) property in southwestern Yukon with 4533 m drilled in 12 holes. Nickel, copper and PGE mineralization occurs within a layered 600 m-thick Triassic mafic-ultramafic sill (Fig. 19). An updated resource was released in July 2008 (Table 29). Drill results are pending.

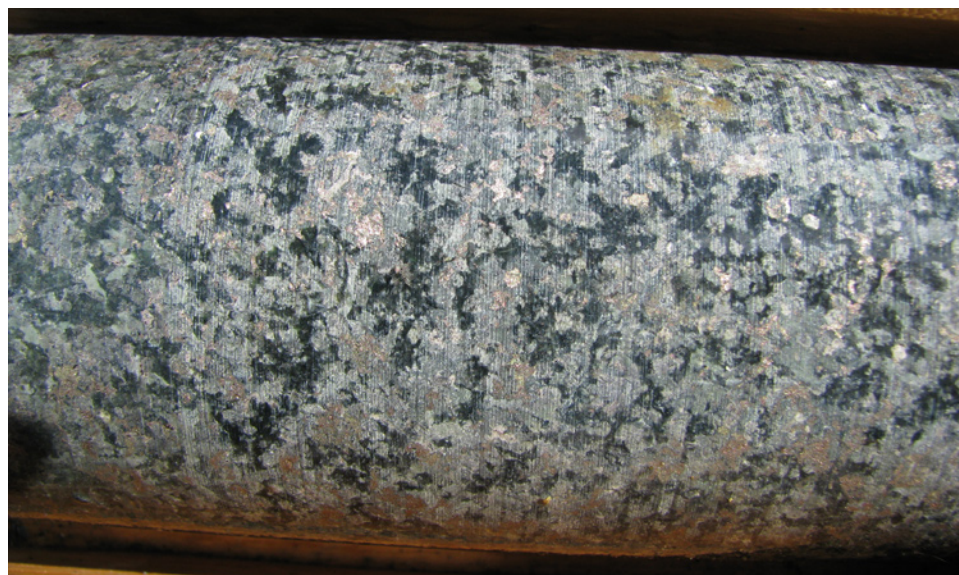


**Figure 19.** Disseminated sulphide minerals (pyrrhotite-pentlandite) in gabbro drilled at the Wellgreen property.

**Table 29.** NI 43-101-compliant resource for the Wellgreen property (2008).

| Class     | Tonnage | Grade*                                                  |
|-----------|---------|---------------------------------------------------------|
| indicated | 6.4 Mt  | 0.45% Cu,<br>0.43% Ni,<br>0.309 ppm Pd,<br>0.377 ppm Pt |
| inferred  | 23.9 Mt | 0.28% Cu,<br>0.29% Ni,<br>0.274 ppm Pd,<br>0.377 ppm Pt |

\*0.20% Ni-equivalent cut-off grade

The **Burwash** property, under option to Pacific Coast Nickel Corp. ([www.pacificcoastnickel.com](http://www.pacificcoastnickel.com)) from Strategic Metals Ltd., hosts nickel-copper-platinum group element (PGE) mineralization related to intrusions of the Late Triassic Kluane Mafic-Ultramafic Suite in southwest Yukon. Soil geochemistry and a helicopter-borne Versatile Time Domain Electromagnetic (VTEM) survey flown in 2007 defined numerous targets on the Burwash property. These were drill-tested by Pacific Coast in 2008 with five holes for a total of 466 m (Table 30).

**Table 30.** Selected 2008 drillhole results for Main Sill at the Burwash property.

| Drillhole | Depth of Intersection (m) | Intersection*                                            |
|-----------|---------------------------|----------------------------------------------------------|
| 08-03     | 4.37                      | 42.57 m @ 0.16% Ni, 0.12% Cu, 0.170 g/t Pt, 0.075 g/t Pd |
|           | 56.08                     | 18.29 m @ 0.15% Ni, 0.06% Cu, 0.149 g/t Pt, 0.105 g/t Pd |
|           | 75.40                     | 8.12 m @ 0.14% Ni, 0.03% Cu, 0.135 g/t Pt, 0.108 g/t Pd  |
| 08-05     | 4.57                      | 10.67 m @ 0.23% Ni, 0.06% Cu, 0.151 g/t Pt, 0.252 g/t Pd |
|           | 33.90                     | 67.80 m @ 0.22% Ni, 0.07% Cu, 0.147 g/t Pt, 0.198 g/t Pd |
|           | 108.45                    | 3.00 m @ 0.25% Ni, 0.17% Cu, 0.360 g/t Pt, 0.130 g/t Pd  |

\*Insufficient data are available to determine whether intersections are true widths

SEDIMENTARY

In April and May 2008, a six-hole diamond drill program (1819 m) was conducted on the **NiMo** project, which includes the Deer and Rich claims of Southampton Ventures ([www.southamptonventures.com](http://www.southamptonventures.com)) and Strategic Metals ([www.strategicmetalsLtd.com](http://www.strategicmetalsLtd.com)). The drilling was followed by helicopter-borne VTEM and magnetic surveys flown over the Nick (Yukon MINFILE 106D 092) claims in July 2008. The properties cover a regionally extensive occurrence of Middle Devonian stratiform sedimentary exhalative massive sulphide mineralization enriched in nickel, molybdenum, vanadium, zinc, platinum and palladium.



**Figure 20.** Geotechnical drilling at the Mac-Tung property.

BASE METALS – TUNGSTEN + MOLYBDENUM SKARN

North American Tungsten Corporation Ltd. ([www.northamericantungsten.com](http://www.northamericantungsten.com)) is conducting a definitive feasibility study on the **MacTung** deposit (Yukon MINFILE 105O 002; Fig. 20). The MacTung property, which is situated on the Northwest Territories/Yukon border in east-central Yukon, contains the largest tungsten deposit outside of China (Table 31). The skarn deposit is hosted in Lower Cambrian clastic rocks and limestone at the margin of a Cretaceous intrusion. A program of both infill drilling on the deposit and geotechnical drilling was conducted.

StrataGold Corp. ([www.stratagold.com](http://www.stratagold.com)) conducted drilling on their **Mar-Tungsten** deposit (Yukon MINFILE 106D 027) to increase the resource on the property. A total of 34 diamond drillholes were completed in 2008



**Figure 21.** Trench on the Mar-Tungsten property.

for a total of 4058 m. The diamond drill program extended the scheelite mineralization up-dip and along strike, and confirmed grade continuity through infill drilling, resulting in conversion of inferred resources into the indicated category. The mineralization is defined over an 800 m strike length and remains open down-dip and along strike to the north (Fig. 21). The Mar deposit is located within Stratagold's Dublin Gulch property, 50 km north of Mayo. In December, 2008, StrataGold announced a positive preliminary Economic Assessment (PEA) on the property and released an updated NI 43-101-compliant resource estimate (Table 32). The PEA estimates total mine production of 45 725 tonnes of  $\text{WO}_3$  concentrate with an average grade of 58%  $\text{WO}_3$  over an 11 year mine life.

Playfair Mining Ltd. ([www.playfairmining.com](http://www.playfairmining.com)) drilled the **Risby** tungsten deposit (Yukon MINFILE 105F 034) in 2008, extending the tungsten mineralization approximately 220 m along strike to the north of its NI 43-101-compliant inferred resource (Table 33). A total of 1600 m in seven holes (Table 34) encountered similar tungsten grades and widths as those found in the nearby deposit. These intercepts demonstrate a strong on-strike continuity of tungsten mineralization. The skarn deposit is hosted in Lower Paleozoic calcareous rocks that have been intruded by a mid-Cretaceous quartz monzonite pluton of the Cassiar Suite.

**Table 34.** Selected 2008 drill intersections for the Risby project.

| Drillhole | Depth of intersection (m) | Intersection*                 |
|-----------|---------------------------|-------------------------------|
| RT08-50   | 263.84                    | 4.46 m @ 0.263% $\text{WO}_3$ |
| and       | 274.03                    | 8.53 m @ 0.366% $\text{WO}_3$ |
| including | 279.56                    | 3.00 m @ 0.808% $\text{WO}_3$ |
| RT08-51   | 275.70                    | 2.40 m @ 0.775% $\text{WO}_3$ |
| and       | 293.57                    | 4.43 m @ 0.991% $\text{WO}_3$ |
| including | 295.10                    | 2.00 m @ 1.650% $\text{WO}_3$ |
| and       | 312.25                    | 2.22 m @ 0.337% $\text{WO}_3$ |

\*Intercept lengths are core lengths and not true widths

**Table 31.** NI 43-101-compliant resource for the MacTung property (2007).

| Class     | Tonnage   | Grade (% $\text{WO}_3$ ) |
|-----------|-----------|--------------------------|
| indicated | 33.029 Mt | 0.88                     |
| inferred  | 11.857 Mt | 0.78                     |

**Table 32.** NI 43-101-compliant resource for the Mar-Tungsten deposit (2008).

| Class     | Tonnage | Grade* (% $\text{WO}_3$ ) |
|-----------|---------|---------------------------|
| indicated | 12.7 Mt | 0.31                      |
| inferred  | 1.3 Mt  | 0.3                       |

\*Cut-off grade of 0.10%  $\text{WO}_3$

**Table 33.** NI 43-101-compliant resource for Risby deposit (2007).

| Class    | Tonnage  | Grade* (% $\text{WO}_3$ ) |
|----------|----------|---------------------------|
| inferred | 6.386 Mt | 0.462                     |

\*0.2%  $\text{WO}_3$  cut-off grade

PORPHYRY/SHEETED VEIN

**Table 35.** NI 43-101-compliant resource for the Logtung deposit (Northern Dancer property; 2008).

| Class     | Tonnage  | Grade                                |
|-----------|----------|--------------------------------------|
| indicated | 140.8 Mt | 0.10% WO <sub>3</sub> ,<br>0.026% Mo |
| inferred  | 253.2 Mt | 0.10% WO <sub>3</sub> ,<br>0.022% Mo |

Largo Resources Ltd. ([www.largoresources.com](http://www.largoresources.com)) completed a new block model and an updated mineral resource estimate incorporating all drilling results up to 2007 for the **Northern Dancer** property (Logtung deposit; Yukon MINFILE 105B 039). A recent NI 43-101-compliant resource estimate (Table 35) confirms the deposit is one of the world’s largest known tungsten-molybdenum porphyry systems. Largo is conducting a scoping study (scheduled for release in 2009), ongoing exploration and engineering, and environmental studies on the project. The company completed a 38-hole 11 500 m drill program to expand and upgrade the mineral resource on the property. Excellent results have been received to date (Table 36) that will be used to further update the resource calculation as part of the scoping study.

**Table 36.** Selected 2008 drillhole results for the Northern Dancer property.

| Drillhole | Depth of intersection (m) | Intersection                                 |
|-----------|---------------------------|----------------------------------------------|
| LT08-119  | 0.00                      | 371.50 m @ 0.15% WO <sub>3</sub> , 0.025% Mo |
| including | 106.00                    | 49.00 m @ 0.15% WO <sub>3</sub> , 0.036% Mo  |
| including | 273.60                    | 79.40 m @ 0.29% WO <sub>3</sub> , 0.032% Mo  |
| LT08-122  | 0.00                      | 252.98 m @ 0.11% WO <sub>3</sub> , 0.025% Mo |
| including | 78.00                     | 120.36 m @ 0.15% WO <sub>3</sub> , 0.031% Mo |
| LT08-124  | 0.00                      | 275.5 m @ 0.10% WO <sub>3</sub> , 0.030% Mo  |
| including | 54.00                     | 89.10 m @ 0.12% WO <sub>3</sub> , 0.031% Mo  |
| including | 143.10                    | 21.20 m @ 0.06% WO <sub>3</sub> , 0.066% Mo  |
| including | 164.30                    | 49.10 m @ 0.12% WO <sub>3</sub> , 0.031% Mo  |



**Figure 22.** Technician Serge Bellemeure cutting core at the Jennings tungsten project. Photo courtesy of Agnico-Eagle Mines Ltd.

Agnico-Eagle Mines Ltd. ([www.agnico-eagle.com](http://www.agnico-eagle.com)) drilled eight diamond drillholes on its **Jennings** Project (Tootsee River; Yukon MINFILE 105B 089) in south Yukon during September and October 2008. The exploration program was directed toward drilling, prospecting, reconnaissance and interpretation of previously acquired data on the tungsten-molybdenum skarn/porphyry system (Fig. 22). The drill program totaled 4026 m, with drillhole lengths ranging from 420 to 635 m. Assay results are pending.

Prospector Consolidated Resources ([www.prospectorresources.com](http://www.prospectorresources.com)) explored the **Kalzas** tungsten property (Yukon MINFILE 105M 066) in central Yukon, optioned from Copper Ridge Exploration ([www.copper-ridge.com](http://www.copper-ridge.com)). Four diamond drillholes for a total of 505 m were drilled on the property (Table 37). The mineralization at Kalzas consists mainly of wolframite occurring in a broad, sheeted vein and stockwork complex overlying an inferred intrusion.

