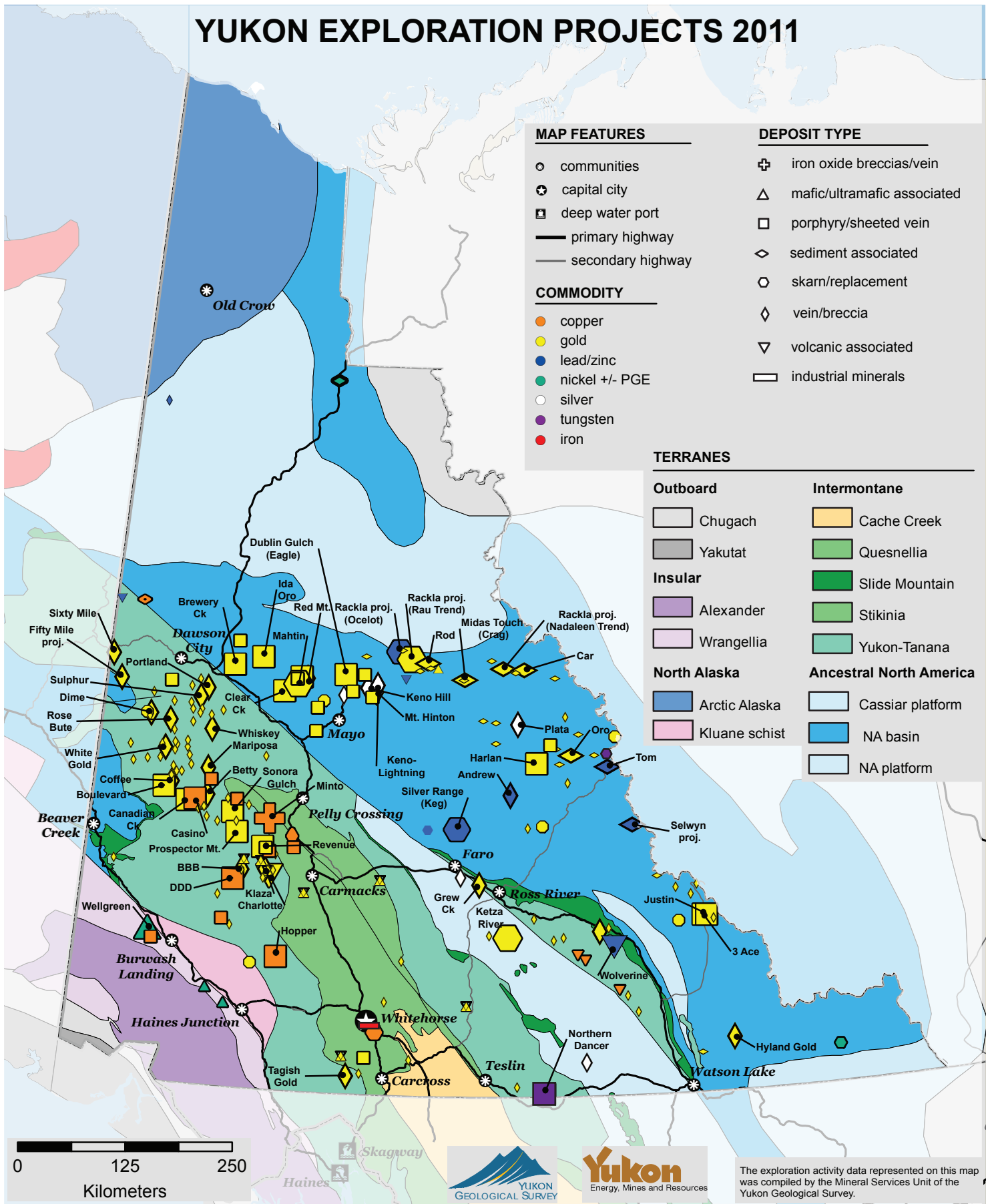


# YUKON EXPLORATION & GEOLOGY OVERVIEW 2011

YGS Activities  
Hardrock Mining, Development  
& Exploration  
Placer Mining  
Yukon Mining Incentives Program  
Oil & Gas

# YUKON EXPLORATION PROJECTS 2011



**Figure 1.** Yukon advanced exploration projects, 2011. Advanced projects ( $\geq \$1$  million) have large labelled symbols, and early stage projects ( $< \$1$  million) have small unlabelled symbols. Geotechnical, environmental and metallurgical studies have been included within exploration spending because in most cases these types of expenditures are initiated early and continued through the entire project history.

**YUKON**  
**EXPLORATION**  
**& GEOLOGY**  
**OVERVIEW**  
**2011**

Edited by  
K.E. MacFarlane

Yukon Geological Survey  
Energy, Mines and Resources  
Government of Yukon

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Front cover photograph: Canex Placer, 1980 underground portal into the XY deposit, a Zn-Pb SEDEX deposit in east Yukon. The property is currently being explored by the Selwyn-Chihong joint venture. Photo by Lee Pigage.

## **PREFACE**

Yukon Exploration and Geology (YEG) and the Yukon Exploration and Geology Overview continue to be the main publications of the Yukon Geological Survey (Energy, Mines and Resources, Government of Yukon). Individual YEG papers, with colour images, are available in digital format only and can be downloaded from our website. The YEG Overview is available in print and digital formats.

YEG 2011 contains up-to-date information on mining and mineral exploration activity, studies by industry, and results of recent geological field studies. Information in this volume comes from prospectors, exploration and government geologists, mining companies and students who are willing to contribute to public geoscience for the benefit of the scientific community, general public, and mineral and petroleum industries of Yukon. Their efforts are appreciated.

While I didn't have a co-editor for the overview this year, I do thank Patrick Sack for acting as my YEG co-editor. As always, appreciation is extended to Yukon Geological Survey staff who take the time to edit earlier versions of manuscripts; this year I thank Carolyn Relf, Jeff Bond, Maurice Colpron, Lee Pigage and Steve Israel. Finally, thanks to Bailey Staffen for lending 'another set of eyes'.

Sherry Tyrner of the Queen's Printer ensured that the printing process went smoothly.

We welcome any input or suggestions that you may have to improve future YEG publications. Please contact me at (867) 667-8519, or by e-mail at [karen.macfarlane@gov.yk.ca](mailto:karen.macfarlane@gov.yk.ca).

Karen MacFarlane

## PETER RISBY IN MEMORIUM



Pete Risby was a long time prospector in Yukon with a lust for life and a heart for adventure. Born in Kansas in 1931, his family moved to Alberta when he was four years old. After serving in the military in the early 1950s, his first mining related job was as a heavy equipment operator with Cassiar Asbestos Corp. in northern British Columbia. His interest in minerals and prospecting blossomed while working at the Cassiar asbestos mine and set the course for the rest of his days.

Pete staked his first of many claims in 1964, in Yukon. His years of exploration garnered plenty of wild stories. In the early days, Pete had the wherewithal to jump out of a helicopter seconds before it crashed into a mountain; he was declared dead before the medevac flight arrived to collect him. During one summer on the Indian River, he unknowingly sluiced an unmarked grave and was later shocked to find a body in his sluice box.

Pete was the first person to seriously evaluate the placer gold potential of the Indian River area. He started placer mining the Indian River area in 1981. Indian River had minimal historic workings and has since become one of the highest gold-producing drainages in Yukon. Pete was voted the Yukon's placer miner of the year in 1996 and inducted into the Yukon Prospector's Hall of Fame in 1996. The same year that he and his wife Ruth Ann were awarded Mr. and Mrs. Miner by the Klondike Placer Mining Association. They were also instrumental in establishing the Yukon-Indian River Scholarship to promote Yukon placer mining.

One of a dying breed of bush savvy, hard-working, energetic prospectors, Pete was at the Mining Recorders office in Whitehorse poring over maps and planning his next exploration season mere months before he died.



Sadly, Pete succumbed to cancer on February 27, 2011.

Lara Lewis



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*Yukon Geological Survey staff: (front row, left to right) Tiffani Fraser, Sarah Laxton, Lara Lewis, Patrick Sack, Panya Lipovsky and Charlie Roots; (back row, left to right) Don Murphy, Nikolett Kovacs, Aubrey Sicotte, Maurice Colpron, Steve Israel, Carolyn Relf, Lee Pigage, Jeff Bond, Debbie Throssell and Robert Deklerk.*

*Missing from photo: Sue Roy, Bailey Staffen, Karen MacFarlane, Derek Torgerson, Johann Slam, Olwyn Bruce and Kristen Kennedy.*



# Summary of Yukon Geological Survey's 2011-2012 Activities

**Carolyn Relf**

*Director, Yukon Geological Survey*

Relf, C., 2012. Summary of Yukon Geological Survey's 2011-2012 Activities. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 7-18.

## INTRODUCTION

2011 was a very busy year for Yukon Geological Survey (YGS). Organizational changes and staff turnover resulted in a reduction in the number of field projects delivered, while the level of mineral exploration activity in the territory reached an all-time high. In spite of reduced capacity a number of projects were completed and new maps and data were released. To address the exploration boom, YGS directed extra resources to monitor mineral exploration activity and track new discoveries. An exciting new development in 2011 was the completion of the H.S. Bostock Core Library. This facility provides an opportunity for YGS to expand its drill core collection and offer access to clients to core-logging and lapidary facilities.

This report provides a brief summary of YGS' activities for the 2011-12 fiscal year. Full reports and data from this year's activities will be released separately.

## YUKON GEOLOGICAL SURVEY PROGRAM FUNDING AND OVERSIGHT

Yukon Geological Survey (YGS) is a branch of Government of Yukon's Department of Energy, Mines and Resources (EMR). The survey's mandate is to provide the geoscience and related technical information required to enable stewardship and sustainable development of Yukon's energy, mineral and land resources.

Annual work planning for YGS is influenced by a number of internal and external factors. Internally, YGS holds planning workshops every five years to identify geoscience knowledge gaps and needs over the medium term (5-10 years). At a higher level, EMR defines corporate strategic priorities such as land use planning and projected infrastructure requirements; these in turn inform YGS' planning. Externally, client needs and exploration trends impact annual project plans. These needs are communicated formally via annual meetings with two Technical Liaison Committees (one focused on minerals-related geoscience gaps and one on energy), and informally via meetings and conversations with clients. Some YGS projects are undertaken opportunistically, as funding sources or research partnerships present themselves.

Finally, staff capacity and financial resources have a significant influence on YGS' annual program delivery, as reflected in YGS' 2011-12 activities. As a result of a number staff vacancies in 2011, fewer field-based projects were delivered than in previous years; on the other hand, more resources were available to invest in training of new staff and in contracted projects such as work on the corporate "Enterprise" database project.

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## YGS OPERATING BUDGET

Funding for YGS activities was derived from two sources in 2011-12. Yukon government funds YGS' main operating budget (\$1113K) which covers its core geoscience activities, and allocated \$700K to this year's Yukon Mining Incentives Program (YMIP). This year the Yukon government also provided one-time funding of \$90K to upgrade mineral potential maps to support land use planning in the territory. In addition to territorial funding, the Canadian Northern Economic Development Agency (CanNor) provided \$933K for geoscience projects through their Strategic Investments in Northern Economic Development (SINED) Program.

## YMIP FUNDING

A total of \$700K was allocated for the Yukon Mining Incentives Program this year. Grants totaling \$570K were awarded to eligible applicants based on a competitive process that assesses the merit of each proposal. The remaining funds (\$130K) covered salary and expenses for the YMIP geologist (property visits, sample analyses, business travel, etc.). The number and types of grants distributed in 2011 are presented in Table 1.

## MPERG FUNDING

Funding for the Mineral and Petroleum Environmental Research Group (MPERG) is allocated on a competitive basis to companies or individuals undertaking research designed to mitigate the environmental impacts of mineral and petroleum exploration and development. Administration of the MPERG fund (\$50K) was transferred to Yukon College this year and managed under the Yukon Research Centre's Resources and Sustainable Development program. This administrative change has resulted in a modified governance structure in which the Research Centre's director chairs the committee and tracks progress on funded projects.

**Table 1.** 2011-12 YMIP grant recipients.

<b>Grassroots Module</b>		
<b>Recipient</b>	<b>Maximum</b>	<b>Type</b>
La Tierra Resources Ltd.	100% of expenses up to \$15 000	Placer
Dick McKenna	100% of expenses up to \$15 000	Placer
Jerret Kreft	100% of expenses up to \$15 000	Hardrock
D.R. David	100% of expenses up to \$15 000	Hardrock
James Woods	100% of expenses up to \$15 000	Hardrock
James Woods	100% of expenses up to \$15 000	Hardrock
Eugene Curley	100% of expenses up to \$15 000	Hardrock
<b>Focused Regional Module</b>		
<b>Recipient</b>	<b>Maximum</b>	<b>Type</b>
Gordon Richards	75% of expenses up to \$15 000	Hardrock
Bernie Kreft	75% of expenses up to \$15 000	Hardrock
Bernie Kreft	75% of expenses up to \$15 000	Hardrock
Bernie Kreft	75% of expenses up to \$15 000	Hardrock
Gary Lee	75% of expenses up to \$15 000	Hardrock
Pika Exploraton Inc.	75% of expenses up to \$15 000	Hardrock
Pika Exploraton Inc.	75% of expenses up to \$15 000	Hardrock
Mark Fekette	75% of expenses up to \$15 000	Hardrock
Kaminak Gold Corp.	75% of expenses up to \$15 000	Hardrock
Kaminak Gold Corp.	75% of expenses up to \$15 000	Hardrock
<b>Target Evaluation Module</b>		
<b>Recipient</b>	<b>Maximum</b>	<b>Type</b>
Tara Christie	50% of expenses up to \$25 000	Placer
Daniel Klippert	50% of expenses up to \$25 000	Placer
Charlie Brown	50% of expenses up to \$25 000	Placer
Ampex Mining Ltd.	50% of expenses up to \$25 000	Placer
Ralph Keefe	50% of expenses up to \$25 000	Placer
Roger Hulstein	50% of expenses up to \$25 000	Hardrock
Jim Christie	50% of expenses up to \$25 000	Hardrock
Kevin Brewer	50% of expenses up to \$25 000	Hardrock
Charlie Long	50% of expenses up to \$25 000	Hardrock
Panarc Resources Ltd.	50% of expenses up to \$25 000	Hardrock
Panarc Resources Ltd.	50% of expenses up to \$25 000	Hardrock
Bearing Resources	50% of expenses up to \$25 000	Hardrock
Northern Tiger Resources	50% of expenses up to \$25 000	Hardrock
Monster Mining Corp.	50% of expenses up to \$25 000	Hardrock
BCGold Corp.	50% of expenses up to \$25 000	Hardrock
Arcturus Ventures Inc.	50% of expenses up to \$25 000	Hardrock
Constantine Metal Resources Ltd. - Carline Gold Corp JV	50% of expenses up to \$25 000	Hardrock

Two MPERG grants were awarded in 2011: one study is designed to test the effect of biochar on vegetation growth on tailings (Laberge Environmental), and the second project is an update of the Yukon Revegetation Guidelines (YUCAN Environmental Planning and R.S. Resource Management Ltd.). YGS is represented on the MPERG committee by Panya Lipovsky.

## LAND USE PLANNING

Funding was provided to YGS by Government of Yukon's Land Claims and Implementation Secretariat to support Yukon's land use planning process. Specifically, \$90K is being used to upgrade existing mineral potential maps to incorporate results of new and ongoing mineral exploration and to explore ways to represent mineral potential information in a way that is easily understood by decision makers.

## SINED FUNDING

In 2010, Canada's Northern Economic Development Agency (CanNor) approved an application from YGS for funding and will provide \$4.2M over 4 years (April 2010 to March 2014) for geoscience projects under their Strategic Investments in Northern Economic Development (SINED) Program. These projects are being delivered under six themes. This year's projects, as well as the multi-year themes, are presented in Table 2.

**Table 2.** Summary of 2011-12 SINED-funded projects.

Theme	2011 Project underway	Anticipated Output	SINED \$
Geophysics	Gravity survey, Mt Nansen area	Map, raw data	\$450 000
Regional Geochemical Survey	Ongoing re-analysis of archived GSC stream sediment samples, Selwyn basin	Open Files, spring 2012	\$175 000
Placer Studies	Modelling of fluvial environments of Klondike creeks	Ph.D thesis, Leeds University	\$80 000
	Analysis of heavy mineral separates from placer concentrates	Open File, spring 2012	
	Tephra dating of Klondike ash beds	Journal paper	
	Placer Workshop, November	Workshop proceedings	
Surficial Studies	Compilation of digital placer potential map for Dawson land use planning area	Open File, spring 2012	\$60 000
Data management, distribution	Migration, cleaning of mineral occurrence and reference data; development of beta version of web mapping tool	New web search tool enabled October 2011	\$15 000
Document scanning	Ongoing scanning (Faro, Cyprus Anvil files)	Release via web; ongoing	\$150 000
Performance Measurement	Survey of clients regarding usefulness and impact of 2010-11 SINED projects	Survey results released	\$3000
		Total	\$933 000

## YUKON GEOLOGICAL SURVEY ORGANIZATIONAL OVERVIEW

YGS underwent some organizational changes and significant staff turnover in 2011. Mike Burke, Venessa Bennett and Joyia Chakungal left the survey to work in the private sector, and two staff (Karen Pelletier and Grant Lowey) retired. In addition, Tammy Allen left YGS to move to the east coast with her family. Collectively they represent a significant wealth of knowledge and experience, and their absence has been keenly felt. On the upside, YGS welcomed four new staff this year (Derek Torgerson, Patrick Sack, Johann Slam, and Sarah Laxton), as well as two new additions via Kristen Kennedy and Olwyn Bruce (and Steve Israel), who added a baby boy each to YGS' end-of-summer barbeque invitation list. I would like to take this opportunity to thank departing staff for their contributions to YGS, welcome new employees, and congratulate Kristen and Olwyn on their newest family members.

YGS' new organizational structure is illustrated in Figure 1, and summaries of each unit's responsibilities and highlights of their 2011 activities are presented below.

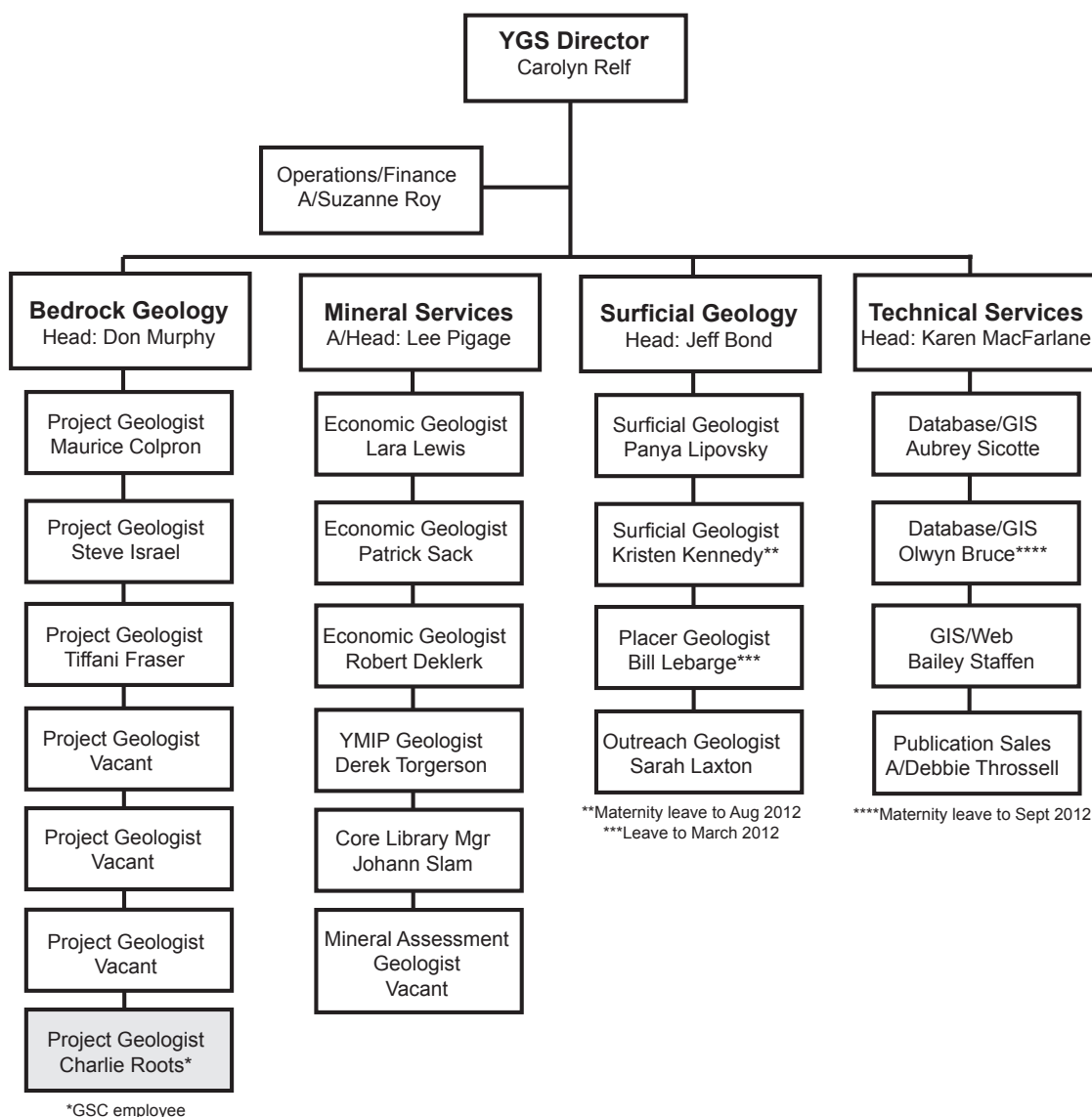


Figure 1. Organizational chart for Yukon Geological Survey.

## REGIONAL BEDROCK GEOLOGY UNIT

### Unit Overview

The Regional Bedrock Geology unit, managed by Don Murphy, saw significant changes in 2011. With the creation of a new Surficial Geology unit, the focus of Don’s group was shifted from regional mapping of bedrock and surficial materials to regional studies (mapping and targeted thematic studies) of bedrock geology. Four surficial geologists (Bond, Lipovsky, Kennedy and Laxton) were moved from the old Regional Mapping unit into Surficial Geology, and three oil and gas geologists joined the new Regional Bedrock Geology group. Merging

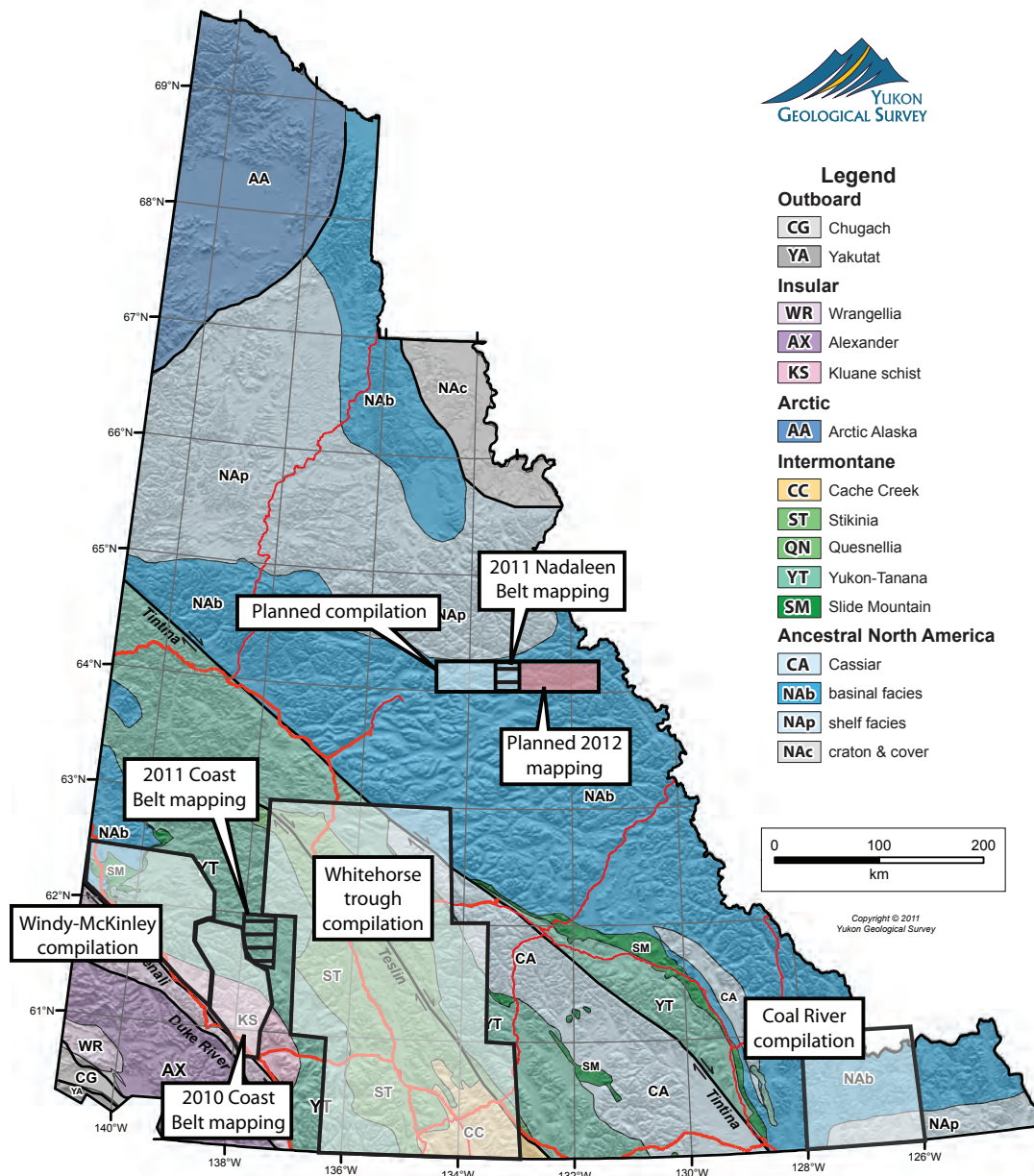
of the oil and gas geologists with the mapping geologists will enhance collaboration between bedrock disciplines and increase the integration of bedrock mapping with basin and petroleum systems studies. To this end, YGS is investing some time and resources this fiscal year to critically assess what types of oil and gas-related geoscience projects would best address clients’ interests and Yukon’s energy needs, and how these projects might integrate with mapping activities.

### 2011 Highlights

Bedrock mapping was carried out in two project areas in 2011 (Fig. 2). One project was a contribution to the

Geological Survey of Canada's Geo-mapping for Energy and Minerals (GSC-GEM) Program, and entailed regional mapping in the area north of Aishihik Lake in the Coast Belt (see Israel, in press). The second involved mapping in the Nadaleen belt west of the ATAC Resources' Osiris occurrence (Colpron, in press).

In the Coast Belt project area Israel completed mapping of two 1:50000 map sheets, extending coverage northward from 2010 mapping into a region with under-explored potential for porphyry and epithermal-style mineralization (Israel and Westberg, 2011; Israel, in press). With the exception of some targeted "clean-up" mapping, field



**Figure 2.** 2011 YGS bedrock mapping activities. Hatch-marked areas indicate mapping completed in 2011 by Israel (Coast Belt) and Colpron (Nadaleen Belt). Compilation maps released this year include Coal River (Pigage et al., 2011) and Whitehorse trough (Colpron, 2011); Windy-McKinley area will be released in spring 2012 (Murphy, in prep.). Pending compilation maps include southwestern Yukon (capturing Coast Belt, Kluane Ranges and Windy-McKinley geology) and Nadaleen belt (following completion of 2012 mapping, indicated in red).

work in this area is largely complete: efforts over the next year will focus on compiling Coast Belt geology with recent mapping by Murphy (Murphy *et al.*, 2007) in the adjacent Windy-McKinley area and by Israel (Israel *et al.*, 2011; Israel and Cobbett, 2008; Israel *et al.*, 2007a,b; Israel *et al.*, 2005; Israel and Van Zeyl, 2004) in the Ruby and Kluane ranges.

In March 2011, YGS contracted Aurora Geosciences Ltd. to collect gravity data on a 2-km grid in the northern Aishihik Lake area. Bedrock mapping here in 2010 revealed a number of porphyries in the upper part of the Ruby Range batholith (Israel *et al.*, 2011). The purpose of the survey was to aid in assessing the porphyry potential of the area by seeing whether alteration haloes could be distinguished using gravity data. The survey (YGS, 2011) was one of YGS' SINED-funded projects.

Timing for the wrap-up of the Coast Belt project coincides with the final year of the GSC's GEM Minerals Northwest Cordilleran ("Edges") Project. Upon release of the YGS maps noted above and GSC maps for McQuesten River (Ryan *et al.*, 2010) and North Stevenson Ridge (Ryan *et al.*, in prep.), over forty 1:50 000 map sheets in southwestern Yukon will have been upgraded to modern standards.

In central Yukon Maurice Colpron completed bedrock mapping of NTS 106C/03. This area lies immediately east of the mapping completed the previous year by Chakungal (Chakungal and Bennett, 2011). Colpron's work builds on earlier work by Abbott (1990) and Chakungal and Bennett (*ibid*), delineating the shelf-basin transition of the Selwyn basin and providing insights into the depositional setting and structural re-working of these rocks. Plans are being made to extend map coverage eastward across the southern part of the Nadaleen River map sheet (Fig. 2) in 2012. In response to the current level of exploration interest in this belt, YGS plans to complete mapping in one summer by committing up to four bedrock mappers to this project for a month.

Upgrading of the bedrock geology in this area will be complemented by the generation of new geochemical analyses for stream sediment samples across Selwyn basin. This project, initiated in 2010 and supported with SINED funds, entails the re-analysis of samples from the GSC's archived collection to modern standards (53-element ICP-MS). Last summer new data from Tay River (NTS 105N) and Nidderly Lake (NTS 105O and part of P) areas were released (Jackaman, 2011a,b respectively), and the remaining map sheets are anticipated to be complete by spring 2012.

New bedrock compilation maps completed by YGS in 2011 include the Coal River map sheet (Pigage *et al.*, 2011), Whitehorse trough compilation (Colpron, 2011) and Windy-McKinley (Murphy, in prep.).

A number of oil and gas-related projects were initiated by the Bedrock Geology unit in 2011. A contract was awarded to Leanne Pyle (VI Geoscience Services Ltd.) to undertake a review of YGS' capacity for oil and gas-related studies and identify potential future research projects. The review was initiated in part to increase the alignment of YGS' work with Government of Yukon's energy priorities, and to ensure these activities support the information needs and interests of clients in the oil and gas exploration sector. Two meetings were organized with industry representatives and GSC scientists to seek input on the types of studies and information services that would best help stimulate interest in Yukon's energy resources. A final report, to include recommendations on research priorities and identification of capacity gaps will be released in spring 2012.

Two contracts were awarded in 2011 to Petrel Robertson Consulting Ltd. of Calgary. The first focuses on upgrading the petroleum resource assessment for Whitehorse trough by incorporating recent mapping (Colpron, 2011) and sedimentological studies (Lowey, 2008) completed by YGS. The assessment will include both conventional and unconventional resources. The second contract is a regional scoping study of Yukon's Phanerozoic rocks to examine the territory's potential for unconventional oil and gas. Both contracts are desktop studies that will support Yukon's ongoing interest in energy sources and inform future project planning for YGS.

In addition to the above, YGS focused efforts on compiling and completing studies carried out in collaboration with the GSC on their GEM Energy project in Eagle Plain. These products include completion of the Ford Lake Shale Formation study (Allen *et al.*, in prep.), a paper on the shale gas potential of Devonian strata in Eagle Plain basin (Fraser *et al.*, in press), and a conventional reservoir petrophysical assessment of Eagle Plain oil and gas wells (Fraser *et al.*, in prep.).

In collaboration with the GSC and Yukon's Oil & Gas Resources Branch, YGS is coordinating an initiative to have historical petroleum industry documents (well, geological and geophysical reports) housed in GSC-Calgary's Archives scanned and inventoried. While many of Yukon's well reports have been scanned and can be accessed on-line via Oil & Gas Resources' Yukon

On-line Well Information (“YOWI”) web application ([http://maps.gov.yk.ca/imf.jsp?site=OilandGas\\_wells](http://maps.gov.yk.ca/imf.jsp?site=OilandGas_wells)), Yukon’s collection is incomplete, and some files are of poor quality. YGS plans to inventory and release these documents once the scanning work is complete.

## SURFICIAL GEOLOGY UNIT

### *Unit Overview*

The Surficial Geology unit is a new YGS work unit that was created in 2011. Managed by Jeff Bond, it includes all staff whose work covers aspects of Yukon’s surficial geology, including mapping, permafrost studies, landslides, and placer exploration and mining. The Outreach Geologist position also resides within this unit, as the recently-hired incumbent (Sarah Laxton) has research interests that fall within the mandate of the unit.

The Surficial Geology unit was short-staffed in 2011: Bill LeBarge is on a year’s leave of absence (April 2011-March 2012), Panya Lipovsky was absent for the first half of the fiscal year, and Kristen Kennedy left on maternity leave in August.

### *2011 Highlights*

Surficial Geology staff did not undertake any new surficial mapping in 2011 but instead focused on the compilation and release of mapping carried out in 2010. Five 1:50 000 maps covering NTS sheets 115J/9 to 13 (Bond and Lipovsky, in press) will be released over the winter. The maps provide information on the distribution and character of surficial materials and they will be useful to industry geologists interpreting results of recently re-analyzed stream sediment samples from the Stevenson Ridge area (Jackaman, 2011c).

In support of the recently-appointed Dawson Land Use Planning Commission, Panya Lipovsky and Jeff Bond will be compiling surficial geology, hardrock mineral occurrences, placer production statistics and drainage data to support an assessment of placer mineral potential in the Dawson planning area. The work is scheduled to be submitted to the Dawson land use planning working group by spring 2012.

