

## MAPS AND PUBLICATIONS 2007

You may view and download many of our publications free of charge from our website at [www.geology.gov.yk.ca/publications](http://www.geology.gov.yk.ca/publications).

You may purchase a printed copy or CD of any publication by contacting the Geoscience Information and Sales office at Room 102, Elijah Smith Building, 300 Main Street, Whitehorse, phone (867) 667-5200 or e-mail [geosales@gov.yk.ca](mailto:geosales@gov.yk.ca). VISA and MasterCard accepted.

You may borrow from the Energy, Mines and Resources library at Room 335, Elijah Smith Building, 300 Main Street, Whitehorse. Phone (867) 667-3111 or e-mail [emrlibrary@gov.yk.ca](mailto:emrlibrary@gov.yk.ca). The website is at [www.emr.gov.yk.ca/library](http://www.emr.gov.yk.ca/library).

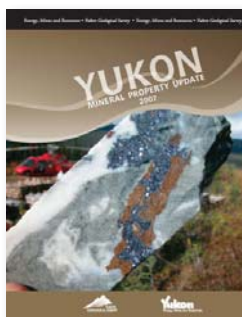
### YGS ANNUAL REPORTS

Emond, D.S., Lewis, L.L. and Weston, L.H., 2007. Yukon Exploration and Geology 2006. 268 p., \$10.00

Burke, M., Traynor, S., Lewis, L., LeBarge, W., Abbott, G., Colpron, M. and St. Amand, J., 2007. Yukon Mining, Development and Exploration Overview 2006. 79 p., free.

Galambos, K., Lewis, L.L. and Traynor, S. (compilers), 2007. Yukon Mineral Property Update 2007. 93 p., free.

Traynor, S. (compiler), 2007. Yukon Mineral Deposits 2007. 14 p., free.



### YGS BROCHURES

Church, A., Lowey, G., Pelletier, K. and Roots, C. (compilers), 2007. Yukon dinosaurs: Fossils and footprints. Yukon Geological Survey, YGS Brochure 2007-3, free.

Discover Yukon's Mineral Wealth, and Six Commodity Brochures: Coal, Copper, Gold, Iron, Zinc, Tungsten, 2007. Yukon Geological Survey and Dept. of Economic Development, Government of Yukon, 8 p. ea. except Iron and Tungsten (4 p.), free.

### YGS DATABASES

LeBarge, W.P. (compiler), 2007. Yukon Placer Database 2007 – Geology and mining activity of placer occurrences. 2 CD-ROMs, \$30.00

#### Three databases now searchable online

Yukon Geoscience Publications: A compilation of YGS publications and a list of Yukon geoscience references (compiled by Emond, D., Lewis, L., Welsh C. and Weston, L., 2007)

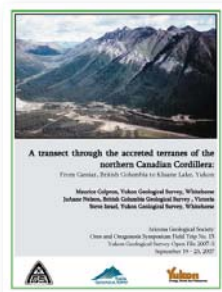
Yukon Igneous Database: A compilation of the known geochemistry of igneous rocks (compiled by Mair, J., Hart, C. and Lewis, L., 2007)

Yukon MINFILE: A database of mineral occurrences (compiled by Deklerk, R. and Traynor, S., 2007)

### YGS OPEN FILES

Colpron, M., Gordey, S., Lowey, G., White, D. and Piercey, S., 2007. Geology of the northern Whitehorse trough, Yukon (NTS 105 E/12, 13, and parts of 11 and 14; 105L/4 and parts of 3 and 5; parts of 115H/9 and 16; 115I/1 and part of 8)(1:150 000-scale). Yukon Geological Survey, Open File 2007-6, \$5.00.

Colpron, M., Nelson, J., and Israel, S., 2007. A transect through the accreted terranes of the northern Canadian Cordillera: from Cassiar, British Columbia to Kluane Lake, Yukon. Guide Book No. 15 for Arizona Geological Society Ores & Orogenesis Symposium, September 24-30, 2007: Tucson, Arizona Geological Society; Yukon Geological Survey, YGS Open File 2007-3, 84 p. plus 1:1 000 000-scale map, \$20.00.



Fraser, T. and Hogue, B., 2007. List of Wells and Formation Tops, Yukon Territory, version 1.0. Yukon Geological Survey, Open File 2007-5, 1 p. plus spreadsheet; online at [www.geology.gov.yk.ca](http://www.geology.gov.yk.ca)

Gal, L.P., Allen, T.L., Fraser, T., Hadlari, T., Lemieux, Y., Pyle, L.J. and Zantvoort, W.G., 2007. Rock-Eval 6 / TOC analyses from outcrop samples in northern Mackenzie Mountains, eastern Richardson Mountains, and southern Peel Plateau and Plain, Northwest Territories and Yukon, Canada (NTS 106E, F, G, H, L). Yukon Geological Survey and Northwest Territories Geoscience Office; YGS Open File 2007-1 / NWT Open Report 2007-003; online at [www.geology.gov.yk.ca](http://www.geology.gov.yk.ca)

Israel, S., 2007. Bedrock Geology, Miles Ridge area, Yukon (parts of NTS 115F/15, 16 and 115K/1, 2)(1:50 000 scale). Yukon Geological Survey, Open File 2007-7, \$5.00.