**Table 37.** Selected 2008 drillhole results for the Kalzas property.

| Drillhole | Intersection                    |
|-----------|---------------------------------|
| K-08-08   | 68 m @ 0.15% WO <sub>3</sub>    |
| K-08-09   | 141.3 m @ 0.21% WO <sub>3</sub> |
| K-08-10   | 95 m @ 0.07% WO <sub>3</sub>    |
| K-08-11   | 191.2 m @ 0.09% WO <sub>3</sub> |

## ACKNOWLEDGEMENTS

This report is based on public information gathered from a variety of sources. It includes information provided by companies through press releases, personal communication with exploration companies, and property visits conducted during the 2008 field season. The cooperation of companies and individuals in providing information, as well as their hospitality, time and access to properties during field tours, is gratefully acknowledged.

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## APPENDIX 1: 2008 EXPLORATION PROJECTS

| Project name           | Optioner/Owner                                       | MINFILE number | NTS            | Work type           | Primary commodity | Deposit                   |
|------------------------|------------------------------------------------------|----------------|----------------|---------------------|-------------------|---------------------------|
| PRECIOUS METALS - GOLD |                                                      |                |                |                     |                   |                           |
| Antimony               | Strategic Metals Ltd.                                | 116B 094       | 116B/08        | AGP, GP             | Au                | porphyry/<br>sheeted vein |
| Arn                    | Auger Resources Ltd./ATAC Resources Ltd.             | 115F 048       | 115F/15        | P, AGP, GP          | Au                | skarn/<br>replacement     |
| Black Fox              | Underworld Resources Inc./RyanWood Exploration Inc.  | 115O 014       | 115O/03        | P, G                | Au                | vein/breccia              |
| Boulevard              | Northgate Minerals Ltd./Rimfire Minerals Corporation | 115J 050       | 115J/13        | GC, T, DD           | Au                | porphyry/<br>sheeted vein |
| Brimstone              | Kreft, Bernie                                        | new            | 115O/10        | P, G, GC            | Au                | vein/breccia              |
| Cheyenne               | Logan Resources Ltd./RyanWood Exploration Inc.       | 116B 096       | 116B/08        | G, C                | Au                | skarn/<br>replacement     |
| Chopin                 | Northern Tiger Resources Inc.                        | 115I 101       | 115I/12        | P, GC, G            | Au                | vein/breccia              |
| Dublin Gulch           | StrataGold Corporation                               | 106D 025       | 106D/4         | DD                  | Au                | porphyry/<br>sheeted vein |
| Echo                   | Northgate Minerals Ltd./Rimfire Minerals Corporation | new            | 115N/10,<br>15 | G, GC               | Au                | porphyry/<br>sheeted vein |
| Eureka                 | Anfield Ventures Inc./Strategic Metals Ltd.          | 115O 057       | 115O/10        | AGP, GP             | Au                | vein/breccia              |
| Fisher                 | Mega Silver Inc./StrataGold Corporation              | 105M 022       | 105M/14        | P, G, GC, T         | Au                | porphyry/<br>sheeted vein |
| Friday                 | Kreft, Bernie                                        | 115O 135       | 115O/10        | P, GC               | Au                | vein/breccia              |
| Goldy                  | Northern Freegold Resources                          | 115I 112       | 115I/06        | DD                  | Au                | vein/breccia              |
| Grew Creek             | Emerick Resources Corp./Carlos, AI                   | 105K 009       | 105K/2         | GP, GC              | Au                | vein/breccia              |
| Haines                 | RyanWood Exploration Inc.                            | 115A 040       | 115A/13        | G, GP, GC           | Au                | vein/breccia              |
| Hartless Joe           | Ferus Resources Ltd./ATAC Resources Ltd.             | 105D 203       | 105D/15        | DD                  | Au                | vein/breccia              |
| Heidi                  | Logan Resources Ltd.                                 | 116A 037       | 116A/5         | GC                  | Au                | skarn/<br>replacement     |
| Homestake              | Monster Mining                                       | 105M 011       | 105M/14        | GC, T, DD,<br>RC/P  | Au                | vein/breccia              |
| Ketza River            | Yukon-Nevada Gold Corp.                              | 105F 019       | 105F/9         | DD, PF              | Au                | skarn/<br>replacement     |
| Key                    | RyanWood Exploration Inc.                            | new            | 105M/14        | G, GP, GC           | Au                | porphyry/<br>sheeted vein |
| Kirkland Creek         | New Shoshoni Ventures Ltd.                           | 115H 057       | 115H/10        | DD                  | Au                | vein/breccia              |
| Laskey                 | Kreft, Bernie                                        | 115O 132       | 115O/10        | GC, T               | Au                | vein/breccia              |
| Log-Tom                | 1356139 Alberta Inc.                                 | 105C 028       | 105C/5         | P, G, GP, GC,<br>DD | Au                | vein/breccia              |

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## Appendix 1 (continued): 2008 EXPLORATION PROJECTS

| Project name             | Optioner/Owner                                      | MINFILE number | NTS     | Work type    | Primary commodity | Deposit                   |
|--------------------------|-----------------------------------------------------|----------------|---------|--------------|-------------------|---------------------------|
| Mike Lake                | Dynamite Resources Ltd.                             | 116A 012A      | 116A/5  | DD           | Au                | skarn/<br>replacement     |
| Myschka                  | Overland Resources Ltd.                             | 105K 090       | 105K/16 | G, GC        | Au                | porphyry/<br>sheeted vein |
| Nana                     | H. Coyne and Sons/McKeown, Sid                      | 105D 076       | 105D/11 | GC, DD       | Au                | skarn/<br>replacement     |
| Nucleus                  | Northern Freegold Resources                         | 115I 107       | 115I/6  | DD           | Au                | porphyry/<br>sheeted vein |
| Rau                      | ATAC Resources Ltd.                                 | 106D 005       | 106D/1  | P, G, DD     | Au                | skarn/<br>replacement     |
| Ridge                    | Northern Freegold Resources                         | new            | 115I/6  | DD           | Au                | vein/breccia              |
| Rosy                     | Valere Mining Limited/ATAC Resources Ltd.           | 105C 024       | 105C/13 | P, G, GC     | Au                | vein/breccia              |
| Skukum Creek             | Tagish Lake Gold Corp.                              | 105D 022A      | 105D/3  | PF           | Au                | vein/breccia              |
| Sonora Gulch             | Northern Tiger Resources Inc.                       | 115J 008       | 115J/9  | DD           | Au                | porphyry/<br>sheeted vein |
| Tinta Hill               | Northern Freegold Resources                         | 115I 058       | 115I/7  | DD           | Au                | vein/breccia              |
| Toni                     | Hulstein, Roger                                     | 116C 153       | 116C/2  | GP, GC, T    | Au                | vein/breccia              |
| VG (Vic)                 | Yukon-Shaanxi/Aurchem Exploration Ltd.              | 115I 068       | 115I/3  | G            | Au                | vein/breccia              |
| White Gold               | Underworld Resources Inc./RyanWood Exploration Inc. | 115O 011       | 115O/4  | DD           | Au                | vein/breccia              |
| PRECIOUS METALS - SILVER |                                                     |                |         |              |                   |                           |
| CMC Silver (Silver Hart) | CMC Metals Ltd.                                     | 105B 021       | 105B/7  | T, BS, DD    | Ag                | vein/breccia              |
| Connaught                | Klondike Silver Corp./ATAC Resources Ltd.           | 115N 040       | 115N/15 | GC, T        | Ag                | vein/breccia              |
| Eagle                    | Mega Silver Inc.                                    | 105M 021       | 105M/14 | AGP, GC      | Ag                | vein/breccia              |
| Evelyn                   | Poulin, Bruno                                       | 105C 041       | 105C/14 | T            | Ag                | vein/breccia              |
| Hopeful                  | ATAC Resources Ltd./Berdahl, Ron                    | 115P 047       | 115P/14 | DD           | Ag                | vein/breccia              |
| Inca                     | Incaplatau Explorations Ltd./Morgan, Tom            | 105O 015       | 105O/12 | GC, RC/P     | Ag                | vein/breccia              |
| Keno Hill                | Alexco Resource Corp.                               | 105M 001       | 105M/14 | DD, U/GD, PF | Ag                | vein/breccia              |
| Mag                      | Kondike Silver Corp./ATAC                           | new            | 115N/15 | GC, T        | Ag                | vein/breccia              |
| Plata                    | Rockhaven Resources Ltd.                            | 105N 003       | 105N/9  | GC, T, DD    | Ag                | vein/breccia              |
| Rancheria Silver         | Tanana Exploration Inc.                             | various        | 105B    | P, GC        | Ag                | skarn/<br>replacement     |
| Stump                    | Klondike Silver Corp.                               | 105F 056       | 105F/9  | BS           | Ag                | vein/breccia              |
| Wolf                     | International KRL Resources/Tarsis Capital Corp.    | 105B 140       | 105B/1  | DD           | Ag                | skarn/<br>replacement     |

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## Appendix 1 (continued): 2008 EXPLORATION PROJECTS

| Project name            | Optioner/Owner                                    | MINFILE number | NTS     | Work type       | Primary commodity | Deposit                 |
|-------------------------|---------------------------------------------------|----------------|---------|-----------------|-------------------|-------------------------|
| BASE METALS - ZINC-LEAD |                                                   |                |         |                 |                   |                         |
| Andrew                  | Overland Resources Ltd./Berdahl, Ron              | 105K 089       | 105K/16 | G, GC, DD       | Zn-Pb             | vein/breccia            |
| Angie                   | Full Metal Minerals/RyanWood Exploration Inc.     | 105F 091       | 105F/15 | GC              | Zn-Pb             | sediment associated     |
| Bar (106C)              | Full Metal Minerals/RyanWood Exploration Inc.     | 106C 026       | 106C/10 | P, GC           | Zn-Pb             | Mississippi Valley Type |
| Blende                  | Blind Creek Resources/Eagle Plains Resources Ltd. | 106D 064       | 106D/7  | DD              | Zn-Pb             | vein/breccia            |
| Bob                     | Strategic Metals Ltd.                             | 105G 107       | 105G/6  | AGP             | Zn-Pb             | Mississippi Valley Type |
| Clear Lake              | Copper Ridge Exploration Inc./Kreft, Bernie       | 105L 045       | 105L/14 | AGP             | Zn-Pb             | sediment associated     |
| Corn                    | Full Metal Minerals/RyanWood Exploration Inc.     | 106C 019       | 106C/11 | P, GC           | Zn-Pb             | Mississippi Valley Type |
| Cypress                 | Full Metal Minerals/RyanWood Exploration Inc.     | 106C 022       | 106C/7  | GC              | Zn-Pb             | Mississippi Valley Type |
| Goz Creek               | Tarsis Capital Corp.                              | 106C 020       | 106C/7  | P, G, GC, DD    | Zn-Pb             | Mississippi Valley Type |
| Groundhog               | Rockhaven Resources Ltd.                          | 105F 093       | 105F/10 | P, G, AGP, GC   | Zn-Pb             | sediment associated     |
| Marg                    | Yukon Gold Corporation Inc.                       | 106D 009       | 106D/1  | DD              | Zn-Pb             | volcanic associated     |
| Michelle                | Zinccorp Resources Inc.                           | 116A 016       | 116A/13 | DD              | Zn-Pb             | Mississippi Valley Type |
| Nebocat                 | Full Metal Minerals/RyanWood Exploration Inc.     | 105G 093       | 105G/6  | GC, G           | Zn-Pb             | sediment associated     |
| OG                      | Full Metal Minerals/RyanWood Exploration Inc.     | 116B 083       | 116B/13 | GP, DD          | Zn-Pb             | Mississippi Valley Type |
| Selwyn Project          | Selwyn Resources Ltd.                             | 105I 012       | 105I/6  | DD, PF          | Zn-Pb             | sediment associated     |
| Tom                     | HudBay Minerals Inc.                              | 105O 001       | 105O/1  | scoping studies | Zn-Pb             | sediment associated     |
| Ultra                   | Morgan, Tom                                       | 115B 008       | 115B/16 | P, GC, T        | Zn-Pb             | volcanic associated     |
| Wolverine               | Yukon Zinc Corporation                            | 105G 072       | 105G/8  | MD              | Zn-Pb             | volcanic associated     |
| Zap                     | Rockhaven Resources Ltd.                          | 106D 085       | 106D/8  | DD              | Zn-Pb             | sediment associated     |