YGS funded a number of university-based studies in 2011 including research at Dalhousie University on the timing of glacial maxima and retreat rates of Cordilleran ice sheets based on cosmogenic dating, glacial stratigraphy in southwestern Yukon (Simon Fraser University), and

tephrochronology of ash beds in west-central Yukon (University of Toronto).

Jeff Bond undertook visits to a number of placer operations this year, focusing on Black Hills Creek, Sixty Mile River and placers in the Mayo area. In addition, he and Kristen Kennedy initiated a project to analyse heavy mineral separates from concentrates collected by Bill LeBarge from placer creeks throughout Yukon over the last decade. Results of this study were presented at the 2011 Yukon Geoscience Forum (Bond *et al.*, 2011) and they highlight some interesting anomalies with implications for bedrock-hosted mineralization. YGS also supported a study by researchers at Leeds to model the evolution of gold placers using a flume tank, and contracted a series of IP and resistivity surveys of selected Klondike creeks to profile depth to bedrock (Molland and Ostermaier, 2011). The latter project was funded under the SINED program.

The outreach geologist (Laxton) was heavily engaged in education and public outreach activities, starting in the spring with Mining Week. Among the activities she carried out were a teacher’s workshop in October, collection of permafrost data from stations in communities in south and central Yukon, and a Mining Matters event for Whitehorse students during the Geoscience Forum. Laxton also participated on a research project that examined the potential increase in volume of input of glacial meltwater to the Yukon River system as a result of climate warming. The study was funded in part by Yukon Energy Corporation and has implications for future power production at the Whitehorse Hydro station.

## MINERAL SERVICES UNIT

### *Unit Overview*

In February 2011, Lee Pigage was appointed acting Head of the Mineral Services unit, and the position of Placer Geologist was moved from Mineral Services to the (new) Surficial Geology unit (see above). In addition to these changes, three new staff joined the unit in 2011: Derek Torgerson filled the Yukon Mining Incentives Program (YMIP) geologist position, Patrick Sack joined the unit as an Economic Geologist, and a new position – Core Library Manager – was created and filled by Johann Slam.

### *2011 Highlights*

Given the exceptionally high level of mineral exploration activity this year, a key priority for Mineral Services was to monitor exploration activities and collect information

on new discoveries. Staff visited over 40 exploration properties this year, including 9 YMIP-supported projects. Exploration and development highlights for 2011 are presented by Lewis *et al.* (this volume).

One of the consequences of the current exploration boom was a steady stream of requests for information by clients, Government of Yukon, and the media for geologic information, exploration trends, and production and expenditure statistics. Mineral Services tracked news releases and company websites, and reviewed assessment reports in order to respond to these information requests. An additional challenge in 2011 was the transition from the old MINFILE database to the new database structure (see Technical Services, below), which required (and continues to require) some cleaning of migrated data and changes to data entry protocols.

Staff from the Mineral Services unit were invited to present highlights of Yukon's exploration activities at a number of venues in 2011, including the Alaska Miners' Association (Sack), the Mineral Exploration Group in Calgary (Lewis), Yukon Geoscience Forum (Lewis), Northwest Mining Association's Annual Meeting in Reno (Torgerson), China Mining (Torgerson), and a promotional tour with the Yukon Gold Mining Alliance (Relf). Lee Pigage will present the 2011 Yukon Exploration and Development Overview talk at the Exploration Roundup in January 2012.

The Yukon Mining Incentives Program (YMIP) had a successful year under Derek Torgerson's direction. Locations and details of 2011 YMIP-funded projects are presented in Torgerson (this volume). The level of funding for YMIP was reduced relative to the previous two years when extra resources were allocated to the program to soften the impact on Yukon's mineral exploration sector of the global economic downturn. Based on advice from industry clients, YGS reduced the maximum caps of grants under each module this year, and made efforts to fund as many eligible applications from individuals as possible. The revised maximum grants allowable under the three program modules are \$15 000 for Grassroots projects (YMIP will pay up to 100% of eligible expenses); \$15 000 for Focused Regional projects (up to 75% of eligible expense); and \$25 000 for Target Evaluation (up to 50% of eligible expenses). A total of thirty four YMIP grants were allocated in 2011 (details are presented in Table 1).

The Mineral Services unit is Government of Yukon's lead for mineral resource information to support land use planning. In April 2011 the Dawson Land Use Planning

Commission was established; YGS will work with the commission to provide information on mineral potential within the planning area. While some work has already been done in the Dawson region (Fonseca and Bradshaw, 2005), current exploration, particularly in the White Gold area, and recent mapping highlight a need to upgrade mineral potential maps. YGS has awarded a contract to Cal Data Ltd. of Victoria, BC to recalculate mineral potential for North Yukon, Peel area, Sewlyn basin and southwestern Yukon, and determine whether to add structurally-controlled gold as a new deposit type to the Dawson region mineral potential maps. The contractor will also evaluate different ways of displaying mineral potential rankings to help decision makers better understand the information being presented and the limitations of the assessments.

## TECHNICAL SERVICES UNIT

### *Unit Overview*

The Technical Services unit's function and its staff remained unchanged in 2011 relative to previous years. The group is responsible for map production, editing and distribution of publications, YGS' website and web services, and database development and maintenance.

### *2011 Highlights*

Technical Services updated the YGS website in 2011, making changes to how pages are organized in order to make information easier to find. The website is organized by discipline, so users do not need to be familiar with YGS' organizational structure to find information. In addition to a new website layout, YGS launched a new tool for online searches of data and publications. The tool is a Google-style search tool that allows users to query and discover YGS publications (which can be downloaded directly via "download now" button), non-YGS publications (which YGS does not distribute), and mineral occurrence data. YGS is currently working with the EMR Library to import assessment report metadata into the YGS system, allowing these reports to be found using the search tool; direct links to these reports will be available from the YGS site.

Behind the web interface, Technical Services made significant progress on migrating data from some of its old databases (MINFILE, References, Publications, placer data) into the new Enterprise database. The new web search tool hits the Enterprise database when a query is made, and as with all data that are migrated into a new system, a number of errors were inherited. Concerted efforts will be



made to clean reference data in the first quarter of 2012; once reference data are clean, attention will focus on cleaning of placer data so that it can be web-enabled.

In addition to working on the new database and associated web applications, Technical Services staff released thirty-seven publications in 2011, including thirty-one Open Files, three Miscellaneous Reports, one Geoscience Map and the 2010 YEG and YEG Overview volumes. A full list of 2011 publications is provided at the end of this volume.

A SINED-funded project to scan archived industry documents, initiated in 2010, continued this year. To date, about two thirds of YGS' collection of Faro files (9000 maps and 4600 paper reports) have been scanned and indexed. Staff are in the process of importing metadata on these scanned files into the reference part of the Enterprise database. Once complete, these documents will be searchable and downloadable using the new web tool. In the meantime, scanning is proceeding on the remaining Faro files, as well as Cyprus-Anvil documents.

## H.S. BOSTOCK CORE LIBRARY

Construction of the new H.S. Bostock Core Library was completed this year and an occupancy permit was granted in October (Fig. 3). The building was funded by the Federal Department of Aboriginal Affairs and Northern Development Canada through their Arctic Research Infrastructure Fund (ARIF). ARIF funding was also provided to Energy, Mines and Resources' Forest Management Branch, and the Core Library includes office space for a forest researcher and shared meeting space.



**Figure 3.** Main entrance to the new H.S. Bostock core library.

The new building will support a number of YGS functions including laboratory space for sample preparation, a warehouse, and an office area. These areas and their associated functions are being set up in stages; the status of each is described below.

## SAMPLE PREPARATION LABORATORY

The sample preparation lab, located on the first floor of the building, includes a layout area for examining rock and drill core samples, and lapidary equipment (rock saws and polishing equipment; Fig. 4). The space also includes a sediment sample preparation room with sieves, scales and a shaker table (the latter will be installed in 2012). Analytical equipment include a binocular microscope and a hand-held X-Ray Fluorescence analyser which will be available for use by certified clients.



**Figure 4.** Sample prep area and lapidary equipment.

The lab has been functioning since early November. Clients can access the facilities by contacting Mineral Services.

## WAREHOUSE/STORAGE AREA

The building includes a large ground-floor warehouse and ample outdoor storage for core racks. The warehouse space includes racks for long term storage of rock and sediment samples (archived YGS collections), and shelves for storing field equipment. Drill core will be stored outside on covered racks.

To date, two rock collections (MINFILE and teaching collections) have been inventoried and organized, and the teaching collection has been moved to the new building. The remaining collections include YGS project collections (rocks and sediments) and drill core; these will be sorted at the old facility and partially culled before they are moved.

The drill core collection presents both a challenge and an opportunity. YGS plans to review its database of drill core and focus on retaining core for which associated data such as drill logs and collar locations are readily available. Ultimately a core collection that preserves a representative suite of core for each of Yukon's significant mineral deposits is envisioned, along with clear policies on accessing, sampling and analysing the core. The challenge includes both the substantial work required to organize the core and related records, and developing a strategy for acquiring core from mineral rights holders for deposits that are not currently represented by the collection.

## OFFICE SPACE

The second floor of the new Core Library building has office space that is currently unoccupied. Plans are underway to move Mineral Services and two support staff to the new building early in 2012. Once occupied, client access to the lapidary facilities will be easier as staff will be readily available to assist them.

The building includes a large meeting room that can accommodate up to 30 people for meetings, workshops and presentations. In October, the outreach geologist hosted a teachers' geoscience education workshop and in November the room was used for the annual meeting of YGS' Minerals Technical Liaison Committee. It will be an excellent space for technical talks by staff and visiting geologists, with adequate space for guests to attend.

## SUMMARY

Overall, in spite of the loss of a number of staff, YGS had a very productive year. A number of new hires in 2011 added to YGS' capacity, and staffing efforts will continue in 2012, beginning with a new bedrock mapper. Significant progress was made on a number of major projects, including the opening of a new core library, launching of new online information services, and the completion of a multi-year mapping project with GSC in southwestern Yukon.

YGS' outreach program is refocusing on Yukon's schools, and efforts are being made to align oil and gas related research with Yukon's energy needs. New mineral discoveries are presenting excellent growth opportunities for the territory, and YGS is well positioned to continue providing information that supports exploration and underpins the responsible stewardship of Yukon's resources.

## REFERENCES

- Abbott, J.G., 1990. Geology of the Mt. Westman map area, central Yukon (NTS 106D/1). Yukon Geological Survey Open File 1990-1, scale 1:50 000.
- Bond, J., Lebarge, W. and Kennedy, K., 2011. Heavy minerals in Yukon placer concentrates. Unpublished poster, 39<sup>th</sup> Annual Yukon Geoscience Forum.
- Bond, J.D. and Lipovsky, P.S., (in press). Surficial geology of Selwyn River (115J/09), Yukon. Yukon Geological Survey, Open File, scale 1:50 000.
- Bond, J.D. and Lipovsky, P.S., (in press). Surficial geology of Colorado Creek (115J/10), Yukon. Yukon Geological Survey, Open File, scale 1:50 000.
- Bond, J.D. and Lipovsky, P.S., (in press). Surficial geology of Doyle Creek (115J/11), Yukon. Yukon Geological Survey, Open File, scale 1:50 000.
- Bond, J.D. and Lipovsky, P.S., (in press). Surficial geology of Tom Creek (115J/12), Yukon. Yukon Geological Survey, Open File, scale 1:50 000.
- Bond, J.D. and Lipovsky, P.S., (in press). Surficial geology of Home Creek, (115J/13), Yukon. Yukon Geological Survey, Open File, scale 1:50 000.
- Chakungal, J. and Bennett, V. 2011. New bedrock geology of the Mount Mervyn map sheet (106C/04) and mineral potential from the south Wernecke Mapping Project. *In: Yukon Exploration and Geology 2010*, K.E. MacFarlane, L.H. Weston, C. Relf (eds.), Yukon Geological Survey, p. 55-87.
- Colpron, M. (comp.), 2011. Geological Compilation of Whitehorse trough, Whitehorse (105D), Lake Laberge (105E), and parts of Carmacks (115I), Glenlyon (105L), Aishihik Lake (115H), Quiet lake (105F) and Teslin (105C). Yukon Geological Survey Geoscience map 2011-1, 3 maps, legends and appendices, scale 1:250 000.

- Colpron, M., (in press). Preliminary observations on the geology of the Rackla belt, Mount Ferrell map area (NTS 106C/3), central Yukon. *In: Yukon Exploration and Geology 2011*, K.E. MacFarlane and P.J. Sack (eds.), Yukon Geological Survey.
- Fonseca, A. and Bradshaw, G., 2005. Yukon Mineral Deposit Profiles. Yukon Geological Survey, Open File 2005-5.
- Fraser, T.A., Allen, T.L., Lane, L.S. and Reyes, J.C., (in press). Shale gas potential of Devonian shale in north Yukon: Results from a diamond drill hole study in western Richardson Mountains. *In: Yukon Exploration and Geology 2011*, K.E. MacFarlane and P.J. Sack (eds.), Yukon Geological Survey.
- Israel, S. and Cobbett, R., 2008. Bedrock geology of the Silver Creek area, Yukon (NTS 115A/3 and part of 115A/6). Yukon Geological Survey Open File 2008-21, scale 1:50 000.
- Israel, S., Cobbett, R. and Fozard, C., 2007a. Bedrock Geology, Miles Ridge area, Yukon (parts of NTS 115F/15, 16 and 115K/1, 2). Yukon Geological Survey Open File 2007-7, scale 1:50 000.
- Israel, S., Cobbett, R. and Fozard, C., 2007b. Bedrock Geology, Koidern River area, Yukon (parts of NTS 115F/9, 15, 16 and 115G/12). Yukon Geological Survey Open File 2007-8, scale 1:50 000.
- Israel, S., Cobbett, R., Westberg, E., Stanely, B. and Hayward, N., 2011. Preliminary bedrock geology of the Ruby Ranges, southwest Yukon (parts of NTS 115G, 115H, 115A and 115B). Yukon Geological Survey Open File 2011-2, scale 1:50 000.
- Israel, S., Tizzard, A. and Major, J., 2005. Geological map of the Duke River area, Yukon (part of NTS 115G/2, 3, 5, 6, 7). Yukon Geological Survey Open File 2005-11, scale 1:50 000.
- Israel, S. and Westberg, E., 2011. Preliminary geological map of the northwestern Aishihik Lake area (parts of NTS 115H/12 and 13). Yukon Geological Survey Open File 2011-31, scale 1:50 000.
- Israel, S. and Westberg, E., (in press). Geology and mineral potential of the northwestern Aishihik Lake map area, parts of NTS 115H/12 and 13. *In: Yukon Exploration and Geology 2011*, K.E. MacFarlane and P.J. Sack (eds.), Yukon Geological Survey.
- Israel, S. and Van Zeyl, D., 2004. Preliminary geological map of the Quill Creek area, southwest Yukon (parts of NTS 115G/5, 6, 12). Yukon Geological Survey Open File 2004-20, scale 1:50 000.
- Jackaman, W. (comp.), 2011a. Regional stream sediment geochemical data, Tay River area, central Yukon (NTS 105K East). Yukon Geological Survey Open File 2011-29, Report and digital data.
- Jackaman, W. (comp.), 2011b. Regional stream sediment geochemical data, Niddy Lake area, east-central Yukon (NTS 105O and parts of 105P). Yukon Geological Survey Open File 2011-30, Report and digital data.
- Jackaman, W. (comp.), 2011c. Regional stream sediment geochemical data, Stevenson Ridge area, southwestern Yukon (NTS 115J & K). Yukon Geological Survey Open File 2011-28, Report and digital data.
- Lewis, L., Sack, P., Pigage, L., Torgerson, D. and Deklerk, R., (this volume). Yukon Hardrock Mining, Development and Exploration Overview 2011. *In: Yukon Exploration and Geology 2011*, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 19-74.
- Lowey, G.W., 2008. Summary of the stratigraphy, sedimentology and hydrocarbon potential of the Laberge Group (Lower-Middle Jurassic), Whitehorse trough, Yukon. *In: Yukon Exploration and Geology, 2007*, D.S. Emond, L.R. Blackburn, R.P. Hill and L.H. Weston (eds.), Yukon Geological Survey, p. 179-197.
- Moll, P. and Ostermaier, S., 2011. 2D Resistivity / IP Data release for placer mining and shallow quartz mining – Yukon 2010. Log Angele Creek, Wolf Creek, Laue River and Rice Creek. Yukon Geological Survey, Miscellaneous Report, MR-4.
- Murphy, D., van Staal, C. and Mortensen, J.K., 2007. Preliminary bedrock geology of part of Stevenson Ridge area (NTS 115J/3, 4, 5, 6, 7, 8, parts of 11 and 12; 115K/1, 2, 7, 8, 9, 10, parts of 15 and 16). Yukon Geological Survey Open File 2008-9, scale 1:125 000.
- Pigage, L., Abbott, G. and Roots, C.F., 2011-1. Bedrock geology of Coal River area (NTS 95/D), Yukon. Yukon Geological Survey Open File 2011-1.
- Ryan, J.J., Colpron, M. and Hayward, N., 2010. Geology, southwestern McQuesten and parts of northern Carmacks, Yukon. Geological Survey of Canada, Canadian Geoscience Map 7 (preliminary edition), 1 map.

Torgerson, D., (this volume). Yukon Mining Inventives Program: 2011-12 update. *In*: Yukon Exploration and Geology 2011, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 79-82.

Yukon Geological Survey, 2011. Bouguer gravity anomaly of the northern Aishihik Lake area, Yukon (parts of NTS 115H, I and G). Yukon Geological Survey, Open File 2011-27.

# Yukon Hardrock Mining, Development and Exploration Overview 2011

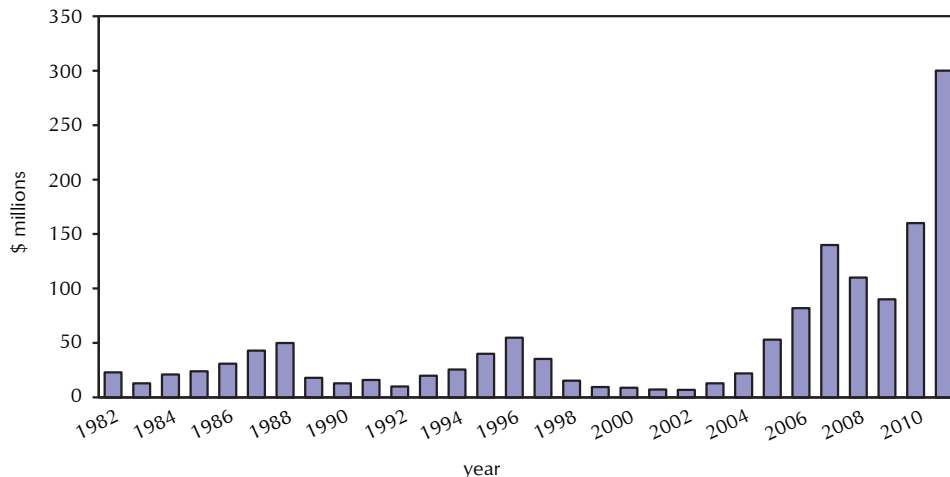
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Mineral Services Division, Yukon Geological Survey

Lewis, L.L., Sack, P.J., Pigage, L., Torgerson, D. and Deklerk, R., 2012. Yukon Hardrock Mining, Development and Exploration Overview 2011. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 19-74.

## INTRODUCTION

Yukon had a record-setting year for exploration activity in 2011. Quartz claims staked and quartz claims in good standing for 2011 far exceeded previous years. More than one hundred exploration companies were actively exploring in Yukon (Fig. 1, on inside front cover). Much of this exploration boom appears to have been driven by continued high commodity prices, especially gold. The exploration overview presented in this volume is a progress report rather than a comprehensive summary of Yukon exploration and mining; many results are still pending at the publication deadline and thus are preliminary in nature. Summary statistics and analytical results are derived from news released by companies and personal communication with company representatives.

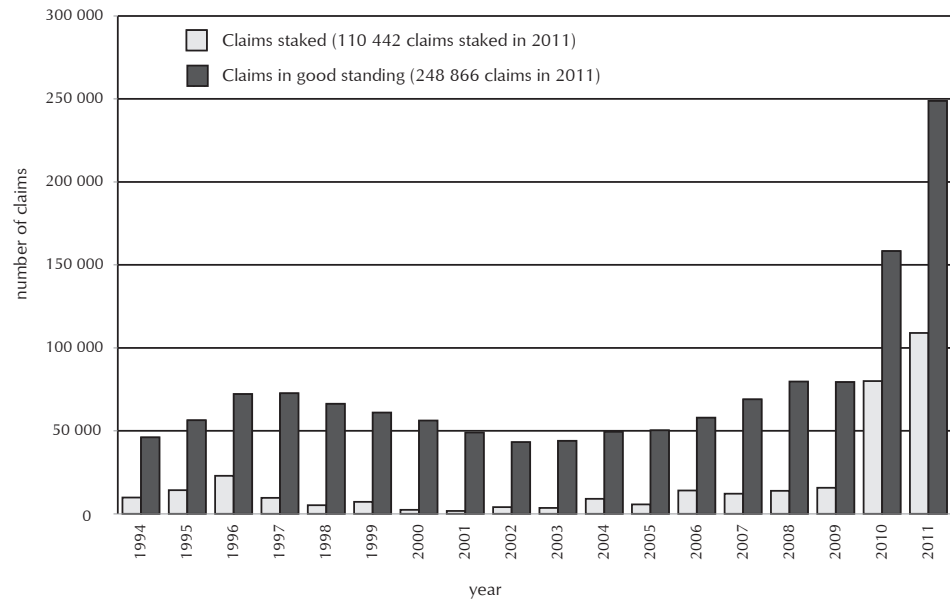
Exploration spending in 2011 is estimated to have exceeded \$300 million (Fig. 2), well above estimated exploration expenditures of \$160 million for 2010. Gold exploration accounted for 69% of expenditures. Zinc-lead exploration totalled 16% of expenditures; silver exploration and copper exploration each accounted for 7% of total exploration expenditures, leaving a total of 1% for other commodities.



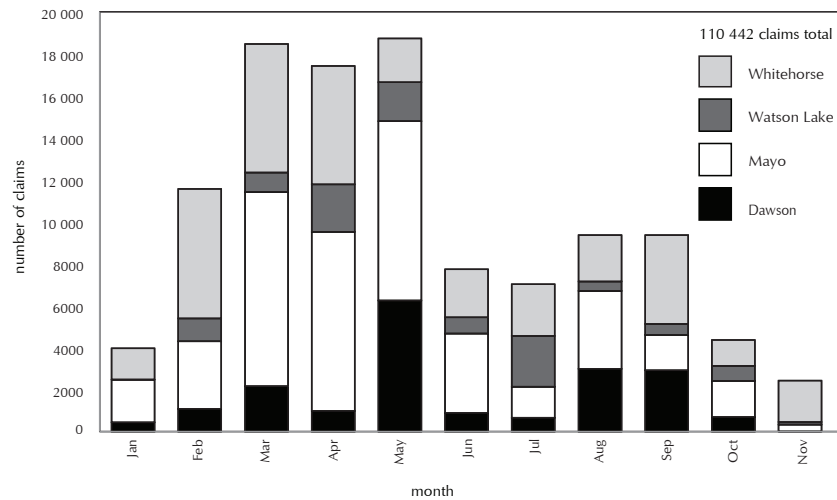
**Figure 2.** Estimated exploration expenditures in Yukon, 1982-2011.

The exploration boom meant that claim staking records were set for Yukon in 2011; a total of 110 442 quartz claims were staked by the end of November. This represents a 38% increase over the total number of claims staked in 2010 (Fig. 3). The number of claims staked per month for each of the Dawson, Mayo, Watson Lake and Whitehorse mining districts are displayed in Figure 4. Most of the staking activity occurred in the Mayo (41%) and Whitehorse (31%) mining districts. The majority of claims were staked in the months of February through May. This reflects the staking of claims during the warmer and sunnier spring months, before the field season, to protect areas of potential exploration interest. Staking claims before ground truthing potential mineralization is a new exploration operating procedure for companies in Yukon as a result of intense competition for ground in high-interest areas.

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**Figure 3.** Number of claims staked and number of claims in good standing in Yukon between 1994 and November 30, 2011.



**Figure 4.** 2011 claim staking statistics for each mining district in Yukon by month.

The number of quartz claims in good standing rose to a total of 248 866 by the end of November 2011, representing a 57% increase in the number of claims in good standing over 2010 (Fig. 3). In spite of this dramatic increase, the number of quartz claims in good standing only represents slightly less than 11% of the total Yukon land base.

The increased exploration activity resulted in a backlog of analyses of soil, rock and core samples as certified assay labs received a record high number of samples. Many companies, in the absence of timely analytical results, resorted to field-based, semi-quantitative analysis of associated pathfinder elements (such as arsenic for gold) using portable x-ray fluorescence (pXRF) analyzers as a means of focusing exploration activity on preliminary targets.

## MINING AND MINE DEVELOPMENT

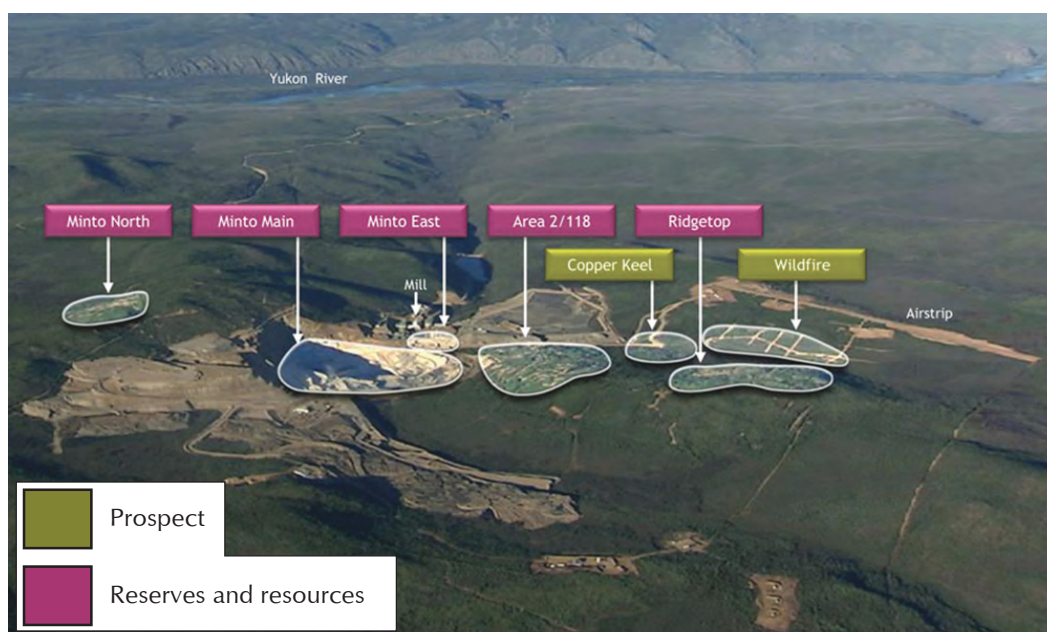
Yukon, in 2011, had three operating hardrock mines. Minto and Bellekeno were fully operational and Wolverine was ramping up towards full production. Mine development expenditures in 2011 for these three mines are estimated at \$160 million.

The Minto (Yukon Occurrences 1151 021 and 022) high-grade Cu-Au-Ag open-pit mine operated by Capstone Mining Corp. ([www.capstonemining.com](http://www.capstonemining.com)) extracted 675 708 tonnes of ore during the first nine months of 2011 and processed 921 359 tonnes of mined and stockpiled ore, producing 13.2 million kg recovered copper, 4829 kg recovered silver and 451 kg recovered gold in copper concentrates trucked to Skagway, Alaska (calculated from Capstone's October 6, 2011 News Release). Mill throughput during the first nine months averaged 3375 tonnes per day. Copper recoveries during this period averaged 89%. Recoveries of silver and gold averaged 79% and 76%, respectively. Production in Q4 is expected to have similar throughputs. Stripping continues in Area 2; the next open pit in the mining sequence is south of the current open pit.

Capstone released a new mineral resource estimate in March 2011 as part of a prefeasibility report; the estimate incorporates results from drilling in the Minto Main, Area 2/118, Minto North, Ridgetop and Minto East areas (Table 1; Fig. 5). The mineral resource reported in Table 1 for the Main deposit includes the material mined and processed through the mill in 2011. In May 2011 the company announced an additional mineral resource estimate for the Wildfire/Copper Keel area of the Minto mine (Table 2); the resource remains open in several directions.

**Table 1.** Mineral resource by class for different areas of the Minto property using a 0.5% Cu cut-off grade (modified from Scott et al., March 2011).

Area	Classification	Tonnes (000)	Copper (%)	Gold (g/t)	Silver (g/t)
Main Deposit	Measured (M)	2030	1.18	0.40	4.49
	Indicated (I)	643	0.86	0.19	4.16
	Sub-total (M+I)	2673	1.10	0.35	4.41
	Inferred (Inf)	25	0.61	0.13	2.72
Area 2/118	Measured	7043	1.28	0.49	4.40
	Indicated	19 411	0.92	0.30	3.32
	Sub-total (M+I)	26 454	1.02	0.35	3.61
	Inferred (Inf)	5573	0.83	0.26	2.89
Ridgetop	Measured	1531	0.98	0.25	2.14
	Indicated	3534	0.87	0.30	2.87
	Sub-total (M+I)	5064	0.91	0.28	2.65
	Inferred (Inf)	318	0.75	0.13	1.57
Minto North	Measured	1844	2.15	1.11	7.70
	Indicated	264	1.04	0.60	5.76
	Sub-total (M+I)	2108	2.01	1.04	7.46
	Inferred (Inf)	25	0.84	0.40	4.40
East	Measured	688	2.30	1.07	6.30
	Indicated	489	1.74	0.70	4.60
	Sub-total (M+I)	1177	2.07	0.92	5.57
	Inferred (Inf)	14	1.03	0.45	2.80



**Figure 5.** Aerial view, looking northeast, of the Minto Mine site with deposits and prospects shown (from [www.capstonemining.com](http://www.capstonemining.com)).

**Table 2.** Additional mineral resources by class in the Wildfire/Copper Keel region of Minto South deposit at a 0.5% Cu cut-off grade (modified from Capstone’s May 30, 2011 News Release). Exclusive of all previous resources estimated for Area2/118 deposit.

Area	Classification	Tonnes (000’s)*	Copper (%)	Gold (g/t)	Silver (g/t)
Wildfire/Copper Keel	Measured (M)	3,176	1.09	0.39	3.35
	Indicated (I)	6,198	1.04	0.34	3.18
	Total (M&I)	9,374	1.06	0.36	3.24
	Inferred	1,113	0.98	0.33	3.22

\*Rounded to nearest thousand; totals may not sum exactly due to rounding.

Alexco Resource Corp. ([www.alexcoresource.com](http://www.alexcoresource.com)) mined 51 160 tonnes of ore during the first nine months of 2011 and milled 58 510 tonnes of ore from the Bellekeno (Yukon Occurrence 105M 082) Ag-Pb-Zn mine in the historic Keno Hill district. The mill produced 7819 tonnes of lead concentrate averaging 5345 g/t Ag and 67% lead, and 4596 tonnes of zinc concentrate with an average grade of 466 g/t Ag and 47% zinc (Alexco October 17, 2011 News Release). Throughput in quarter three was 14% higher than in quarter two. Concentrate was trucked to Skagway, Alaska.

New mineral resource estimates for the historic Lucky Queen and Onek deposits (Table 3) were released in September 2011. Metallurgical testing of ore from these deposits is ongoing. The Lucky Queen estimated resource comprises newly-defined mineralization that is located down-plunge of the historical Lucky Queen mine and remains open further down-plunge to the southwest. Preliminary mine planning and engineering studies have already begun and rehabilitation of the historical Lucky Queen 500 level portal has been initiated. Alexco is currently working on updating the Bellekeno (Yukon Occurrence 105M 082) resource estimate as well as finalizing plans to calculate a resource in the area of the historical Silver King mine.



**Table 3.** Mineral resource estimates for Lucky Queen and Onek deposits from Arseneau and Farrow (2011a,b).

Area	Classification	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)
Lucky Queen	Indicated	124 000	1227	0.17	2.57	1.72
	Inferred	150 000	571	0.16	1.37	0.92
Onek	Indicated	585 000	194	0.65	1.23	13.74
	Inferred	236 000	203	0.43	1.05	11.52

At the Wolverine (Yukon Occurrence 105G 072) high-grade Zn-Ag-Cu-Pb-Au underground mine, the key priority identified for 2011 was to ramp up production to the 1700 tonne/day mill capacity. Wolverine Mine is owned by Yukon Zinc Corp. ([www.yukonzinc.com](http://www.yukonzinc.com)), a private company consisting of shareholders Jinduicheng Molybdenum Group Co. Ltd., Northwest Nonferrous International Investment Company Ltd., Fosun Gold Holdings Limited, Arich Investments Ltd., Silvercorp Metals Inc. and Northern Mineral Investment Corp. The mine produces zinc, copper and lead concentrates which are trucked to the port of Stewart, British Columbia. The current ore reserve of 5.2 million tonnes of ore grading 9.66% Zn, 281.8 g/t Ag, 0.91% Cu, 1.36 g/t Au and 1.26% Pb; at proposed milling rates, the mine has an expected life of ten years (Regan, 2007).