Israel, S., 2007. Bedrock Geology, Koidern River area, Yukon (parts of NTS 115F/9, 15, 16 and 115G/12)(1: 50 000 scale). Yukon Geological Survey, Open File 2007-8, \$5.00.

Murphy, D., van Staal, C. and Mortensen, J.K. 2007. Preliminary bedrock geology of part of Stevenson Ridge area, Yukon (NTS 115J/3, 4, 5, 6, 7, 8, part of 11 and 12; 115K/1, 2, 7, 8, 9, 10, part of 15 and 16) (1:125 000 scale). Yukon Geological Survey, Open File 2007-9, \$5.00.

Pigage, L., 2007. Yukon Stratigraphic Correlation Chart, v. 3.0. Yukon Geological Survey and Oil and Gas Management Branch, Yukon Geological Survey, Open File 2007-2, \$5.00.

Pigage, L., 2007. Preliminary Geology Map of NTS 95D/6 (1:50 000 scale). Yukon Geological Survey, Yukon Geological Survey, Open File 2007-4, \$5.00.

### MINING PETROLEUM ENVIRONMENT RESEARCH GROUP (MPERG) REPORTS ONLINE

Bailey, J.L., Reynoldson, T.B. and Bailey, R.C., 2007. Reference Condition Approach Bioassessment of Yukon River Basin Placer Mining Streams Sampled in 2006. MPERG Report 2007-2.

Gartner Lee Limited, 2007. 2006 Regional Water Quality, Sediment and Benthic Invertebrate Assessment for the South MacMillan River Watershed, MacMillan Pass, Yukon. MPERG Report 2007-5.

Jacobsen, C., 2007. Regeneration on Linear Developments Subject to Wildfires in a Zone of Continuous Permafrost. MPERG Report 2007-1.

Laberge Environmental Services, 2007. Gold Run Creek Erosion Control Project: 2006 Follow-up Monitoring. MPERG Report 2007-3.

Laberge Environmental Services, 2007. Shrub Trial Plots – Brewery Creek Mine: 2006 Follow-up Monitoring. MPERG Report 2007-4.

## 2007 YUKON EXPLORATION AND MINING

by Mike Burke

The Yukon mineral industry is booming. Placer mining continues to be a steady producer of gold in the Territory with production in 2007 predicted to increase slightly over the 2006 production of 58,294 crude ounces (1 652 600 g) of gold. Hardrock mining has returned to the Yukon with the Minto copper-gold-silver mine of Sherwood Copper Corporation reaching commercial production on October 1st. Exploration success at the Minto mine has fast-tracked additional development, including definition drilling of the newly discovered "Area 2" deposit. A Phase-2 mill expansion that is near completion will increase capacity at the operation from 1563 to 2400 tonnes per day. A Phase-3 expansion to 3500 tonnes per day is the subject of an independent prefeasibility study. Road construction and site development has begun at the Wolverine zinc-lead-copper-silver-gold deposit of Yukon Zinc Corporation. The company holds both Quartz Mining and Water licences. Final mine development of the Wolverine deposit will begin with the closing of additional project financing.

Exploration expenditures are estimated at 140 million Canadian dollars with over 150 exploration projects, including 25 projects spending over \$1 million, 90 projects with expenditures greater than \$100 000. Sixty-six of those projects involved drilling. Western Copper Corporation completed a positive feasibility study on the Carmacks Copper property in the spring of 2007 and has initiated the permitting process. Exploration was directed at further defining and expanding the known oxide resource in addition to testing newly discovered areas of mineralization on the property. Other companies which continued mineral exploration, geotechnical, engineering and environmental studies in support of feasibility studies include the following: Tagish Lake Gold on the Skukum Creek gold-silver deposit; North American Tungsten on the Mactung deposit; and Yukon-Nevada Gold on the Ketzra River gold deposit.



Bornite-chalcocite ore from the Minto mine. Photo by P. Long

The Yukon is well known for its excellent mineral potential, and wide variety of mineral deposits and commodities. This year's hottest commodities in Yukon were copper, zinc/lead, gold, silver, tungsten, molybdenum, nickel and uranium. New discoveries have been made this year in Yukon, however the backlog in assay labs has slowed the release of this information. The prospecting community and grassroots exploration programs continue to be strong with support from the Yukon Mining Incentives Program. The overall increase in mine development and all phases of mineral exploration bodes well for the future of the Yukon mining industry.