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## Appendix 1 (continued): 2008 EXPLORATION PROJECTS

| Project name            | Optioner/Owner                                  | MINFILE number   | NTS            | Work type          | Primary commodity | Deposit                   |
|-------------------------|-------------------------------------------------|------------------|----------------|--------------------|-------------------|---------------------------|
| BASE METALS - COPPER    |                                                 |                  |                |                    |                   |                           |
| Bond                    | Northern Tiger Resources Inc.                   | 115I 076         | 115I/13        | G, GC              | Cu                | porphyry/<br>sheeted vein |
| Bridget                 | RyanWood Exploration Inc.                       | 115J 072         | 115J/15        | GP, GC             | Cu                | porphyry/<br>sheeted vein |
| Carmacks Copper         | Western Copper Corporation                      | 115I 008         | 115I/7         | DD,<br>permitting  | Cu                | porphyry/<br>sheeted vein |
| Casino                  | Western Copper Corporation                      | 115J 028         | 115J/10        | DD                 | Cu                | porphyry/<br>sheeted vein |
| Copper                  | BCGold Corp./RyanWood Exploration Inc.          | new              | 115I/7         | GP                 | Cu                | porphyry/<br>sheeted vein |
| Cuprum                  | Manson Creek Resources Ltd.                     | 105E 008         | 105E/4         | GP                 | Cu                | skarn/<br>replacement     |
| Dad                     | Northern Tiger Resources Inc.                   | 115I 026         | 115I/14        | G, GC              | Cu                | porphyry/<br>sheeted vein |
| Del                     | Northern Tiger Resources Inc.                   | 115I 095         | 115I/7         | G, GC              | Cu                | vein/breccia              |
| Eagle Eye South         | Kerwin, Gloria                                  | new              | 115F/16        | GC                 | Cu                | porphyry/<br>sheeted vein |
| Fairweather             | Strategic Metals Ltd./RyanWood Exploration Inc. | 105J 010         | 105J/13        | AGP, GP, GC,<br>DD | Cu                | porphyry/<br>sheeted vein |
| Highway                 | Strategic Metals Ltd.                           | new              | 105C/1         | DD                 | Cu                | volcanic<br>associated    |
| Hopper                  | Strategic Metals Ltd.                           | 115H 019         | 115H/7         | P, GC              | Cu                | porphyry/<br>sheeted vein |
| Ironman                 | Vale Inco/Copper Ridge Exploration Inc.         | 116A 017         | 116A/15        | DD                 | Cu                | Wernecke<br>Breccia       |
| King Lake Copper        | 39231 Yukon Inc.                                | 105D 104         | 105D/14        | P, GC              | Cu                | porphyry/<br>sheeted vein |
| Led                     | Northern Tiger Resources Inc.                   | 115 010          | 115I/7         | G, GC              | Cu                | vein/breccia              |
| Lewes River             | Arcturus Ventures Inc.                          | 105D 062         | 105D/10        | GP                 | Cu                | skarn/<br>replacement     |
| Lobo Del Norte (Cowley) | Yankee Hat Minerals/Ernewein, Barry             | 105D 053,<br>059 | 105D/10        | DD                 | Cu                | skarn/<br>replacement     |
| Lucky Joe               | Copper Ridge Exploration Inc.                   | 115O 051         | 115O/11,<br>12 | G, GP, GC          | Cu                | porphyry/<br>sheeted vein |
| Mel (Dawson Range)      | Northern Tiger Resources Inc.                   | new              | 115I/11        | G, GC              | Cu                | porphyry/<br>sheeted vein |
| Minto                   | Capstone Mining Corp.                           | 115I 021         | 115I/11        | G, DD              | Cu                | IOCG                      |
| Mor                     | Tarsis Capital Corp.                            | 105C 061         | 105C/1         | GC, DD             | Cu                | volcanic<br>associated    |
| Peanut                  | BCGold Corp./RyanWood Exploration Inc.          | new              | 115I/7         | GP                 | Cu                | porphyry/<br>sheeted vein |
| Pepper                  | BCGold Corp./RyanWood Exploration Inc.          | new              | 115I/11        | GP                 | Cu                | porphyry/<br>sheeted vein |

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## Appendix 1 (continued): 2008 EXPLORATION PROJECTS

| Project name                                         | Optioner/Owner                                                       | MINFILE number | NTS     | Work type       | Primary commodity | Deposit                     |
|------------------------------------------------------|----------------------------------------------------------------------|----------------|---------|-----------------|-------------------|-----------------------------|
| Shell Creek                                          | Logan Resources Ltd.                                                 | 116C 029       | 116C/9  | GC              | Cu                | sediment associated         |
| Spear                                                | BCGold Corp./RyanWood Exploration Inc.                               | new            | 115I/11 | GP              | Cu                | porphyry/<br>sheeted vein   |
| Stoddart                                             | Northern Freegold Resources                                          | 115I 050       | 115I/6  | DD              | Cu                | porphyry/<br>sheeted vein   |
| Timber                                               | Strategic Metals Ltd.                                                | 105J 035       | 105J/4  | AGP             | Cu                | porphyry/<br>sheeted vein   |
| Toe                                                  | BCGold Corp./RyanWood Exploration Inc.                               | new            | 115I/11 | GP              | Cu                | porphyry/<br>sheeted vein   |
| WS Total                                             | BCGold Corp./RyanWood Exploration Inc.                               | 115I 006       | 115I/7  | GP, DD          | Cu                | porphyry/<br>sheeted vein   |
| BASE METALS - NICKEL ± PLATINUM GROUP ELEMENTS (PGE) |                                                                      |                |         |                 |                   |                             |
| Burwash                                              | Pacific Coast Nickel Corp./Strategic Metals Ltd.                     | 115G 100       | 115G/6  | DD              | Ni/PGE            | mafic/ultramafic associated |
| Canalask                                             | African Minerals Ltd./StrataGold Corporation                         | 115F 045       | 115F/15 | DD              | Ni/PGE            | mafic/ultramafic associated |
| Deer                                                 | Southampton Resources/Strategic Metals Ltd.                          | 116B 128       | 116B/9  | DD              | Ni/PGE            | sediment associated         |
| NiMo                                                 | Southampton Resources/Strategic Metals Ltd.                          | new            | 106E/13 | DD              | Ni/PGE            | sediment associated         |
| Rich                                                 | Southampton Resources/Strategic Metals Ltd.                          | new            | 116I/8  | DD              | Ni/PGE            | sediment associated         |
| Wellgreen                                            | Northern Platinum Ltd.                                               | 115G 024       | 115G/5  | DD              | Ni/PGE            | mafic/ultramafic associated |
| BASE METALS - TUNGSTEN                               |                                                                      |                |         |                 |                   |                             |
| Jennings                                             | Agnico-Eagle Resources/North American Tungsten                       | 105B 089       | 105B/1  | P, G, GC, DD    | W                 | porphyry/<br>sheeted vein   |
| Kalzas                                               | Prospector Consolidated Resources Inc./Copper Ridge Exploration Inc. | 105M 066       | 105M/7  | DD              | W                 | porphyry/<br>sheeted vein   |
| Kidlark                                              | Yankee Hat Minerals                                                  | 105F 097       | 105F/5  | P, G, GP, GC, T | W                 | skarn/<br>replacement       |
| MacTung                                              | North American Tungsten                                              | 105O 002       | 105O/8  | DD, PF          | W                 | skarn/<br>replacement       |
| Mar-Tungsten                                         | StrataGold Corporation                                               | 106D 027       | 106D/4  | DD              | W                 | skarn/<br>replacement       |
| Northern Dancer                                      | Largo Resources Ltd./Strategic Metals Ltd.                           | 105B 039       | 105B/4  | DD, PF          | W                 | porphyry/<br>sheeted vein   |
| Risby                                                | Playfair Mining Ltd.                                                 | 105F 034       | 105F/14 | DD              | W                 | skarn/<br>replacement       |
| Wau                                                  | Yankee Hat Minerals/ATAC Resources Ltd.                              | new            | 106D/1  | G, DD           | W                 | skarn/<br>replacement       |

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## Appendix 1 (continued): 2008 EXPLORATION PROJECTS

| Project name             | Optioner/Owner                                              | MINFILE number | NTS     | Work type  | Primary commodity | Deposit                   |
|--------------------------|-------------------------------------------------------------|----------------|---------|------------|-------------------|---------------------------|
| BASE METALS - MOLYBDENUM |                                                             |                |         |            |                   |                           |
| Molygarchy               | Manson Creek Resources Ltd./37999 Yukon Inc.                | 105E 024       | 105E/2  | G, GP, GC  | Mo                | porphyry/<br>sheeted vein |
| BASE METALS - URANIUM    |                                                             |                |         |            |                   |                           |
| Borealis                 | Copper Ridge Exploration Inc./<br>RyanWood Exploration Inc. | 116B 098       | 116B/11 | G, AGP, GC | U                 | porphyry/<br>sheeted vein |
| RARE EARTH ELEMENTS      |                                                             |                |         |            |                   |                           |
| Lancer                   | Yankee Hat Minerals/Strategic Metals Ltd.                   | 105F 080       | 105F/8  | P, G, GC   | REE               | vein/breccia              |
| REGIONAL PROGRAMS        |                                                             |                |         |            |                   |                           |
| NTS 105B                 | Yankee Hat Minerals                                         |                | 105B    | G, GP, GC  |                   |                           |
| NTS 105G                 | Yankee Hat Minerals                                         |                | 105G    | G, GP, GC  |                   |                           |
| NTS 105K                 | Larocque, Norm                                              |                | 105K    | P, GC, T   |                   |                           |
| NTS 105K                 | Woods, James                                                |                | 105K    | P, GP, GC  |                   |                           |
| NTS 105K                 | Yankee Hat Minerals                                         |                | 105K    | G, GP, GC  |                   |                           |
| NTS 105M                 | RyanWood Exploration Inc.                                   |                | 105M    | GC         |                   |                           |
| NTS 105M                 | Yankee Hat Minerals                                         |                | 105M    | G, GP, GC  |                   |                           |
| NTS 105O                 | RyanWood Exploration Inc.                                   |                | 105O    | GC         |                   |                           |
| NTS 115O                 | RyanWood Exploration Inc.                                   |                | 115O    | GC         |                   |                           |
| NTS 116C                 | Allan, Grant                                                |                | 116C    | GC, T      |                   |                           |
| NTS 116C                 | Lilley, Edward                                              |                | 116C    | P, GC      |                   |                           |

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## APPENDIX 2: 2008 DRILLING STATISTICS

| Property                 | Optioner/Owner                                                       | # drillholes | metres |
|--------------------------|----------------------------------------------------------------------|--------------|--------|
| <b>Diamond drilling</b>  |                                                                      |              |        |
| Andrew                   | Overland Resources Ltd./Berdahl, Ron                                 | 134          | 23545  |
| Blende                   | Blind Creek Resources/Eagle Plains Resources Ltd.                    | 7            | 1047   |
| Boulevard                | Northgate Minerals Ltd./Rimfire Minerals Corporation                 | 7            | 525    |
| Burwash                  | Pacific Coast Nickel Corp./Strategic Metals Ltd.                     | 5            | 466    |
| Canalask                 | African Minerals Ltd./StrataGold Corporation                         |              | 2800   |
| Carmacks Copper          | Western Copper Corporation                                           | 5            | 500    |
| Casino                   | Western Copper Corporation                                           | 3            | 1163   |
| CMC Silver (Silver Hart) | CMC Metals Ltd.                                                      |              | 2000   |
| Deer                     | Southampton Resources/Strategic Metals Ltd.                          | 2            | 216    |
| Dublin Gulch             | StrataGold Corporation                                               | 15           | 4249   |
| Fairweather              | Strategic Metals Ltd./RyanWood Exploration Inc.                      | 3            | 884    |
| Goldy                    | Northern Freegold Resources                                          | 8            | 1500   |
| Goz Creek                | Tarsis Capital Corp.                                                 | 7            | 773    |
| Hartless Joe             | Ferus Resources Ltd./ATAC Resources Ltd.                             | 3            | 612    |
| Highway                  | Strategic Metals Ltd.                                                | 1            | 215    |
| Homestake                | Monster Mining                                                       | 11           | 1264   |
| Hopeful                  | ATAC Resources Ltd./Berdahl, Ron                                     | 6            | 685    |
| Ironman                  | Vale Inco/Copper Ridge Exploration Inc.                              | 4            | 1031   |
| Jennings                 | Agnico-Eagle Resources/North American Tungsten                       | 8            | 4026   |
| Kalzas                   | Prospector Consolidated Resources Inc./Copper Ridge Exploration Inc. | 4            | 505    |
| Keno Hill                | Alexco Resource Corp.                                                |              | 10360  |
| Ketza River              | Yukon-Nevada Gold Corp.                                              | 223          | 30151  |
| Kirkland Creek           | New Shoshoni Ventures Ltd.                                           | 7            | 1158   |
| Lobo Del Norte (Cowley)  | Yankee Hat Minerals/Ernewein, Barry                                  | 21           | 2134   |
| Log-Tom                  | 1356139 Alberta Inc.                                                 | 5            | 663    |
| MacTung                  | North American Tungsten Corporation                                  | 55           | 4256   |
| Mar-Tungsten             | StrataGold Corporation                                               | 34           | 4058   |
| Marg                     | Yukon Gold Corporation Inc.                                          | 10           | 3674   |
| Michelle                 | Zinccorp Resources Inc.                                              | 26           | 3113   |
| Mike Lake                | Dynamite Resources Ltd.                                              | 68           | 10004  |
| Minto                    | Capstone Mining Corp.                                                | 120          | 23840  |
| Mor                      | Tarsis Capital Corp.                                                 | 8            | 1703   |
| Nana                     | H. Coyne and Sons/McKeown, Sid                                       | 4            | 1280   |
| NiMo                     | Southampton Resources/Strategic Metals Ltd.                          | 6            | 1819   |
| Northern Dancer          | Largo Resources Ltd./Strategic Metals Ltd.                           | 38           | 11500  |
| Nucleus                  | Northern Freegold Resources                                          | 53           | 13287  |
| OG                       | Full Metal Minerals/RyanWood Exploration Inc.                        | 8            | 2182   |
| Plata                    | Rockhaven Resources Ltd.                                             | 51           | 4113   |
| Rau                      | ATAC Resources Ltd.                                                  | 18           | 3423   |