## EXPLORATION

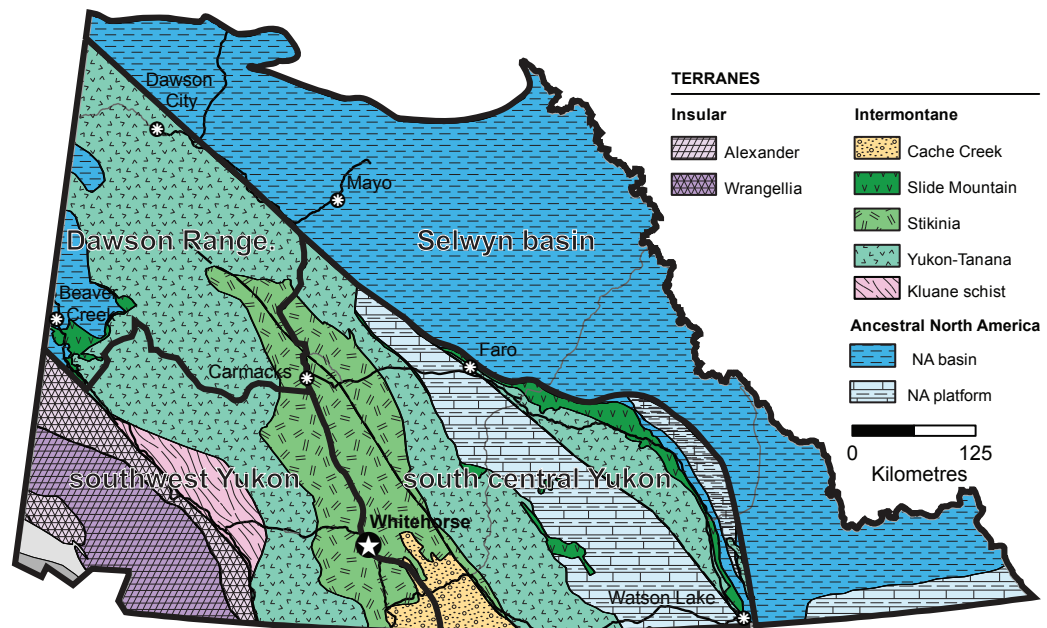
The hardrock exploration overview presented in this report highlights exploration activity during 2011. Because of delays in receiving analytical results due to the large number of samples submitted, 2011 exploration results presented here are not a complete reporting for any particular property or exploration project; rather they are snapshots of results reported as of December 15, 2011.

Because of the large number of exploration projects in Yukon, this overview has been subdivided into four geographic areas for purposes of presentation: Selwyn basin, Dawson Range, southwest Yukon, and south central Yukon (Fig. 6). Within each geographic area, the overviews have been further organized by commodity and inferred type of mineralization.

Gold was the primary commodity of focus for exploration companies, and gold exploration was primarily conducted in the Selwyn basin and Dawson Range areas (Figs. 1 and 6). Located in central and east Yukon, the Selwyn basin gold district extends from east of Tombstone Park down to northeast of Watson Lake in a broadly curvilinear trend. Exploration in this area is being driven by recent announcements by Atac Resources describing gold mineralization in the Nadaleen trend north of Mayo as being Carlin-style. Extensive staking in Selwyn basin laid the framework for low impact exploration consisting of geological mapping, prospecting, soil sampling and trenching over broad areas.

The Dawson Range-White Gold area of western Yukon continued to attract major attention with extensive claim staking, soil sampling, trenching and drilling. Exploration was primarily focused on 'White Gold'-style mineralization which can be broadly defined as structurally-hosted gold. Based on work at the Coffee property, the gold is very fine grained and occurs in steeply dipping, brecciated and oxidized

zones exhibiting sericite-silica alteration (Wainwright *et al.*, 2011). At the time of writing, only two NI 43-101 compliant resource estimates have been completed for this area; both estimates are associated with the White Gold property held by Kinross Gold Corp. Several properties are expected to complete resource estimates in 2012.



**Figure 6.** Definition of the four geographic areas used to frame the exploration section.

Attention was also focused on southwest Yukon where over 12 000 claims were staked in 2011, largely as the result of Israel *et al.* (2011) demonstrating the similarity between the geological setting and mineralization potential of the Coast Belt in this area and the Juneau Gold Belt; epithermal and porphyry-style mineralization potential is also believed to be high. South central Yukon projects ranged from staking in the Livingstone area through to submittal of a Yukon Environmental and Socioeconomic Assessment Board (YESAB) application by Yukon-Nevada Gold Corp. for the re-opening of the Ketza River Mine.

## SELWYN BASIN

### *Precious metals - gold*

Numerous companies staked properties in 2010 and 2011 to cover potential Carlin-style targets. The Geological Survey of Canada’s Regional Geochemical Database formed a starting point for identifying prospective areas for Carlin-type occurrences based on elevated values for Au-As-Sb-Hg in stream sediment samples.

#### *Carlin-style*

The discovery of the Osiris occurrence (Yukon Occurrence numbers pending; Fig. 7), a Carlin-style prospect 150 km northwest of Macmillan Pass, generated palpable excitement in late-summer of 2010. Upwards of 30 000 claims were staked in the region following Atac Resources’ ([www.atacresources.com](http://www.atacresources.com)) initial announcement

and particularly after Atac's discovery drillhole in 2010 returned a result of 4.65 g/t Au over 65.2 m. Following up on regional sampling, Atac identified a cluster of mineralized zones in the Osiris area (Isis, Isis East, Conrad and Eaton (Yukon Occurrences numbers pending)) and new zones 14 km and 26 km to the west of Osiris (Dale and Pyramid respectively; Yukon Occurrence numbers pending). These Carlin-style targets comprise the Nadaleen Trend of Atac's Rackla Gold Project. Two scout holes were drilled at Dale and five at Pyramid, intersecting arsenic and gold mineralization that will be followed up in 2012. Atac completed 29 diamond drillholes at the Osiris zone and hit multiple stacked tabular zones of mineralization. A total of 89 holes (26 600 m) were drilled in all zones in 2011 (Table 4). The Conrad zone was one of the new discoveries of 2011. It is an east-striking, steeply dipping zone within deformed limestone and siliciclastic rocks adjacent to the Nadaleen fault. Gold is associated with fine-grained sooty pyrite and is best developed in decalcified limestone but also occurs in the non-calcareous rocks in fractures and fault breccias.



**Figure 7.** Realgar and orpiment in trench at the Osiris Zone on Atac Resources Rackla Gold Project claims.

**Table 4.** Significant diamond drill intercepts from the Nadaleen Trend of the Rackla Gold Project (modified from Atac Resources November 23 and December 13, 2011 News Releases).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*
OS-11-058	Conrad	147.2	7.33 g/t Au over 41.15 m
OS-11-060	Conrad	207.3	5.55 g/t Au over 15.24 m
and	Conrad	490.7	2.79 g/t Au over 6.09 m
OS-11-065	Osiris	4.0	2.77 g/t Au over 19.81 m
and	Osiris	68.0	4.41 g/t Au over 3.28 m
and	Osiris	184.7	4.92 g/t Au over 4.75 m
OS-11-071	Osiris	0.0	2.35 g/t Au over 22.25 m
and	Osiris	189.9	3.28 g/t Au over 14.71 m
OS-11-082	Osiris	4.6	4.82 g/t Au over 3.05 m
and	Osiris	134.1	4.41 g/t Au over 44.20 m
OS-11-086	Osiris	81.7	3.96 g/t Au over 9.14 m
and	Osiris	131.9	2.67 g/t Au over 21.53 m
OS-11-088	Osiris	74.1	4.43 g/t Au over 18.28 m
including	Osiris	76.9	11.15 g/t Au over 6.27 m
and	Osiris	147.2	6.80 g/t Au over 5.18 m
OS-11-073	Isis East	17.4	3.13 g/t Au over 51.82 m
including	Isis East	57.0	12.51 g/t Au over 10.76 m

\*The reported intersections are drilled thicknesses and true widths are believed to represent approximately 60 to 80% of drilled widths except for Isis East for which it is not possible to determine the true width.

Strategic Metals ([www.strategicmetalsltd.com](http://www.strategicmetalsltd.com)) explored its claims adjoining Atac Resource's Rackla Gold Project to the north. A substantial soil and silt program was followed up by drilling (11 holes, 2836 m) at Crag (Neve; Yukon Occurrence 106C 073) where the Trent zone was tested along a 400 m strike-length. Historic drilling at the Trent zone encountered Carlin pathfinder minerals realgar and orpiment. Drilling by Strategic in 2011 confirmed these pathfinders as well as anomalous mercury, antimony and thallium in a 200 m section of brecciated dolomite. The highest gold intersection was 1.33 g/t Au across 3.19 m from hole C11-05. At the new Crag East zone, realgar and orpiment are disseminated through the clay-altered host rock and occur in pods and as fracture fillings.

The joint venture of Constantine Metal Resources Ltd. ([www.constantinemetals.com](http://www.constantinemetals.com)) and Carlin Gold Corp. ([www.carlingold.com](http://www.carlingold.com)) conducted extensive sampling on its large land package 55 km west-southwest of MacMillan Pass. Exploring for Carlin-style gold, the JV outlined a 6.5 km-long Au-As soil anomaly with gold-in-soil assays of up to 2809 ppb Au on its Tut property (Yukon Occurrence 105O 056). The higher grade centre of the soil anomaly coincides with a zone of fractured and altered rhyolite dykes and quartz-arsenopyrite veins in the contact metamorphic aureole of a Cretaceous quartz monzonite intrusion. Mineralized rock samples within this higher grade core ranged from 2.01 g/t Au to over 10 g/t Au. The JV also explored its X Block property (Yukon Occurrence number pending), 65 km west-northwest of MacMillan Pass, identifying anomalous gold, arsenic, mercury and thallium in soils, with individual soil assays of up to 4248 ppb Au. All 12 of their project areas were covered by reconnaissance soil sampling (Fig. 8), including the HG, Aztec and Y properties (respectively, Yukon Occurrence number pending, 105N 024 and pending).



**Figure 8.** Soil samples drying at the Constantine-Carlin joint venture exploration camp.

Radius Gold Inc. ([www.radiusgold.com](http://www.radiusgold.com)) performed early-stage work on its claims staked for Carlin-style gold potential in Selwyn basin. Ridge-and-spur soil sampling was conducted on Scarlet East (Yukon Occurrence 106C 065) and Scarlet West (Yukon Occurrence number pending), (10 km SE of Atac Resources' Osiris discovery). Samples returned anomalous values for gold, arsenic, antimony, mercury and thallium. Results are pending from subsequent grid soil sampling on the properties as well as an airborne magnetic and radiometric survey flown over Scarlet East and part of Scarlet West.



**Figure 9.** Trench on Colorado Resources claim block near the Brick-Neve occurrence.

Colorado Resources ([www.coloradoresources.com](http://www.coloradoresources.com)) undertook a substantial sampling, mapping and trenching program along with a helicopter-borne Dighem mag/EM survey on its Oro property, 45 km west of MacMillan Pass. The claims cover the Brick-Neve occurrence (Yukon Occurrence 105O 032; Fig. 9), a drilled prospect consisting of realgar and stibnite in gold-quartz veins that are hosted in clay-altered quartz-porphry dykes. Further soil sampling over a one kilometre-long As-Au±Ag±Sb soil anomaly on the property extended the anomaly two more kilometres along strike. The mag/EM survey identified a structure transecting the known showing and trending for over 4 km. Occurrences of significant orpiment and realgar were also identified. Several other target areas on the property have

also been defined by geochemistry and geophysics including the West zone, Limey Ridge, Repeater zone and Area 51. Area 51 covers an area of 1800 by 400 m with strong arsenic and antimony soil geochemistry and scattered high gold soil values to a maximum of 1548 ppb Au.

Goldstrike Resources Ltd. ([www.goldstrikeresources.com](http://www.goldstrikeresources.com)) completed prospecting and sampling programs over its 14 claim blocks (Yukon Occurrence numbers pending) in the Selwyn basin in search of Carlin-style gold occurrences. Soil results of up to 1544 ppb Au were returned from its newly defined Gold Rush zone at the Plateau North property, 100 km southeast of Atac's Tiger deposit. A 7.5 km-long soil anomaly for gold and Carlin-style pathfinder elements (As-Hg-Sb-Tl) was defined. Other discoveries include a new gold showing in clastic limestone on the Summit property, 110 km southeast of MacMillan Pass; an 11 km-long gold trend at the Big One property (assay of up to 18.56 g/t Au in a single rock sample) 130 km southeast of MacMillan Pass; and the identification of a gold zone called the Midas Touch gold zone at the Oliver property (Yukon Occurrence 105P 030), 27 km northwest of the village of Mayo. At Oliver, where there is potential for an intrusion-related gold system, grab sample results included a single assay of 4 g/t Au. Goldstrike employed Aster satellite imagery to highlight hydrothermal alteration zones as targets for its exploration program.

Expedition Mining ([www.expeditionmining.com](http://www.expeditionmining.com)) mapped and sampled its Joy (Yukon Occurrence number pending) and Mt. Mervyn (Yukon Occurrence 106C 072) properties guided by results from an airborne geophysical program flown in the spring of 2011. The Joy geophysical survey demonstrated strong east-trending geophysical anomalies which coincide with the occurrence of ultramafic units and/or projected extensions of the large-scale Kathleen Lakes and Dawson regional faults. A geophysical survey at Mt. Mervyn outlined several north-south features which intersect these large regional scale structures. Mineralization on the Joy and Mt. Mervyn properties is associated with prominent gossans and quartz-carbonate alteration zones.

Cantex Mine Development ([www.cantex.ca](http://www.cantex.ca)) was active in 2011, staking two claim blocks and conducting geochemical sampling programs. In June, Cantex raised \$2.4 million to fund proprietary heavy mineral sampling to define areas within 30 000 km<sup>2</sup> of the Yukon underlain by geology favourable for Carlin-style gold mineralization. To date 2495 samples have been collected; results are pending.

### *Vein/breccia*

Argus Metals Corp. ([www.argusmetalsCorp.com](http://www.argusmetalsCorp.com)) drilled its Hyland Gold (Yukon Occurrence 095 011; Fig. 10) property in 2011. The program included 13 holes for a total of 2600 m. The Hyland Gold Project is located 68 km northeast of Watson Lake. Argus also completed an infiniTEM survey over the south end of the Sulphide Feeder zone at the property and conducted mapping and sampling throughout the claim block. The property is described as a distal intrusion-related occurrence with gold occurring in zones of low magnetic susceptibility carrying a geochemical signature of gold-arsenic-bismuth-tungsten. The main structural feature is the 24 km-long Quartz Lake fault, which trends roughly north-south and transects the property. Mineralization is hosted in metasedimentary strata of the



**Figure 10.** Diamond drilling at Argus Metals Corp's Hyland Gold property.

Proterozoic to Lower Cambrian Hyland Group. Drilling targeted the Main zone, the CUZ zone and the newly discovered THAS and CUZ SUR zones. The CUZ gold-in-soil anomaly was extended 1 km to the east. Drilling along the Cuz zone (4 km south of the Main zone) intercepted 4.5 m of 1.93 g/t Au. Mineralization in hole HY-11-37 was observed in a quartz stockwork (Table 5) which is interpreted as a secondary (crosscutting) east-trending structure. Diamond drilling on the Main zone was designed to upgrade the 1990 historic resource to NI 43-101 standards and test the zone at depth and to the east. The historic resource estimate for the Main zone is approximately 3600 tonnes (117,000 oz) gold within 3.2 million tonnes grading 1.1 g/t Au; a new resource is expected to be completed in early 2012.

**Table 5.** Significant intercepts from drilling at the Hyland gold property (modified from Argus Metals Corp November 28 and December 5, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DDH HY-11-36	CUZ	9.0	1.38 g/t Au over 6 m
and		25.5	1.52 g/t Au over 1.5 m
DDH HY-11-37	CUZ	10.5	0.62 g/t Au and 0.1 g/t Ag over 4.5 m
and		25.9	1.93 g/t Au and 0.25 g/t Ag over 4.5 m
DDH HY-11-41	Main	3.0	0.54 g/t Au and 1.84 g/t Ag over 145.8 m
including		122.9	2.02 g/t Au and 6.42 g/t Ag over 25.9 m

\*Reported intersections are drilled thicknesses.

Great Bear Resources ([www.greatbearresources.ca](http://www.greatbearresources.ca)) optioned the Ike gold property (Yukon Occurrence 105A 030) from Argus Metals early in 2011. The claims, located 37 km northeast of Watson Lake, were originally staked to cover anomalous arsenic and gold values from the Geological Survey of Canada's Regional Geochemical Survey. Hyland Group carbonate and siliciclastic rocks underlie the claims and a Cretaceous intrusive body has been mapped less than 10 km to the north. Great Bear undertook detailed sampling, mapping and trenching in 2011 in order to identify drill targets. Results are pending.

Mill City Gold Corp. ([www.millcitygold.com](http://www.millcitygold.com)) optioned the Mount Hinton project (Yukon Occurrence 105M 052) from Rockhaven Resources in 2011. The property is located 2 km east of Keno City in the historic silver producing district of Keno Hill. Mineralization comprises gold and silver-rich quartz veins. The veins generally strike west-northwest and dip moderately to the southeast and have rebrecciated textures. Exploration at the Mount Hinton property included 2073 m of reverse circulation drilling in 47 holes in the central part of the property. Drill highlights include 31.7 g/t Au and 23.3 g/t Ag over 1.52 m in drillhole PDH-MH-11-23 (Table 6). Only a few of the 72 known veins have been tested.

**Table 6.** Significant intercepts from diamond drilling at the Mt. Hinton property (modified from Mill City Gold's November 14, 2011 News Release).

Drillhole	Depth of intersection (m)	Intersection*
PDH-MH-11-03	38.1	0.44 g/t Au and 18.95 g/t Ag over 7.62 m
PDH-MH-11-23	12.2	31.7 g/t Au and 23.3 g/t Ag over 1.52 m
PDH-MH-11-31	24.4	0.95 g/t Au and 0.78 g/t Ag over 3.05 m
and	32.0	0.604 g/t Au and 4.71 g/t Ag over 12.20 m
PDH-MH-11-36	42.7	1.32 g/t Au and 1.68 g/t Ag over 1.52 m
PDH-MH-11-37	6.1	0.507 g/t Au and 2.71 g/t Ag over 9.14 m
including	10.7	1.65 g/t Au and 10.15 g/t Ag over 1.52 m
PDH-MH-11-39	19.8	0.493 g/t Au and 6.24 g/t Ag over 18.29 m
including	22.9	1.565 g/t Au and 0.55 g/t Ag over 1.52 m
PDH-MH-11-40	16.8	0.052 g/t Au and 45.1 g/t Ag over 3.05 m

\*True widths are estimated to be 80 to 90% of drilled widths.

The Kiwi property, (VG; Yukon Occurrence 105J 043), northeast of Ross River, was optioned by Aben Resources ([www.abenresources.com](http://www.abenresources.com)) from Eagle Plains Resources Ltd. in 2011. Aben drilled three diamond drillholes for a total of 375 m on the Gold Vein occurrence. The property was originally staked in 1997 to cover a 135 m-long gossan that contained visible gold in quartz stringers crosscutting silicified black shale. Sedimentary and volcanic rocks on the property have been intruded by quartz-feldspar porphyritic monzonite dykes and sills. Drill results are pending.

Monster Mining ([www.monstermining.com](http://www.monstermining.com)) flew a SkyTEM survey over its McKay Hill Au-Ag property (Yukon Occurrences 106D 037 and 038), 50 km north of Keno City, and conducted ground truthing and prospecting over areas of interest which were generated by the airborne survey. Mineralization at McKay Hill is associated with zones of iron carbonate alteration at the margins of intermediate to mafic intrusive to volcanic bodies. The company also completed a mapping program on the property designed to evaluate the structural controls on mineralization.

### Orogenic gold

Impressive drill results from the 3Ace (Yukon Occurrence number pending; Fig. 11) gold vein discovery of Northern Tiger Resources' ([www.northerntigerresources.com](http://www.northerntigerresources.com)) prompted a flurry of staking in southeast Yukon in 2010 and 2011. The 3Ace property is underlain by siliciclastic rocks of the Proterozoic Hyland group. Early fold structures are crosscut by gold-mineralized late brittle faults hosted in quartz-pebble-conglomerate that trend north, northeast and northwest. Northern Tiger carried out further soil sampling on the property in 2011 and identified a new 1.5 km-long gold-in-soil anomaly (the Kaiser trend). Several soil anomalies have been traced directly to proximal outcrops of quartz-pebble-conglomerate containing gold-bearing quartz veins. A total of 29 holes were drilled on the Main zone, Green zone, Green Zone West and the Road showing in 2011. Highlights include 4.61 g/t Au over 35.0 m in drillhole 3A-11-16. This hole also included a bonanza intercept of 106.21 g/t Au over 1 m (Table 7).



**Figure 11.** Diamond drilling at Northern Tiger's 3Ace gold property.

**Table 7.** Significant diamond drill intercepts from the 3Ace property (modified from Northern Tiger Resources' September 26 and October 25, 2011 News Releases).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*
3A-11-11 including	Main	78.0	3.75 g/t Au over 13.2 m
		81.0	10.5 g/t Au over 2.4 m
3A-11-14 including and including	Main	72.0	4.95 g/t Au over 7.2 m
		76.8	13.81 g/t Au over 2.4 m
		108.0	0.59 g/t Au over 27.0 m
		132.0	5.21 g/t Au over 0.9 m
3A-11-15a including and and	Main	83.3	2.51 g/t Au over 27.2 m
		96.0	6.8 g/t Au over 9.0 m
		131.5	0.56 g/t Au over 3.5 m
		214.8	0.59 g/t Au over 6.2 m
3A-11-16 including including	Main	100.0	4.61 g/t Au over 35 m
		104.2	106.21 g/t Au over 1.0 m
		110.2	11.79 g/t Au over 3.0 m

\*Reported intersections are drilled thicknesses, as true widths have not yet been determined.

The Golden Culvert (Yukon Occurrence number pending) property, located 200 km north of Watson Lake, was optioned in 2011 by Stakeholder Gold Corp. ([www.stakeholdergold.com](http://www.stakeholdergold.com)). The showing consists of quartz veins and breccias within sheared Upper Proterozoic to Lower Cambrian metasedimentary rocks. Stakeholder completed a gridded soil geochemical survey over the claim block. The program defined a southeast-trending gold anomaly over 1.7 km-long in the southeastern portion of the property. The trend of the anomalous zone extends for 2000 m and is aligned with the main Culvert showing where grab samples have assayed up to 22.8 g/t Au.

Tarsis Resources ([www.tarsis.ca](http://www.tarsis.ca)) conducted reconnaissance-style exploration on its Rogue claims and Plata East prospect (Yukon Occurrence numbers pending) in Selwyn basin. The Rogue prospect (130 km west-northwest of MacMillan Pass) yielded anomalous silver, arsenic, mercury, antimony, thallium and zinc in stream sediment samples. Limited soil sampling returned assays of up to 15.9 ppm Ag and elevated mercury (up to 17.1 ppm). Prospecting and sampling was conducted on the Plata East (95 km west-northwest of MacMillan Pass). The claims were staked to cover anomalous thallium within stratigraphy having potential for sediment-hosted gold mineralization, as reported in the regional geochemistry stream sediment database.

Several other companies were exploring southeastern Yukon for orogenic gold in 2011: Bearing Resources ([www.bearingresources.ca](http://www.bearingresources.ca)) conducted reconnaissance sampling and geological mapping on its Jay-VM-VF claims, Commander Resources ([www.commanderresources.com](http://www.commanderresources.com)) worked its Glenmorangie property and Ryan Gold ([www.ryangold.com](http://www.ryangold.com)) performed soil sampling and geological mapping on its Cantung project (Yukon Occurrence numbers pending for all projects).



### Intrusion-related gold

Victoria Gold Corp. ([www.victoriaresourcecorp.com](http://www.victoriaresourcecorp.com)) continued exploratory drilling on its 25 km-long Dublin Gulch (Yukon Occurrence 105D 025; Fig. 12) property as it advanced the Eagle gold deposit through the mine permitting process. In 2011, Victoria Gold explored the Potato Hills trend, an east-northeast-trending structural corridor running through the property. The corridor hosts structurally controlled gold and silver-bearing quartz-arsenopyrite veins crosscutting the host metasedimentary rocks and hosts the recently discovered Popeye target. During 2011, Victoria Gold drilled the Shamrock zone, Olive zone, Eagle North, Steiner and Popeye targets and successfully intersected reduced intrusion related gold mineralization. Exciting new discoveries were also made at the Rex Peso (4 km west of the Eagle deposit; Yukon Occurrence 106D021) where drilling and prospecting have indicated the presence of significant silver and gold mineralization. Victoria Gold completed 100 drillholes (reverse circulation and diamond drilling) for a total of 17 000 m in 2011 (Table 8).



**Figure 12.** Aerial view of Victoria Gold's camp and workings at the Dublin Gulch property.

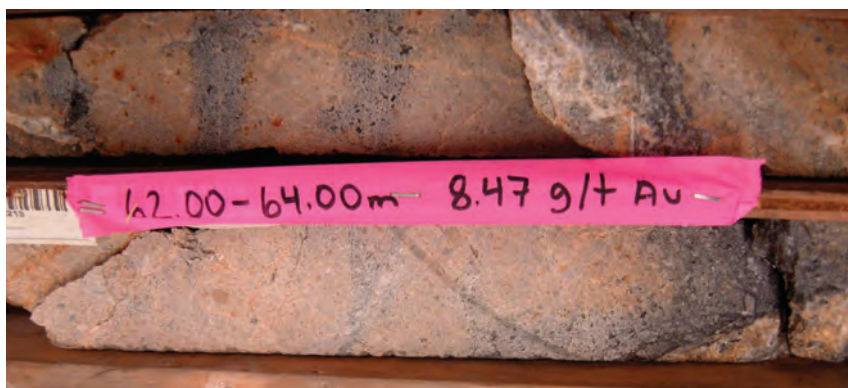
**Table 8.** Significant drilling intercepts from the Dublin Gulch property (modified from Victoria Gold's September 6, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DG11-441C	Steiner	58.2	0.32 g/t Au over 17.09 m
and		153.0	1.37 g/t Au over 28.95 m
DG11-445C	Olive	55.8	4.44 g/t Au over 1.53 m
and		83.3	3.64 g/t Au over 15.16 m
and		109.1	1.64 g/t Au over 35.35 m
DG11-444R	Shamrock	7.6	3.13 g/t Au over 3.05 m
and		21.3	1.50 g/t Au over 1.52 m
and		51.8	7.70 g/t Au over 4.57 m
DG11-450C	Shamrock	141.7	21.59 g/t Au over 3.05 m

\* Reported widths are drilled thicknesses. See company news releases for more information.

Golden Predator Corp. ([www.goldenpredator.com](http://www.goldenpredator.com)) explored its flagship Brewery Creek gold property (Yukon Occurrence 116B 160; Fig. 13) with a helicopter-borne aeromagnetic survey and 206 diamond drillholes (30 691 m) and 135 reverse circulation holes (23 930 m) in 2011 (Table 9). Drilling concentrated on delineating the two 2011 discoveries at the Bohemian-Schooner and Sleeman zones, with additional drilling on the North Slope and Classic zones, as well as the newly identified Ice Fog zone. Gold mineralization is hosted within intrusive rocks and silicified and brecciated sedimentary rocks on the property. The North Slope, a kilometre northwest of the historically mined Reserve trend deposit, was drilled for the first time in 2011. It is parallel with, and structurally similar to, the Reserve

trend but occurs lower in the stratigraphic section. Year-round drilling continues at Brewery Creek, with two core rigs and one RC rig operating on site as of December 1, 2011. A resource estimate for the property is expected in the first quarter of 2012 and the company has retained the services of Gold Canyon Mining & Construction to begin planning the development of the Brewery Creek deposits. Golden Predator also completed sonic drilling on the heap leach pad from the historic mine and is undertaking studies to determine the economics of recovering the gold from the pad.



**Figure 13.** Altered intrusive rock intersected at the Bohemian zone of Golden Predator Corp.'s Brewery Creek property.

**Table 9.** Significant intercepts from reverse circulation (RC) and diamond drilling (BC) at the Brewery Creek property (modified from Golden Predator's October 17, November 8, 10 and 18, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
RC11-2364	North Slope	106.0	1.31 g/t Au over 34.0 m
RC11-2369	North Slope	182.0	2.09 g/t Au over 8.0 m
BC11-311	Sleeman	49.9	2.29 g/t Au over 30.1 m
BC11-321	Sleeman	45.8	2.92 g/t Au over 34.4 m
BC11-269	Bohemian-Schooner	51.5	2.66 g/t Au over 19.5 m
BC11 -271	Bohemian-Schooner	31.0	5.67 g/t Au over 23.3 m
including		35.1	19.25 g/t Au over 3.4 m
BC11 -273	Bohemian-Schooner	63.3	0.49 g/t Au over 7.1 m
and		83.0	1.55 g/t Au and 473 g/t Ag over 6.0 m
and		103.0	0.03 g/t Au and 826 g/t Ag over 40 m
BC11-287	Bohemian-Schooner	10.9	4.61 g/t Au over 42.1 m
BC11-292	Bohemian-Schooner	14.1	3.40 g/t Au over 63.5 m
BC11-293	Bohemian-Schooner	22.8	3.78 g/t Au over 44.0 m
RC11-2371	North Slope	220.0	2.74 g/t Au over 14.0 m

\*Results where g/t x m is less than 2.5 are not reported, unless the individual grade was  $\geq 1$  g/t Au over  $\geq 2.0$  m. Other intervals require  $\geq 0.5$  g/t gold to be included.

AM Gold's ([www.amgold.ca](http://www.amgold.ca)) Red Mountain (Yukon Occurrence 115P 006) property, northwest of Mayo, is an intrusion-related gold property. Mineralization occurs as disseminated sulphides within quartz monzonite porphyry and surrounding metasedimentary rocks. Higher grades occur in steeply dipping, sheeted, sulphide-bearing, quartz vein zones and in areas of multigenerational quartz veining. The current NI 43-101 inferred resource on the property (announced December 2010) is 1.32 million ounces gold. The 23-hole (7850 m) 2011 diamond drill program focused on drill-testing the mineralized northwest-trending Jethro structure that transects the property and other areas outside the defined resource. Diamond drilling hit mineralization outside the resource in several drillholes including ICE 11045, drilled to the west (Table 10). As a result of drilling the mineralized area has been extended to encompass an area of 500 by 900 m; within this area the higher grade core within the Jethro structure has been extended to the west. AM Gold completed a VTEM survey over the property to aid in understanding control structures for mineralization and the potential size of the deposit.

**Table 10.** AM Significant intercepts from drilling at the AM Gold's Red Mountain property (modified from AM Gold's October 3 and November 21, 2011 News Releases).

Drillhole	Depth of intersection (m)	Intersection*
ICE11045	0.0	0.38 g/t Au over 419.4 m
including	8.0	0.58 g/t Au over 150.5 m
ICE11048	0.0	0.33 g/t Au over 160.0 m
including	94.5	0.94 g/t Au over 10.0 m
including	120.0	0.46 g/t Au over 26.5 m
and	274.0	0.31 g/t Au over 66.0 m
ICE11049	3.0	0.48 g/t Au over 54.5 m
and	116.0	0.3 g/t Au over 44.0 m
and	297.0	0.48 g/t Au over 85.5 m
ICE11053	1.5	0.57 g/t Au over 232.5 m
including	172.5	1.11 g/t Au over 25.5 m
ICE11055	4.6	0.57 g/t Au over 233.6 m
including	4.6	1.06 g/t Au over 60.9 m

\*Reported widths are drilled thicknesses; true widths are not known.

The Clear Creek (Yukon Occurrence 115P 023) intrusion-related gold occurrence was one of Golden Predator Corp.'s ([www.goldenpredator.com](http://www.goldenpredator.com)) priority drill targets in 2011. The property, optioned from Victoria Gold Corp. in 2009, is located 65 km northwest of the village of Mayo. Resource definition drilling primarily targeted the Bear Paw zone, with additional holes being drilled in the Contact zone. Total drilling on the property was 18 diamond holes for 3600 m. The first 11 diamond drillholes at Clear Creek all intersected mineralization (Table 11), including a highlight of 52.95 m of 2.26 g/t Au from a depth of 3.05 m in hole CC11-051. Data compilation and modeling is underway to prepare an initial resource estimate on the Bear Paw zone.

**Table 11.** Significant drill intercepts from the Clear Creek property (modified from Golden Predator's September 28, 2011 News Release).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*
CC11-043 including and and and and and	Contact	15.0	2.19 g/t Au over 25.50 m
		15.0	21.70 g/t Au over 1.50 m
		90.5	0.83 g/t Au over 4.50 m
		152.0	4.63 g/t Au over 1.50 m
		171.5	4.70 g/t Au over 7.50 m
		213.5	1.28 g/t Au over 3.00 m
CC11-048 and and	Bear Paw	22.5	1.03 g/t Au over 3.00 m
		40.5	3.50 g/t Au over 15.50 m
		67.5	0.94 g/t Au over 2.50 m
CC11-049 including	Bear Paw	19.5	1.69 g/t Au over 46.50 m
		55.5	5.53 g/t Au over 4.50 m
CC11-051	Bear Paw	3.1	2.26 g/t Au over 52.95 m
CC11-052	Bear Paw	2.1	1.12 g/t Au over 29.37 m
		42.0	1.32 g/t Au over 6.00 m

\*Results where g/t x m is less than 2.5 are not reported in this table, unless the individual grade was  $\geq 1$  g/t gold over a minimum of 2.0 metres. Other intervals require  $\geq 0.5$  g/t gold to be included.

The Antimony Mountain (Yukon Occurrence 116B 094) intrusion-related gold occurrence underwent a modest drill program in 2011 with Golden Predator Corp. ([www.goldenpredator.com](http://www.goldenpredator.com)) drilling 6 holes for a total of 1400 m. Drilling tested the 1 to 2 km-long high-grade vein system. Results of the drilling are still pending. Mineralization at Antimony Mountain is characterized by massive to semi-massive sulphide replacement and fracture fillings in limy-oxidized breccias, sulphide disseminations in quartzite, and pyrrhotite-chlorite skarn.