## YUKON GEOLOGICAL SURVEY ACTIVITIES

by Grant Abbott

The Yukon Geological Survey (YGS) has completed one of its most successful field seasons, with 24 projects undertaken or funded, including the following: bedrock and surficial mapping, mineral deposit, placer, soft rock (hydrocarbon-related), surficial and topical studies, geophysical surveys and outreach. Our focus is to provide the geoscience information necessary for the sustainable development of Yukon's mineral, hydrocarbon and land resources. Some of most noteworthy accomplishments for this year are highlighted on the following page.



Drilling on Alexco's Bellekeno property. Photo by M. Burke



## YGS ACTIVITIES (continued)

The field trip across the accreted terranes of the Northern Cordillera, led by Maurice Colpron and others, marks the culmination of more than ten years of collaborative mapping, geophysical surveys and research by five geological surveys and several universities. The Fieldtrip Guidebook will instruct field geologists on the seminal advances made by this work for years to come.

Generous funding from the Department of Indian and Northern Affairs SINED (TIPS) Funding has enabled us to embark on a new flagship multidisciplinary project in Stevenson Ridge and adjacent Klauane map areas of western Yukon, one of the least known parts of the Northern Cordillera, in terms of both surficial and bedrock geology. The poorly exposed and little known Windy McKinley terrane underlies a large part of the region and much the surficial geology has never been mapped. Not only is the mineral potential largely unknown, but the surficial geology is not sufficiently known to define terrain hazards (e.g., state and extent of permafrost, landslide potential) in the area, especially along the Alaska Highway infrastructure corridor.

We have put considerable effort into improving our geoscience databases and website and hope you will enjoy the improved functionality and ease of access to our data and publications. Be sure to take a look at the numerous new publications and databases; three of our databases are now searchable online.

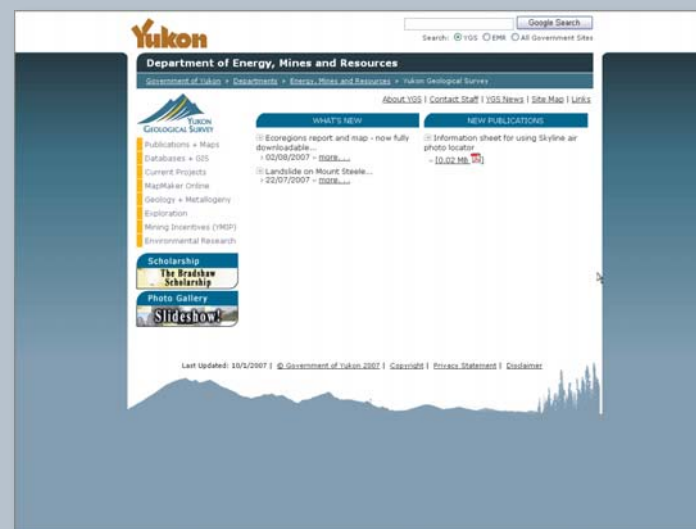
## A TRANSECT THROUGH THE ACCRETED TERRANES OF THE NORTHERN CANADIAN CORDILLERA

Between September 19 and 23, 2007, a group of 20 hardy geologists from industry, academia and government (see below) explored the geology of the accreted terranes between Cassiar, B.C. and Klauane Lake, Yukon under the guidance of Maurice Colpron, JoAnne Nelson (B.C. Geological Survey), Charlie Roots and Steve Israel. Although the weather proved to be a challenge for much of the trip, it failed to dampen the enthusiasm of the participants. Everyone returned home with a better understanding of northern Cordilleran tectonics and its bearing on regional metallogeny. This field trip was held in conjunction with the Ores and Orogenesis Symposium which took place September 24-30, 2007, in Tucson, Arizona. Copies of the guidebook (YGS Open File 2007-3) are available for \$20 or can be downloaded free of charges from our website. The field trip leaders hope to run this transect again in future. Keep an eye on our website for future trip announcements.