## Appendix 2 (continued): 2008 DRILLING STATISTICS

| Property                              | Optioner/Owner                                      | # drillholes | metres        |
|---------------------------------------|-----------------------------------------------------|--------------|---------------|
| Rich                                  | Southampton Resources/Strategic Metals Ltd.         | 2            | 909           |
| Ridge                                 | Northern Freegold Resources                         | 9            | 1079          |
| Risby                                 | Playfair Mining Ltd.                                | 7            | 1600          |
| Selwyn Project                        | Selwyn Resources Ltd.                               | 13           | 3857          |
| Sonora Gulch                          | Northern Tiger Resources Inc.                       | 10           | 2238          |
| Stoddart                              | Northern Freegold Resources                         | 10           | 2560          |
| Tinta Hill                            | Northern Freegold Resources                         | 17           | 3807          |
| Wau                                   | Yankee Hat Minerals/ATAC Resources Ltd.             | 3            | 437           |
| Wellgreen                             | Northern Platinum Ltd.                              | 12           | 4533          |
| White Gold                            | Underworld Resources Inc./RyanWood Exploration Inc. | 27           | 3431          |
| Wolf                                  | International KRL Resources/Tarsis Capital Corp.    | 5            | 1254          |
| WS Total                              | BCGold Corp./Ryan, Shawn                            | 5            | 1284          |
| Zap                                   | Rockhaven Resources Inc.                            | 3            | 360           |
|                                       |                                                     | <b>1111</b>  | <b>208073</b> |
| <b>Percussion/Reverse Circulation</b> |                                                     |              |               |
| Bear Creek                            | Morgan, Tom                                         | 13           | 69            |
| Forty Mile                            | Allan, Grant                                        | 16           | 119           |
| Homestake                             | Monster Mining                                      | 36           | 1199          |
| Inca                                  | Incaplatau Explorations Ltd./Morgan, Tom            | 6            | 150           |
|                                       |                                                     | <b>71</b>    | <b>1537</b>   |



# Yukon Placer Mining Overview, 2008

**William LeBarge<sup>1</sup>**  
*Yukon Geological Survey*

LeBarge, W., 2009. Yukon Placer Mining Overview, 2008. In: Yukon Exploration and Geology 2007, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds.), Yukon Geological Survey, p. 39-42.

## PLACER MINING

One hundred and twelve years after the discovery of gold in Yukon, placer mining is still an important sector in the Yukon's economy. Royalty records, which represent the minimum amount of gold production, show that over 16.6 million crude ounces (518 tonnes) of placer gold have been produced to date in Yukon – at today's prices, that would be worth more than \$10 billion.

In 2008, there were approximately 105 active placer mining operations, directly employing approximately 350 people. As usual, the industry saw a fair amount of transition: some operations moved to new drainages, others closed, several were sold and a few brand new mines began operating. Although most placer operations are still small and family-run (with an average of three or four employees), there has been a recent trend for small, relatively inactive properties being sold to new owners and re-activated. In addition, several mine owners now own more than one active property, resulting in a shift towards larger mining operations.

As in past years, weather played a factor in the mining process, as cool, rainy spring weather throughout Yukon inhibited the thawing of seasonal frost and delayed the start of active mining for many operators. This was however partially offset by warm weather in September and October which allowed many operators to mine well into the fall.

There are 10 placer mining areas (Fig. 1) distributed throughout the four Yukon Mining Districts. The majority of active placer mining operations were in the Dawson Mining District, followed by the Whitehorse Mining District and the Mayo Mining District. No placer mines are currently active in the Watson Lake Mining District, although there are a few exploratory properties along the Pelly and Liard rivers.

The total Yukon placer gold production for 2008 was 49 968 crude ounces (1 554 180 g), compared to 63 929 crude ounces (1 988 431 g) in 2007. The value of this 2008 gold production was CDN\$36.9 million or US\$34.8 million (Fig. 2).

Approximately 85% of the Yukon's placer gold was produced in the Dawson Mining District, which includes the unglaciated drainages of Klondike River, Indian River, west Yukon (Fortymile and Sixtymile rivers) and lower Stewart River. The remaining gold came from the unglaciated Moosehorn Range in the Whitehorse Mining District, in addition to other placer mining areas in the glaciated Mayo and Whitehorse mining districts.

Reported placer gold production from Indian River drainages in 2008 decreased from 24 436 crude ounces (760 050 g) in 2007 to 14 650 crude ounces (455 666 g) in 2008. Most of the drop was from Dominion Creek, which was partially due to the cessation of mining by A-1Cats Ltd.

In Klondike area drainages, production decreased from 11 621 crude ounces (361 450 g) in 2007 to 11 029 crude ounces (343 040 g) in 2008. Notable decreases were reported from Bonanza and

<sup>1</sup>[bill.lebarge@gov.yk.ca](mailto:bill.lebarge@gov.yk.ca)

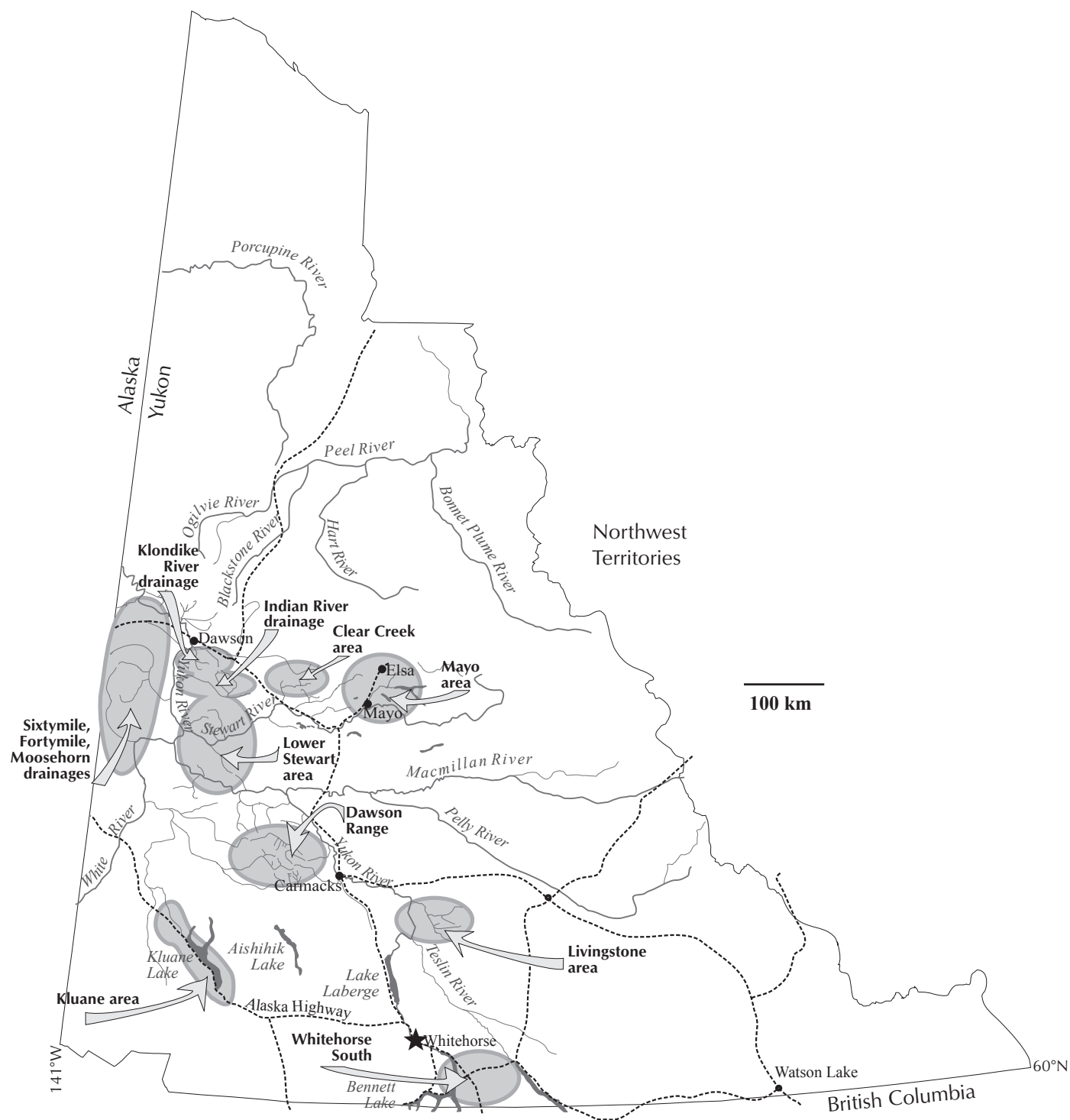


Figure 1. Yukon placer mining areas.

Hunker creeks, while production on Bear Creek more than doubled.

West Yukon (Sixtymile and Fortymile rivers and Moosehorn Range) placer gold production decreased from 14 914 crude ounces (463 880 g) in 2007 to 11 595 crude ounces (360 645 g) in 2008. The largest decrease was from Sixtymile River, whereas Matson Creek had a significant increase.

Production from operations in the Lower Stewart drainages was up in 2008, to a total of 5740 crude ounces (178 534 g) from 5424 crude ounces (168 700 g) in 2007. Production from Black Hills, Thistle and Kirkman creeks dropped substantially, but this was offset by large increases reported from Matson and Scroggie creeks and a new operation on Barker Creek.

Clear Creek drainages had an increase in gold that was reported over the year, from 363 crude ounces (11 290 g) in 2007 to 487 crude ounces (15 147 g) in 2008.

In the Dawson Range, reported placer gold production decreased from 912 crude ounces (28 370 g) in 2007 to 788 crude ounces (24 509 g) in 2008.

In the Mayo area, gold production decreased substantially from 2755 crude ounces (85 690 g) in 2007 to 1396 crude ounces (43 420 g) in 2008. A dramatic

decrease was seen in reported royalties from Duncan and Lightning creeks.

In the Kluane area, reported placer gold production nearly doubled from 887 crude ounces (27 590 g) to 1648 crude ounces (51 258 g). Production at Burwash Creek decreased, while Gladstone Creek increased. Royalties were reported for the first time from Frypan Creek, a Duke River tributary.

Little active mining took place in the Livingstone area, however on Little Violet Creek, 4.0 crude ounces (124 g) of gold were reported, down from 52 crude ounces (1600 g) the year before.

In the Whitehorse South area, no gold was reported in 2008, the same as in 2007.

## PLACER EXPLORATION

One of the highlights of the 2008 season was the establishment of a significant mining operation on Barker Creek for the first time in many years. This new development had an effect on the southern Stewart River area in the form of an improved road network which connects Barker, Thistle, Ballarat and Kirkman creeks. This increased infrastructure will be beneficial to smaller operations and facilitate the exploration of nearby creeks.