Golden Predator Corp. ([www.goldenpredator.com](http://www.goldenpredator.com)) drilled its newly acquired Harlan property (Dall; Yukon Occurrence 105O 051) property in 2011 (six diamond drillholes totalling 2019 m) located 75 km west of MacMillan Pass. This occurrence, drilled for the first time in 2011, is characterized by fracture controlled gold mineralization hosted in silicified and argillically altered chert-pebble-conglomerate (the Vortex zone) and altered limonitic quartz monzonite dykes (the West Porphyry zone). Golden Predator also conducted reconnaissance exploration on its Cynthia (Yukon Occurrence 105O 007) gold property in 2011, 20 km northeast of Harlan and undertook an extensive silt sampling program over the newly staked Rogue (Yukon Occurrences 105O 009, 030, 039, 054 and 055) claims in Selwyn basin searching for indications of intrusion-related mineralization.

The Ida Oro property (Ida; Occurrences 116A 027 and 031) was the main drill project in 2011 for Ryan Gold Corp. ([www.ryangold.com](http://www.ryangold.com)). The property, which lies 85 km east of Dawson City, underwent 2854 m of diamond drilling in 11 holes. The property is underlain by siliciclastic rocks crosscut by quartz monzonite to granodiorite stocks, sills and dykes. Mineralization appears to be primarily concentrated within fold hinges of metasedimentary rocks. Minor gold

mineralization also occurs in fractures in the intrusive rocks. Drillholes were oriented to crosscut structure and the intrusive/sedimentary rock contact. Hole IODD011, the southernmost drillhole on the property, returned encouraging results of 24.5 m of 2.58 g/t Au (Table 12).

**Table 12.** Significant drill intercepts from the Ida Oro property (modified from Ryan Gold's December 5, 2011 News Release).

Drillhole	Depth of intersection (m)	Intersection*
IODD002	77.5	0.62 g/t Au over 99.50 m
including	127.8	2.43 g/t Au over 3.65 m
IODD003	1.5	0.24 g/t Au over 20.31 m
and	32.0	0.44 g/t Au over 9.00 m
and	49.0	0.37 g/t Au over 10.06 m
and	66.0	0.31 g/t Au over 11.00 m
and	81.5	0.48 g/t Au over 20.12 m
and	114.8	0.57 g/t Au over 30.27 m
and	148.7	1.07 g/t Au over 19.04 m
including	154.5	5.77 g/t Au over 1.15 m
IODD011	186.5	2.58 g/t Au over 24.50 m
including	187.0	12.55 g/t Au over 2.00 m
and	197.0	33.10 g/t Au over 1.00 m

\*All interval widths are down-hole widths.

Eagle Plains Resources ([www.eagleplains.com](http://www.eagleplains.com)) and Olympic Resources Ltd. ([www.olympicresourcesltd.com](http://www.olympicresourcesltd.com)) entered into an option agreement for the Dragon Lake gold project (Yukon Occurrence 105J 007). In 2011, a 660 m, six-hole drill program was conducted on the property. The Dragon Lake project is located 85 km northeast of Ross River. Mineralization on the property is associated with an alteration halo in metasedimentary rocks surrounding a mid-Cretaceous intrusion. Drilling tested three separate zones of mineralization on the property. Results of up to 5.70 g/t gold over 0.25 m (DR11001) and 1.57 g/t gold over 3 m (DR11004) were reported.

Goldstrike Resources ([www.goldstrikeresources.com](http://www.goldstrikeresources.com)) identified a new trend called Yellow Giant on its Plateau South (Yukon Occurrence number pending) property through its sampling program in 2011. A bleached sandstone grab sample within the trend assayed 159.5 g/t Au. Goldstrike's reconnaissance sampling program identified multiple mineralized zones over a strike length of 2.5 km and associated with silica alteration, quartz veining and brecciation. The property covers Hyland Group metasedimentary rocks intruded by a Cretaceous quartz monzonite stock to the south.

In southeastern Yukon, Aben Resources ([www.abenresources.com](http://www.abenresources.com)) explored its Justin property (Yukon Occurrence 105H 035) with a ten-hole, 2020 m diamond drill program on four targets. Skarn mineralization carrying gold is overprinted by gold-bearing quartz-calcite stockwork veining, suggestive of intrusion-related gold mineralization. An airborne geophysical survey flown in 2010 outlined an

inferred buried intrusive stock, represented by a pronounced magnetic low. The POW showing was drill-tested in 2011 and returned 60 m of 1.19 g/t Au at a depth of 113 m in hole JN11009 (Table 13). The Main zone hosts gold-bearing pyritic mineralization within calcareous siltstone and crosscutting felsic intrusive rocks. The Kangas zone, 1.4 km south of the POW showing has skarn and replacement-style mineralization within calcareous siltstone.

**Table 13.** Significant intercepts from drilling at the Justin property (modified from Aben Resources' November 17, 2011 News Release).

Drillhole	Depth of intersection (m)	Intersection*
JN11009	158.0	1.19 g/t Au over 60.00 m
including	159.1	9.77 g/t Au over 0.50 m
including	198.0	5.12 g/t Au over 5.85 m

\*Results are down-hole interval lengths; true widths for the gold intercepts are not known. Intercepts were calculated using a 0.1 g/t Au cut off.

Northern Tiger Resources optioned the Sprogge property (Sugar Bowl; Yukon Occurrence 105H 103) in early 2011 and conducted a sampling program over the claim block. Prospecting identified a new 3 km-trend of alteration and sulphide mineralization. Sulphide mineralization includes arsenopyrite, pyrite, malachite and galena. Northern Tiger also completed an airborne magnetic and radiometric geophysical survey over the property.

#### Carbonate-replacement

Atac Resources ([www.atacresources.com](http://www.atacresources.com)) drilled several targets within the Rau trend of its Rackla Gold project. They drilled three targets on the Rau trend – the Cheetah zone (3 holes, 483 m), Puma target – 342 m in 2 holes, and a geochemical anomaly (3 holes, 796 m); results from all holes are pending. The initial discovery within the Rau trend is the Tiger zone (Yukon Occurrence 106D 098), a structurally controlled, northwest-trending carbonate replacement sulphide and oxide gold occurrence. Mineralization at Tiger is hosted in dolomitized carbonates and is characterized by overprinting mineralization displaying multiple generations of sulphide formation including disseminated to banded pyrite, arsenopyrite, pyrrhotite and minor bismuthinite and sphalerite. The property, which was first drilled in 2008, had a total of 25 900 m of diamond drilling in 132 drillholes by the end of the 2010 season and a resource was released in October 2011 (Table 14).

**Table 14.** NI 43-101 Resource on the Tiger zone, Rackla Gold Project, Atac Resources Ltd. (modified from Stroshein et al., 2011).

Classification	Tonnes* (000s)	Gold (g/t)	Silver (g/t)	Grade*
Indicated (oxide & sulphide)	7150	2.21	3.68	2.21 g/t Au and 3.68 g/t Ag
Inferred (oxide & sulphide)	8280	1.09	0.94	1.09 g/t Au and 0.94 g/t Ag

\*Cut-off grade of 0.30 g/t Au.

## Precious metals – silver

### Vein/breccia

Alexco Resource Corp. ([www.alexcoresource.com](http://www.alexcoresource.com)) continued exploring its properties in the historic Keno Hill district (Yukon Occurrence 105M 001). The Keno Hill properties encompass numerous Ag-Pb-Zn vein occurrences hosted primarily in the Mississippian Keno Hill quartzite; 35 of these veins have had historical production. Alexco drilled several targets on the property, including the Birmingham and Flame & Moth prospects, for a total of 11 800 m in 44 holes (Table 15). Drilling at Birmingham targeted a southwest-plunging silver and locally gold mineralized zone, focused within three closely-spaced subparallel vein systems. These veins are localized along a northeast-trending regional structural zone that links to the historic Hector Calumet mine which produced 96 million ounces of silver over its operating life. Alexco also continued with metallurgical work on the Elsa tailings project (Yukon Occurrence 105M 083).

**Table 15.** Significant intercepts from diamond drilling at the Keno Hill property (modified from Alexco Resource Corp.'s September 7 and December 8, 2011 News Releases).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*	
K-11-0341	Flame & Moth	134.1	344 g/t Ag, 0.18 g/t Au, 4.17% Pb and 0.33% Zn over 3.66 m	
and		149.3	190 g/t Ag, 0.16 g/t Au, 0.54% Pb and 2.83% Zn over 0.6 m	
and		153.0	607 g/t Ag, 0.23 g/t Au, 1.88% Pb and 3.57% Zn over 7.07 m	
K-11-0350	Flame & Moth	191.0	1080 g/t Ag, 0.88 g/t Au, 4.37% Pb and 10.72% Zn over 6.04 m	
K-11-0357	Flame & Moth	260.6	855 g/t Ag, 0.32 g/t Au, 3.4% Pb and 10.25% Zn over 4.56 m	
		including	261.1	1473 g/t Ag, 0.48 g/t Au, 6.4% Pb and 12.21% Zn over 1.87 m
K-11-0372	Birmingham	311.2	446.8 g/t Ag, 0.1 g/t Au, 0.41% Pb and 0.86% Zn over 3.95 m	
		including	334.5	4839.9 g/t Ag over 1.21 m
		and	329.7	238 g/t Ag, 0.01 g/t Au, 0.12% Pb and 6.37% Zn over 0.6 m
		and	334.5	419.3 g/t Ag, 0.02 g/t Au, 0.33% Pb and 0.08% Zn over 3.55 m
		including	334.5	1180 g/t Ag over 1.21 m
		and	345.2	229.3 g/t Ag, 0.03 g/t Au, 0.31% Pb and 0.22% Zn over 9.3 m
		and	363.2	724 g/t Ag, 0.03 g/t Au, 0.7% Pb and 0.59% Zn over 0.25 m

\*30 g/t Ag cut-off with a maximum of 2 m unmineralized internal dilution. Drill widths are drill intersections, not true widths.

Silver Range Resources ([www.silverrangeresources.com](http://www.silverrangeresources.com)) was spun off from Strategic Metals in mid-summer. The company undertook property-wide geochemical surveys and drilled its Ag-Zn-Pb-Cu Silver Range Project (Keglovic; Yukon Occurrence 105K 076 to 079; Fig. 14) in the Faro area in 2011. A total of 16 811 m were drilled in 51 holes (30 holes in Keg Main, seven holes at Keg East, four holes at Drex, four holes at Owl, three holes at Rebel, and three holes at Snap (Table 16)). The majority

of drilling was conducted on the Keg Main zone, which has been extended to a length of 750 m along strike to a vertical depth of over 200 m. Several drillholes returned wide intervals of Ag-Pb-Zn-Cu-In mineralization from systematic grid drilling on 100 m centres at Keg Main. At the Keg East, 1 km east of the Keg Main,



**Figure 14.** Massive pyrrhotite in drill core from the Keg Main zone of Silver Range Resources.

drillhole Keg-11-14 intersected 30.81 g/t Ag with elevated Pb-Zn-Sn-In over 70.11 m (Table 16). The undrilled 1000 m between Keg Main and Keg East zones is considered a priority exploration target for 2012. Excitement was generated by the discovery of bonanza-grade silver and gold at the new Hammer zone, 22 km south-southeast of the Keg zone. Assays of up to 16 985 g/t Ag and 12.8 g/t Au were returned from surface vein samples over a 350 m strike-length structure in the zone.

**Table 16.** Significant intercepts from diamond drilling at the Silver Range project (modified from Silver Range Resources' September 7, and October 24, 2011 News Releases).

Drillhole	Depth of intersection (m)	Intersection*
Keg-11-09	25.5	70.55 g/t Ag, 0.54% Pb, 0.60% Zn and 0.17% Cu over 104.70 m
including	78.3	119.90 g/t Ag, 0.72% Pb, 1.14% Zn and 0.32% Cu over 30.48 m
and	142.3	58.80 g/t Ag, 0.63% Pb, 0.09% Zn and 0.24% Cu over 3.05 m
Keg-11-16	45.0	20.73 g/t Ag, 0.12% Pb, 0.86% Zn and 0.14% Cu over 202.00 m
including	212.7	46.66 g/t Ag, 0.24% Pb, 1.91% Zn and 0.33% Cu over 34.28 m
Keg-11-17	121.0	35.82 g/t Ag, 0.24% Pb, 0.30% Zn and 0.18% Cu over 6.09 m
and	156.1	32.60 g/t Ag, 0.28% Pb, 1.05% Zn and 0.20% Cu over 170.68 m
Keg-11-18	15.0	61.30 g/t Ag, 1.88% Pb, 2.00% Zn and 0.11% Cu over 3.00 m
and	46.0	36.60 g/t Ag, 0.42% Pb, 1.09% Zn and 0.13% Cu over 204.00 m
and	297.0	14.68 g/t Ag, 0.23% Pb, 0.25% Zn and 0.07% Cu over 30.00 m
Keg-11-22	41.8	37.02 g/t Ag, 0.22% Pb, 1.41% Zn and 0.35% Cu over 155.45 m
and	236.8	13.17 g/t Ag, 0.05% Pb, 0.24% Zn and 0.07% Cu over 9.14 m

\*Drill intersections are drilled widths, not true widths. Drill results also included significant tin and indium values. See company news releases for more information.

At the Rod (Yukon Occurrences 106C 082 and 087) Ag-Pb-Zn property of Strategic Metals ([www.strategicmetals.com](http://www.strategicmetals.com)), 65 km east-northeast of Keno City, a total of 12 drillholes (2213 m) were completed in 2011. The first ten holes at the Rod property tested recessive fracture zones within a gold-in-soil anomaly, accompanied by high silver, antimony, arsenic, mercury and lead values. The final two holes were collared 3 and 5 km to the west, within extensions of the multi-element geochemical soil anomaly. Initial drilling at the Rod prospect intersected 101.91 g/t Ag, 4.76% Pb and 4.44% Zn over 8.31 m in hole ROD-11-032.

The Rusty project (Val & Vera; Yukon Occurrence 106C 085 and 106C 083) received renewed interest when Silver Predator ([www.silverpredator.com](http://www.silverpredator.com)) optioned the property from Strategic Metals and ATAC Resources in early 2011. The property covers Ag-Pb-Zn vein occurrences hosted in Early Proterozoic Gillespie Lake Group dolomite. The claim block is contiguous with Atac's Rau trend claims to the north, roughly 50 km east of Atac's Ocelot prospect. Silver Predator diamond drilled 1200 m in 9 holes at the Siltstone zone. Drill results are pending.



While exploring its Mount Hinton gold property, Mill City Gold Corp. ([www.millcitygold.com](http://www.millcitygold.com)) discovered a new zone of base-metal plus silver and gold mineralization on the Gram property (Yukon Occurrence 105M 057), 3 km northeast of Mount Hinton. Exploration at Gram included grid-soil sampling and prospecting. The soil sampling program identified west-northwest trends of elevated silver, lead, arsenic, zinc, copper and gold. A composite sample of limonite fragments within a zone of rusty weathering greenstone assayed 276 g/t Ag, 10% Zn and 205 ppm Sb.

Monster Mining Corp.'s ([www.monstermining.com](http://www.monstermining.com)) Keno-Lightning property (Yukon Occurrences 002, 003, 005, 006, 011, 053, 062 and 073) adjoins the historic Keno Hill claims to the west. Monster flew an airborne (SkyTEM) survey over the entire property in early summer to aid in structural mapping and to identify vertical and near-vertical conductors to generate exploration targets outside of known occurrences. Monster also mapped, trenched and completed 1800 m of drilling at the Homestake (Fig. 15) and Caribou zones on the property. Results are pending.



**Figure 15.** Drilling at the 2A vein on the Homestake property of Monster Mining.

Habanero Resources' Mt. Haldane (Yukon Occurrence 105M 032) silver property adjoins Alexco Resource Corp.'s Keno Hill silver claims to the east. Mt. Haldane, a past underground producer, is characterized by structurally-controlled silver veins similar to the Keno Hill District deposits. Habanero drilled nine diamond drillholes for a total of 1405 m over a kilometre of strike. Drilling intersected galena-sphalerite mineralization at the Main and Middlecoff zones of the Mt. Haldane vein system. Results are pending.

Silver Predator optioned the Plata property (Yukon Occurrence 105N 003) from Rockhaven Resources Ltd. in 2011, and explored with 2565 m of diamond drilling in three zones (Aho, Etzel and P2). The property is underlain by Upper Proterozoic to Lower Paleozoic metasedimentary rocks deformed by southwest-directed thrust faulting. Lead-zinc-silver ± gold vein mineralization at Plata is associated with the thrust fault and also occurs in extensional veins.

Driven Capital Corp. ([www.drivencapital.ca](http://www.drivencapital.ca)) optioned the Lyn (Yukon Occurrences 105K 010, 011, 012 and 105; Fig. 16) property in 2011 from Panarc Resources and completed a geochemical soil sampling program, channel sampling (a highlight of 0.79 m of 5888 g/t Ag), prospecting and a five-hole winkie drill program. Driven also staked 30 additional claims covering what is believed to be a continuation of host sediments under glacial cover. The Lyn project is located 13 km southeast of the town of Faro and covers multiple high grade silver veins.



**Figure 16.** Driven Capital Corp winkie drilling the Lyn property.

### **Base metals – lead + zinc**

#### *Sedimentary exhalative*

The Selwyn-Chihong joint venture formed between Selwyn Resources Ltd. ([www.selwynresources.com](http://www.selwynresources.com)) and Canada Chihong Mining is advancing its extensive Selwyn Zn-Pb SEDEX property (Howards Pass; Yukon Occurrences 105I 012, 037, 038 and 068; Fig. 17). The property is located 75 km southeast of MacMillan Pass

and straddles the Yukon/Northwest Territories border. Resource estimates were announced in October 2011 for the XY Central and Don deposits (Table 17). A feasibility study was begun in early 2010 on development of the Selwyn deposits, but the scope of the feasibility study has been expanded due to positive drill results in 2011 on the Don Connector and XY West zones (Table 18). Further drilling on the Don Connector is planned and will be evaluated for inclusion in the mine plan for the Don Deposit. A mineral resource estimate on the XY West deposit will be undertaken, and the deposit evaluated for inclusion in the mine plan for the XY deposit.



**Figure 17.** Selwyn Resources XY exploration camp.

**Table 17.** NI 43-101 Resource on the XY Central deposit and Don Deposit, Selwyn Project, Selwyn Resources (modified from Pearson and Kirkham, 2011).

Deposit	Classification	Tonnes* (Mt)	Zn (%)	Pb (%)
Don	Indicated	36.9	5.63	2.11
XY Central	Indicated	29.9	6.35	2.69

\*Cut-off grade of 2.0% Zn.

**Table 18.** Significant intercepts from drilling at the Selwyn project (modified from Selwyn Resources' September 6, 19, and 29, 2011 News Releases).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*
XYC-249	XY West	191.8	11.85% Zn and 3.13% Pb over 58.40 m
XYC-259	XY West	268.2	8.04% Zn and 2.96% Pb over 27.90 m
including	XY West	286.5	13.31% Zn and 5.96% Pb over 9.60 m
XYC-276	XY West	240.5	9.46% Zn and 3.32% Pb over 1.00 m
and	XY West	325.0	6.92% Zn and 1.61% Pb over 27.40 m
XYC-278	XY West	350.9	8.90% Zn and 4.35% Pb over 25.60 m
and	XY West	407.1	6.74% Zn and 1.97% Pb over 3.40 m
and	XY West	418.4	3.87% Zn and 1.61% Pb over 6.00 m
and	XY West	428.0	7.29% Zn and 2.03% Pb over 7.30 m
XYC-280	XY West	278.2	6.46% Zn and 2.02% Pb over 24.80 m
including	XY West	300.7	26.85% Zn and 9.15% Pb over 2.30 m
XYC-283	XY West	295.9	6.03% Zn and 1.46% Pb over 12.10 m
and	XY West	329.7	6.06% Zn and 1.97% Pb over 12.40 m
including	XY West	335.8	14.59% Zn and 6.36% Pb over 2.30 m

\*Thicknesses are drilled thickness. See company news releases for true thicknesses.

Hudbay Minerals Inc. ([www.hudbayminerals.com](http://www.hudbayminerals.com)) began a late-season drilling project at the Tom (Yukon Occurrence 105O 001) and Jason (Yukon Occurrence 105O 019) SEDEX deposits at MacMillan Pass. Three diamond drillholes were drilled at Tom, twinning historic holes. Hudbay secured a Class 3 Quartz Mining Exploration Licence and is planning a more substantial drill program in 2012.

### Vein/breccia

Overland Resources' ([www.overlandresources.com](http://www.overlandresources.com)) Yukon Base Metal Project (Andrew; Yukon Occurrence 105K 089; Fig. 18) is a vein/breccia base metal property. Mineralization within the three deposits (Andrew, Darcy and Darin) consists of coarse sphalerite and galena in quartz-carbonate veins and breccias. Overland drilled 74 diamond drillholes (10 437 m) on the property in 2011 (Table 19). Drill results at the Darcy deposit confirm that mineralization continues below 150 m depth, verifying that open pit development can extend deeper than the current design. Step-out drilling to the west of the Darcy deposit failed to intersect significant mineralization, suggesting that the western end of the deposit has been truncated and displaced by a fault. Step-out drilling at the Andrew deposit east of the known resource confirmed mineralization outside of the present pit design,



**Figure 18.** The surface expression of the Kill zone at Overland Resources' Andrew property, view looking northeast.

with diamond drillhole AN11-139 intersecting 4.0 m of 10.9% Zn. Overland released a new resource for the Yukon Base Metal Project in February 2011 (Table 20) and is planning to update the Australian-based Joint Ore Reserves Committee (JORC) code compliant resource estimate in 2012 to include 2011 drilling. The revised resource estimate will be included in the feasibility study underway. Overland plans to submit an application to YESAB for mine permitting in early 2012.

**Table 19.** Significant intercepts from diamond drilling at the Yukon Base Metal project (modified from Overland Resources' November 16, 2011 News Release).

Drillhole	Zone/Area	Depth of intersection (m)	Intersection*
AN11-132	Andrew deposit	93.1	1.7% Zn & 2.7% Pb over 3.2 m
and		112.7	9.7% Zn over 3.3 m
and		123.0	3.5% Zn over 12.0 m
and		140.0	8.4% Zn over 3.0 m
and		157.0	4.0% Zn over 6.0 m
AN11-138	Andrew deposit	256.0	12.5% Zn over 3.0 m
and		266.0	15.4% Zn over 6.0 m
AN11-139	Andrew deposit	366.0	10.9% Zn over 4.0 m
DY11-032	Darcy deposit	9.7	9.1% Zn over 6.3 m
and		23.0	1.7% Zn over 5.0 m
and		33.0	1.5% Zn over 3.0 m
and		49.0	8.0% Zn over 16.0 m
DY11-035	Darcy deposit	144.3	8.1% Zn over 9.9 m
and		157.0	6.1% Zn over 10.5 m
MB11-005	Andrew Northeast	65.0	0.8% Zn & 9.9% Pb over 4.0 m

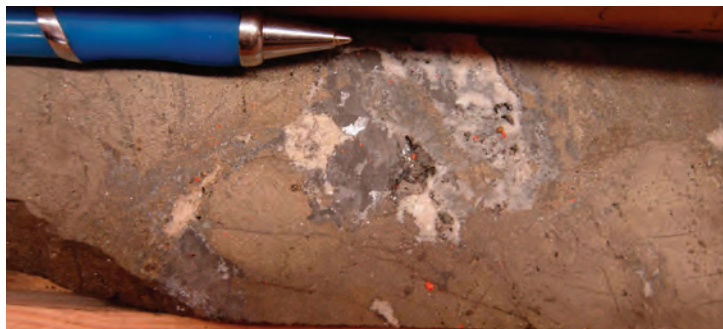
\*Drilled thickness.

**Table 20.** JORC Code compliant resource estimate for the Yukon Base Metal Project - Andrew, Darcy and Darin deposits, (modified from Overland Resources, 2011).

Deposit	Classification	Tonnes* (000s)	Zn (%)	Pb (%)
Andrew	Measured	1610	5.5	1.7
Andrew, Darcy	Indicated	5574	6.1	1.3
Andrew, Darin, Darcy	Inferred	3865	5.6	0.2

\*2% zinc cut-off.

Atac Resources Ltd. ([www.atacresources.com](http://www.atacresources.com)) explored its Ocelot (Yukon Occurrence number pending; Fig. 19) Ag-Pb-Zn carbonate-replacement prospect, 50 km



**Figure 19.** Massive sulphide in drillcore from the Ocelot property of Atac Resources.

northeast of Keno City. The Ocelot occurs along the same structural corridor (the Rau trend) that hosts Atac's Tiger zone carbonate-replacement gold occurrence. Drilled for the first time in 2010, the property was tested with 19 diamond drillholes (3785 m) in 2011 (Table 21). Mineralization (pyrite, low-iron sphalerite and galena) occurs within a steeply dipping northeast-trending fault that cuts an extensive dolomite sequence. Mineralization has been intersected over a 230 m strike-length and to a depth of 150 m.

**Table 21.** Significant intercepts from diamond drilling at the Ocelot project (modified from Atac Resources' June 13 and September 13, 2011 News Releases).

Drillhole	Depth of intersection (m)	Intersection*
OC-11-07	192.0	58.03 g/t Ag, 2.01% Pb and 12.41% Zn over 11.88 m
OC-11-09	109.7	145.43 g/t Ag, 3.36% Pb and 11.65% Zn over 41.72 m
OC-11-11	32.2	188.07 g/t Ag, 8.69% Pb and 6.06% Zn over 37.91 m
including	37.0	400.18 g/t Ag, 20.44% Pb and 9.5% Zn over 14.82 m
OC-11-12	58.4	71.66 g/t Ag, 2.22% Pb and 13.61% Zn over 26.83 m

\*Reported intersections are drilled thicknesses; true widths are estimated to be 50 to 70% of the reported drill intervals.

Exploration on Manson Creek Resources' ([www.manson.ca](http://www.manson.ca)) Tell property (Yukon Occurrence 106C 091), 100 km east-northeast of Keno City, resulted in the discovery of seven natural spring gossan zones. Soil samples collected from the Tell, Roswell, Crystal Springs, Ash Springs, Area 51, Majestic and Corona zones returned anomalous zinc (up to 27 500 ppm), nickel (over 1000 ppm), arsenic (over 1100 ppm) and silver (up to 800 ppb). The seven gossans at the Tell property have never been drilled.

### **Rare earth elements**

Endurance Gold Corp. ([www.endurancegold.com](http://www.endurancegold.com)) conducted a sampling program over its Bandito (Dunn; Yukon Occurrence 095C 051) Ni-Cu-REE project in southeast Yukon. The property is characterized by anomalous rare earth element values associated with the Pool Creek syenite and anomalous Ni-Cu values associated with surrounding altered clastic rocks. Endurance outlined a 1.8 km-long syenite-hosted REE±Nb±Ta anomaly on the property and identified two new Ni-Cu soil anomalies in 2011. The highest values for total rare earth element values plus yttrium (TREE+Y) in soils were 3534 ppm, 1315 ppm and 1182 ppm from an area underlain by fenite and hornfelsed clastic sediments. A trench through fenite-altered sedimentary rocks returned 6 m of 2.65% total rare earth oxide values plus yttrium (TREO+Y). Fenite alteration at the property is multiphase and is characterized by sodium and potassium alteration (albite and k-feldspar), sericite, altered sodium amphiboles, hematite, chlorite, ankerite, fluorite, tremolite-actinolite, biotite, monazite, zircon, rutile and other unidentified minerals.

### **Tungsten**

North American Tungsten's ([www.northamericantungsten.com](http://www.northamericantungsten.com)) Mactung deposit (Yukon Occurrence 105O 002) is in the mine-permitting stage. A feasibility study for the high-grade tungsten skarn deposit outlined a 2000 tonne per day underground operation with an 11 year mine life; there is potential to extend the life of mine as an open-pit operation. The Mactung property is situated at MacMillan Pass on the NWT/Yukon border in east-central Yukon. The company has been carrying out environmental, engineering and geotechnical studies in support of permitting.

## DAWSON RANGE (WHITE GOLD AREA)

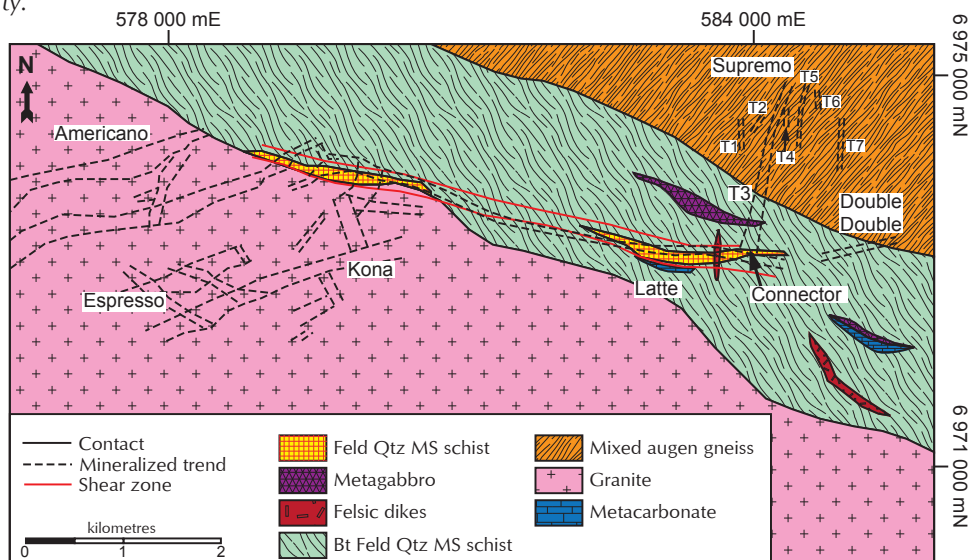
### Precious metals – gold

#### Vein/breccia



**Figure 20.** Foreground - Supremo zone discovery diamond drillhole on Kaminak Resource Gold Corp's Coffee property.

Kaminak Gold Corp. ([www.kaminak.com](http://www.kaminak.com)) spent 2011 focusing on reverse circulation and diamond drilling the eight gold zones discovered in 2010 on the Coffee property (Yukon Occurrences 115J 110 and 111; Figs. 20 and 21). The property is located approximately 130 km south of Dawson City and 30 km south of Kinross Gold's White Gold property. The gold mineralization occurs in steeply dipping structural zones characterized by fragmental rock, silica and muscovite alteration with minor veining and is associated with intermediate and felsic dykes; the nature of this relationship is not yet understood (Couture and Siddorn, 2011). The objective of the 2011 drill program was to expand and define the geometry of each zone and to work towards a National Instrument 43-101 compliant inferred resource. Kaminak spent over \$20 million, drilled over 40 000 m (Table 22) and collected over 10 000 soil samples.



**Figure 21.** Simplified property geology map displaying lithologies, structures and zones at Kaminak Gold's Coffee property (modified from Wainwright et al., 2011). Feld = feldspar, Qtz = quartz, MS = muscovite and Bt = biotite.

Kinross Gold Corp. ([www.kinross.com](http://www.kinross.com)) conducted a \$7 million exploration program this year on the White Gold (Yukon Occurrences 115O 011,012, 165 and 166; Fig. 22) and JP Ross (Yukon Occurrence 115O 160) properties, located approximately 90 km south of Dawson City. At the Golden Saddle zone, mineralization occurs in quartz veins, stockwork, and breccia zones within felsic gneiss and is gold only. In contrast the Arc zone has mineralization that is within shear and breccia zones within graphitic schists and quartzites and is characterized by gold plus arsenic, bismuth and mercury. The 2011 exploration program consisted of 15 000 m diamond drilling and infill soil and stream sediment sampling. Prospecting and mapping resulted in the discovery of three new zones of interest, Cathy, Lynx and Thistle.

**Table 22.** Significant gold bearing diamond drill (CFD) and reverse circulation (CFR) intercepts from Kaminak Gold's Coffee property (modified from Kaminak's June 13, August 9, August 24, November 21 and November 30, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
CFD-078	Latte	226.0	1.11 g/t Au over 44 m
CFD-080	Latte	60.0	2.8 g/t Au over 62 m
includes		60.0	17.4 g/t Au over 7 m
CFD-082	Latte	109.0	9.61 g/t Au over 17 m
includes		122.0	24.50g/t Au over 3 m
CFD-090	Double Double	105.0	74.9 g/t Au over 4 m
CFD-164	Latte Deep	353.0	5.5 g/t Au over 14 m
and		433.0	5.5 g/t Au over 11 m
and		454.0	20.5 g/t Au over 3 m
CFD-149	Connector	139.0	1.5 g/t Au over 17 m
and		166.0	10.1 g/t Au over 2 m
CFD-152	Connector	103.0	11.1 g/t Au over 4 m
CFR-027	Supremo T3	18.3	11.6 g/t Au over 9.1 m
CFR-031	Supremo T3	41.2	3.0 g/t Au over 13.7 m
CFR-033A	Supremo T3	94.5	2.5 g/t Au over 19.8 m
CFR-034	Supremo T3	21.3	9.8 g/t Au over 4.6 m
CFR-035	Supremo T3	30.5	13.5 g/t Au over 15.2 m
CFR-036	Supremo T3	50.3	8.7 g/t Au over 9.2 m
CFR-045	Supremo T3	110.3	2.1 g/t Au over 27.4 m
CFR-046	Supremo T3	from surface	4.3 g/t Au over 13.7 m
CFR-050	Supremo T3	8.2	19.9 g/t Au over 6.1 m
CFR-051	Supremo T3	46.9	7.9 g/t Au over 12.2 m
CFR-052	Supremo T3	87.5	10.7 g/t Au over 6.1 m
CFR-053	Supremo T3	117.0	8.2 g/t Au over 18.3 m
CFR-056	Kona	66.0	5.2 g/t Au over 10.7 m
CFR-060	Kona	40.0	4.5 g/t Au over 9.1 m
CFR-074	Kona	140.0	2.5 g/t Au over 16.7 m

\*True width estimated at approximately 2/3 core length.



**Figure 22.** YGS geologist Patrick Sack and Kinross Gold Corp. geologist Jean Pierre Londero examine core at the White Gold property.