Participants on the Northern Cordilleran field trip in September. Photo by M. Colpron

## A NEW LOOK & FEEL FOR THE YGS WEBSITE



[www.geology.gov.yk.ca](http://www.geology.gov.yk.ca)

Last year we conducted a usability study to guide us in a redesign of our website. We hope the redesign will allow you to find things more easily. Here are some highlights:

- Join our Mailing List and find our newsletters at “YGS News” (previously FoYGers)
- Go to “Contact Staff” and find out where they are doing fieldwork (“Current Projects”)
- Go to “Links” to other associated organizations
- Browse or Search for geoscience “Publications & Maps”, where you can also generate a current publication list and obtain free downloads
- Make your own geological maps and overlay various theme layers (e.g., stream sed. geochem) at “MapMaker Online” (former Map Gallery)
- Link to online databases and access GIS data for geology maps complete with metadata (MINFILE, Igneous, Publications, Placer, YukonAge) at “Databases and GIS Data”
- At the same place Find general information and images on “Geology and Metallogeny”
- Find useful tools and links which should help you plan your projects (air photos, assessment reports, etc.) at “Exploration”
- Apply for “Mineral Incentives (YMIP)” funding
- Check out “Environmental Research” and apply to the Mining Petroleum Environment Research Group (MPERG)

We welcome feedback, so please feel free to send us comments or suggestions, and if you need any assistance please let us know.

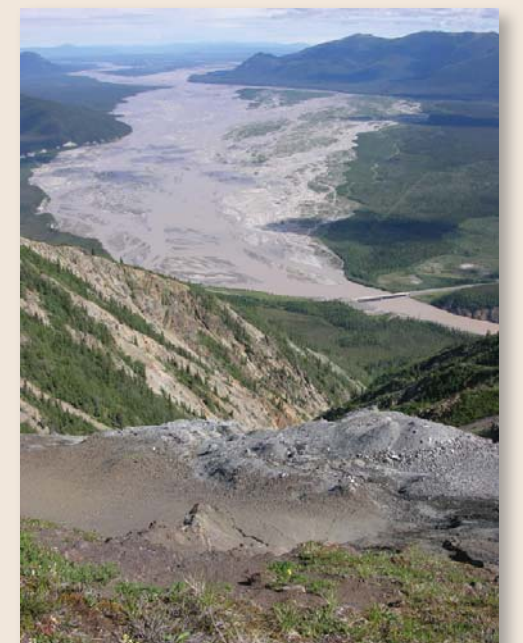
Contacts: Diane Emond - [diane.emond@gov.yk.ca](mailto:diane.emond@gov.yk.ca) (867) 667-3203 or Olwyn Bruce - [olwyn.bruce@gov.yk.ca](mailto:olwyn.bruce@gov.yk.ca) (867) 393-7186

## WINDY-MCKINLEY PROJECT, 2007

### SURFICIAL GEOLOGY

As part of a two year project, Panya Lipovsky and Jeff Bond spent one month investigating the surficial geology of the Stevenson Ridge (115J) and northern Klauane map areas (115G). This project lies west of the Carmacks map area and south of Stewart River map area. Major lakes and drainages in the study area include Wellesley Lake, the White, Donjek, Klauane, Nisling and Klotassin rivers. Year one of the project is focusing on the western and southern portions of the study area. Primary investigations consisted of documenting the distribution and stratigraphy of surficial materials across the landscape. Surficial mapping on aerial photos will be completed throughout the coming winter. Additional studies completed included heavy mineral sampling, Quaternary stratigraphy, glacial limit mapping, soil descriptions and terrain hazard mapping near the White River bridge. In 2008 the project will move eastward into the Dawson Range portion of the study area. Results from the 2007 field season will be presented at the Yukon Geoscience Forum and Vancouver’s Mineral Exploration Roundup.

*A view north from the headscarp of the Miles Ridge landslide. Over the past 10 to 15 years a rock failure has developed in a small drainage above the White River bridge. Survey markers were placed around the headscarp, as well as in the accumulating debris in order to monitor changes and assess risk to the Alaska Highway. Photo by P. Lipovsky*



### BEDROCK GEOLOGY

An intensive month of contract-helicopter-supported fieldwork was carried out from a base camp located at the White River Crossing Lodge south of Beaver Creek as part of the Windy-McKinley project in the Stevenson Ridge map area (115JK). During this month, Don Murphy and colleagues Cees van Staal of the Geological Survey and Jim Mortensen of the University of British Columbia were able to document nearly every accessible bedrock exposure (and there aren’t many in this swamp- and gravel-covered area!) of this enigmatic terrane across its complete extent from east of the confluence of the White and Donjek rivers, west to the Yukon-Alaska border and from the Scottie Creek area in the north, south to the Wellesley basin. These observations, together with the results of a SINED-funded multi-parameter airborne geophysical survey to be flown in 2008, will form the basis for a fundamental re-interpretation of the nature and significance of the terrane – and its mineral potential. Don will present the summer’s new data and conclusions at Yukon Geoscience Forum in November and at the Mineral Exploration Roundup in Vancouver in January.



*YGS assistant Kristy Long looking out over Wellesley Lake from a south-facing outcrop of variegated chert. Photo by D. Murphy*

*Cees van Staal of the GSC pointing out margins of sheeted dykes in the crustal part of the Harzburgite Peak – Eikland Mountain ophiolite. Photo by D. Murphy*