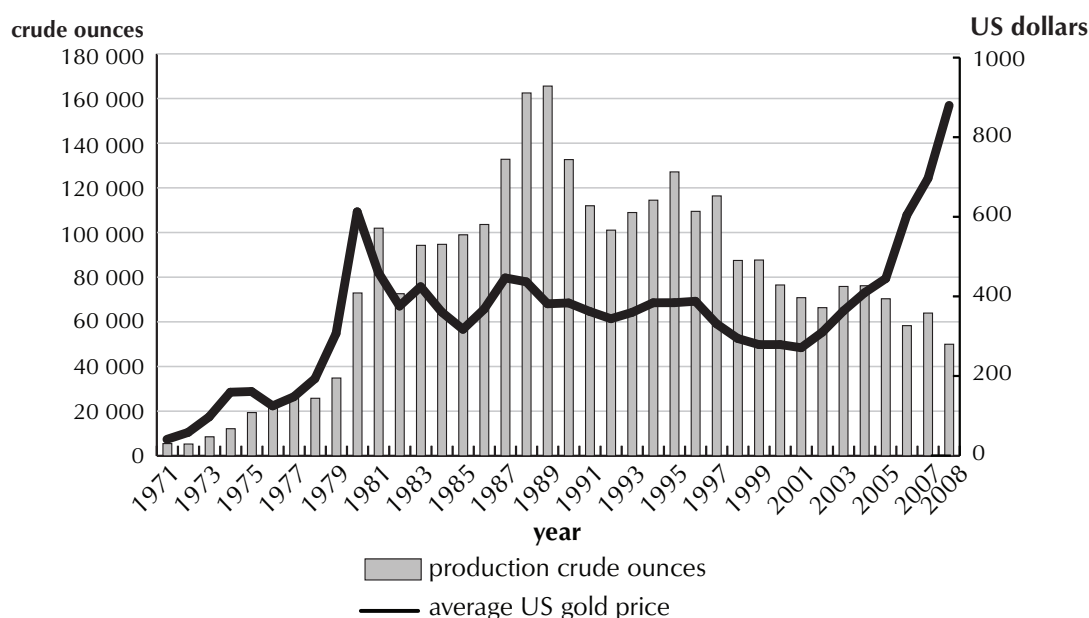


**Figure 2.** Yukon placer gold production figures and average US gold price, 1971-2008.

## CONTACT US

The staff at the Yukon Geological Survey and the Client Services and Inspection Division (Department of Energy, Mines and Resources, Yukon government) can provide information and advice regarding placer mining in the Yukon. Many recent publications and maps can be downloaded for free from our website at <http://www.geology.gov.yk.ca>. Information is also available at the Yukon Placer Secretariat, <http://www.yukonplacersetariat.ca/>. Publications on placer mining in the Yukon are available through the Yukon Geological Survey office at Room 102, Elijah Smith Building, 300 Main Street, Whitehorse, Yukon.

## APERÇU DE L'EXPLOITATION DES PLACERS AU YUKON EN 2008

Cent douze ans après la découverte des premiers gisements d'or au Yukon, l'exploitation des placers demeure un secteur important de l'économie du territoire. Plus de 16,6 millions d'onces brutes (518 tonnes) d'or placérien ont été produites à ce jour au Yukon, ce qui représente plus de 10 milliards de dollars au prix actuel de l'or.

En 2008, on a dénombré environ 105 sites d'exploitation sur des placers. Près de 350 personnes étaient employées directement sur ces placers. Comme à l'habitude, les transitions se sont avérées nombreuses dans cette industrie : certains sites ont été déplacés vers de nouveaux emplacements drainés, d'autres ont été fermés, plusieurs ont été vendus et quelques nouvelles mines sont entrées en exploitation. Bien que la majorité des sites d'exploitation sur placers soient de petites entreprises familiales qui emploient en moyenne de trois à quatre employés, on a observé récemment une tendance à vendre les petites propriétés relativement inactives à de nouveaux propriétaires et à les remettre en activité. En outre, plusieurs propriétaires de mines possèdent aujourd'hui plus d'une propriété active, ce qui entraîne une tendance vers de plus grandes exploitations.

Comme ce fut le cas au cours des dernières années, les conditions météorologiques ont joué un rôle important dans les activités minières, puisque les conditions fraîches et pluvieuses dans l'ensemble du Yukon au printemps ont inhibé le dégel saisonnier et retardé le début des activités

minières de nombreux exploitants. Cette situation a toutefois été partiellement contrebalancée par des conditions chaudes en septembre et en octobre, qui ont permis à de nombreux exploitants de poursuivre leurs activités plus tard à l'automne.

On compte dix zones d'exploitation de placers réparties dans l'ensemble des quatre districts miniers du Yukon. La majorité des placers encore actifs sont situés dans le district minier de Dawson, le reste se trouvant dans les districts miniers de Whitehorse et de Mayo. Il n'y a présentement aucune mine active dans le district minier de Watson Lake, malgré la présence de quelques propriétés de prospection le long des rivières Pelly et Liard.

En date du 1er décembre 2008, la production d'or dans les placers du Yukon se chiffrait à 49 753 onces brutes (1 547 492 g) pour 2008 alors qu'elle s'élevait à 63 929 onces brutes (1 988 431 g) en 2007. La production d'or en 2008 est évaluée à 36,5 millions de dollars canadiens ou 34,9 millions de dollars américains.

Approximativement 85 % de l'or placérien du Yukon a été produit dans le district minier de Dawson qui inclut les drainages non englacés de la rivière Klondike, de la rivière Indian, de l'Ouest du Yukon (rivières Fortymile et Sixtymile) et le cours inférieur de la rivière Stewart. Le reste de l'or a été extrait de la chaîne non englacée Moosehorn dans le district minier de Whitehorse et d'autres districts placériens dans les districts miniers englacés de Mayo et de Whitehorse qui comprennent les régions de Clear Creek, de Mayo, de la chaîne Dawson, de Kluane, de Livingstone et de Whitehorse Sud.

Un des faits marquants de la saison 2008 est l'établissement d'une exploitation minière importante dans le bassin du ruisseau Barker pour la première fois depuis de nombreuses années, ce qui a eu un effet sur la région du sud de la rivière Stewart sous forme d'une amélioration du réseau routier reliant les ruisseaux Barker, Thistle, Ballarat et Kirkman. Les petites exploitations pourront tirer profit de cette infrastructure améliorée, et celle-ci facilitera l'exploration des ruisseaux à proximité.

# Yukon Oil and Gas Overview 2008

**B. Adilman<sup>1</sup>**

*Oil and Gas Resources*

*Energy, Mines and Resources, Government of Yukon*

Adilman, B., 2009. Yukon Oil and Gas Overview 2008. In: Yukon Exploration and Geology 2008, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds.), Yukon Geological Survey, p. 43-50.

## ABSTRACT

In 2008, some interest was shown during Yukon's two oil and gas rights disposition processes, however, no bids were received. Companies continue to show interest in oil and gas resources in North Yukon.

Northern Cross Yukon has received Yukon Environmental Socio-economic Assessment Board (YESAB) approval for construction, exploration and drilling activities in the Eagle Plains basin; they have submitted another YESAB application for additional activity.

Yukon's Oil and Gas Royalty Regulations came into effect in February 2008. The Regulations authorize the government of Yukon to collect royalty for oil and gas recovered pursuant to Yukon oil and gas dispositions.

Production of natural gas yielded more than 65 000 10<sup>3</sup>m<sup>3</sup> from two wells in southeast Yukon.

Other Oil and Gas Resources (OGR) activities in 2008 included the following: continued participation in the development of a Yukon Energy Strategy; on-going monitoring of the progress of the Mackenzie Gas Project; continued preparation for the proposed Alaska Highway Pipeline Project; on-going participation in several offshore oil and gas initiatives; continued consultation and cooperation with affected First Nations on a variety of oil and gas issues; making sure oil and gas interests are taken into account during the Land Use Planning process; and ongoing cooperation with the Yukon Geological Survey with field work and associated analytical work in order to discover potential source rocks and petroleum reservoir rocks.

## RÉSUMÉ

En 2008, certaines sociétés ont montré de l'intérêt durant les deux processus de vente de droits sur le pétrole et le gaz au Yukon. Aucune soumission n'a toutefois été reçue. Des sociétés continuent de montrer de l'intérêt pour les ressources pétrolières et gazières dans le Nord du Yukon.

La société Northern Cross Yukon Ltd. a obtenu l'approbation de l'Office d'évaluation environnementale et socioéconomique du Yukon pour des activités de construction, d'exploration et de forage dans le bassin d'Eagle Plains et a soumis une autre demande à cet office pour d'autres activités.

Le Règlement sur les redevances sur le pétrole et le gaz du Yukon est entré en vigueur en février 2008 et autorise le gouvernement du Yukon à percevoir des redevances sur le pétrole et le gaz extraits conformément aux dispositions sur le pétrole et le gaz du Yukon.

Deux puits dans le sud-est du Yukon ont produit plus de 65 000 x 10<sup>3</sup>m<sup>3</sup> de gaz naturel.

Parmi les autres activités axées sur les ressources pétrolières et gazières menées en 2008, il convient de souligner les suivantes: la participation continue à l'élaboration d'une stratégie en matière d'énergie pour le Yukon; la surveillance des progrès dans le cadre du projet gazier Mackenzie; la poursuite des travaux de préparation du projet proposé de gazoduc de la route de l'Alaska; la participation à plusieurs initiatives pétrolières et gazières en milieu extracôtier; la poursuite des consultations et de la collaboration avec les Premières nations concernées par toute une gamme de problèmes liés au pétrole et au gaz; la prise en considération des intérêts pétroliers et gaziers durant le processus de planification de l'utilisation des terres; la collaboration continue avec la Commission géologique du Yukon pour les travaux sur le terrain et les travaux d'analyse connexes menés à la recherche de potentielles roches mères et roches réservoirs de pétrole.

<sup>1</sup>bernie.adilman@gov.yk.ca

## INTRODUCTION

In 2008, the Oil and Gas Resources (OGR) branch of the Department of Energy, Mines and Resources continued its role of promoting Yukon's oil and gas industry. While industry activity was limited over the past year, OGR focused on preparations for future exploration and development in Yukon, specifically pipeline and drilling activities.

Yukon has eight onshore sedimentary basins containing an estimated 17 trillion cubic feet (Tcf) (480 billion m<sup>3</sup>) of natural gas and 772 million barrels (120 million m<sup>3</sup>) of oil (Government of Yukon, 2008; Fig. 1). Offshore estimates in the Beaufort Sea north of Yukon consist of an additional 40 Tcf (1.5 trillion m<sup>3</sup>) of natural gas and 4.5 billion barrels (720 billion m<sup>3</sup>) of oil (Government of Yukon, 2008), contributing to Yukon's vast and virtually untapped petroleum resources.

There were no new dispositions of oil and gas rights in 2008, however opportunities in southeast Yukon and the proposed construction of the Mackenzie and/or Alaska Highway pipelines hold promise for the Yukon's oil and gas sector. The two producing natural gas wells in southeast Yukon continue to provide revenue for Yukon.

OGR continues to develop partnerships with other jurisdictions and governments, including First Nations. A unique and competitive oil and gas common regime is in place in preparation for potential expansion of exploration and production. This regime, jointly crafted by Yukon and First Nation governments, applies to all Yukon lands. Although Yukon resources are remote, and pipeline infrastructure is presently lacking, OGR has created an attractive economic environmental and legislative framework that bodes well for future activity.

## YUKON'S OIL AND GAS RIGHTS DISPOSITION PROCESS

Pursuant to the Government of Yukon's *Oil and Gas Act* and *Oil and Gas Disposition Regulations*, rights to oil and gas are granted by the Minister through a competitive disposition process. The Oil and Gas Resources branch runs two disposition processes annually, which are designed to be completed in approximately five months. Each process consists of the following:

- submission for consideration of Requests for Postings (RFP) for locations of interest to explore for oil and gas;

- review of the RFP, wherein the public, First Nations and government agencies may submit presentations on environmental, socio-economic and surface access concerns related to the requested locations;
- a Call for Bids, where persons or companies are invited to submit bids on posted locations; and
- issuance of oil and gas permits to successful bidders.

A successful bidder is required to submit a work deposit equal to 25% of their bid. The work deposit is returned proportionally as work is completed.

The initial term of the permit is six years. Permits may be renewed for a further four-year term if a well is drilled during the initial term. Before any activity takes place, companies are required to obtain all regulatory approvals and undergo environmental screening through the *Yukon Environmental and Socio-Economic Assessment Act*. Companies are also encouraged to follow best management practices as outlined by the Oil and Gas Resources branch.

In 2007, 14 new permits were issued in northern Yukon totalling \$22.2 million in work commitments. No bids were received on posted locations in 2008.

In summary, the Government of Yukon's oil and gas rights disposition process provides:

- an attractive investment climate for future development since it is efficient, streamlined and offers certainty;
- a two-year rolling schedule, allowing companies the opportunity to plan ahead; and
- a minimum work commitment which has been lowered from \$1 million to \$400 000.

## NATURAL GAS PRODUCTION

In southeast Yukon, natural gas is produced from the Kotaneelee Field in the Liard Basin. The two producing wells (B-38 and L-38) yielded 64 750 10<sup>3</sup>m<sup>3</sup> of natural gas in the period from January 2008 to October 2008 (Fig. 2)<sup>1</sup>. The field is in the later stages of life, and gas production and reservoir pressure are declining slowly, whereas water cuts are increasing. Recovery factor to date is 54% of initial gas-in-place, which is considerably better than similar nearby fields in the basin.