Stina Resources Ltd. ([www.stinaresources.com](http://www.stinaresources.com)) completed a 14-hole 2574 m diamond drill program on its Dime property (Yukon Occurrence 115O 097) located 67 km southwest of Dawson City. Three holes followed up on drill results from 2010 and further tested the West gold soil anomaly (Table 23). The other 11 holes tested the East gold soil anomaly discovered in 2010 which overlies a complex cupola zone of granite intruding and brecciating metasedimentary rocks. Core from these 11 holes was strongly silicified and brecciated and contained disseminated pyrite and arsenopyrite over significant widths. Other work completed during the 2011 season included an airborne magnetometer and radiometric survey over the entire Dime claim block as well as additional soil sampling and trenching over the West anomaly.

**Table 23.** Significant gold bearing diamond drill intercepts from Stina Resources Dime property (modified from Stina's November 23, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DDH-11-06	West Anomaly	7.5	0.3 g/t Au over 51 m
includes		23.7	8.3 g/t Au over 1.5 m

\*Drilled thickness.



**Figure 23.** Aerial view of trenches at Silver Quest Resources' Boulevard property.

Silver Quest Resources Ltd. ([www.silverquest.ca](http://www.silverquest.ca)) worked on its Boulevard (Yukon Occurrence 115J 050; Fig. 23) property which adjoins the western margin of Kaminak Gold's Coffee property and is located 135 km south of Dawson City. The 2011 program consisted of 5000 soil samples and 1500 m of diamond drilling with a budget of approximately \$7 million and was focused on the Boulevard and Henderson claim blocks; reconnaissance soil sampling and prospecting was done on other Silver Quest properties in the White Gold area. The 2011 Boulevard drill program was designed to test numerous gold, arsenic, antimony and molybdenum-in-soil geochemical anomalies identified from 2010 soil sampling. A 7500 line-km radiometric and magnetic survey over the Prospector Mountain, Rude Creek, Boulevard and Henderson properties was also completed. In the fall, Silver Quest was acquired by New Gold Inc., primarily for its gold assets in British Columbia. Silver Quest's Yukon properties will continue to be explored by McIntyre Minerals Inc. who will be led by the existing Silver Quest Board and senior management team.

Pacific Ridge Exploration Ltd. ([www.pacificridgeexploration.com](http://www.pacificridgeexploration.com)) explored its Mariposa property (Yukon Occurrences 115J 104 and 115O 075) optioned in 2010. The first drilling on the property was done this year, over 6000 m of core in 41 holes: 32 in the Skookum area, 4 in the Maisy May area, 3 in the Gertie area, and 2 in the Hackly Gold area (Table 24). Broad areas of intensely fractured and hydrothermally altered rock, which appear related to deposition of the gold, were noted in both drill core and surface float samples. Pacific Ridge also identified a 15 km long brittle deformation zone, named the Mariposa fault by company geologists; results from this year's diamond drilling suggest this structure hosts gold mineralization. The company is planning to continue drilling in 2012.



**Table 24.** Significant gold bearing diamond drill intercepts from Pacific Ridge's Maripossa property (modified from Pacific Ridge's November 29, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
11MP-01	Skookum Main	29.1	2.44 g/t Au over 38.9 m
		29.1	6.44 g/t Au over 11.1 m
11MP-05	Skookum Main	3.1	1.13 g/t Au over 19.8 m
11MP-06	Skookum Main	3.7	0.63 g/t Au over 45.3 m
11MP-08	Skookum Main	186.9	1.67 g/t Au over 12 m
11MP-27	Skookum Main	22.2	1.96 g/t Au over 4.7 m
11MP-33	Skookum West	46.0	3.74 g/t Au over 1.2 m

\*Drilled thickness.

Smash Minerals ([www.smashminerals.com](http://www.smashminerals.com)) conducted an aggressive exploration program on its Whiskey (Yukon Occurrence number pending; Fig. 24) property this season. The company collected over 19 000 soil samples and conducted an airborne magnetic and radiometric survey as well as prospecting and mapping before completing a short diamond drill program of 1665 m late in the season (Table 25). The property is located south of Dawson City, immediately east of Kinross Gold's White Gold property.



**Figure 24.** Smash Minerals' Whiskey camp in the White Gold area.

**Table 25.** Significant gold bearing diamond drill intercepts from Smash Mineral's Whiskey property (modified from Smash's October 20, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
WH11-05	Bushmills	198.0	0.47 g/t Au and 9.0g/t Ag over 3.7 m
WH11-11	Ben Nevis	130.7	0.37 g/t Au and 15.1 g/t Ag over 4.3 m

\*Drilled thickness.

Ethos Capital Corp. ([www.ethoscapitalCorp.com](http://www.ethoscapitalCorp.com)) worked on all five of its recently acquired properties in the Dawson Range around the White Gold and Coffee properties: Hen (Yukon Occurrences 115O 055, 118 and 164), Wolf (Yukon Occurrences 115N 021 and 022), Bridget (Yukon Occurrences 115J 072, 073 and 093), Betty (Yukon Occurrence 115J 071) and Hayes (Yukon Occurrences 115J 012 and 013). Ethos budgeted \$6 million for the grassroots 2011 exploration program which consisted of claim staking (nearly 3000 new claims), soil sampling (33 000 samples), geological mapping and prospecting, airborne and ground

geophysics and trenching. This was the first year of work by Ethos on these properties and though all properties saw reconnaissance-level work, the focus was on the Betty property with trenching results returning up to 7.3 g/t Au over 50 m from the Mercedes zone.

Taku Gold Corp. ([www.takugold.com](http://www.takugold.com)) worked its Aussie-Melba (Yukon Occurrence number pending), Bishop (Yukon Occurrence number pending), Burnham (Yukon Occurrence number pending), Dan (Yukon Occurrence number pending), Sulphur (Yukon Occurrence 115O 133), Montana (Yukon Occurrence number pending), Rosebute (Yukon Occurrence number pending) and Wounded Moose (Yukon Occurrence number pending) properties in the Dawson City area from a centrally located road accessible camp. Taku Gold took more than 26 000 soil samples on eight properties and diamond drilled 1075 m in seven holes into the Gold Run showing on the Portland property which was traced for over 250 m and returned assays up to 97 g/t Au over 7 m in 2010. The goal of the drill program was to test the continuity of this gold-bearing structure; the best drill result was 2.3 g/t Au over 1.0 m within a wider zone of 0.5 g/t Au over 3.0 m (Table 26).

**Table 26.** Significant gold bearing diamond drill intercepts from Taku Gold's Portland property (modified from Taku Gold's December 9, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
PT11-01	Gold Run	29.4	0.55 g/t Au over 3.6 m
PT11-02	Gold Run	45.3	0.55 g/t Au over 3.0 m
	including	46.3	2.3 g/t Au over 1.0 m
PT11-07	Gold Run	78.8	0.67 g/t Au over 1.0 m

\*Drilled thickness.

The 2011 exploration campaign at the Dan Man property (Yukon Occurrence number pending) by Arcus Development Group Inc. ([www.arcusdevelopmentgroup.com](http://www.arcusdevelopmentgroup.com)) was focused within the southern portion of the claim block in close proximity to the bordering Coffee Creek claims being explored by Kaminak Gold. 2010 soil sampling on the Dan Man property identified four zones of anomalous gold-in-soil responses along an 8 km-long trend near the southern border of the claim block. The Kambaa and Kwazulu zones were partially drill tested (Table 27) targeting four separate structural trends interpreted to be steeply southerly dipping and dominantly associated with northwest trending lineaments; results are pending.

**Table 27.** Significant gold bearing diamond drill intercepts from Arcus Development's Dan Man property (modified from Arcus' December 7, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DM-11-03	Kambaa	12.2	2.1 g/t Au over 4.4 m
DM-11-08	Kwazulu	21.2	1.6 g/t Au over 8.6 m

\*Drilled thickness.

Rockhaven Resources, Ltd. ([www.rockhavenresources.com](http://www.rockhavenresources.com)) spent approximately \$6 million on diamond drilling and excavator trenching their Klaza property (Yukon Occurrence 1151 067; Fig. 25). In 2011, a total of 13 630 m in 52 holes of diamond drilling, and 2940 m in 21 holes of reverse circulation drilling, were completed (Table 28). The Klaza property hosts four parallel, 1 to 75 m wide, structural zones of Au-Ag mineralization which consist of quartz-sulphide veins, breccias, and fracture networks. These zones are spatially associated with quartz-feldspar porphyry dykes that intrude granitic country rocks and collectively define a 1.5 km-wide by 8 km long northwest trending structural corridor.



**Figure 25.** Rockhaven Resources' impressive trench at the Klaza property.

**Table 28.** Significant gold and silver bearing diamond drill intercepts from Rockhaven Resources' Klaza property (modified from Rockhaven's September 15 and November 2, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
KL-11-15	Klaza	76.7	4.24 g/t Au and 15 g/t Ag over 10.5 m
KL-11-16	Klaza	79.7	2.89 g/t Au and 49 g/t Ag over 15.1 m
KL-11-17	Klaza	207.3	3.78 g/t Au and 25 g/t Ag over 12 m
KL-11-29	BRX	31.9	3.29 g/t Au and 407 g/t Ag over 3.00 m
KL-11-37	BRX	81.1	5.43 g/t Au and 50 g/t Ag over 14.80 m
KL-11-39	BRX	151.3	23.5 g/t Au and 239 g/t Ag over 1.65 m

\*Interval represents the downhole intersection length and true widths are estimated to be approximately 80-90% of the interval.

Ansell Capital Corp. ([www.ansellcapital.com](http://www.ansellcapital.com)) had a \$2 million budget to explore their Charlotte (Yukon Occurrences 1151 065, 066, 093 and 095; Fig. 26) and adjoining Discovery Creek (Yukon Occurrence number pending) properties in 2011. Twenty-one diamond drillholes for over 3600 m were drilled on the Charlotte property (Table 29), while nearly 1100 soil samples were collected on both blocks. These claim blocks are located immediately northwest of the past producing Brown-McDade open pit. Gold and silver mineralization occurs in northwest-trending shear zones hosted by metamorphic rocks. The metamorphic rocks have been cut by narrow and linear intrusive dykes and sills. Precious metal mineralization commonly occurs in quartz-sulphide vein systems within the shear zones and is associated primarily with pyrite and lesser arsenopyrite.



**Figure 26.** Drilling the Flex Zone at the Charlotte property of Ansell Capital Corp.

**Table 29.** Significant gold and silver bearing diamond drill intercepts from Ansell Capital's Charlotte property (modified from Ansell's November 8, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DDH-11-254	Flex	92.4	3.38 g/t Au and 130.3 g/t Ag over 12.4 m
DDH-11-257	Flex	30.3	9.85 g/t Au and 191.4 g/t Ag over 23.1 m
		47.7	37.91 g/t Au and 782.1 g/t Ag over 5.19 m
DDH-11-258	Flex	50.9	2.45 g/t Au and 76.4 g/t Ag over 12.5 m
DDH-11-259	Flex	55.9	3.00 g/t Au and 204.2 g/t Ag over 14.6 m
DDH-11-262	Flex	107.4	11.71 g/t Au and 141.9 g/t Ag over 6.6 m
DDH-11-263	Flex	82.5	9.16 g/t Au and 488.3 g/t Ag over 3.20 m

\*Drilled thickness.

Ryan Gold Corp. ([www.ryangold.com](http://www.ryangold.com)) conducted property-scale mapping at its Fifty Mile project area located approximately 75 km west of Dawson City. The project comprises five blocks of claims: Chant, Ent, Echo, Gecko and Lena (Yukon Occurrence numbers all pending). A reconnaissance trenching and soil sampling program was also done in 2011; results are pending.

Aldrin Resource Corp. ([www.aldrinresourcecorp.com](http://www.aldrinresourcecorp.com)) explored its Ind property (Yukon Occurrence 115O 095) by soil sampling, trenching and diamond drilling. Seven diamond drillholes, totalling 1377 m, were drilled to test down-dip potential of three large mineralized structural zones identified in more than 3 km of trenches excavated between 2009 and 2011 (Table 30).

**Table 30.** Significant gold bearing diamond drill intercepts from Aldrin Resources' Ind property (modified from Aldrin's October 27, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
IND 11-07	East	87.1	4.34 g/t Au over 1.5 m
IND 11-05	East	24.1	2.44 g/t Au over 1.5 m
IND 11-06	East	117.1	1.04 g/t Au over 1.5 m

\*Drilled thickness.

### Porphyry

Work completed in 2011 by Castillian Resources Corp. ([www.castillian.ca](http://www.castillian.ca)) on its Canadian Creek property (Yukon Occurrence 115J 035; Fig. 27) included



**Figure 27.** Castillian Resources' Canadian Creek exploration camp.

collection of 5660 soil samples, a 391 line-km detailed ground magnetic survey, a 10 line-km induced polarization (IP) survey, trenching and geological mapping. Soil results of greater than 40 ppb Au defined an anomaly with a strike length of 7.5 km and a width of 2 km. Exploration targets are bulk tonnage intrusion-related gold, structurally-hosted gold, and Cu-Au-Mo porphyry mineralization.

Northern Tiger Resources Inc. ([www.northern-tiger.com](http://www.northern-tiger.com)) explored its Sonora Gulch property (Yukon Occurrence 115J 008) and budgeted \$1 million for approximately 2500 m of diamond drilling. Work in recent years, including a Titan-24 IP survey and a NI 43-101 Technical Report (Page, 2011), suggests that the various anomalies, which were historically evaluated, individually may actually be part of a large, multicentre porphyry system defined by a 9 km<sup>2</sup> gold-in-soil anomaly of similar size to the Casino deposit located 40 km to the northwest. Drilling in 2011 focused on the Gold Vein system which forms the southwest side of this soil anomaly and returned thick intervals of bulk tonnage mineralization (Table 31).

**Table 31.** Significant gold and silver bearing diamond drill intercepts from Northern Tiger Resources' Sonora Gulch property (modified from Northern Tiger's November 7, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
SG-11-57	Gold Vein	3.0	0.42 g/t Au and 3.8 g/t Ag over 94 m
SG-11-58	Gold Vein	3.0	0.45 g/t Au and 3.0 g/t Ag over 234 m
SG-11-59	Gold Vein	47.0	0.44 g/t Au and 2.6 g/t Ag over 110 m

\*Intersections are drilled thicknesses.

Silver Quest Resources Ltd. ([www.silverquest.ca](http://www.silverquest.ca)) diamond drilled 1588 m in 12 holes at its Prospector Mountain property (Yukon Occurrence 115I 034) located 90 km northeast of Carmacks. Silver Quest completed infill soil sampling, detailed geological mapping, as well as airborne magnetic and radiometric surveys. The drill program was designed to test targets generated from 2010 assay results and from an initial evaluation of the 2011 airborne geophysical survey data. The property is believed to host a high-level Au-Cu porphyry system on the eastern side with peripheral epithermal high-grade Au-Ag-Cu veins occurring on the western side.

The main purpose of the exploration program on the Northern Freegold Resources Ltd. ([www.northernfreegold.com](http://www.northernfreegold.com)) Freegold Mountain property (Revenue and Nucleus; respectively Yukon Occurrences 115I 042 and 107) was to upgrade the Au-Cu-Ag-Mo Revenue zone from Target Deposit to Inferred Resource. Twenty-seven drillholes totalling approximately 12 375 m were completed (Table 32) in the Revenue zone and the updated resource on the Revenue zone is expected early in 2012. Similar to the exploration scenario on the Sonora Gulch property, work in recent years on the Freegold property suggests that the previously individually evaluated Revenue and Nucleus zones may be part of the same porphyry mineralizing system (Armitage and Campbell, 2011). Northern Freegold also completed a 44 line-km Titan-24 IP survey and soil sampling over the Stoddart zone Cu-Ag-Au-Mo porphyry target.

Radius Gold Inc.'s ([www.radiusgold.com](http://www.radiusgold.com)) Sixty Mile property (Yukon Occurrence 116C 146) is located approximately 75 km due west of Dawson, adjacent to the Yukon/Alaska border. A total of 20 holes (5273 m) were drilled in 2011 (Table 33). Sixteen holes tested the Graben fault zone in the Sixty Mile River Valley and four tested the Thrust fault zone. Controlled Source Audio Frequency Magnetotelluric (CSAMT) and IP surveys were conducted to try and identify siliceous, possibly gold-bearing bodies hosted in the local andesites. A grid-based auger drill program collected bedrock samples beneath mined gravels and overburden which were used for geochemical analysis and alteration studies to help focus drilling.

**Table 32.** Significant gold, silver, copper and molybdenum bearing diamond drill intercepts from Northern Freegold Resources' Freegold Mountain property (modified from Northern Freegold's September 22 and November 15, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
RVD11-019	Revenue	42.8	0.47 g/t Au, 3.7 g/t Ag, 0.12% Cu and 0.02% Mo over 304.8 m
		including 141.5	0.93 g/t Au, 6.2 g/t Ag, 0.16% Cu and 0.03% Mo over 121.7 m
RVD11-022	Revenue	52.6	0.31 g/t Au, 3.1 g/t Ag, 0.14 % Cu and 0.01% Mo over 157.5 m
		including 102.9	0.42 g/t Au, 4.5 g/t Ag, 0.19% Cu and 0.01% Mo over 44 m
RVD11-028	Revenue	78.0	0.36 g/t Au, 4.0 g/t Ag, 0.18% Cu and 0.08% Mo over 223.3 m
		including 146.7	0.44 g/t Au, 5.2 g/t Ag, 0.21% Cu and 0.13% Mo over 125.6 m

\*Intersections are drilled thicknesses.

**Table 33.** Significant gold bearing diamond drill intercepts from Radius Gold's Sixty Mile property (modified from Radius Gold's October 25, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
DDH11-08	Graben Fault Zone	193.5	19 g/t Au over 1 m
DDH11-10	Graben Fault Zone	249	132.9 g/t Au over 1.5 m

\*Intersections are drilled thicknesses.

Dawson Gold Corp. ([www.dawsongold.com](http://www.dawsongold.com)) completed a 33.6 line-km Titan-24 IP survey on its Toro property (Yukon Occurrences 115I 031 and 032). The Titan-24 System is useful for defining large porphyry systems and strongly mineralized structural trends and will guide future exploration on the property.

### **Base metals – copper**

#### *Porphyry*

Western Copper and Gold Corp. ([www.westerncopperandgold.com](http://www.westerncopperandgold.com)) was busy on the corporate side this year spinning out their interest in the Carmacks Copper Project, and other projects, into the Copper North Mining Corp. This allows Western Copper and Gold to focus on the Casino deposit (Yukon Occurrences 115J 027 and 028). The culmination of the past several years of exploration, geotechnical, and environmental work was released in May 2011 in a pre-feasibility report that suggests exploration drilling in the more sparsely drilled area west of the Main zone, and adjacent to the microbreccia pipe, may well increase the overall resource (M3 Engineering & Technology Corp., 2011). Work in 2011 was designed to support a full feasibility study and to work towards completing a YESAB application; approximately \$10 million was spent on environmental and engineering related work in 2011.

Capstone Mining Corp. ([www.capstonemining.com](http://www.capstonemining.com)) budgeted \$6.3 million for an aggressive onsite exploration program at its Minto Mine (Yukon Occurrences 115I 021 and 022), located 40 km southwest of Pelly Crossing. Definition drilling focused on the Copper Keel deposit (Table 34) and was used to calculate additional resources in the Wildfire/Copper Keel areas (Table 2). Exploration south of the current open pit has verified that the Area 2, Area 118, Wildfire and Copper Keel deposits are continuous and constitute the re-defined Minto South Deposit. Exploration drilling also tested the Inferno zone, a few hundred metres northeast

of the Main Pit, as well as other new exploration targets. A recent Titan-24 IP survey has further identified numerous previously untested drill targets for future exploration. Diamond drilling totals for the Minto Mine property are 38 416 m in 112 drillholes. The ongoing exploration activity has extended the expected mine life to the year 2020.

**Table 34.** Significant copper and gold bearing diamond drill intercepts from Capstone Mining's Minto property (modified from Capstone's May 2, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
11SWC770	Copper Keel	327.5	4.6 %Cu and 3.6 g/t Au over 6.1 m
includes		327.5	5.4% Cu & 3.4 g/t Au over 3.7m
11SWC777	Copper Keel	350.0	3.2% Cu & 1.8 g/t Au over 8.2 m
includes		350.0	4.5% Cu & 2.0 g/t Au over 4.0 m

\*Drilled thickness.

Wolverine Minerals Corp. ([www.wolverineminerals.ca](http://www.wolverineminerals.ca)) mapped, trenched and soil sampled the DDD claims (Yukon Occurrence 115I 069) and the attached Shamrock claims (Yukon Occurrence 115I 070) in 2011; results from the Shamrock option yielded inconclusive results and the option has been dropped. A new epithermal vein structure at the DDD property was exposed in six trenches over a strike length of 620 m and remains open along strike in both directions. Chip sampling across vein exposures returned a weighted average grade of 0.98 g/t Au over an average width of 4.4 m along this structure, with the best interval assaying 1.67 g/t Au over 6.5 m. A large, 2000 by 500 m area of strongly anomalous arsenic (50 to 800 ppm) and antimony (10 to 153 ppm) soil geochemistry lies immediately west of the 2011 trenching area.

Copper North Mining Corp. ([www.coppernorthmining.com](http://www.coppernorthmining.com)) was spun out from Western Copper and Gold Corp. in late 2011. The main asset of Copper North is the Carmacks Copper Project (Yukon Occurrence 115I 008), and the company is focused on permitting the mine for production. A small surficial geology program in relation to infrastructure was carried out; there was no significant exploration or development work done.

### *Volcanogenic massive sulphide*

Arcus Development Group Inc. ([www.arcusdevelopmentgroup.com](http://www.arcusdevelopmentgroup.com)) flew an airborne magnetometer survey over its Touleary property (Yukon Occurrence 115O 176) in late spring and ran an infill soil sampling program in early summer. Based on a 1200 m-long coincident geophysical anomaly and an intermittent gold-in-soil geochemical anomaly, five diamond drillholes (935 m) were drilled in a 300 by 100 m area; Cu-Ag-Au massive sulphide mineralization was intersected (Table 35) in all five holes. The company is interpreting this mineralization as the first volcanogenic massive sulphide (VMS) system in the Yukon-Tanana terrane, south of the Tintina fault. A cluster of VMS deposits in the Finlayson District, 450 km to the southeast are hosted in the same Yukon-Tanana stratigraphy, and the two areas are believed to have been linked as part of a concurrent back-arc or basinal environment prior to displacement along the Tintina fault.

**Table 35.** Significant copper, zinc, silver and gold bearing diamond drill intercepts from Arcus Development's Touleary property (modified from Arcus' October 4, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
TL-11-01	Touleary	85.6	1.37% Cu, 0.4% Zn, 14.5 g/t Ag and 0.8 g/t Au over 6.1 m
TL-11-02	Touleary	124.0	2.4% Cu, 1.4% Zn, 32.9 g/t Ag and 2.0 g/t Au over 3.2 m
TL-11-05	Touleary	115.6	7.2% Cu, 4.3% Zn, 116 g/t Ag and 3.6 g/t Au over 2.25 m
and		124.5	1.4% Cu, 0.3% Zn, 16.5 g/t Ag and 0.8 g/t Au over 14.2 m
including		128.3	2.0% Cu, 0.6% Zn, 27.3 g/t Ag and 1.2 g/t Au over 6.7 m

\*Drilled thickness.

## SOUTHWEST YUKON

### *Precious metals – gold*

#### *Orogenic gold*

Ryan Gold Corp. ([www.ryangold.com](http://www.ryangold.com)) staked and conducted reconnaissance soil sampling and mapping on 17 properties within the Kluane Range in southwest Yukon. Based on similarities between this area and the Juneau Gold Belt in southeast Alaska (e.g., Israel *et al.*, 2011) the following claim blocks are thought to be prospective for orogenic gold: Opal, Agate, Garnet/Topaz (Yukon Occurrence numbers all pending) and Sapphire (Yukon Occurrences 115H 049 and 050). The same area is also prospective for epithermal and porphyry mineralization. On the Sapphire claim block, anomalous gold-in-soil values greater than 100 ppb gold cover an area of approximately 13 by 8 km. The geology of the area comprises predominantly Late Cretaceous Kluane Schist intruded by 1-2 m-wide granodiorite dykes. Two sets of quartz veins, one set parallel and the other crosscutting the schistose fabric, are observed within the Kluane Schist; minor quartz veins are also observed in the dykes.

Solomon Resources ([www.solomonresources.ca](http://www.solomonresources.ca)) staked the Seamus, Jenn and Tyke (Yukon Occurrence numbers all pending) claim blocks within a 60 km-long orthogneiss unit adjacent to the Kluane Schist and the highly productive Ruby Range placer gold district. Solomon conducted preliminary exploration on the Jenn and Seamus claims including soil geochemical grids, geological mapping and prospecting.

#### *Porphyry*

On the Hopper property (Yukon Occurrences 115H 019A and 019B), Bonaparte Resources Inc. ([www.bonaparteresources.ca](http://www.bonaparteresources.ca)) conducted a reverse circulation percussion drill program with a total of 1730 m drilled in 58 holes that were spaced 200 m apart and typically tested to depths between 30 to 61 m below surface (Table 36). The main exploration target is the Late Cretaceous intrusion which hosts porphyry Cu-Au mineralization. A diamond drill program of 1300 m in six holes tested skarn mineralization; the first hole intersected significant copper-gold mineralization (Table 36). Bonaparte also conducted a soil sampling program which expanded the known Cu-Au soil anomalies around the area of drilling and identified new targets elsewhere on the property. Total exploration expenditures for Bonaparte were approximately \$1.2 million.



**Table 36.** Significant copper and gold bearing reverse circulation percussion drill (PDH) and diamond drill (DDH) intercepts from Bonaparte Resources' Hopper property (modified from Bonaparte's December 6, 2011 News Release).

Drillhole	Zone	Depth of intersection (m)	Intersection*
HOP-DDH-11-01	Hopper	125.7	0.22% Cu and 1.76 g/t Au over 16.93 m
including		125.7	0.43% Cu and 3.35 g/t Au over 7.50 m
HOP-PDH 11-13	Hopper	33.5	0.54% Cu and 0.28 g/t Au over 3.85 m
HOP-PDH 11-17	Hopper	21.3	0.16 % Cu and 0.01 g/t Au over 1.27 m
HOP-PDH 11-19	Hopper	19.8	0.36% Cu and 0.01 g/t Au over 2.32 m
HOP-PDH 11-39	Hopper	0.0	0.24% Cu and 0.06 g/t Au over 1.37 m
including		29.0	0.7 % Cu and 0.20 g/t Au over 4.1 m

\*Intersections are drilled thicknesses.

Ryan Gold Corp. ([www.ryangold.com](http://www.ryangold.com)) staked and conducted reconnaissance soil sampling and mapping on the following claim blocks that are thought to be prospective for porphyry mineralization: Axe, Kilo, Asia (Yukon Occurrence numbers all pending) and Jade (Yukon Occurrence 115H 056). The area is also prospective for epithermal and orogenic gold mineralization. On the Kilo claim block, anomalous gold-in-soil values greater than 100 ppb gold cover an area of approximately 6 by 5 km. The geology of the area comprises coarse to medium-grained granodiorite and pegmatitic phases of the Ruby Range batholith and enclaves of metasedimentary and metavolcanic material possibly of the Finlayson Assemblage.

### Epithermal

In 2010, New Pacific Metals Corp. ([www.newpacificmetals.com](http://www.newpacificmetals.com)) acquired the Tagish Lake Gold Project which consists of the Skukum Creek (Yukon Occurrence 105D 022) and Goddell (Yukon Occurrence 105D 025; Fig. 28) deposits and the past producing Mt. Skukum Mine (Yukon Occurrence 105D 150). In 2011, field activities included prospecting, surface geological mapping (1.8 km<sup>2</sup>), surface diamond drilling (10778.5 m in 37 holes), underground diamond drilling (1709 m in 14 holes), as well as supplementary sampling of historical drill core. Other work to support the exploration program included camp upgrades, road repair and construction, underground rehabilitation and dewatering, water sampling, and staking new claims. Table 37 includes some of the drill results from the epithermal (Mt. Skukum and Goddell deposits) and mesothermal mineralization (Skukum Creek deposit) (O'Connor, 2011). Exploration activities at the site finished on October 11, 2011 as the Project's current Class 3 Quartz Mining Exploration License (QML) expired on that day. New Pacific has applied for a new QML, along with a Class B Water Use License; the applications are currently being reviewed by regulators.



**Figure 28.** New Pacific Metals Corp drilling the Goddell deposit at the Tagish Lake Gold Project.

**Table 37.** Significant gold bearing diamond drill intercepts from New Pacific Metals' Tagish Lake Gold property (modified from New Pacific's August 2, October 31, November 8 and November 14, 2011 News Releases).

Zone	Depth of intersection (m)	Intersection*
Raca	115.2	1.91 g/t Au, 1280 g/t Ag, 0.62% Cu, 3.84% Pb and 3.38 % Zn over 1.58 m
Skukum Creek	103.0	7.08 g/t Au, 143.95 g/t Ag, 0.71% Pb and 0.99% Zn over 20.15 m
including	113.7	12.94 g/t Au, 225.32 g/t Ag, 1.23% Pb and 1.12% Zn over 6.8 m
Mt. Skukum	41.2	14.6 g/t Au and 37.9 g/t Ag over 18.95 m
including	41.2	21.1 g/t Au and 50.0 g/t Ag over 12.25 m
Goddell	515.0	4.2 g/t Au over 36.7 m
Goddell	544.0	4.33 g/t Au over 24.7 m

\*Intersections are drilled thicknesses.

Ryan Gold Corp. ([www.ryangold.com](http://www.ryangold.com)) staked and conducted reconnaissance soil sampling and mapping on the following claim blocks that are thought to be prospective for epithermal mineralization: Venus, Mars (Yukon Occurrence numbers both pending), Pluto (Yukon Occurrence 115G 077), Tye (Yukon Occurrence 115G 075), Arm (Yukon Occurrence 115G 069) and Bwick (Yukon Occurrence 115H 024). The area is also prospective for porphyry and orogenic gold mineralization. On the Pluto and Venus claim blocks, anomalous gold-in-soil values greater than 100 ppb cover an area of approximately 16 by 7 km. Reconnaissance mapping along the ridge and spur sample lines identified zones of quartz veinlets and silicified metasedimentary rocks. The geology of the area comprises a metasedimentary package which is part of the Finlayson assemblage intruded by the Ruby Range batholith and overlain by its volcanic equivalent, the Rhyolite Creek volcanic complex. Further reconnaissance soil sampling will be conducted in the summer of 2012, and detailed soil grids and geological mapping will be completed over the main areas of interest.

Solomon Resources ([www.solomonresources.ca](http://www.solomonresources.ca)) staked the Rosie, Nis and Sek (Yukon Occurrence numbers all pending) claim blocks this summer and conducted preliminary exploration on the Rosie and Sek claims including soil geochemical grids, geological mapping and prospecting. The geological setting of these claim blocks is poorly understood but fieldwork conducted in the 2011 season indicates that they include outcrops of the Rhyolite Creek volcanic complex, the youngest porphyritic phase of the Ruby Range batholith and its volcanic equivalents which locally consists of intermediate volcanic flows, breccia and tuff, flow-banded rhyolite and felsic tuff.

Tarsis Resources ([www.tarsis.ca](http://www.tarsis.ca)) focused on infill soil sampling and prospecting on its White River property (Yukon Occurrence number pending); 14 hand-trenches were also excavated and sampled. The White River property is located 30 km southeast of Beaver Creek and covers an area of hydrothermal alteration and mineralization with potential for both porphyry Cu-Au and epithermal Au-Ag mineralization.

Gold World Resources Inc. ([www.goldworldresources.com](http://www.goldworldresources.com)) conducted a soil sampling (4625 samples) and trenching program at its Mount Anderson property (Yukon Occurrences 105D 028 and 029). Grab samples from the property assayed up to 80 g/t Au and 338 g/t Ag. The property is adjacent to the past-producing Mount Skukum mine, now held by New Pacific Metals Corp.

## Base metals – nickel + platinum group elements (PGE)

### Mafic/ultramafic

Pacific Coast Nickel Corp. purchased the Wellgreen property (Yukon Occurrence 115G 024; Fig. 29) from Prophecy Resources Corp. and spun off Prophecy Platinum ([www.prophecyplat.com](http://www.prophecyplat.com)) in early 2011. Prophecy Platinum conducted an approximately 8000 m diamond drill program on the Wellgreen deposit with a series of step-back and infill holes targeting the disseminated sulphide zones that stratigraphically overlie the known massive sulphide zones (Table 38). The 2011 NI 43-101 report modelled the Central-East and Central-West zones as one contiguous body, and defined a new bulk tonnage resource for the deposit (Table 39), a significant change from earlier high-grade underground mining resources. A preliminary Economic Assessment Study is anticipated in early 2012.



**Figure 29.** Net-textured sulphides in core at the Wellgreen property of Prophecy Platinum Corp.

**Table 38.** Significant nickel, copper, platinum group metals and gold bearing diamond drill intercepts from Prophecy Platinum's Wellgreen property (modified from August 22, September 26 and December 8, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
WS11-184	East	5.8	0.46 PGM+Au (g/t), 0.29% Ni and 0.13% Cu or 0.43 % NiEq over 472.6 m
		including 429.3	1.27 PGM+Au (g/t), 0.71% Ni and 0.45% Cu over 49.5 m
WS11-188	West	7.5	0.72 PGM+Au (g/t), 0.29% Ni and 0.18% Cu or 0.47% NiEq over 457.4 m
		including 280.7	3.14 PGM+Au (g/t), 1.03% Ni and 0.75 % Cu or 1.77 % NiEq over 17.8 m
WS11-192	Central	9.5	0.62 PGM+Au (g/t), 0.30% Ni and 0.15% Cu or 0.45% NiEq over 384.9 m
		including 272.2	1.36 PGM+Au (g/t), 0.41% Ni and 0.28% Cu or 0.74% NiEq over 19.2 m

\*Drilled thickness.