<sup>1</sup>[www.emr.gov.yk.ca/pdf/Non-Confidential\\_Production.pdf](http://www.emr.gov.yk.ca/pdf/Non-Confidential_Production.pdf)

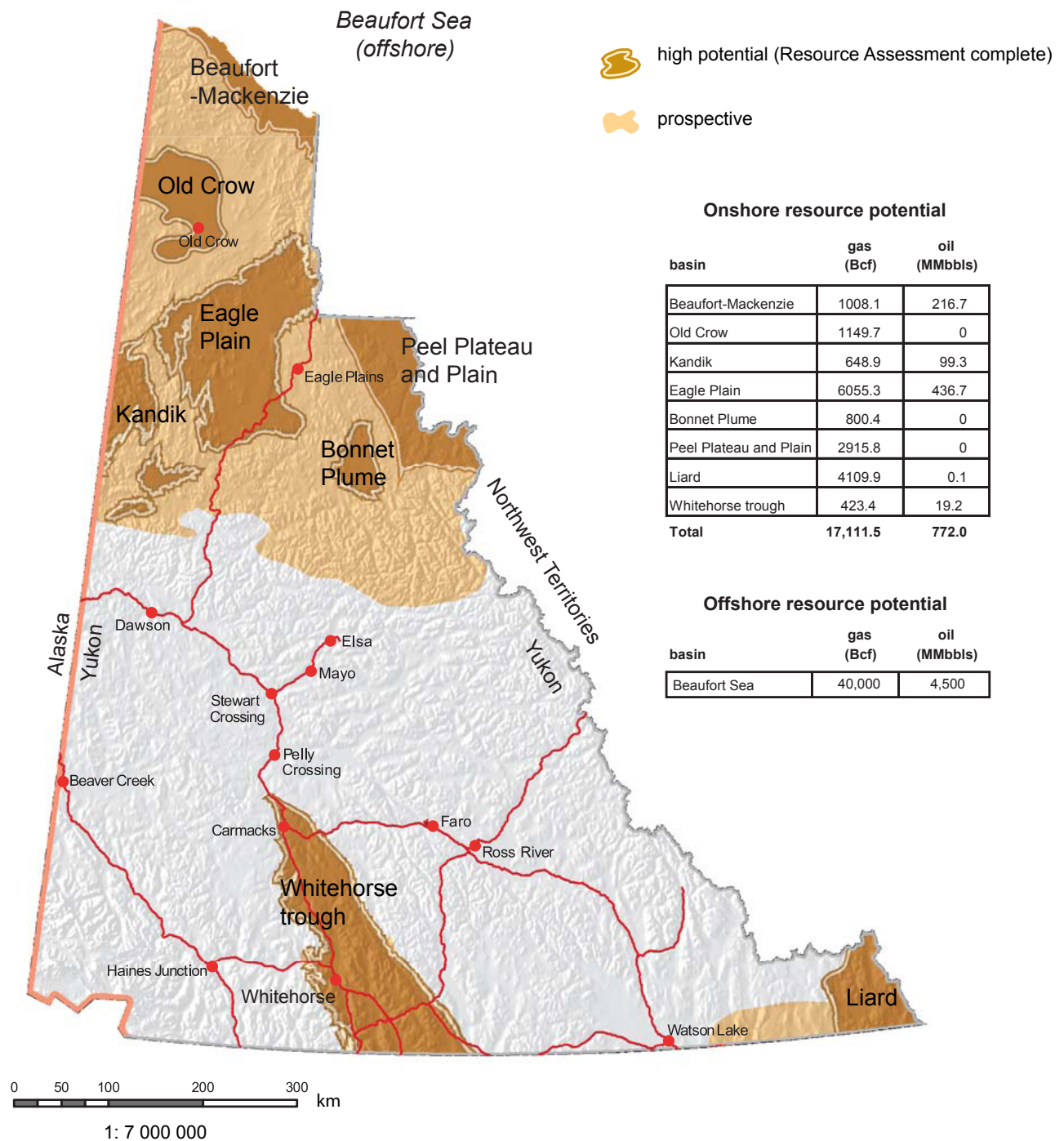
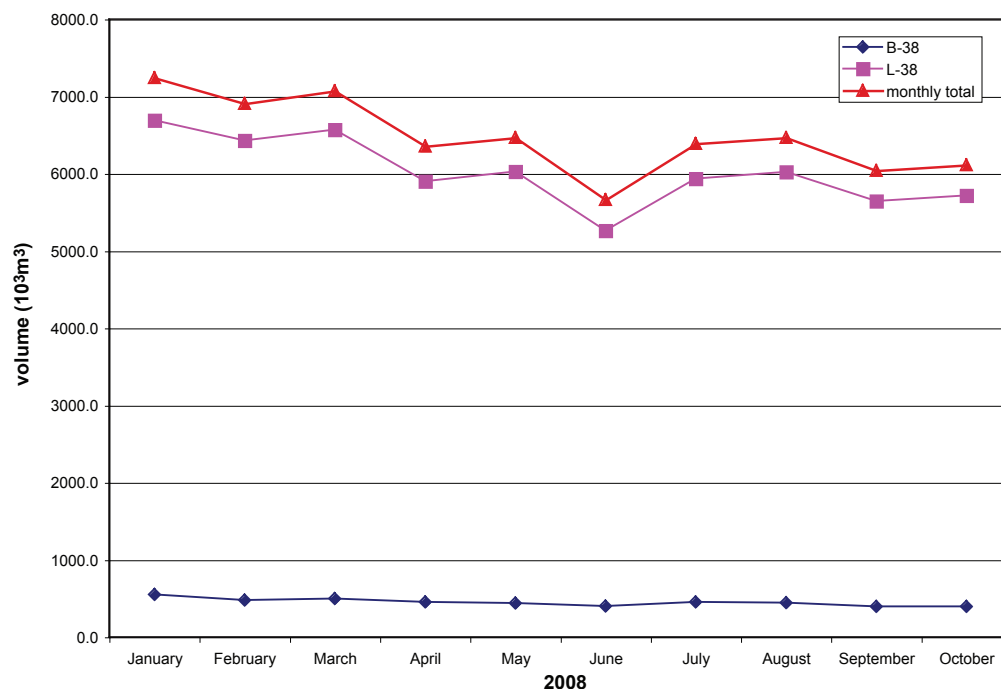


**Figure 1.** Yukon's oil and gas exploration regions.

**Figure 2.** Yukon natural gas production, from Kotaneelee field, southeast Yukon.



## FIRST NATIONS

The Oil and Gas Resources branch continues to build strong working relationships with First Nations through the development of the common oil and gas regime and through regular consultation during the disposition and licensing processes. OGR supports the Aboriginal Pipeline Coalition (APC) and believes it has a very important role in ensuring that First Nations, the Yukon and federal governments are prepared for the Alaska Highway Pipeline Project. Canada, Yukon, and the APC are working cooperatively toward concluding a more stable long-term funding arrangement as First Nation engagement and participation is essential to the development and implementation of an efficient pipeline regulatory process.

## PIPELINES

Both the Mackenzie Gas Project (MGP) and the Alaska Highway Pipeline Project (AHPP) offer enormous economic opportunities for the north (Fig. 3). The Government of Yukon continues to work hard in order to ensure Yukon is pipeline-ready, benefits are maximized, and potential negative impacts are minimized. Work will also continue with our neighbouring jurisdictions – Alaska, British Columbia, Northwest Territories and Alberta – to prepare for both projects.

AHPP will generate an estimated 375 000 person-years of employment over 24 years<sup>2</sup>; MGP estimates are 181 000 person-years over the same 24-year span<sup>3</sup>. The construction of these two projects will also inject billions of dollars into the North American economy. These projects would provide access for Yukon natural gas to southern markets, which could earn the Government of Yukon more than \$40 million annually in royalty revenues from the production of natural gas resources.

## ALASKA HIGHWAY PIPELINE PROJECT

TransCanada Alaska recently received a license from the State of Alaska, allowing it to access up to \$500 million in state assistance to offset the estimated \$1 billion cost of applying for US regulatory approval to build and operate the AHPP. As a condition of the licence, TransCanada will hold an open season within the next 18 months. An 'open season' is a limited window created by a pipeline company to identify gas producers and shippers interested in seeking carrier capacity on the line, if built, and to provide a willingness to commit their product at an economically feasible carrier price.

British Petroleum and ConocoPhillips have created a joint venture pipeline company called 'Denali' which intends to

<sup>2</sup>[www.emr.gov.yk.ca/pdf/informetrica\\_econreport\\_02.pdf](http://www.emr.gov.yk.ca/pdf/informetrica_econreport_02.pdf)

<sup>3</sup> [www.itl.gov.nt.ca/pipeline/pdf/wright\\_mansell2004.pdf](http://www.itl.gov.nt.ca/pipeline/pdf/wright_mansell2004.pdf)

file a competing application with the US Federal Energy Regulatory Commission (FERC) and the Canadian National Energy Board. It will also hold an open season in 18-24 months and has pre-filed with FERC in anticipation that a complete application will advance expeditiously when submitted.

Should the chosen route follow the Alaska Highway, this will be important to the interests of the Government of Yukon and to Yukoners. Yukon has seven well-documented Alaska Highway Pipeline Project interests:

- ensuring a net fiscal benefit to Yukon;
- enhancing positive socio-cultural impacts while mitigating negative socio-cultural impacts;
- promoting environmental stewardship;
- recognizing community and First Nation interests;

- advancing a clear and efficient regulatory process;
- supporting economic pipeline access for Yukon natural gas; and
- requiring gas take-off points.

The Oil and Gas Resources Branch is also working closely with other jurisdictions that would be affected by an Alaska Highway pipeline. One initiative is the Strategic Action Plan Working Group, composed of participants from Yukon, British Columbia and Alberta. This group was created in order to manage common issues expected to arise from the various inter-jurisdictional concerns over the Alaska Highway Pipeline Project. Yukon continues to urge the Canadian government to demonstrate that they are prepared with a streamlined, efficient regulatory process.



**Figure 3.** Northern natural gas pipeline options.

## MACKENZIE GAS PROJECT

OGR's involvement with the Mackenzie Gas Project hearings is also important. Yukon's interest in the construction of this project is significant, as there are benefits for Yukon to be derived from this pipeline both during, and after construction. During construction, supplies will be transported to the Northwest Territories through Yukon. Construction will also provide employment opportunities for Yukon residents. The presence of a pipeline provides a means for Yukon gas to be transported competitively to southern markets, which means that Yukon gas would no longer be cut-off from this competitive market.

Oil and Gas Resources' intervention to this possible project included written submissions and presentations by OGR representatives at both the National Energy Board (NEB) and Joint Review Panel (JRP) hearings. Once the NEB concludes the MGP hearings process, it will submit a final report and recommendations to the federal minister responsible for northern pipelines. It is anticipated that a decision to proceed with the project, if approved, will occur in late 2009.

OGR's intervention in the JRP hearings has resulted in both the proponent (Imperial Oil) and Yukon committing to the enhancement of potential positive effects from construction and operation of the project, and to mitigate potential adverse effects from the proposed project on Yukon's environment, communities and transportation infrastructure.

## OFFSHORE

Although the federal government transferred responsibility for onshore oil and gas to the Government of Yukon, it continues to maintain responsibility for oil and gas management and development in the Beaufort Sea. BP Exploration's \$1.2 billion successful bid in 2008 for exploration rights in the Beaufort Sea, following Imperial Oil/ExxonMobil's 2007 bid of \$585 million for similar rights, plus extensive Beaufort seismic work by GX Technology, are clear indicators that industry remains interested in the offshore, and that governments will need to respond to this renewed interest.

Yukon remains committed to finalizing a shared offshore oil and gas management regime and revenue-sharing arrangement with Canada in accordance with the Canada Yukon Oil and Gas Accord. As an interim step, the Yukon

and federal governments have drafted a Memorandum of Agreement to identify Yukon's enhanced role in offshore oil and gas management. OGR continues to advance Yukon's offshore interests, including the following: governance, economic benefits, resource revenues, financial considerations, infrastructure, capacity development and sustainable development.

Yukon is actively participating with other governments and industry on a number of existing and proposed Beaufort Sea planning initiatives, including the Beaufort Sea Integrated Management Plan, and directly related to oil and gas, the Beaufort Basin Regional Environmental Assessment.

Taking an integrated management approach to all offshore planning is essential to ensuring an efficient and effective planning and decision-making process. OGR continues to work jointly with Indian and Northern Affairs Canada in undertaking a review of the call for nominations for the Beaufort Sea including the possibility of incorporating the area immediately off the Yukon coast in future disposition processes. Yukon is actively involved in the Frontier/Offshore Regulatory Renewal Initiative, which is a process to review and update the offshore oil and gas regulations. This is a federal/provincial/territorial government joint initiative, involving regulators such as the National Energy Board and the East Coast offshore petroleum boards.

Yukon is pleased that the Government of Canada is engaged in improving the northern regulatory system, which has been criticized for being too complicated and costly. This will have implications to Yukon's interests in the Beaufort Sea and northern pipeline development. The goal is to strike a balance between economic development and environmental protection, while making the regulatory system more predictable and efficient.

Finally, Yukon is pleased that Canada has made northern sovereignty and security a national priority. Given the significant oil and gas resources in the Beaufort Sea and international interest in the Northwest Passage, Canada's sovereignty in the region must be recognized.