**Table 39.** Additional mineral resources by class in Prophecy Platinum's Wellgreen Deposit at a 0.4% nickel equivalent cut-off grade (modified from McCracken, 2011).

Classification	Tonnes (Mt)	PGM+Au (g/t)	Ni (%)	Cu (%)
Indicated	14.3	2.25	0.69	0.62
Inferred	289.2	1.18	0.38	0.35

Solomon Resources ([www.solomonresources.ca](http://www.solomonresources.ca)) staked the Outpost (Yukon Occurrence number pending) and Pacer (Yukon Occurrence 115A 036) claim blocks in 2011 based on airborne geophysical anomalies coincident with anomalous stream sediment geochemical data. The airborne total magnetic and first vertical derivative anomalies trend sinuously northwesterly through the blocks and suggest that large-scale favourable mineralizing structures or large mafic/ultramafic intrusive rocks may underlie them. Solomon conducted preliminary exploration on both claim blocks including soil geochemical grids, geological mapping and prospecting; results are pending.

## SOUTH CENTRAL YUKON

### Precious metals – gold

#### Vein/breccia

Thirty-two km southeast of Faro, Golden Predator ([www.goldenpredator.com](http://www.goldenpredator.com)) conducted a winter diamond drill program on its epithermal gold Grew Creek property (Yukon Occurrence 105K 009; Fig. 30) and drilled 4317 m in 20 holes (Table 40) to support a NI 43-101 compliant resource calculation. Summer exploration on the property included geological mapping, geophysical surveys, and 14 790 m of reverse circulation drilling in 44 holes. This reverse circulation drilling tested known altered areas on strike with the Carlos zone, as well as projected structural offsets.



**Figure 30.** Reverse circulation percussion drilling at Golden Predator’s Grew Creek gold property.

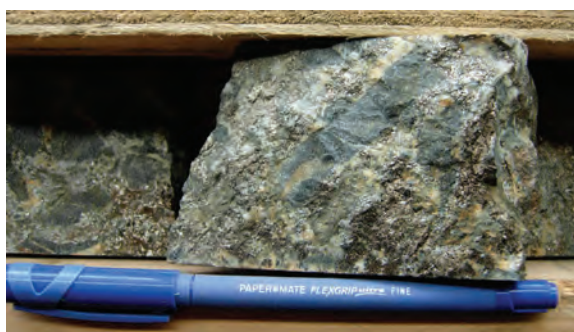
**Table 40.** Significant gold and silver bearing diamond drill intercepts from Golden Predator’s Grew Creek property (modified from Golden Predator’s May 26, June 21 and July 5, 2011 News Releases).

Drillhole	Zone	Depth of intersection (m)	Intersection*
GC11-271	Carlos	54.9	1.83 g/t Au over 98.3 m
GC11-276	Carlos	130.4	3.78 g/t Au over 46.7 m
GC11-279	Carlos	130.9	1.33 g/t Au over 104 m
GC11-281	Carlos	60.0	2.02 g/t Au over 92 m
GC11-283	Carlos	42.7	1.68 g/t Au over 104.2 m

\*Intersections are drilled thicknesses.

#### Skarn/replacement

Yukon Nevada Gold Corp. ([www.yukon-nevadagold.com](http://www.yukon-nevadagold.com)) refurbished the exploration camp at the Ketz River (Yukon Occurrence 105F 019; Fig. 31) mine site and



**Figure 31.** Mineralized core from Yukon-Nevada Gold Corp’s Ketz river property.

updated the NI 43-101 compliant gold resource (Table 41) on the Manto zone, a stratabound manto-type replacement sulphide orebody with an oxide cap (Johnson *et al.*, 2011). The company drilled 4408 m in 26 diamond drillholes on the Ketz River property and conducted a gravity survey over the Silver Valley (Yukon Occurrence 105F 057) property located 8 km to the east. Yukon-Nevada Gold also submitted a YESAB application, beginning the assessment and permitting process to re-open the mine. The planned mine includes nine open pits and two underground declines.

Golden Predator ([www.goldenpredator.com](http://www.goldenpredator.com)) staked and acquired approximately 7200 claims in the Livingstone area, 100 km northeast of Whitehorse, covering productive placer gold streams without a known lode source. Placer gold in the area is commonly coarse-grained (>1 cm) and occurs with magnetite which suggests a proximal source, possibly related to skarn mineralization (Colpron, 2006). Golden Predator conducted regional-scale stream and soil sample programs and will use the results to delineate potential future exploration targets.

**Table 41.** Ketzka River Mineral Resource Statement (oxide and sulphide combined and underground and open pit resources combined (modified from Johnson et al., 2011).

Classification	Tonnes (000's)*	Gold (g/t)
Measured (M)	167.8	5.38
Indicated (I)	2212.3	5.46
Total (M&I)	2380.1	5.46
Additional Inferred	453.7	4.62

\*The cutoff Au grade for oxide and sulphide ore inside the optimized open pit is 0.78 g/t and 1.00 g/t, respectively; whereas the cutoff Au grade for oxide and sulphide ore for material mineable by underground methods outside of the optimized open pit are 3.44 g/t and 4.43 g/t, respectively.

### Base metals – tungsten + molybdenum

#### Porphyry

Largo Resources Ltd. ([www.largoresources.com](http://www.largoresources.com)) had a budget of \$2 million for prefeasibility work on its Northern Dancer property (Yukon Occurrence 105B 039; Fig. 32). The company drilled six HQ holes totalling 1500 m for metallurgical testing and seven NQ holes to upgrade resources from inferred to indicated. Largo also did aggregate testing, hydrogeological studies and geotechnical studies on the proposed tailings area. Mineralization is mainly present as crosscutting veins containing tungsten and molybdenum and is centred within the mid-Cretaceous quartz-feldspar porphyry extending into distal zones of skarn and hornfels.

### Base metals – copper + zinc

#### Volcanogenic massive sulphide

Wolverine Minerals Corp. ([www.wolverineminerals.ca](http://www.wolverineminerals.ca)) worked on ten properties in the Finlayson area in 2011. These properties are: Hoole, String, Vivi, Hi, Reid, Gam (Yukon Occurrence numbers all pending), Coach (Yukon Occurrence 105G 107), Loop (Yukon Occurrence 105G 107), Andy (Yukon Occurrence 105H 039) and Four Corners (Yukon Occurrence 105G 146). The 2011 program at the String property delineated a 2700 by 370 m area with a coincident Au-Cu-As-Sb-Zn anomaly. A track-mounted percussion drill may be used in 2012 to collect deep soil and top of bedrock samples that could trace the metals to their source. On the Vivi property, Wolverine collected 1247 soil samples and identified a 400 by 900 m area of anomalous gold-in-soil geochemistry, which it plans to drill test next summer; the company also did prospecting and geologic mapping.

Arcturus Ventures Inc. ([www.arcturusventuresinc.com](http://www.arcturusventuresinc.com)) drilled the RB (Yukon Occurrence 105G 088) and 1st Base (Yukon Occurrence 105G 142) properties in the Finlayson area. Three diamond drillholes were completed on the RB property for a total of 540 m and the 1st Base property had two holes drilled for a total of 240 m. The target on the RB is the JD horizon which is hosted by the Fyre Lake Formation. Mineralization on the property is similar to the Fyre Lake VMS deposit that is located 12 km to the southeast. The best 2011 result from the RB is 0.6 m (true width) of 0.314 ppm Au, 2800 ppm Cu and 78.1 ppm Co from 9 m.



**Figure 32.** Drilling at Largo Resources' Northern Dancer tungsten property.

### ***Industrial minerals***

Eagle Industrial Minerals ([www.eagleimc.com](http://www.eagleimc.com)) is looking into the feasibility of mining magnetite from the historic tailings in the Whitehorse Copper Belt (Yukon Occurrence 105D 053). There are an estimated 10.4 million tons of tailings containing 18-20% magnetite from open pit and underground operations at the site. The preliminary plan is to excavate the tailings, add water to form a slurry, use magnetic drum separators to separate the magnetite, de-water the magnetite, return the barren tailings to the tailings area and revegetate. The proposed operation would process 500 tonnes per hour, around-the-clock for seven to eight months of the year. The estimated project life is six to eight years. The project proposal is currently before the water board, and mill construction may begin as early as 2012.

## **ACKNOWLEDGEMENTS**

This overview of activities in the Yukon exploration and mining sector is based on information gathered from a variety of sources. It includes information provided by companies through press releases, personal communication, and property visits conducted by Yukon Geological Survey staff during the 2011 field season. We gratefully acknowledge the cooperation of companies and individuals in providing information and gracious hospitality during property visits.

## **REFERENCES**

- Armitage, A. and Campbell, J., 2011. Revised resources estimate on the Nucleus Au-Cu-Ag deposit, Freegold Mountain Project. Prepared for Northern Freegold Resources Ltd. by GeoVector Management Inc., 48 p.
- Arseneau, G. and Farrow, D., September 8, 2011a. Technical report on the Lucky Queen deposit, Lucky Queen property, Keno Hill District, Yukon. Prepared by SRK Consulting (Canada) Inc. for Alexco Resource Corp., SRK Project Number 2CA017.001, 61 p.
- Arseneau, G. and Farrow, D., September 8, 2011b. Technical report on the Onek deposit, Onek property, Keno Hill, Yukon. Prepared by SRK Consulting (Canada) Inc. for Alexco Resource Corp., SRK Project Number 2CA017.001, 66 p.
- Colpron, M., 2006. Geology and mineral potential of Yukon-Tanana Terrane in the Livingstone Creek area (NTS 105E/8), south-central Yukon. *In: Yukon Exploration and Geology 2005*, D.S. Emond, Bradshaw, G.D., Lewis, L.L., and Weston, L.H. (eds.), Yukon Geological Survey, p. 93-107.
- Couture, J-F. and Siddorn, J.P., 2011. Technical Report Coffee Gold Project, Yukon Territory, Canada. Prepared for Kaminak Gold Corp. by SRK Consulting (Canada) Inc. 162 p.
- Israel, S., Murphy, D., Bennett, V., Mortensen, J. and Crowley, J., 2011. New insights into the geology and mineral potential of the Coast Belt in southwestern Yukon. *In: Yukon Exploration and Geology 2010*, K.E. MacFarlane, L.H. Weston and C. Relf (eds.), Yukon Geological Survey, p. 101-123.

- Johnson, T. W., Swanson, K., Odell, M. and Fox, J., 2011. NI 43-101 Technical Report Yukon-Nevada Gold Corp. Ketz River Project, Yukon Territory, Canada. Prepared for Yukon-Nevada Gold Corp. by Yukon-Nevada Gold Corp., 231 p.
- McCracken, T., 2011. Technical Report and resource estimate on the Wellgreen platinum-palladium-nickel-copper project, Yukon, Canada. Prepared for Prophecy Platinum Corp. by Wardrop, A Tetra Tech Company, 102 p.
- M3 Engineering & Technology Corporation, 2011. Casino Project: NI 43-101 Technical Report: Pre-Feasibility study update Yukon Territory, Canada. Prepared for Western Copper Corp. by M3 Engineering & Technology Corp., 154 p.
- O'Connor, B., 2011. Tagish Lake Gold property, Whitehorse Mining District, NI 43-101 Report. Prepared for New Pacific Metals Corp. by AMC Mining Consultants (Canada) Ltd, 75 p.
- Overland Resources, 2011. Annual Report to Shareholders, June 30, 2011, <http://www.overlandresources.com/pdfs/AnnualReportToShareholders24Oct11.pdf> [accessed Dec 16, 2011].
- Page, R. H., 2011. Technical report on the Sonora Gulch project, Whitehorse mining division, Yukon Territory for Northern Tiger Resources Inc. Prepared for Northern Tiger Resources by Watts, Griffis and McOuat, 120 p.
- Pearson, C.A. and Kirkham, G., 2011. XY Central and Don Deposits, NI 43-101 Technical Report. Submitted to Selwyn Resources Ltd. by Pearson Geological Services Ltd. and Kirkham Geosystems Ltd., October, 2011, 155 p.
- Regan, M., October 22, 2007. Amended technical report on the Wolverine property – Finlayson District, Yukon. Prepared by Wardrop for Yukon Zinc Corporation, Report No. 0652630101-REP-R0004-02, 149 p.
- Scott, C., Brimage, D., Pilotto, D., Kirkham, G., Doerksen, G., Iakovley, I., Nowak, M., Levy, M., Carlisle, S. and Barnett, W., March 2011. Minto Phase V Preliminary Feasibility Study Technical Report. Prepared for Minto Explorations Ltd. by SRK Consulting (Canada) Inc. 394 p.
- Stroshein, R.W., Giroux, G.H. and Wengzynowski, W.A., November 15, 2011. Technical report using National Instrument 43-101 Guidelines for the preparation of the Tiger Zone Mineral Resource Estimate on the Rau Property, Yukon Territory, Canada. Prepared for Atac Resources Ltd.
- Wainwright, A.J., Simmons, A.T., Finnigan, C.S., Smith, T.R. and Carpenter, R.L., 2011. Geology of new gold discoveries in the Coffee Creek area, White Gold District, west-central Yukon. *In*: Yukon Exploration and Geology 2010, K.E. MacFarlane, L.H. Weston and C. Relf (eds.), Yukon Geological Survey, p. 233-247.

## APPENDIX 1: 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
<b>PRECIOUS METALS - GOLD</b>						
3Ace	Northern Tiger Resources Inc.		105H 09	DD, P, G, AGP, GP, GC, T	Au	porphyry/sheeted vein
Al	Colorado Resources	115H 045	115H 12	GC	Au	vein/breccia
AM	Taku Gold Corp./Morgan, Tom		115O 10	AGP, GC	Au	vein/breccia
Andy	Wolverine Minerals Corp.		105H 10	P, G, GC	Au	skarn/replacement
Antimony	Golden Predator Corp.	116B 094	116B 08	DD	Au	porphyry/sheeted vein
Arizona	Goldstrike Resources Ltd.		115P 15	P, G, GC	Au	porphyry/sheeted vein
Armenius	Anglo Canadian Mining Corp.	115O 118	115O 10	P, G, GP, GC, T	Au	vein/breccia
Au Claims	Erin Ventures Inc.		115O 03	P, G, GC	Au	vein/breccia
Aurex	Victoria Gold Corp.	105M 060	105M 13	GC	Au	porphyry/sheeted vein
Bach	Colorado Resources/Cathro Resources Corp.		105N 07	GC	Au	sediment associated
BBB	Wolverine Minerals Corp./ Strategic Metals Ltd.		115I 04	P, G, AGP, GC, T	Au	vein/breccia
Betty	Ethos Capital Corp./Ryan, Shawn		115J 15	G, AGP, GP, GC, T	Au	vein/breccia
Big One	Goldstrike Resources Ltd.		105I 03	P, G, GP, GC	Au	sediment associated
Bishop	Taku Gold Corp./Morgan, Tom		115O 10	GC	Au	vein/breccia
Boulevard	Silver Quest Resources Ltd.	115J 050	115J 13	DD, AGP, GC	Au	porphyry/sheeted vein
Bouvette	Silver Quest Resources Ltd.		106D 07	G, GC, T	Au	sediment associated
BR & Aries	Goldstrike Resources Ltd.		115N 01	P, G, GC	Au	vein/breccia
BRC	Goldstrike Resources Ltd.		115O 03	P, GP, GC, T	Au	vein/breccia
Brew	Aldrin Resources Corp./ RyanWood Exploration Inc.		115O 03	GC, T	Au	vein/breccia
Brewery Creek	Golden Predator Corp./ Alexco Resource Corp.	116B 160	116B 01	DD, RC/P, AGP	Au	porphyry/sheeted vein
Burns	Tarsis Resources		115H 03	P, G, GC	Au	skarn/replacement
Canadian Creek	Castillian Resources Corp./ Cariboo Rose Resources Ltd.	115J 101	115J 10	G, GP, GC, T	Au	porphyry/sheeted vein
Canol	Goldstrike Resources Ltd.		105J 16	GC	Au	sediment associated

**Abbreviations**

AGP - airborne geophysics  
DD - diamond drilling  
G - geology

GC - geochemistry  
GP - ground geophysics  
MD - mine development

P - prospecting  
RC/P - reverse circulation/percussion  
drilling

T - trenching  
U/GD - underground development



## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Car	Cantex Mine Development Corp.		106B 04	G, GC	Au	sediment associated
CCC	Wolverine Minerals Corp./ Strategic Metals Ltd.		115I 04	P, G, GC, T	Au	vein/breccia
Charlotte	Ansell Capital Corp.		115I 03	DD, AGP, GP, GC, T	Au	volcanic associated
Clear Creek	Golden Predator Corp.	115P 023	115P 14	DD	Au	porphyry/sheeted vein
Coffee	Kaminak Gold Corp./ Ryan, Shawn		115J 14	DD, RC/P, GP, GC	Au	vein/breccia
Cynthia	Golden Predator Corp.	105O 007	105O 06	GC	Au	porphyry/sheeted vein
Dade	Wolverine Minerals Corp./ Strategic Metals Ltd.		115I 03	GC, T	Au	vein/breccia
Dal	Ansell Capital Corp./Ryan, Shawn		106C 03	GC	Au	mafic/ultramafic associated
Dan	Taku Gold Corp./Ryan, Shawn		115O 12	GC	Au	vein/breccia
Dan Man	Arcus Development Group/ ATAC Resources Ltd.		115J 14	DD, AGP	Au	vein/breccia
Dart	Hawkeye Gold & Diamond Inc./ Yes Exploration Syndicate	115I 055	115I 06	P, G, GC	Au	vein/breccia
Dime	Stina Resources Ltd./RyanWood Exploration Inc.		115O 12	DD, G, AGP, GC, T	Au	vein/breccia
Dragon Lake	Olympic Resources Ltd./Eagle Plains Resources Ltd.	105J 007	105J 12	DD	Au	skarn/replacement
Dublin Gulch (Eagle)	Victoria Gold Corp.	106D 025	106D 04	DD, RC/P	Au	porphyry/sheeted vein
Einarson	Anthill Resources		106B 03	GC	Au	sediment associated
Elmer Creek	Carlin Gold Corp.		105O 06, 07, 10	GC	Au	sediment associated
Emerald	Goldstrike Resources Ltd.		105O 06	GC	Au	sediment associated
ET	Zinccorp Resources Inc.		115P 08	G, GP, GC, T	Au	porphyry/sheeted vein
Etzel	Great Bear Resources/Ansell Capital Corp.		115I 03	DD, GC	Au	vein/breccia
Eureka	Golden Predator Corp./ Strategic Metals Ltd.	115O 057	115O 10	DD	Au	vein/breccia
Face	Radius Gold Inc.		116C 15	AGP, GC	Au	sediment associated
Fifty Mile	Ryan Gold Corp.		115N 16	G, AGP, GC	Au	vein/breccia

**Abbreviations**

AGP - airborne geophysics	GC - geochemistry	P - prospecting	T - trenching
DD - diamond drilling	GP - ground geophysics	RC/P - reverse circulation/percussion drilling	U/GD - underground development
G - geology	MD - mine development		

## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Flume	Ryan Gold Corp.	115N 110	115N 09	G, GC, T	Au	skarn/replacement
Gam	Wolverine Minerals Corp./ Strategic Metals Ltd.		105G 11, 6	G, GC, T	Au	volcanic associated
Glenmorangie	Commander Resources Ltd./ McMillan, Alex		105H 15?	P, G, GC, T	Au	vein/breccia
Golden Culvert	Stakeholder Gold Corp./ Lee, Gary		105H 16	P, GC	Au	vein/breccia
Green gulch	Arcus Development Group/ ATAC Resources Ltd.		115J 14	AGP, T	Au	vein/breccia
Grew Creek	Golden Predator Corp./ Carlos, Al	105K 009	105K 02	DD, RC/P	Au	vein/breccia
Harlan	Golden Predator Corp./Alexco Resource Corp.	105O 051	105O 04	DD	Au	porphyry/sheeted vein
Hartless Joe	Caribou Copper Resources/ Strategic Metals Ltd.	105D 203	105D 15	P, G, GC	Au	vein/breccia
Hayes	Ethos Capital Corp.		115J 9, 16	AGP, GC	Au	vein/breccia
Hen	Ethos Capital Corp./Ryan, Shawn		115O 06	AGP	Au	vein/breccia
Henderson Dome	Silver Quest Resources Ltd.		115O 06	AGP	Au	vein/breccia
Hit	Aben Resources/Eagle Plains Resources Ltd.	105P 001	105P 05	GC	Au	skarn/replacement
Hoole	Wolverine Minerals Corp./ Strategic Metals Ltd.		105G 12	RC/P, T,	Au	volcanic associated
Horn	Ryan Gold Corp.		105H 15	G, GC	Au	vein/breccia
Hyland Gold	Argus Metals Corp.	095D 011	095D 12	DD, G, GP, GC	Au	vein/breccia
Ice	Olympic Resources Ltd./ Yes Exploration Syndicate		115H 09	P, G, GC	Au	vein/breccia
Ida Oro	Ryan Gold Corp.	116A 027	116A 04	DD, G, AGP	Au	porphyry/sheeted vein
Ike	Great Bear Resources/ Argus Metals Corp.		105A 08	P, G, GC, T	Au	sediment associated
Ind	Aldrin Resources Corp./ Ryan, Shawn		115O 13	DD, T	Au	porphyry/sheeted vein
Jay-VM-VF	Bearing Resources Ltd.		105H 15	GC	Au	vein/breccia
Justin	Aben Resources Ltd./ Eagle Plains Resources Ltd.		105H 09	DD, G, GC, T	Au	vein/breccia
Ketza River	Yukon-Nevada Gold Corp	105F 019	105F 09	DD, GC	Au	skarn/replacement

## Abbreviations

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P - prospecting  
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drilling

T - trenching  
U/GD - underground development

## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Keystone	Aldrin Resources Corp./ Ryan, Shawn		105M 014	GC, T	Au	porphyry/sheeted vein
King Solomon Dome	Kestrel Gold Inc./Kreft, Bernie	115O 068	115O 15	GC	Au	vein/breccia
Kiwi	Omineca Mining and Metals Ltd.	105J 043	105J 12	DD, G, GP, GC	Au	vein/breccia
Klaza	Rockhaven Resources Ltd.	115I 067	115I 03	DD, RC/P, G, GP, GC, T	Au	vein/breccia
Kluane (Pluto, Rhyolite, Beaver)	Ryan Gold Corp.		115G 16	G, GC	Au	vein/breccia
Kodiak	Stina Resources Ltd./ RyanWood Exploration Inc.		115O 03	GC, T	Au	vein/breccia
Kong, Gonzo, Oprah, Hummer	Canadian Dehua International Mines Group Inc.		115I, J, O	AGP, GP, GC	Au	vein/breccia
KZ & Strike	Goldstrike Resources Ltd.		115I 04	GC	Au	volcanic associated
Lancing (Lorne & Husky)	New Dimension Resources Ltd./ Strategic Metals Ltd.		105N 10, 1	P, G, GC	Au	sediment associated
Leotta	Goldbank Mining Corp.	115O 074	115O 15	GC, T	Au	vein/breccia
Lin	Cantex Mine Development Corp.		106D 01	G, GC	Au	sediment associated
Livingstone (Golden Predator)	Golden Predator Corp.		105E 08, 09	P, GC	Au	vein/breccia
Livingstone (Goldstrike) RNB claims	Goldstrike Resources Ltd.		105E 08	P, G, GP, GC	Au	vein/breccia
Lone Star	Lonestar Gold Inc./ Klondike Exploration	115O 072	115O 14	P	Au	vein/breccia
Loop	Wolverine Minerals Corp./ Strategic Metals Ltd		105G 09	GC	Au	vein/breccia
Lucky Strike	Goldstrike Resources Ltd.		115O 03	P, G, GP, GC, T	Au	vein/breccia
MacPass project	Constantine Metal Resources Ltd/Carlin Gold Corp.		105O 08	P, GC	Au	sediment associated
Mahtin	Ryan Gold Corp.	115P 007	115P 15	G, AGP, GC	Au	skarn/replacement
Mariposa	Pacific Ridge Exploration	115O 075	115O 01, 02; 115J 15, 16	DD, G, AGP, GP, GC, T	Au	vein/breccia

## Abbreviations

AGP - airborne geophysics	GC - geochemistry	P - prospecting	T - trenching
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G - geology	MD - mine development		

## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Max	Olympic Resources Ltd./ Yes Exploration Syndicate		115I 03	P, G, GC	Au	vein/breccia
Mer	Arcturus Ventures Inc.		115G 11	P, AGP, GC	Au	vein/breccia
Mike Lake	Inform Resources Corp./ Pitchblack Resources Ltd.	116A 012A	116A 05	AGP	Au	skarn/replacement
Mint	Hawkeye Gold & Diamond Inc./ Yes Exploration Syndicate		115H 14	P, G, GC	Au	volcanic associated
Money	White Pine Resources Inc./ Ryan, Shawn		115O 12	G, AGP, GC, T	Au	vein/breccia
Montana	Taku Gold Corp./ Morgan, Tom		115O 11	GC	Au	vein/breccia
Morley & Jimmy	Goldstrike Resources Ltd.			P, G, GC	Au	vein/breccia
Mount Anderson	Gold World Resources Inc./ Bratvold, Larry	105D 029	105D 03	P, G, GC	Au	vein/breccia
Mount Hinton	Mill City Gold Corp./ Rockhaven Resources Ltd.	105M 052	105M 14	DD, RC/P, T	Au	vein/breccia
Mt. Mervyn	Expedition Mining		106C 04	P, G, AGP, GC	Au	sediment associated
Newt	Radius Gold Inc.		115N 09	GC	Au	vein/breccia
Nicolas/Lucas	Bolero Resources Corp.		115O 04	GC	Au	vein/breccia
Nug/PDM	Ryan Gold Corp.	105O 048	105O 02	G, AGP, GC	Au	vein/breccia
Oliver	Goldstrike Resources Ltd.		115P 09	GC	Au	porphyry/sheeted vein
Oro	Colorado Resources		105O 07	G, AGP, GC, T	Au	sediment associated
Pacer	Solomon Resources Ltd.	115A 036	115A 13	P, G, GC	Au	
Plata East	Tarsis Resources		105O 05	GC	Au	vein/breccia
Plateau North	Goldstrike Resources Ltd.		105N 06	GC	Au	vein/breccia
Plateau South	Goldstrike Resources Ltd.		105N 06	GC	Au	vein/breccia
Poker	Silver Quest Resources Ltd.		115J 10	G, GC, T	Au	vein/breccia
Portland	Taku Gold Corp./Vidmar, Franz		115O 15	DD, AGP	Au	vein/breccia
Prospector Mountain	Silver Quest Resources Ltd./ Tarsis Resources	115I 034	115I 05	DD, AGP, GC	Au	porphyry/sheeted vein
Quartz	Taku Gold Corp./Morgan, Tom		115O 14	GC, T	Au	vein/breccia
QV claims	Comstock Metals Ltd./ Ryan, Shawn		115O 05	GC	Au	vein/breccia

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## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Rackla Gold Project (Nadaleen Trend)	ATAC Resources Ltd.		106C 01	DD, GC	Au	sediment associated
Reax	Carlin Gold Corp.		105O 05, 06	P, GC	Au	sediment associated
Red Mountain	AM Gold Inc.	115P 006	115P 15	DD, G, GC	Au	porphyry/sheeted vein
Red Ridge	Monster Mining/Scott, Brian	105D 100	105D 06	GC	Au	porphyry/sheeted vein
Revenue	Northern Freegold Resources	115I 042	115I 06	DD	Au	porphyry/sheeted vein
Rex/Peso	Victoria Gold Corp.	106D 021	106D 04	G, GC, DD	Ag	vein/breccia
Rivier	Emerick Resources Corp./ Radius Gold Inc.		105G 11	G, AGP, GC	Au	porphyry/sheeted vein
Rogue Prospect (Tarsis)	Tarsis Resources		105N 9,10	P, G, GC	Au	sediment associated
Rogue regional	Golden Predator Corp.		105O 11	P, G, GC	Au	vein/breccia
Rose Bute	Taku Gold Corp./ RyanWood Exploration Inc.		115O 06	GC	Au	vein/breccia
Rosebud South & Chances	Goldstrike Resources Ltd.		115P 03	P, G, GC	Au	vein/breccia
Rude Creek Gold	Silver Quest Resources Ltd./ 0890763 BC Ltd.		115J 10	G, AGP, GC, T	Au	vein/breccia
Rude Creek South	Aben Resources Ltd./ 0890763 BC Ltd.		115J 10		Au	vein/breccia
Scarlet East & West	Radius Gold Inc.		106C	G, AGP, GC	Au	sediment associated
Selwyn Creek Gold	Central Resources Corp./ Strategic Metals Ltd.		115J 09	P, GC, T	Au	vein/breccia
Shamrock Dawson Gold	Arcus Development Group/ ATAC Resources Ltd.		115O 04	AGP	Au	vein/breccia
Sixty Mile	Radius Gold Inc.	116C 146	116C 02	DD, G, GP	Au	vein/breccia
Sked-Desk	Wolverine Minerals Corp./ Strategic Metals Ltd.		115O 03	GC, T	Au	vein/breccia
Snowcap	Wesgold Minerals Inc./ Radius Gold Inc.		105L 01		Au	volcanic associated
Sonora Gulch	Northern Tiger Resources Inc.	115J 008	115J 09	DD	Au	porphyry/sheeted vein
Sprogge	Northern Tiger Resources Inc./ Alexco Resource Corp.	105H 035	105H 09	GC, AGP	Au	porphyry/sheeted vein

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## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Sten NW & Rackla	Goldstrike Resources Ltd.		106C 02	P, G, GC	Au	sediment associated
String	Wolverine Minerals Corp./ Strategic Metals Ltd.		105G 09	GC, T	Au	volcanic associated
Sulphur	Taku Gold Corp./Morgan, Tom		115O 10	GC	Au	vein/breccia
Summit	Goldstrike Resources Ltd.		105I 06	GC	Au	sediment associated
Sun	Olympic Resources Ltd./ Yes Exploration Syndicate		115I 02 & 03	G, GC	Au	vein/breccia
Sunrise	Weststar Resources Corp.		115O 06	GC	Au	vein/breccia
Tac	Central Resources Corp.	105D 160	105D 05	GC	Au	volcanic associated
Tad/Toro	Dawson Gold Corp.	115I 031	115I 12	GC, T, GP	Au	vein/breccia
Tagish Lake Gold Project	New Pacific Metals Corp.	105D 022A	105D 03	DD, AGP, GP, GC	Au	vein/breccia
Tell	Manson Creek Resources Ltd.		106C 03	P, G, GC, T	Au	sediment associated
Ten Mile	Solomon Resources Ltd./ Radius Gold Inc.		115O 05	AGP, GC, T	Au	vein/breccia
Tender	White Pine Resources Inc./ Ryan, Shawn		115O 06	G, AGP, GC, T	Au	vein/breccia
Top	Hawkeye Gold & Diamond Inc./ Yes Exploration Syndicate		115I 03	GC	Au	volcanic associated
Touleary	Arcus Development Group/ ATAC Resources Ltd.		115J 14	DD, AGP, T	Au	vein/breccia
Tut	Constantine Metal Resources Ltd.		105O 03	P, GC	Au	sediment associated
Vivi	Wolverine Minerals Corp.		105A 13	P, GC	Au	mafic/ultramafic associated
Walhalla Creek	Volcanic Metals Corp./ Seafeld Explorations Ltd.		115O 01, 02	AGP, GC	Au	vein/breccia
Wels	Gorilla Resources Corp.		115J 05	GC	Au	vein/breccia
Whiskey	Smash Minerals/Ryan, Shawn		115O 07	DD, P, G, AGP, GC, T	Au	vein/breccia
White Gold	Kinross Gold Corporation	115O 011	115O 04	DD, G, GC	Au	vein/breccia
White Gold (MGK claims)	Cache Exploration Inc.		115O 04	GC	Au	vein/breccia

**Abbreviations**

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MD - mine development

P - prospecting  
RC/P - reverse circulation/percussion  
drilling

T - trenching  
U/GD - underground development

## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
White River	Tarsis Resources		115K 01	P, G, GC, T	Au	vein/breccia
Wit	Silver Quest Resources Ltd./ Bullrun Prospecting Inc.		106D 03	G, GC	Au	sediment associated
Wolf (gold)	Ethos Capital Corp./Ryan, Shawn	115N 022	115N 01	G, AGP, GP, GC	Au	vein/breccia
Wounded Moose	Taku Gold Corp./Morgan, Tom		115O 09	GC	Au	vein/breccia
Yukon Gold	Brookemont Capital Inc.		115O 04	GC	Au	vein/breccia
<b>PRECIOUS METALS - SILVER</b>						
CMC Silver	CMC Metals Ltd.	105B 021	105B 07	GC	Ag	vein/breccia
Keno Hill	Alexco Resource Corp.	105M 001	105M 14	DD	Ag	vein/breccia
Keno-Lightning/ Homestake	Monster Mining		105M 14	DD, P, G, AGP, GC, T	Ag	vein/breccia
Logjam	CMC Metals Ltd.	105B 038	105B 04	GC	Ag	vein/breccia
Lyn	Driven Capital Corp./ Panarc Resources Ltd.	105K 011	105K 03	DD, P, G, GC, T	Ag	vein/breccia
McKay Hill	Monster Mining/ Keno Hill Exploration Corp.	106D 038	106D 06	P, G, AGP	Ag	vein/breccia
Mt. Haldane	Habenero Resources Ltd.	105M 032	105M 13	DD, P, G, GP, T	Ag	vein/breccia
Plata	Silver Predator Corp./ Rockhaven Resources Ltd.	105N 003	105N 09	DD	Ag	vein/breccia
Silver Valley	Yukon-Nevada Gold Corp.	105F 09	105F 057	AGP	Ag	vein/breccia
<b>BASE METALS - COPPER</b>						
Bond	Northern Tiger Resources Inc.	115I 076	115I 13	P, GP, GC	Cu	porphyry/sheeted vein
Bridget	Ethos Capital Corp./ Ryan, Shawn	115J 072	115J 15	G, AGP, GP, GC, T	Cu	porphyry/sheeted vein
Carmacks Copper	Copper North Mining Corp.	115I 008	115I 07	MD	Cu	porphyry/sheeted vein
Casino	Western Copper and Gold Corp.	115J 028	115J 10	MD	Cu	porphyry/sheeted vein
Del	Northern Tiger Resources Inc.	115I 095	115I 07	P, GP, GC	Cu	vein/breccia
First Base	Arcturus Ventures Inc.		105G 07	DD	Cu	volcanic associated
Four Corners	Redtail Metals Corp./ Strategic Metals Ltd.	105G 146	105G 01	G, GC	Cu	volcanic associated