## OIL AND GAS ROYALTY REGULATIONS

The Yukon's Oil and Gas Royalty Regulations were promulgated in February 2008. The regulations authorize the Government of Yukon to collect royalty for oil and gas recovered from Yukon oil and gas dispositions.

The Yukon royalty regime is based on an *ad valorem* (according to value) system with the objectives of transparency and simplicity of administration for both government and industry.

The Government of Yukon's royalty rate is between 10% and 25% of the gross produced value of oil, gas and field condensate. The actual royalty rate paid by producers will vary depending on the market price of oil and gas. As an added incentive for industry, a lower royalty rate of 2.5% is applied on the initial production.

## OIL AND GAS CONSENT AND ECONOMIC DEVELOPMENT AGREEMENT IN SOUTHEAST YUKON

There continues to be interest in oil and gas prospects in southeast Yukon. This region is of high interest to industry because there is existing pipeline infrastructure and good potential for an economic oil and gas discovery. If the area is further developed, it will also mean a significant economic boost to the residents in the area.

In areas where land claims remain unsettled, Yukon requires consent of the affected Yukon First Nations prior to disposition of oil and gas rights or authorization of oil and gas activities. Significant progress has been made in order to achieve an oil and gas consent agreement with Liard First Nation. The agreement contains provisions that facilitate economic development, as well as providing the certainty needed by industry. Once concluded, the agreement will be made public.

Current efforts are also focused on obtaining Ross River Dena Council consent. If consent is provided by these two First Nations (Liard, and Ross River Dene), the Government of Yukon will begin consultations regarding potential infringement of aboriginal rights with all six First Nations who assert claims within the southeast Yukon. Throughout the disposition and licensing process, the Government of Yukon will be consulting with affected First Nations about proposed oil and gas activities.

## YUKON GEOLOGICAL SURVEY

In 2008, Yukon Geological Survey geologists continued oil and gas related research studies on three projects. The focus of two of these projects is in northern Yukon. Field investigations were completed during the 2008 field season in the Whitehorse trough, southern Yukon.

Grant Lowey completed field investigations of the stratigraphy, sedimentology and hydrocarbon potential of the Laberge Group in Whitehorse trough and undertook a detailed study of the petroleum source rock potential of the Bonnet Plume Basin.

The Government of Yukon continued its partnership with the Geological Survey of Canada, the Northwest Territories Geosciences Office, and industry and university affiliates to form a working relationship under the title 'Regional Geosciences Studies and Petroleum Potential, Peel Plateau and Plain, Northwest Territories and Yukon'. This four-year project is in its final stages. A volume and accompanying digital atlas, summarizing the research conducted over the last four years, is due to be released in 2009. The project focused on gaining a better understanding of the petroleum potential of the Peel Plateau and Plain in north Yukon and adjacent Northwest Territories. As part of this partnership, Tammy Allen and Tiffani Fraser of the Yukon Geological Survey examined Upper Paleozoic and Cretaceous strata to better determine their potential as source rocks and reservoir rocks.

## OTHER ACTIVITIES

The Oil and Gas Resources branch continues to assist in the development of an over-arching Yukon Energy Strategy, designed to provide direction for the sustainable development, management and use of energy in Yukon. The scope of the strategy includes Government of Yukon roles and responsibilities in all aspects of energy development, management and use in the territory. OGR continues to contribute to the development of a Yukon Climate Change Action Plan.

OGR has completed an Energy to Mines Report, which examines the possibility of developing Yukon natural gas resources to generate electricity at selected mine and other end-use sites. The study considers using natural gas produced at the Eagle Plain field as a fuel source, and delivering it by pipeline to the point of use. The study concluded that natural gas is likely a better economic alternative than electricity delivered from the Yukon

Energy grid, or from on-site diesel-powered electric generation.

OGR also continues to ensure the Government of Yukon's oil and gas interests are taken into account during the regional land use planning processes.

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# Yukon Mining Incentives Program, 2008

**Steve Traynor<sup>1</sup>**  
*Yukon Geological Survey*

Traynor, S., 2009. Yukon Mining Incentives Program, 2008. *In: Yukon Exploration and Geology 2008*, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds.), Yukon Geological Survey, p. 51-54.

**T**he Yukon Mining Incentives Program (YMIP) is designed to promote and enhance mineral prospecting and exploration activities in Yukon by providing a portion of the risk capital required to locate and explore mineral deposits.

A total of 58 applications for funding were received by the submission deadline for the 2008 season. Contribution agreements totaling \$774 500 were subsequently issued to 45 successful applicants. Proposals approved for funding included 5 under the Grassroots-Prospecting module, 10 under the Focused Regional module and 30 under the Target Evaluation module.

The trend of the last few years has resulted in placer gold exploration and testing programs accounting for approximately 25% of the projects approved for YMIP funding. This year was no exception and 12 projects, all targeting gold, received approval. Of the remaining 33 projects approved for funding under various hard rock modules, 16 targeted vein-type gold mineralization; 7 were for Cu ( $\pm$  Au) porphyry targets; 6 focused on Zn-Pb mineralization in a variety of settings; 3 targeted silver; and 1 focused on uranium (Fig. 1).

There is significant anecdotal and testimonial evidence attesting to the value of mining incentives programs such as YMIP, unfortunately much of the analysis of the benefits of these programs has been restricted to annual comparisons that permit only limited recognition of long-term trends.

In 2006, the Yukon Exploration Activity Database was conceived and developed as an integrated tool to facilitate the collection, analysis and presentation of Yukon exploration, development and mining activity data. This system now contains detailed data covering the period from 2000 to 2008 and has proved to be an important aid in the recognition and interpretation of broader trends within the Yukon's mining industry.

In response to declining levels of exploration spending in the late 1990s, the Yukon government increased funding to YMIP in 2000 (Fig. 2). From 2000 to 2003, projects receiving YMIP funding accounted for 40% of all grassroots exploration. Much of this exploration was undertaken by Yukon prospectors, who during the course of this work, accumulated impressive inventories of early stage exploration targets.

With the upsurge in exploration spending during the past few years, and the mining industry's need for new grassroots targets, Yukon-based prospectors found that they were able to benefit from this increased activity through the negotiation of property option agreements. Analysis of property agreements negotiated during the last six years shows a strong positive correlation between grassroots exploration spending and the numbers of negotiated property agreements (Fig. 3). In 2007, when grassroots exploration spending peaked, a total of 18 property agreements were signed on projects that were generated or advanced, in part, with funding received through the Yukon Mining Incentives Program.

The importance of YMIP's role in generating early stage exploration targets has become increasingly evident in the course of analyzing multiple years of exploration activity data. This analysis has also lead to the recognition of the significant impact this program is having on advanced stages of

<sup>1</sup>steve.traynor@gov.yk.ca

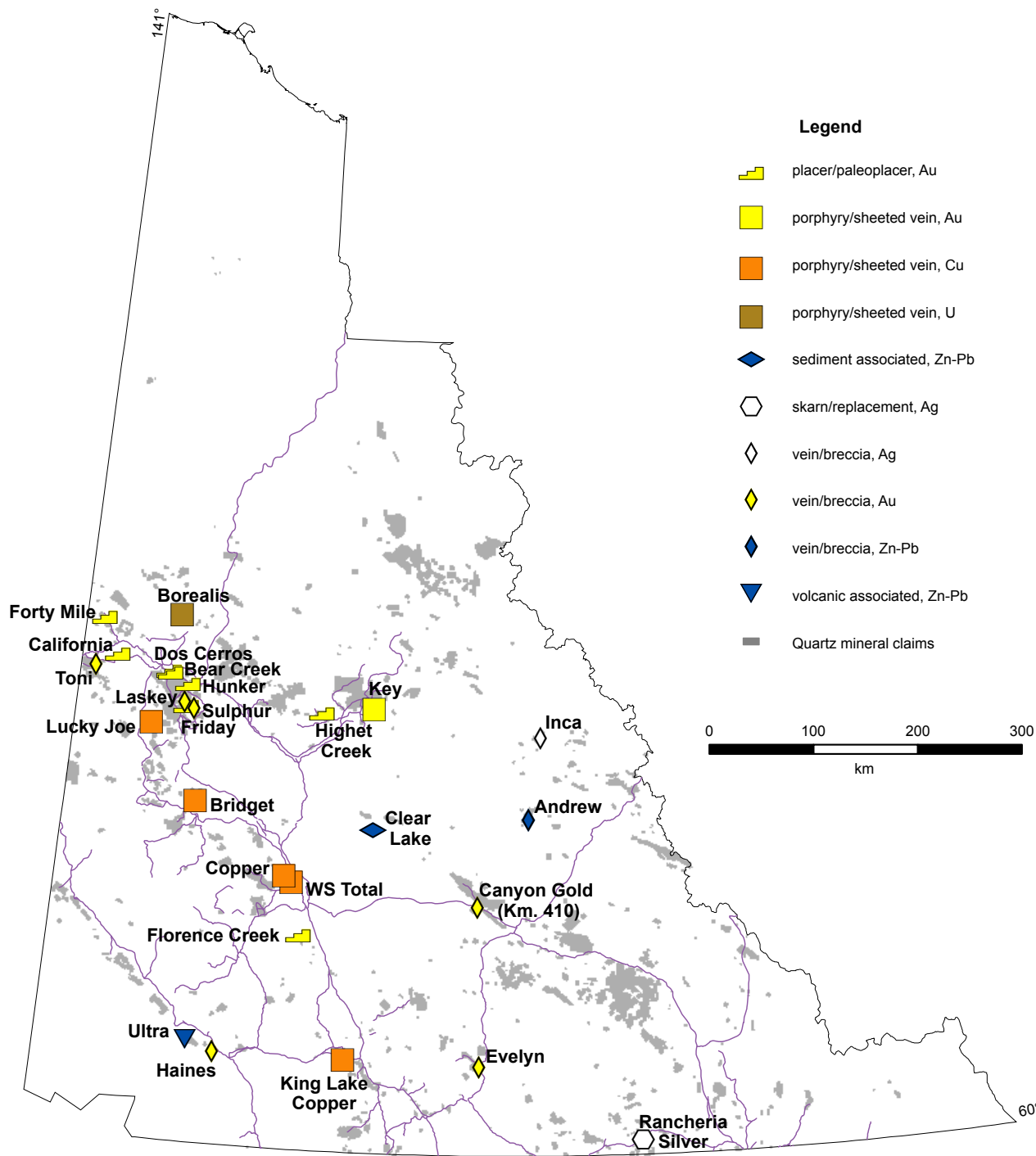


Figure 1. Yukon exploration projects funded by the Yukon Mining Incentives Program (YMIP) for 2008.

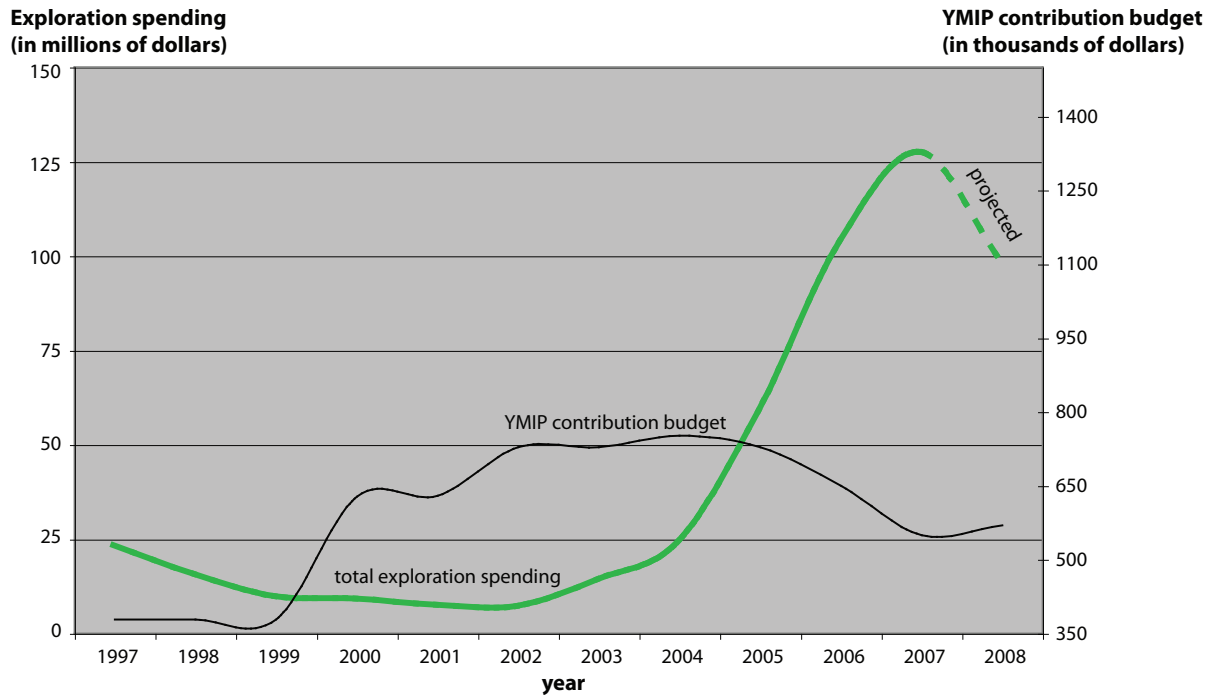


**Figure 2.** Yukon Mining Incentives Program funding since program inception. The graph depicts contribution budgets versus total exploration spending.

exploration. In the past eight years, one out of every three projects that received some portion of funding through YMIP was optioned following staking. YMIP-funded projects have also accounted for half of all known property agreements negotiated. Furthermore, out of all projects approved for funding through YMIP during this period, one out of every ten has been advanced to the stage of drilling.