**Abbreviations**

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DD - diamond drilling  
G - geology

GC - geochemistry  
GP - ground geophysics  
MD - mine development

P - prospecting  
RC/P - reverse circulation/percussion  
drilling

T - trenching  
U/GD - underground development

## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
Hopper	Bonaparte Resources Inc./ Strategic Metals Ltd.	115H 019	115H 07	DD, RC/P	Cu	porphyry/sheeted vein
Mars	New Dimension Resources Ltd./ Strategic Metals Ltd.	105E 002	105E 07	GC	Cu	porphyry/sheeted vein
Minto	Capstone Mining Corp.	115I 021	115I 11	DD, MD	Cu	IOCG
RB	Arcturus Ventures Inc.	105G 088	105G 07	DD	Cu	volcanic associated
Rosie	Tarsis Resources		115G 09	P, G, GC	Cu	porphyry/sheeted vein
Shamrock (DDD)	Wolverine Minerals Corp./ 4763 NWT Ltd.	115I 070	115I 04	P, G, GC, T	Cu	porphyry/sheeted vein
Shell Creek	Logan Resources Ltd.	116C 029	116C 09	P, G, GC	Cu	sediment associated
Stoddart	Northern Freegold Resources	115I 050	115I 06	GP	Cu	porphyry/sheeted vein
Vault	Caribou Copper Resources/ Strategic Metals Ltd.	115G 015	115G 06	P, G, GC	Cu	porphyry/sheeted vein
<b>BASE METALS - LEAD-ZINC</b>						
Andrew	Overland Resources Ltd.	105K 089	105K 16	DD	Zn-Pb	vein/breccia
AWB	Redtail Metals Corp.		105K 12	P, G, GP, GC	Zn-Pb	skarn/replacement
La Liga	Inform Resources Corp.		115K 13	P, G, GC	Zn-Pb	sediment associated
Liberty Fork	Zinccorp Resources Inc.	116C 172	116C 10	G, GP, GC, T	Zn-Pb	volcanic associated
Marg	Redtail Metals Corp.	106D 009	106D 01	P, G, GP, GC	Zn-Pb	volcanic associated
Rackla Gold Project (Rau Trend)	ATAC Resources Ltd.		106C 01	DD	Zn-Pb	skarn/replacement
Rusty Project (Val/Vera)	Silver Predator Corp.	106C 085	106C 05	DD	Zn-Pb	vein/breccia
Rusty Springs	Aben Resources Ltd./ Eagle Plains Resources Ltd.	116K 003	116K 09	G, AGP, GC	Zn-Pb	vein/breccia
Selwyn Project	Selwyn Resources Ltd.	105I 012	105I 06	DD, MD, U/GD	Zn-Pb	sediment associated
Silver Range (Keg)	Silver Range Resources Ltd	105K 078	105K 11	DD	Zn-Pb	skarn/replacement
Tom	HudBay Minerals Inc.	105O 001	105O 01	DD	Zn-Pb	sediment associated
Wolverine	Yukon Zinc Corp.	105G 072	105G 08	MD, U/ GD	Zn-Pb	volcanic associated

**Abbreviations**

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DD - diamond drilling  
G - geology

GC - geochemistry  
GP - ground geophysics  
MD - mine development

P - prospecting  
RC/P - reverse circulation/percussion drilling

T - trenching  
U/GD - underground development



## Appendix 1 (continued): 2011 EXPLORATION PROJECTS

Project	Optioner/Owner	Occurrence	NTS	Work type	Commodity	Deposit
<b>BASE METALS - NICKEL, PGEs</b>						
Bandito	Endurance Gold Corp./ True North Gems Inc.	095C 051	095C 05	DD, P, GC	Ni	skarn/replacement
Mich	First Point Minerals Corp.		105D 09	GC	Ni	mafic/ultramafic associated
Outpost	Solomon Resources Ltd.		115B 16	P, G, GC	Ni/PGE	mafic/ultramafic associated
Wellgreen	Prophecy Platinum Corp.	115G 024	115G 05	DD	Ni/PGE	mafic/ultramafic associated
<b>BASE METALS - TIN, TUNGSTEN</b>						
Seagull Tin	North Arrow Minerals Inc./ Panarc Resources Ltd.		105B 04	P, G, GC	Sn	skarn/replacement
Northern Dancer	Largo Resources Ltd.	105B 039	105B 04	DD	W	porphyry/sheeted vein
Mactung	North American Tungsten	105O 002	105O 08	MD	W	skarn/replacement
<b>BASE METALS - IRON</b>						
Whitehorse Cu Tailings	Eagle Industrial Minerals Corp.		105D 11	GC, MD	Fe	industrial minerals

**Abbreviations**

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DD - diamond drilling	GP - ground geophysics	RC/P - reverse circulation/percussion drilling	U/GD - underground development
G - geology	MD - mine development		

## APPENDIX 2: 2011 DRILLING STATISTICS

Property	Optioner/Owner	# of drillholes	# of metres
<b>Diamond drilling</b>			
3 Ace	Northern Tiger Resources Inc./ Alex MacMillan	29	8454
Andrew	Overland Resources Ltd.	74	10 437
Antimony	Golden Predator Corp.	6	1389
Bandito	Endurance Gold Corp./True North Gems Inc.	1	
Boulevard	Silver Quest Resources Ltd.		1500
Brewery Creek	Golden Predator Corp./Alexco Resource Corp.	206	30691
Charlotte	Ansell Capital Corp.	21	3654
Clear Creek	Golden Predator Corp.	18	3629
Coffee	Kaminak Gold Corp./Ryan, Shawn	101	28 463
Dan Man	Arcus Development Group/ATAC Resources Ltd.	10	1500
Dime	Stina Resources Ltd./RyanWood Exploration Inc.	14	2574
Dragon Lake	Olympic Resources Ltd./Eagle Plains Resources Ltd.	6	660
Dublin Gulch (Eagle)	Victoria Gold Corp	100	17 000
Etzel	Great Bear Resources/Ansell Capital Corp.	3	1000
Eureka	Golden Predator Corp./Strategic Metals Ltd.	8	1188
First Base	Arcturus Ventures Inc.	2	240
Grew Creek	Golden Predator Corp./Carlos, Al	20	4317
Harlan	Golden Predator Corp./Alexco Resource Corp.	6	2019
Hopper	Bonaparte Resources Inc./Strategic Metals Ltd.	6	1300
Hyland Gold	Argus Metals Corp.	13	2600
Ida Oro	Ryan Gold Corp.	11	2854
Ind	Aldrin Resources Corp./Ryan, Shawn	7	1377
Justin (Sprogge)	Aben Resources Ltd./Eagle Plains Resources Ltd.	10	2020
Keno Hill	Alexco Resource Corp.		21 500
Keno-Lightning/Homestake	Monster Mining		1800
Ketza River	Yukon-Nevada Gold Corp.	26	4408
Kiwi	Omineca Mining and Metals Ltd.	3	375
Klaza	Rockhaven Resources Ltd.	52	13 630
Lyn	Driven Capital Corp./Panarc Resources Ltd.	5	~100 (winkie)
Mariposa	Pacific Ridge Exploration	41	6000
Mars	New Dimension Resources Ltd./Strategic Metals Ltd.	2	637
Minto	Capstone Mining Corp.	112	38 416
Mt. Haldane	Habenero Resources Ltd.	9	1405
Northern Dancer	Largo Resources Ltd.	13	5000
Plata	Silver Predator Corp./Rockhaven Resources Ltd.	17	2565

## Appendix 2 (continued): 2011 DRILLING STATISTICS

Property	Optioner/Owner	# of drillholes	# of metres
Portland	Taku Gold Corp./Vidmar, Franz	7	1075
Prospector Mountain	Silver Quest Resources Ltd./Tarsis Resources	12	1588
Rackla Gold Project (Rau Trend)	ATAC Resources Ltd.	29	5900
Rackla Gold Project (Nadaleen Trend - Osiris, Isis, Conrad)	ATAC Resources Ltd.	89	26 600
RB	Arcturus Ventures Inc.	3	540
Red Mountain (AM Gold)	AM Gold Inc.	23	7850
Revenue	Northern Freegold Resources	17	12 375
Rusty Project (Val/Vera)	Silver Predator Corp.	9	1232
Selwyn Project	Selwyn Resources Ltd.	105	44 956
Silver Range (Keg)	Silver Range Resources Ltd.	51	16 811
Sixty Mile	Radius Gold Inc.	20	5273
Sonora Gulch	Northern Tiger Resources Inc.	9	2649
Tagish Lake Gold Project	New Pacific Metals Corp.	51	12 488
Tom	HudBay Minerals Inc.	33	
Touleary	Arcus Development Group/ATAC Resources Ltd.	5	935
Wellgreen	Prophecy Platinum Corp.	17	8000
White Gold	Kinross Gold Corp.	45	9901
		1447	382 875
Percussion/Reverse Circulation			
Brewery Creek	Golden Predator Corp./Alexco Resource Corp.	135	23 930
Coffee	Kaminak Gold Corp./Ryan, Shawn	146	19 538
Grew Creek	Golden Predator Corp./Carlos, Al	44	14 790
Hopper	Bonaparte Resources Inc./Strategic Metals Ltd.	58	1730
Klaza	Rockhaven Resources Ltd.	21	2940
Mount Hinton	Mill City Gold Corp./Rockhaven Resources Ltd.	47	2074
		451	65 002



# Yukon Placer Mining Overview 2011

*Jeffrey Bond<sup>1</sup>*  
Yukon Geological Survey

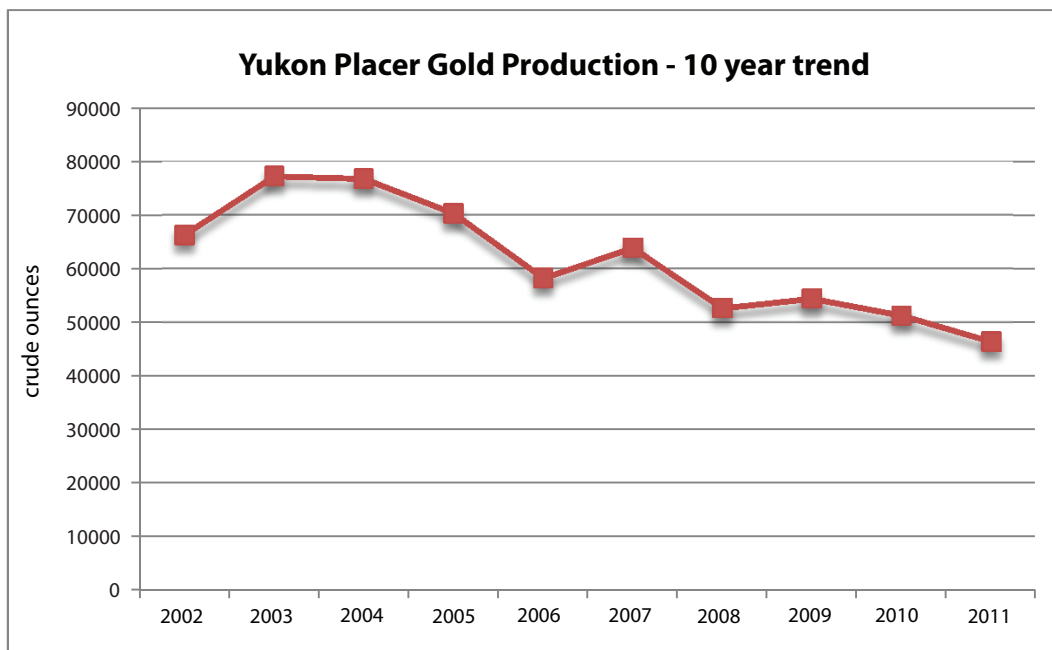
Bond, J.D., 2012. Yukon Placer Mining Overview 2011. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane, (ed.), Yukon Geological Survey, p. 75-78.

## PLACER MINING

Yukon placer miners enjoyed record gold prices in 2011, which likely added some risk cushion going into the mining season. Weather wise, the early part of the season was cooler and wetter than normal resulting in slower thaw rates of frozen overburden. Conditions improved late in the season with excellent fall weather that allowed sluicing to extend to the end of October.

Placer miners also noticed changes brought about by the booming mineral exploration industry. Perhaps more than ever, the mineral exploration industry is using placer gold occurrences as a roadmap for finding hardrock sources. As a result, roads and air strips put in place by placer miners experienced increased traffic. Furthermore, increased industrial activity in remote areas has resulted in more safety and environmental inspections.

Gold production from Yukon's placer mining industry continued to decline in 2011 (Fig. 1). Overall production according to reported gold royalties fell 9.4% from 51,302 crude ounces in 2010 to 46,485 crude ounces in 2011. The drop in reported production is a concern given the record gold prices that would be expected to fuel a surge in operations. It is possible, given the uncertainty in world markets and the glorious run that gold has had of late, that production reporting by some placer miners for the 2011 season may be spread out into future years as a wager in favour of gold over dollars.



**Figure 1.** Yukon placer gold production figures, 2002-2011.

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Perhaps a better gauge of the health of the Yukon placer mining industry is to assess regional changes in production. The regional placer mining districts are broken down into the following areas for reporting purposes: Indian River, Klondike, West Yukon, Lower Stewart, Clear Creek, Dawson Range, Mayo, Kluane, Livingstone and Whitehorse South (Fig. 2).

Reported placer gold production from the Indian River drainages decreased 3.3% from 14,707 crude ounces in 2010 to 14,229 crude ounces in 2011. This change is negligible and may be accounted for by minor fluctuations in one or two large operations. Overall the Indian River basin remains as the top gold producing drainage in Yukon.

The Klondike area drainages reported a significant drop of almost 20% from 13,609 crude ounces in 2010 to 10,965 crude ounces in 2011. One of the largest production decreases was from Paradise Hill where approximately 800 fewer crude ounces were reported.

West Yukon (Sixtymile, Fortymile and Moosehorn Range) placer gold production increased marginally from 6929 crude ounces in 2010 to 7011 crude ounces in 2011. The maintenance in production may be largely attributed to an increase in production on Ten Mile Creek. Royalty figures from that drainage show an increase in production from 365 crude ounces in 2010 to 987 crude ounces in 2011.

The production from the Lower Stewart drainages dropped 28% from 9916 crude ounces in 2010 to 7156 crude ounces in 2011. The majority of the production change can be attributed to decreases in Barker (1560 crude ounces) and Kirkman (1300 crude ounces) creeks.

Clear Creek drainages continued a second year of production growth (32% in 2011) from 767 crude ounces in 2010 to 1009 crude ounces in 2011. The majority of the production was reported from Clear Creek (747 crude ounces) and Barlow Creek (262 crude ounces) mines.

Production from the Dawson Range showed an increase of 90% from 1044 crude ounces in 2010 to 1982 crude ounces in 2011. This was the largest increase of any of the districts, most of which is attributed to production from Nansen (1143 crude ounces) and Back (572 crude ounces) creeks.

Placer gold production from the Mayo area decreased slightly (12%) from 1585 crude ounces in 2010 to 1387 crude ounces in 2011. The main producing creeks were Thunder Gulch (533 crude ounces), Anderson Creek (319 crude ounces) and Duncan Creek (294 crude ounces).

In the Kluane area, reported placer production continued to decrease (36%) from 1156 crude ounces in 2010 to 738 crude ounces in 2011. Most of the production was accounted for from Gladstone (298 crude ounces), Burwash (201 crude ounces) and Wade (134 crude ounces) creeks.

A renewal of mining activity in the Livingstone area saw a production increase from no royalties in 2010 to 112 crude ounces in 2011. Production was entirely recorded from Little Violet Creek.

No production was reported for the Whitehorse South area in 2011.

Overall the 2011 placer mining season was considered a success given the record gold prices and extended sluicing season in the fall. Decreased production is mostly attributed to production changes in a few large mines. In addition, production reporting hinges on the conversion of gold to dollars. More miners may be choosing to hold onto their gold, which is considered a relatively stable currency during global economic turmoil. Furthermore, the high gold price increases profits and gives miners the luxury of not cashing in all their gold. In terms of regional highlights, the increases in production from the Dawson Range, Clear Creek and Livingstone areas suggest there is still good potential for renewed growth in the glaciated terrain.

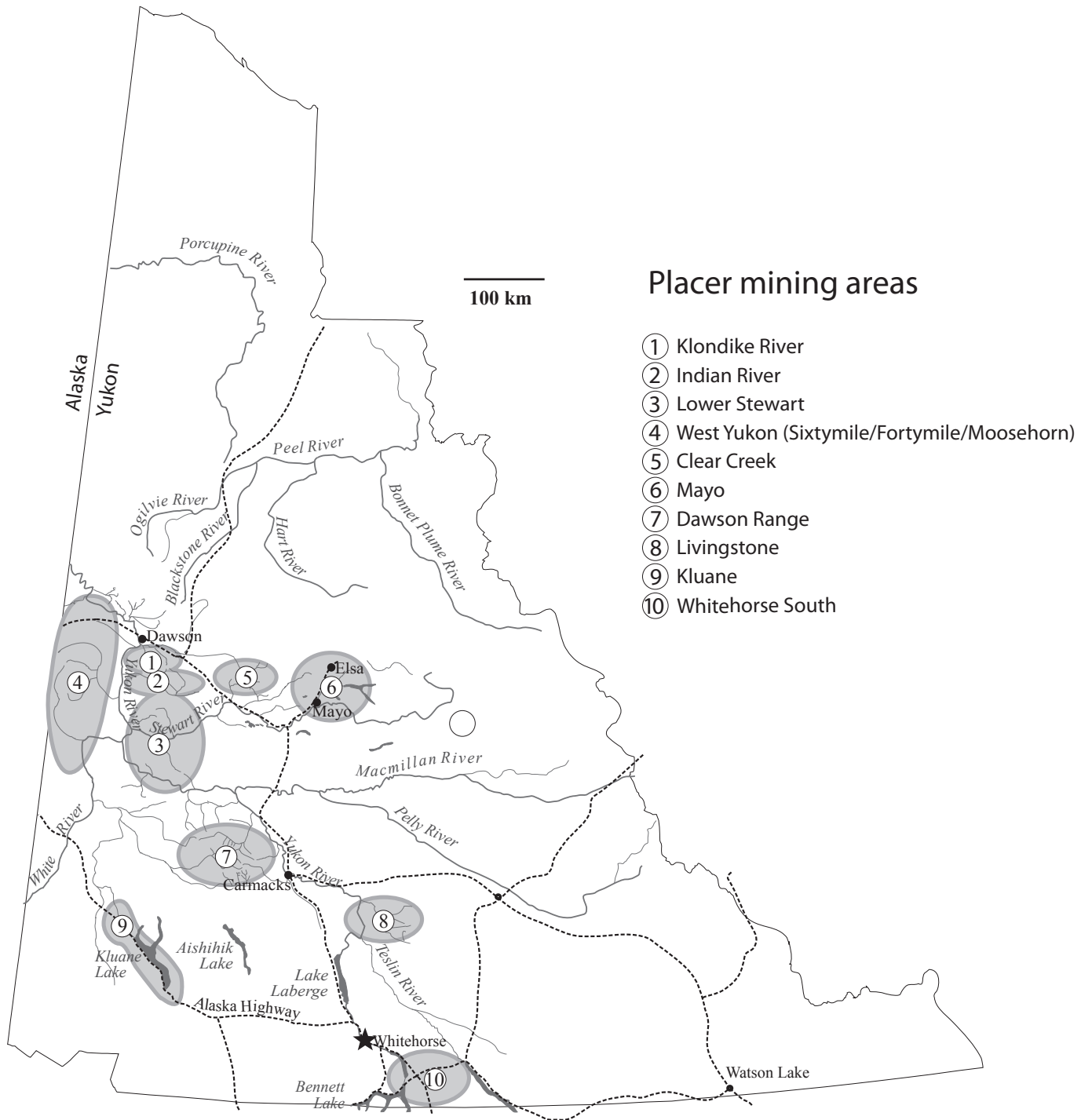


Figure 2. Yukon placer mining areas.





# Yukon Mining Incentive Program: 2011-12 update

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Yukon Geological Survey

Torgerson, D., 2012. Yukon Mining Incentive Program: 2011-12 update. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 79-82.

## PROGRAM SUMMARY

The Yukon Mining Incentive Program (YMIP) is a funding program designed to support individual prospectors, partnerships and companies by providing a portion of the risk capital required to locate, explore and develop mineral occurrences in Yukon. YMIP funding has consistently demonstrated its impact as an effective economic incentive by supporting the exploration community in its efforts. This support has led to numerous discoveries, which in turn, have provided significant long term economic benefits to the territory.

YMIP funding supports placer and hardrock exploration projects by reimbursing a percentage of approved exploration expenditures. Funding is merit-based; a panel of geologists evaluates submissions using a ranking system designed to score a range of criteria quantifying the quality of the target, the proposal, the work plan and the applicant's previous YMIP performance. Details on funding and scoring are available on our website at [www.geology.gov.yk.ca/ymip.html](http://www.geology.gov.yk.ca/ymip.html). The YMIP program is made up of three modules: Grassroots, Focused Regional and Target Evaluation. Funding for each individual module and reimbursement rates are shown in Table 1.

**Table 1.** YMIP 2011 funding.

2011 funding levels	Grassroots	Focused Regional	Target Evaluation	subtotal
maximum funding	\$15 000	\$15 000	\$25 000	
reimbursement rate	up to 100% of eligible expenses	up to 75% of eligible expenses	up to 50% of eligible expenses	
no. of approved placer applications	2	0	5	7
no. of approved hard rock applications	5	10	12	27
subtotal	7	10	17	
			<b>Total</b>	34

## UPDATE FOR 2011-12

In 2011, funding was decreased by 65% to \$570 000. The previous 2 years of increased funding were designed to support the exploration industry through the recession. In light of the current exploration boom, supporting prospectors and companies during the downturn appears to have been a successful strategy and has contributed to the current robust exploration climate in Yukon. A total of 83 applications were received, which is a decrease of 50% from 2010. The competition for funding was very tight in 2011 and many quality projects were unable to be funded due to budgetary constraints. Table 2 outlines historical funding levels for the past five years.

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**Table 2.** YMIP historical funding, fiscal years 2007-08 through 2011-12.

Historical funding	2007-08	2008-09	2009-10	2010-11	2011-12
available funding	\$600 000	\$600 000	\$1.67M	\$1.67M	\$570 000
no. of applications	56	58	173	165	83
approved projects	45	46	102	83	34
max funding level grassroots	\$10 000	\$10 000	\$15 000	\$15 000	\$15 000
max funding level focused regional	\$15 000	\$15 000	\$18 750	\$25 000	\$15 000
max funding level target evaluation	\$20 000	\$20 000	\$50 000	\$50 000	\$25 000

A total of 34 applications were offered funding. The amounts available under each module were altered in an effort to reflect the reduced budget in 2011. Grassroots funding was maintained at \$15 000. Focused Regional and Target Evaluation modules saw funding reduced to \$15 000 and \$25 000 respectively. Of the 34 successful applicants 7 projects were in the Grassroots module, 10 in the Focused Regional, and 17 in the Target Evaluation module (Table 3). This year, most applications were funded at the maximum allowable based upon the proposal budget.

Of the 34 applications that were offered funding in 2011, hardrock projects account for 74% of the successful applications and placer projects account for the remaining 26%. Individual prospectors and private companies secured approximately 75% of available funds while public junior mining companies received approximately 25% of the funds. The breakdown between the different modules and the demographics of the applicants over the past three years is outlined in Table 3.

The bulk of placer projects were centered in the Klondike placer district, with a few projects in the Klwane and Keno Hill areas (Fig. 1). Hardrock projects were fairly evenly distributed throughout the territory in 2011. Gold appeared to be the most sought after commodity this year and some clustering of projects occurred around exciting recent discoveries in the Klondike/White Gold area, and in the Selwyn basin area. Other successful applications were located in the south and central Yukon (Fig. 1). In 2011, 26 projects targeted gold as the primary commodity (placer, structurally controlled, epithermal and orogenic); 3 projects identified vein hosted silver as the target; 2 projects explored for porphyry copper potential; 1 project looked at a VMS system; 1 for tin skarn and greisen mineralization; and 1 proposal looked at a climax-style molybdenum prospect.

The YMIP program's aim is to fund a variety of projects at various stages of advancement. During the 2011 season 19 of the projects indicated that soil/silt sampling, prospecting and mapping would be the primary focus of

**Table 3.** YMIP funding statistics for fiscal year 2009-10 through 2011-12.

Approved projects	2009-10		2010-11		2011-12	
	no. of approved projects	% of approved funding	no. of approved projects	% of approved funding	no. of approved projects	% of approved funding
approved placer	28	30.42%	23	25%	7	26%
approved hard rock	74	69.58%	60	75%	27	74%
<b>total projects approved</b>	<b>102</b>		<b>83</b>		<b>34</b>	
prospectors/ individuals	36	33.25%	49	46.8%	22	60%
private companies	31	29.80%	14	18.7%	4	15%
public companies	33	36.95%	22	36.3%	8	25%

the program; 4 programs completed various ground and airborne based geophysical surveys; and 8 of the project proposals were for drilling and/or trenching.

The success of the program can be measured by a number of indicators. In 2011, ~\$2.0M was leveraged from YMIP funding. Currently, 7 of the 2011 projects have been optioned to publically traded companies. In 2011 YMIP funding contributed to the staking of approximately 800 new claims, and the discovery of 8 new potentially significant occurrences. Benefits of the program can span several years; follow-up property option and/or exploration work may occur several years after the initial YMIP funding. A number of significant properties have benefited from YMIP funding in the past which has led to additional exploration expenditures (Table 4).

## PROGRAM REVIEW

In 2011 a review of the YMIP program was conducted. Results of the review led to more streamlined evaluation criteria, an appeal process and a reduction in funding for the Focused Regional and Target Evaluation modules. The YMIP program is designed to meet the needs of the users of the program and to act as an engine for economic development, therefore the program is continually evolving to meet these goals. New versions of the application form, scoring criteria and the program's guidelines have been made available for download on the YMIP website ([www.geology.gov.yk.ca/ymip.html](http://www.geology.gov.yk.ca/ymip.html)). Any additional changes to the program's guidelines and maximum funding levels will be announced when the budget for the 2012-13 program is known.

**Table 4.** YMIP successful options indicating ratio of private to public investment.

YMIP#	Property Name	Total YMIP Contribution(s)	Optioned by	Company investment or work commitment	Ratio private/public investment
01-011	Ice/Red Mountain	\$12 500	AM Gold	~\$7.5M	600
03-079	White Gold	\$10 000	Madeilena/ Underworld/Kinross	~ \$32.2M	3220
04-072 and 05-043	Blende	\$30 000	Blind Creek Resources	>\$5M	167
06-054	Antimony Creek	\$10 000	Logan Resources/ Golden Predator	\$0.35M	35
04-041 and 07-043	Coffee	\$35 000	Kaminak Gold Corp.	~\$31M	886
07-056, 08-012 and 09-112	Toni/ Sixty Mile	\$33 000	Radius Gold	~\$4.5M	136
03-023, 06-033 and 09-137	Scheelite/Gold Dome	\$75 000	Golden Predator	~\$1.4M	19
09-015	Clear Creek	\$10 450	Golden Predator	~\$4.1M	392
09-016 and 017	Ten Mile Creek	\$25 600	Radius Gold/Solomon Resources	~\$0.63M	25
09-158	Prospector Mountain	\$30 750	Silverquest Resources	~\$3.85M	125
09-116	Cynthia	\$15 350	Golden Predator	~\$1.7M	110
09-173	Shark/True Blue	\$21 354	Great Western Minerals	~\$1M	47
10-097	Portland	\$14 320	Taku Gold	~\$1.25M	87
00-069 and 06-005 and 06-006	Mariposa	\$36 000	Pacific Ridge	>\$2.5M	69

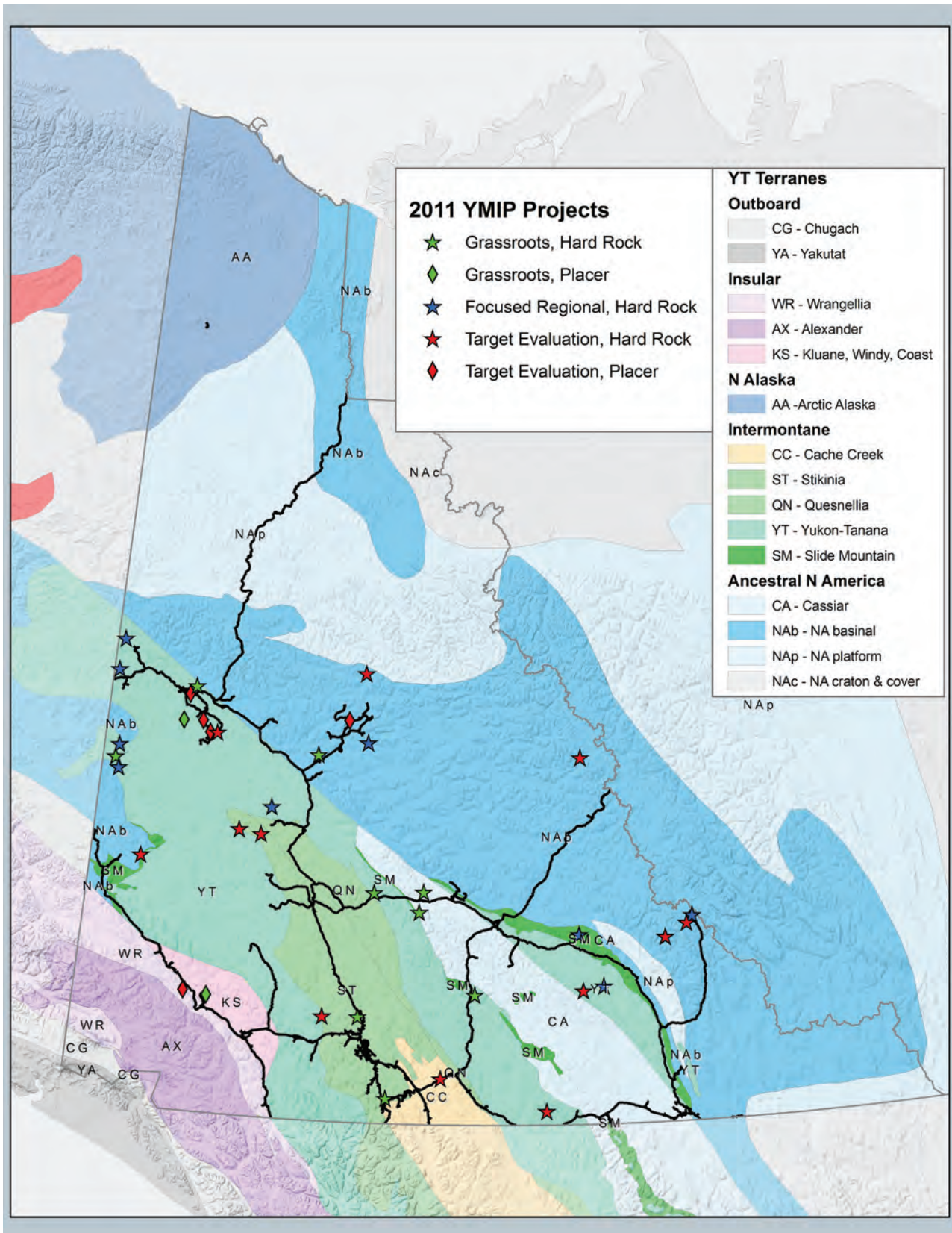


Figure 1. Exploration projects funded by the Yukon Mining Incentives Program (YMIP) for 2011-12.

# Yukon Oil and Gas Overview 2011

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

*Oil and Gas Resources, Energy, Mines and Resources*

Adilman, B., 2011. Yukon Oil and Gas Overview 2011. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane, (ed.), Yukon Geological Survey, p. 83-90.

## **ABSTRACT**

Yukon's Oil and Gas Resources (OGR) branch continues to offer semi-annual rights disposition processes to attract industry's attention to the territory's underdeveloped oil and gas potential.

OGR is planning to introduce amendments to the *Yukon Oil and Gas Act*, and continues preparation of pipeline regulations and amendments to existing regulations.

Production of natural gas yielded more than 38 000 10<sup>3</sup>m<sup>3</sup> from two wells in southeast Yukon.

Other OGR activities in 2011 included: continued development of the Energy for Yukon initiative; continuing preparation for northern pipeline development; participation in several offshore oil and gas initiatives; continued consultation and cooperation with affected First Nations on a variety of oil and gas issues; ensuring 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.

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## INTRODUCTION

During 2011, the Oil and Gas Resources (OGR) branch of the Department of Energy, Mines and Resources (EMR) 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 770 million barrels (120 million m<sup>3</sup>) of oil (Government of Yukon, 2010; 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, 2010), contributing to Yukon's vast and virtually untapped petroleum resources.

There were no permits issued during OGR's dispositions of oil and gas rights in 2011, but opportunities in southeast Yukon and the proposed construction of the Mackenzie and/or Alaska Highway pipelines continue to hold promise for the Yukon's oil and gas sector.