The impact of recent world wide events and market realities will inevitably have some effect on mineral exploration and development in Canada. With companies reviewing their levels of discretionary expenditures on exploration, governments that work to improve their local investment climate will be better able to sustain mineral exploration and development activities in their

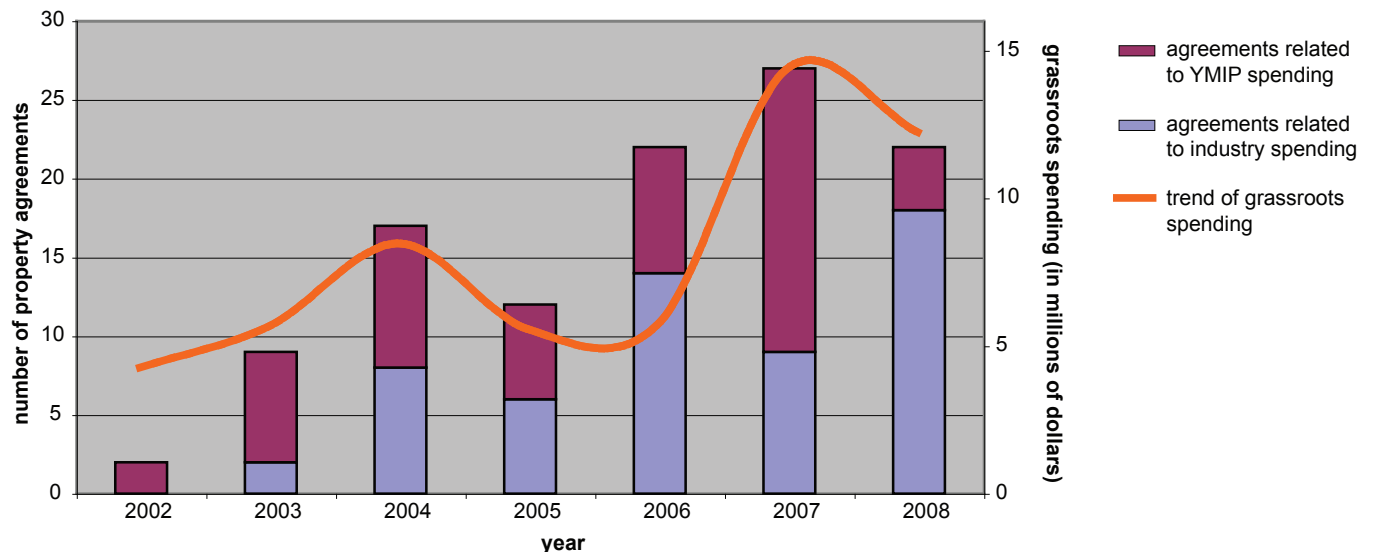


**Figure 3.** Property agreements related to YMIP and industry spending.

jurisdictions by providing financial incentives to attract available risk capital.

During periods of prosperity and through those inevitable times of economic challenge, programs such as YMIP play a fundamentally important role in early stage project generation, as well as the development of projects entering more advanced stages of exploration. Across Canada, the Government of Yukon is a leader in their commitment to providing economic incentives to mining exploration and development through the Yukon Mining Incentives Program.

## **RÉSUMÉ**

Le Programme d'encouragement des activités minières au Yukon (Yukon Mining Incentives Program - YMIP) vise à promouvoir et à améliorer les activités de prospection et d'exploration minière au Yukon en fournissant une partie du capital de risque nécessaire pour localiser et explorer les gisements minéraux.

Au total, 58 demandes de financement ont été reçues avant la date butoir pour la saison 2008. Les accords de contribution ont permis à 45 demandeurs d'obtenir 774 500 \$ au total. Parmi les demandes approuvées, 5 ont obtenu un soutien dans le cadre du programme d'exploration primaire et de prospection, 10 dans le cadre du programme régional d'exploration des régions sous explorées et 30 dans le cadre du programme d'évaluation de cibles.

La tendance des dernières années a eu pour effet que les programmes d'essai et d'exploration d'or placérien comptent pour environ 25 % des projets approuvés en vue d'un financement dans le cadre du YMIP. Cette année ne constitue pas une exception puisque 12 projets axés sur l'or ont été approuvés. Parmi les 33 autres projets approuvés dans le cadre de divers modules relatifs aux roches métamorphiques, 16 sont axés sur la minéralisation aurifère filonienne, 7 sur le porphyre Cu ( $\pm$  Au), 6 sur la minéralisation Zn-Pb dans divers milieux, 3 sur l'argent et 1 sur l'uranium.

# Robert E. Leckie Awards for Outstanding Reclamation Practices

**Judy St. Amand<sup>1</sup>**

*Mining Lands, Energy Mines and Resources*

St. Amand, J., 2009. Robert E. Leckie Awards for Outstanding Reclamation Practices. *In: Yukon Exploration and Geology 2008*, L.H. Weston, L.R. Blackburn and L.L. Lewis (eds.), Yukon Geological Survey, p. 55-58.

## QUARTZ RECLAMATION

### SELWYN RESOURCES LTD.

Selwyn Resources Ltd. focused significant attention on reclamation at its active Selwyn lead-zinc project (Howard's Pass) in eastern Yukon, in 2008. The aggressive bio-engineering of slopes has been extended to many more areas of the property. The company has stabilized roads, creek banks and the airstrip by transplanting live willow from the property in an innovative manner that is proving very successful (Fig. 1). In addition, the completion of numerous baseline studies has allowed the company to make informed decisions on issues with potential environmental impacts.



**Figure 1.** Bio-engineering in the Don Valley: live willows are being planted to stabilize the banks of the road.

<sup>1</sup>judy.stamand@gov.yk.ca

Selwyn's commitment to local communities and the ongoing education of youth in environmental studies demonstrates how the company's progressive environmental and socio-economic policies and practices are incorporated into its operations. Selwyn truly demonstrates excellence in environmental stewardship, social responsibility, leadership and innovation, which encompasses all that this award stands for.

**HONOURABLE MENTION:** International KRL Resources Corporation has been operating on the NOR property, located 395 km northeast of Dawson City. The company has consistently adhered to best management practices, and works cooperatively with the district Natural Resource Officer to surpass the requirements of its permit.

International KRL identified and removed an old site abandoned in the 1970s. Site reclamation included burning tent frames and removing fuel drums and barrels (Fig. 2). The company demonstrates a genuine desire to take responsibility for past practices of others, expending time and money to do so.



**Figure 2.** Reclamation and restoration of an abandoned camp site from the 1970s. Black areas show where tent frames were burned. All that remains on-site is core (core boxes are shown in middle of photo).

## PLACER RECLAMATION

### ROSS MINING LTD.

Ross Mining Limited continues to carry out exceptional restoration work on its Dominion Creek claims, the largest placer mining operation in Yukon. Extensive use of topsoil has allowed for rapid re-vegetation of parts of the property. Mined areas have been transformed into a rich-living ecosystem with newly created ponds and waterways that form a haven for moose, fox, geese, ducks and swans (Fig. 3).

Jon Rudolf, president of Ross Mining Ltd., has introduced the idea of ethical gold to Yukon. His company Mammoth Tusk Gold offers the Ethical Gold Certification Program. This certification is rooted in values of sustainability, environmental and social responsibility, and fair practices. The chain of custody must be certified from unearthing, to smelting, to delivery for sale.

Ross Mining demonstrates excellence in environmental stewardship, social responsibility, leadership and innovation. The founding of Mammoth Tusk Gold has opened a new arena where Yukon and placer mining can truly shine.



**Figure 3.** Placer mining continues at the Ross Mining operation next to reclaimed areas. Numbers 1 to 5 represent areas that have been reclaimed or are in the process of being reclaimed. Number 1 is the oldest and number 5 is the youngest.

**HONOURABLE MENTION:** Since 2004, HC Mining Limited has been operating on Moosehorn Creek, a tributary of Henderson Creek, in the Dawson mining district. Hayden Cowan, the owner, is in the process of applying for Ethical Gold Certification.

The restoration measures used by HC Mining Ltd. go beyond 'best practices' in mining reclamation. The very steep overburden piles, which blocked passage across the valley, have been reduced to gentle slopes (Fig. 4). The

creek bank has been armoured along its length, and a settling pond is in place for catchment of any sediment while slopes stabilize. Top soil has been spread to enable entrapment of water and airborne seed, which will encourage rapid re-vegetation.

HC Mining is commended for its efforts in accelerating the re-establishment of this valley for use by wildlife and the public.



**Figure 4.** Re-sloped and contoured overburden piles along the creek allow for safe passage of migrating wildlife.

## **YUKON GEOLOGICAL SURVEY**

Yukon Geological Survey staff are located in two buildings in Whitehorse: the *Elijah Smith Building* at 102-300 Main Street and the *Professional Building* at 2099-2nd Avenue.

### **BRANCH DIRECTOR**

*Professional Building*

Relf, Carolyn – Director, (867) 667-8892 carolyn.relf@gov.yk.ca

### **OPERATIONS MANAGEMENT**

*Professional Building*

Hill, Rod – Operations Manager, (867) 667-5384 rod.hill@gov.yk.ca

Labonte, Carrie – Office Administrator, (867) 667-8508 carrie.labonte@gov.yk.ca

### **REGIONAL GEOLOGY**

*Professional Building*

Murphy, Don – Acting Head, Regional Geology, (867) 667-8516 don.murphy@gov.yk.ca

Abbott, Grant – Project Geologist, (867) 667-3200 grant.abbott@gov.yk.ca

Bond, Jeff – Surficial Geologist, (867) 667-8514 jeff.bond@gov.yk.ca

Colpron, Maurice – Project Geologist, (867) 667-8235 maurice.colpron@gov.yk.ca

Israel, Steve – Project Geologist, (867) 667-5175 steve.israel@gov.yk.ca

Lipovsky, Panya – Surficial Geologist, (867) 667-8520 panya.lipovsky@gov.yk.ca

Roots, Charlie – GSC Research Scientist, (867) 667-8513 charlie.roots@gov.yk.ca

### **MINERAL SERVICES**

*Elijah Smith Building*

Burke, Mike – Acting Head, Mineral Services, (867) 667-3202 mike.burke@gov.yk.ca

Deklerk, Robert – Economic Geologist, (867) 667-3205 robert.deklerk@gov.yk.ca

LeBarge, William – Placer Geologist, (867) 667-3134 william.lebarge@gov.yk.ca

Traynor, Steve – Manager, Yukon Mining Incentives Program, (867) 456-3828 steve.traynor@gov.yk.ca

MacFarlane, Karen – Economic Geologist, (867) 667-8519 karen.macfarlane@gov.yk.ca

### **RESOURCE ASSESSMENTS AND OUTREACH**

*Professional Building*

Pigage, Lee – Acting Head, Resource Assessments and Outreach, (867) 667-8192 lee.pigage@gov.yk.ca

Lowey, Grant – Project Geologist (Sedimentologist), (867) 667-8511 grant.lowey@gov.yk.ca

Allen, Tammy – Petroleum Assessment Geologist, (867) 667-3411 tammy.allen@gov.yk.ca

Fraser, Tiffani – Petroleum Assessment Geologist, (867) 667-3228 tiffani.fraser@gov.yk.ca

Pelletier, Karen – Environmental and Outreach Geologist, (867) 456-3808 karen.pelletier@gov.yk.ca

### **TECHNICAL SERVICES**

*Elijah Smith Building*

Lewis, Lara – Acting Head, Technical Services, (867) 667-8518 lara.lewis@gov.yk.ca

Dufour, Rachelle – Office/Sales Coordinator, (867) 667-3201 rachelle.dufour@gov.yk.ca

Blackburn, Lauren – Senior Geological Assistant, (867) 667-3203 lauren.blackburn@gov.yk.ca

*Professional Building*

Bruce, Olwyn – Geological Spatial Data Administrator, (867) 393-7186 olwyn.bruce@gov.yk.ca

Sicotte, Aubrey – Geological Spatial Database Administrator, (867) 667-8481 aubrey.sicotte@gov.yk.ca

Staffen, Bailey – GIS Technician, (867) 393-7188 bailey.staffen@gov.yk.ca

Weston, Leyla – Editor/Outreach Geologist, (867) 667-8701 leyla.weston@gov.yk.ca