The development of Yukon's natural gas resources (Energy for Yukon) is a priority action of Yukon's Energy Strategy.

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. Yukon and First Nation governments are also working together to develop the Energy for Yukon initiative. OGR has created an attractive economic 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*, the rights to oil and gas are obtained through a competitive disposition process.

Oil and Gas Resources conducts two disposition processes annually. Each process is completed in the following stages:

- 'Requests for Postings' (RFP) for locations in which

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

industry is interest in exploring for oil and gas;

- 'RFP' review during which the public, First Nations and government agencies may submit presentations with respect to environmental, socio-economic and access concerns related to the requested locations;
- 'Call for Bids' where industry is 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 work commitment bid. The work deposit is refunded proportionally as work is completed.

The initial term of a permit is six years. Permits may be extended for a further four years if a qualifying well is drilled during the initial term. Companies are required to obtain all regulatory approvals and undergo environmental screening through the Yukon Environmental and Socio-Economic Assessment Board (YESAB) prior to any activity. Companies are also expected to adhere to best management practices as outlined by Oil and Gas Resources.

Between 2007 and 2010, 16 permits were issued in north Yukon totalling \$29.4 million in work commitments.

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 provides regulatory certainty;
- a two-year advanced calendar showing disposition stages timelines that provide companies the opportunity to plan ahead; and
- a minimum work commitment bid 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 38 233 10<sup>3</sup>m<sup>3</sup> of natural gas in the period from January 2011 to October 2011 (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 56% of initial gas-in-place, which is considerably better than similar nearby fields in the basin.

# Yukon oil and gas basins

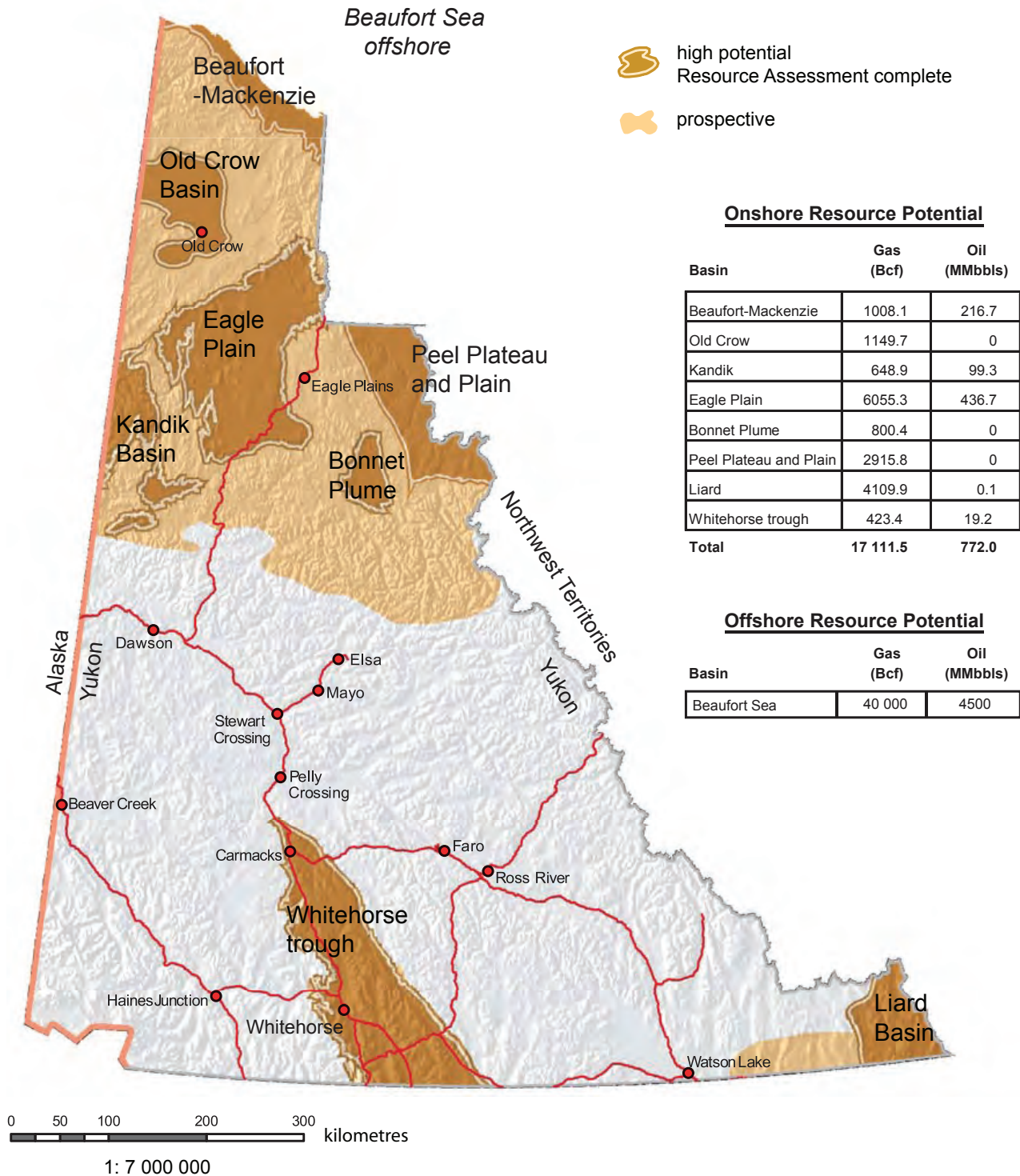
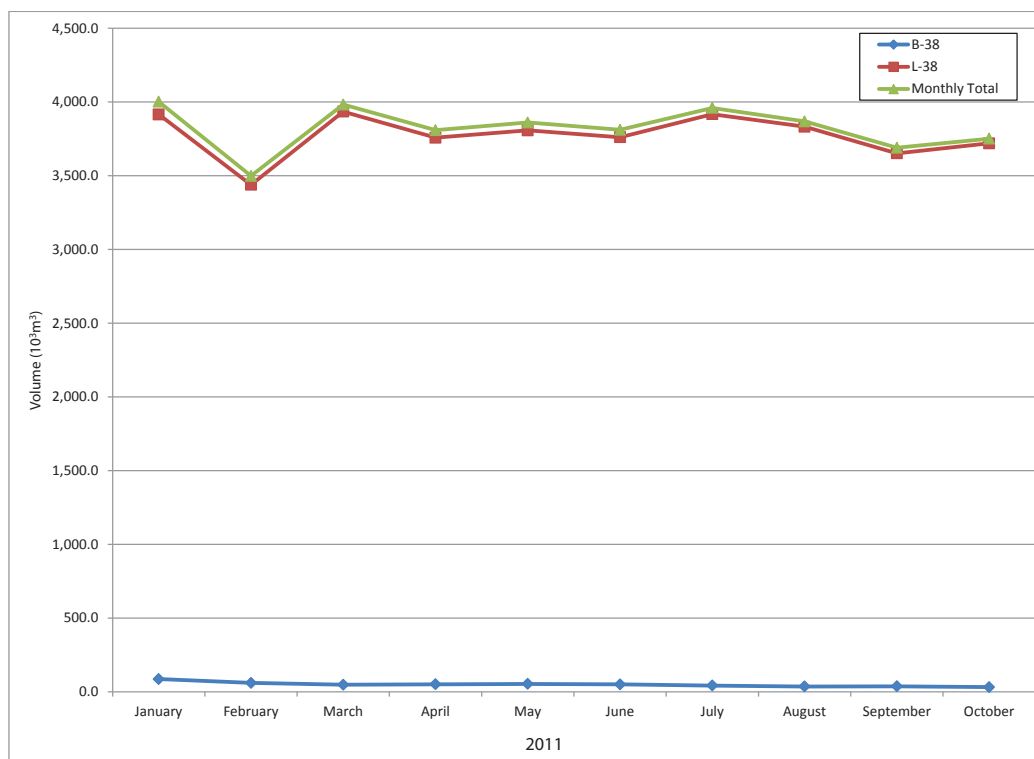


Figure 1. Yukon's oil and gas exploration regions.

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



## FIRST NATIONS

OGR continues to build strong working relationships with First Nations through the ongoing development of a common oil and gas regime and through regular consultation during the disposition and licensing processes. OGR supports the Alaska Highway Aboriginal Pipeline Coalition and believes that at this time it has a very important role in ensuring that First Nations are informed to prepare for the Alaska Highway Pipeline Project.

## ENERGY FOR YUKON

The development of Yukon’s natural gas resources (Energy for Yukon) is a priority action of Yukon’s Energy Strategy. OGR’s responsibility is to develop local resources for local use within Yukon, as well as for export.

Oil & Gas Resources is working in partnership with a First Nations-led initiative to identify the most promising opportunities and the priority actions for government, industry and stakeholders to facilitate the use of Yukon’s natural gas.

Developing Yukon gas resources will create numerous economic development opportunities throughout Yukon as well as provide reliable and clean energy for mining projects and for Yukoners.

Relying on expensive and less clean diesel fuel for energy is a major disincentive to the development and operation of mining projects in Yukon.

The 2010 study - Energy For Yukon: The Natural Gas Option - identified several competitive scenarios to utilize Yukon gas as an energy source for mines.

The demand on Yukon’s electrical grid is projected to outstrip the supply of renewable energy by 2012 (Fig. 3).

It is expected that potential new mines will require 200 megawatts of reliable and competitively priced electricity by 2021 to enhance their economic viability.

Currently, EMR is:

- continuing its analysis of the economics and regulatory requirements to develop Yukon gas resources;
- advancing the regulatory regime to develop oil and gas resources. Pipeline regulations are expected to be completed in 2012;
- engaging industry and other key stakeholders on this proposal with the intent of obtaining their feedback on how to proceed and to promote the concept; and
- working with four Northern First Nations to identify economic opportunities associated with the development of Eagle Plains’ natural gas resources in order to provide energy for Yukoners.



### Yukon Integrated Grid Generation Forecast

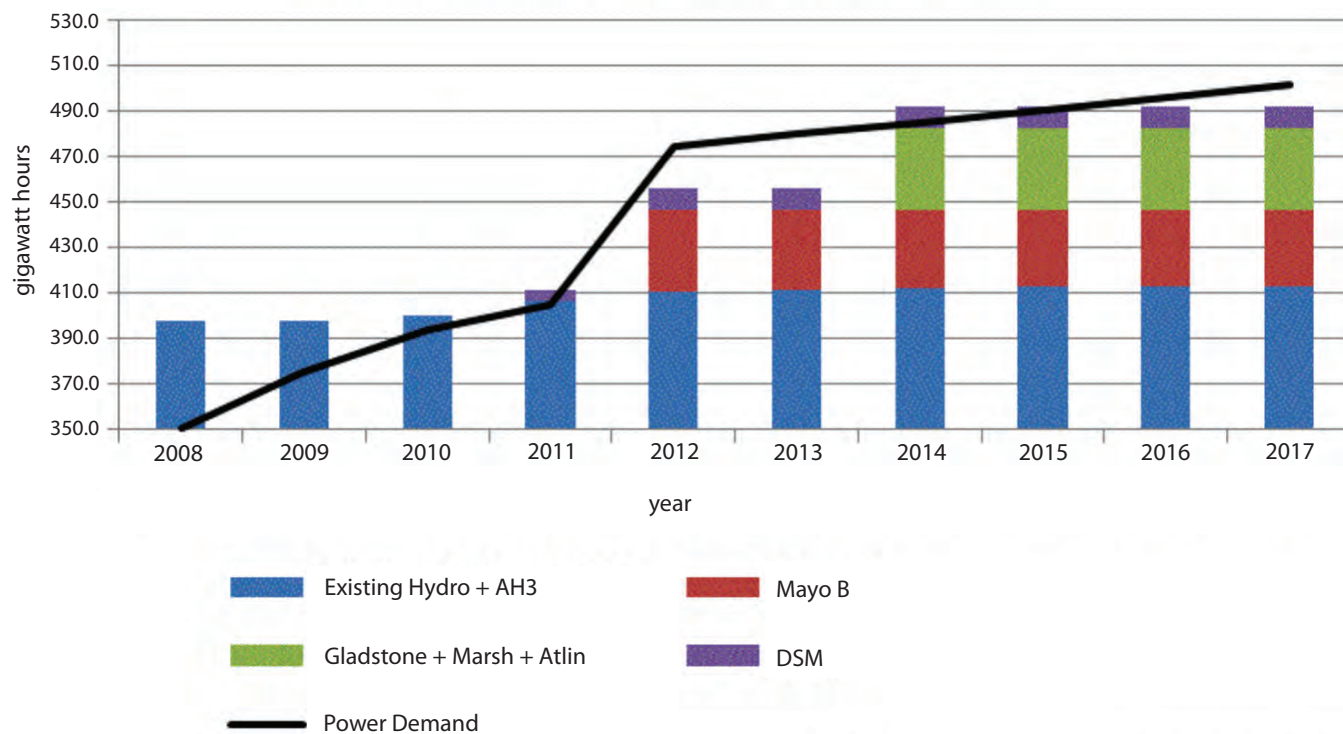


Figure 3. Grid Generation Forecast per Year (Yukon Energy).

## PIPELINES

Both the Mackenzie Gas Project (MGP) and the Alaska Highway Pipeline Project (AHPP) offer enormous economic opportunities for the North (Fig. 4). 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>, whereas 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's 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.

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

<sup>3</sup> [www.iti.gov.nt.ca/publications/2007/MiningOilGas/wright\\_mansell2004.pdf](http://www.iti.gov.nt.ca/publications/2007/MiningOilGas/wright_mansell2004.pdf)

## ALASKA HIGHWAY PIPELINE PROJECT

The TransCanada Pipelines Ltd/Exxon Mobil partnership concluded its open season in 2010, and is continuing with field work in Yukon on and near the existing easement to refine their pipeline design.

EMR and other Government of Yukon representatives continue to meet with the proponent to share information and discuss potential issues.

Should the chosen route follow the Alaska Highway, this will be important to the interests of the Government of Yukon. Yukon has seven Alaska Highway Pipeline Project interests. They include:

- ensuring a net fiscal benefit to Yukon;
- enhancing positive socio-cultural impacts while mitigating negative socio-cultural impacts;
- promoting environmental stewardship;
- recognizing municipal, 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 working closely with other jurisdictions that would be affected by an Alaska Highway pipeline in a couple of ways:

- one initiative is the Strategic Action Plan Working Group, comprising 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 project. Yukon continues to urge the Canadian government to demonstrate that they are prepared with

a streamlined, efficient regulatory process for either project; and

- EMR and Natural Resources Canada continue to complete pipeline preparatory work described within the Canada – Yukon Work Plan. Specifically, the Government of Yukon is working closely with the Northern Pipeline Agency on the regulatory process, including the environmental assessment component, First Nations consultation requirements, and permitting of 2012 field work activities.

### MACKENZIE GAS PROJECT

The Government of Yukon continues to monitor activity and progress relating to the Mackenzie Gas Project (MGP).



Figure 4. Northern natural gas pipeline options.

Areas of Yukon concern include:

- open access to the pipeline;
- training and employment;
- wildlife issues, specifically barren land caribou issues;
- supplying communities with natural gas from the pipeline; and
- tolling methodology.

The MGP proponents – led by Imperial Oil – now have until 2015 to commence construction of the project.

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 and services will be required of Yukon businesses. 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.

The Government of Yukon remains committed to the enhancement of potential positive effects from construction and operation of the project; and the mitigation of potential adverse effects from the proposed project on Yukon's environment, communities and transportation infrastructure.

## OFFSHORE

The federal government transferred responsibility for onshore oil and gas to the Government of Yukon in 1998, but it continues to maintain responsibility for oil and gas management and development in the Beaufort Sea.

The Canada 2010-11 offshore Call for Bids closed on June 21, 2011. Arctic Energy & Minerals Ltd obtained two new exploration rights with successful work bids of \$1 million each.

A significant amount of 2-D and 3-D seismic surveys has been undertaken by GX Technology and almost \$2 billion in work commitments were made by Imperial, BP, Chevron, ConocoPhillips and others since 2007. In 2012 additional seismic work is being planned by GXT and Chevron, and during the past two summers Imperial Oil and BP have been gathering environmental baseline information in and near their recently acquired rights. These are all clear indicators that industry remains interested in the offshore, and that governments will need to prepare for 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 1993 Canada Yukon Oil and Gas Accord. As an interim step, Yukon and Canada signed a Memorandum of Understanding in 2008 detailing Yukon's enhanced role in offshore oil and gas management and the collaborative approach undertaken by Canada and Yukon. 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 will continue to take an active role in Beaufort Sea initiatives, including:

- the NEB arctic drilling review - In May 2010 the NEB announced a review of arctic safety and environmental offshore drilling requirements in light of the oil spill in the Gulf of Mexico. In 2011 Yukon provided information to the NEB as part of the process and is currently awaiting the NEB public report, expected to be released soon;
- the Beaufort Regional Environmental Assessment (BREA) - In August 2010, the Government of Canada committed to provide almost \$22 million over five years to fund the BREA. Research will be focused on issues such as spill preparedness and response, engineering requirements for safe operations, climate change, waste management, and information management. In 2011, research priorities were identified, proposals solicited and several programs were approved; and
- the Integrated Oceans Management Plan (IOMP) – The goal for the Beaufort Sea integrated management planning process is to have an effective, collaborative process that provides integrated and adaptive management plans, strategies and actions for ecosystem, social, economic, and institutional sustainability.

Yukon is also 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.

Finally, Yukon continues to work cooperatively and collaboratively with the Government of the Northwest Territories and the Inuvialuit on relevant offshore matters.

## OIL AND GAS LEGISLATION

Yukon is planning to introduce amendments to the *Yukon Oil and Gas Act*.

These amendments will:

- update the Act to reflect Yukon's current oil and gas regulatory regime;
- provide certainty and growth opportunities for industry; and
- improve opportunities for Yukon and its First Nations to benefit from oil and gas activity.

It is important to continue to improve the legislative framework to support the emerging oil and gas sector within Yukon. A stable framework provides for the needs of industry while maintaining government's ability to responsibly manage resources and provide Yukoners with the benefits of development.

OGR also continues to work on the development of Pipeline Regulations and Gas Processing Plant Regulations; and on amendments to the Royalty Regulations, the Drilling and Production Regulations, the Disposition Regulations, the Licence Administration Regulations and the Geoscience Exploration Regulations.

## OIL AND GAS CONSENT AND ACCOMMODATION 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.

The draft consent agreement contains provisions that facilitate economic development, as well as provide the certainty needed by industry. Once concluded, the agreement will be made public.

Current efforts are focused on finalizing the consent agreement with the Liard First Nation and Ross River Dena Council. Progress is being made in these efforts.

Throughout the disposition and licensing process, the Government of Yukon will consult with affected First Nations.

## OTHER ACTIVITIES

OGR continues to contribute to the development of a Climate Change Action Plan; and also continues to ensure the Government of Yukon's oil and gas interests are taken into account during the regional land use planning processes.

## REFERENCES

- Government of Yukon, 2011. Yukon Oil and Gas – A Northern Investment Opportunity 2011. Oil and Gas Resources, Energy, Mines and Resources, May 2011, 44 p.
- Government of Yukon, 2010. Energy for Yukon: The Natural Gas Option, Eagle Plain Case Study 2010. Energy, Mines and Resources, Oil & Gas Resources Branch, November 2010, 32 p.

# Robert E. Leckie Awards for Outstanding Reclamation Practices

*Judy St. Amand'*

*Mining Lands, Energy Mines and Resources*

St. Amand, J., 2012. Robert E. Leckie Awards for Outstanding Reclamation Practices. *In: Yukon Exploration and Geology Overview 2011*, K.E. MacFarlane (ed.), Yukon Geological Survey, p. 91-92.

## QUARTZ RECLAMATION

### YUKON ZINC CORPORATION

Yukon Zinc is the 2011 Leckie Award winner for leadership in applying innovative practices and technologies that will greatly benefit all in the exploration and mining field. The company is testing passive and biochemical water treatment systems at their Wolverine mine site. The company recycles waste for heat which reduces diesel consumption and thereby diminishes their environmental footprint. A cost effective sewage treatment plant has been installed; this system has less impact on the environment than conventional septic systems. This technology could have a broad application throughout Yukon. The company has excelled in social responsibility through supporting traditional ceremonies, training initiatives, and recreation and cultural exchange events. Congratulations to Yukon Zinc!



**Figure 1.** Yukon Zinc's Wolverine mine site, July 2010.

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## PLACER MINING RECLAMATION

### ROBERT & CAROLA YOUNG

Robert and Carola Young are placer mining at Moose Creek in the Fortymile area. They consistently operate above and beyond what is expected in this steep valley. Mr. Young has stabilized the access road, on and off his property, increasing safety and decreasing sediment load into the water and eliminating fords. This has resulted in a

stable creek channel that is ultimately more aesthetically pleasing. Previous disturbances from other operators were also reclaimed.



*Figure 2. Stabilized creek channel.*

## 2011 List of Publications and Maps

### 2011 YGS PUBLICATIONS

YGS released 2 digital compilations and 37 new publications in 2011: 2 Annual Reports, 1 Geoscience Map, 3 Miscellaneous Reports and 31 YGS Open Files.

### YGS ANNUAL REPORTS

Yukon Exploration and Geology 2010. K.E. MacFarlane, L.H. Weston and C. Relf (eds.), 2011, Yukon Geological Survey, 247 p.

Yukon Exploration and Geology Overview 2010. K.E. MacFarlane, L.H. Weston and C. Relf (eds.), 2011, Yukon Geological Survey, 103 p.

### YGS DIGITAL DATA RELEASES

Colpron, M. and Nelson, J.L., 2011. A Digital Atlas of Terranes for the Northern Cordillera. Accessed online from Yukon Geological Survey ([www.geology.gov.yk.ca](http://www.geology.gov.yk.ca)).

Surficial geology, Google Earth KMZ files. The KMZ files were generated from interim surficial geology data ([www.geology.gov.yk.ca/google\\_earth\\_surficial.html](http://www.geology.gov.yk.ca/google_earth_surficial.html)).

### YGS GEOSCIENCE MAPS

Colpron, M. (comp.), 2011. Geological compilation of Whitehorse trough - Whitehorse (105D), Lake Laberge (105E), and part of Carmacks (115I), Glenlyon (105L), Aishihik Lake (115H), Quiet Lake (105F) and Teslin (105C) (1:250 000 scale). Yukon Geological Survey, Geoscience Map 2011-1, 3 maps and appendices.

### YGS MISCELLANEOUS REPORTS

M. Colpron (compiler), 2011. 2011 Cordilleran Tectonics Workshop Program and Abstracts Volume. Yukon Geological Survey, Miscellaneous Report MR-3.

Moll, P. and Ostermaier, S., 2011. 2D Resistivity/IP Data Release for Placer Mining and shallow Quartz Mining - Yukon 2010. Yukon Geological Survey, Miscellaneous Report MR-4.

Clarkson, R., 2011. A review of placer gold concentrate recovery and upgrade options. Yukon Geological Survey, Miscellaneous Report, MR-5.

### YGS OPEN FILES

Pigage, L.C., Abbott, J.G. and Roots, C.F., 2011. Bedrock geology of Coal River map area (NTS 95D), Yukon (1:250 000 scale). Yukon Geological Survey, Open File 2011-1.

Israel, S., Cobbett, R., Westberg, E., Stanley, B., and Hayward, N., 2011. Preliminary bedrock geology of the Ruby Ranges, southwest Yukon, (Parts of NTS 115G, 115H, 115A and 115B) (1:50 000 scale). Yukon Geological Survey, Open File 2011-2.

Kennedy, K.E., 2011. Surficial geology of the Village of Mayo (part of NTS 105M/12), Yukon: 1: 20 000 scale. Yukon Geological Survey, Open File 2011-3.

Kennedy, K.E., 2011. Surficial geology of Pelly Crossing (part of NTS 115I/15), Yukon (1:20 000 scale). Yukon Geological Survey, Open File 2011-4.

Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 G/8, 9 and H/5, 12, Yukon; Geological Survey of Canada, Open File 6891; Yukon Geological Survey, Open File 2011-5, scale 1:50 000.

Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 G/8, 9 and H/5, 12, Yukon; Geological Survey of Canada, Open File 6892; Yukon Geological Survey, Open File 2011-6, scale 1:50 000.

Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 G/10, 11, Yukon; Geological Survey of Canada, Open File 6893; Yukon Geological Survey, Open File 2011-7, scale 1:50 000.

Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 G/10, 11, Yukon; Geological Survey of Canada, Open File 6894; Yukon Geological Survey, Open File 2011-8, scale 1:50 000.

Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, Part of NTS 115 G/13, Yukon; Geological Survey of Canada, Open File 6895; Yukon Geological Survey, Open File 2011-9, scale 1:50 000.

- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, Part of NTS 115 G/13, Yukon; Geological Survey of Canada, Open File 6896; Yukon Geological Survey, Open File 2011-10, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 G/15 and part of 115 G/14, Yukon; Geological Survey of Canada, Open File 6897; Yukon Geological Survey, Open File 2011-11, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 G/15 and part of 115 G/14, Yukon; Geological Survey of Canada, Open File 6898; Yukon Geological Survey, Open File 2011-12, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 G/16 and 115 H/13, Yukon; Geological Survey of Canada, Open File 6899; Yukon Geological Survey, Open File 2011-13, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 G/16 and 115 H/13, Yukon; Geological Survey of Canada, Open File 6900; Yukon Geological Survey, Open File 2011-14, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 H/6, 7, 10, 11, Yukon; Geological Survey of Canada, Open File 6901; Yukon Geological Survey, Open File 2011-15, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, Parts of NTS 115 H/6, 7, 10, 11, Yukon; Geological Survey of Canada, Open File 6902; Yukon Geological Survey, Open File 2011-16, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 H/14 and part of 115 H/15, Yukon; Geological Survey of Canada, Open File 6903; Yukon Geological Survey, Open File 2011-17, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 H/14 and part of 115 H/15, Yukon; Geological Survey of Canada, Open File 6904; Yukon Geological Survey, Open File 2011-18, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 I/4 and 115 J/1, Yukon; Geological Survey of Canada, Open File 6905; Yukon Geological Survey, Open File 2011-19, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 I/4 and 115 J/1, Yukon; Geological Survey of Canada, Open File 6906; Yukon Geological Survey, Open File 2011-20, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/2 and part of 115 J/3, Yukon; Geological Survey of Canada, Open File 6907; Yukon Geological Survey, Open File 2011-21, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/2 and part of 115 J/3, Yukon; Geological Survey of Canada, Open File 6908; Yukon Geological Survey, Open File 2011-22, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/5, 6, Yukon; Geological Survey of Canada, Open File 6909; Yukon Geological Survey, Open File 2011-23, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/5, 6, Yukon; Geological Survey of Canada, Open File 6910; Yukon Geological Survey, Open File 2011-24, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. Residual total magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/7, 8, Yukon; Geological Survey of Canada, Open File 6911; Yukon Geological Survey, Open File 2011-25, scale 1:50 000.
- Kiss, F. and Coyle, M., 2011. First vertical derivative of the magnetic field, Aeromagnetic Survey of the Nisling River Area, NTS 115 J/7, 8, Yukon; Geological Survey of Canada, Open File 6912; Yukon Geological Survey, Open File 2011-26, scale 1:50 000.
- Yukon Geological Survey, 2011. Bouger gravity anomaly of the northern Aishihik Lake area, Yukon (parts of NTS 115H, I and G). Yukon Geological Survey, Open File 2011-27, 2 maps and data files.



Jackaman, W., 2011. Regional stream sediment geochemical data Stevenson Ridge, Yukon (NTS 115J & K). Yukon Geological Survey, Open File 2011-28.

Jackaman, W., 2011. Regional stream sediment geochemical data Tay River, Yukon (NTS 105K east). Yukon Geological Survey, Open File 2011-29.

Jackaman, W., 2011. Regional stream sediment geochemical data Nidderly Lake, Yukon (105O & P). Yukon Geological Survey Open File 2011-30

Israel, S., Westberg, E., 2011. Preliminary geological map of the northwestern Aishihik Lake area, parts of NTS 115H/12 and 13 (1:50 000-scale). Yukon Geological Survey, Open File 2011-31.

## YGS CONTRIBUTIONS TO OTHER PUBLICATIONS

Chapman, R.J., Mortensen, J.K., and **LeBarge, W.P.**, 2011. Styles of lode gold mineralization contributing to the placers of the Indian River and Black Hills Creek, Yukon Territory, Canada as deduced from microchemical characterization of placer gold grains. *Mineralium Deposita*, vol. 46, p. 881-903, DOI 10.1007/s00126-011-0356-5.

Dampier, L., Sanborn, P., Smith, S., **Bond, J.**, Clague, J.J. 2011. Genesis of upland soils, Lewes Plateau, central Yukon. Part 1: Soils formed on Pleistocene glacial deposits. *Canadian Journal of Soil Science*, vol. 91, no. 4, p. 563-578.

Dampier, L., Sanborn, P., Smith, S., **Bond, J.**, Clague, J.J. 2011. Genesis of upland soils, Lewes Plateau, central Yukon. Part 2: Soils formed in weathered granitic bedrock. *Canadian Journal of Soil Science*, vol. 91, no. 4, p. 579-594.

Long, D.G.F. and **Lowey, G.W.**, 2011. Wandering gravel-bed rivers and high-constructive stable channel sandy fluvial systems in the Ross River area, Yukon Territory, Canada. *Geoscience Frontiers*, vol. 2, no. 3, p. 277-288.

Wolfe, S., **Bond, J.D.** and Lamothe, M. 2011. Dune stabilization in central and southern Yukon in relation to early Holocene environmental change, northwestern North America. *Quaternary Science Reviews*, vol. 30, p. 324-334.

Zazula, G.D., Turner, D.G., Ward, B.C. and **Bond, J.**, 2011. Last interglacial western camel (*Camelops hesternus*) from eastern Beringia. *Quaternary Science Reviews*, vol. 30, issue 19-20, p. 2355-2360, doi: 10.1016/j.quascirev.2011.06.010.

## YUKON GEOLOGICAL PAPERS OF INTEREST

Bernanek, L.P. and Mortensen, J.K., 2011. The timing and provenance record of the Late Permian Klondike orogeny in northwestern Canada and arc-continent collision along western North America. *Tectonics*, vol. 30, TC5017, 23 p., DOI: 10.1029/2010TC002849.

Foy, N., Copland, L., Zdanowicz, C., Demuth, M. and Hopkinson, C., 2011. Recent volume and area changes of the Kaskawulsh Glacier, Yukon, Canada. *Journal of Glaciology* vol. 57, no. 203, p. 515-525.

Jensen, B.J.L., Preece, S.J., Lamothe, M., Pearce, N.J.G., Froese, D.G., Westgate, J.A., Schaefer, J. and Begét, J., 2011. The variegated (VT) tephra: A new regional marker for middle to late marine isotope stage 5 across Yukon and Alaska. *Quaternary International -Journal of the International Union for Quaternary Research*, vol. 246, no. 1, p. 312-323, ISSN 1040-6182.

Milidragovic, D., Thorkelson, D.J., Davis, W.J., Marshall, D.D. and Gibson, H.D., 2011. Evidence for late Mesoproterozoic tectonism in northern Yukon and the identification of a Grenville-age tectonothermal belt in western Laurentia. *Terra Nova - Oxford*, vol. 23, no. 5, p. 307-313, ISSN: 0954-4879.

Rohr, K.M.M., Lane, L.S. and MacLean, B.C., 2011. Subsurface compressional structures and facies transitions imaged by seismic reflection data, eastern margin of Richardson Trough, Peel Plateau, Yukon. *Bulletin of Canadian Petroleum Geology* vol. 59, no. 2, p. 131-146.

Tait, K.T., Barkley, M.C., Thompson, R.M., Origlieri, M.J., Evans, S.H., Prewitt, C.T. and Yang, H., 2011. Bobdownsite, a new mineral species from Big Fish River, Yukon, Canada, and its structural relationship with whitlockite-type compounds. *Canadian Mineralogist*, vol. 49, no. 4, p. 1065-1078, ISSN 0008-4476.

Zazula, G. and Froese, D., 2011. Ice Age Klondike: Fossil treasures from the frozen ground. Government of Yukon, 40 p., ISBN: 978-1-55362-524-7.

## YUKON THESES

Cobbett, R.N., 2011. Timing and kinematics of the Duke River fault: Insights into the evolution of the Insular terrane, southwest Yukon. Unpublished MSc thesis, University of British Columbia, 131 p.

Fernandes, N.A., 2011. Geology and geochemistry of late Devonian-Mississippian sediment-hosted barite sequences of the Selwyn Basin, NWT and Yukon, Canada. Unpublished MSc thesis, University of Alberta.

McQuilkin, M., 2011. Petrography and reservoir characterization of Cretaceous sandstones of the Parkin, Fishing Branch, and Cody Creek formations of the Eagle Plains sedimentary basin, Yukon. Unpublished BSc thesis, University of Calgary, 58 p.

## GSC CONTRIBUTIONS TO YUKON GEOLOGY

Blais-Stevens, A., Kremer, M., Page, A. and Couture, R., 2011. Regional landslide susceptibility mapping along the Yukon Alaska highway corridor: A qualitative heuristic approach. Geological Survey of Canada, Open File 6946, 1 CD- ROM. doi: 10.4095/288986

Hayward, N., Miles, W. and Oneschuk, D., 2011. Geophysical Series, detailed geophysical compilation project, Yukon Plateau, Yukon, NTS 115-I, J, K, N, O, P and 116A and B. Geological Survey of Canada, Open File 6958, scale 1:350 000, 2 sheets.

Hayward, N., Miles, W. and Oneschuk, D., 2011. Geophysical Series, regional geophysical compilation project, Yukon Plateau, Yukon, parts of NTS 105, 106, 115 and 116. Geological Survey of Canada, Open File 6959, scale 1:750 000, 2 sheets.

Hayward, N. and Oneschuk, D., 2011. Geophysical Series, regional geophysical compilation project, Yukon Plateau, Yukon, parts of NTS 105, 106, 115 and 116. Geological Survey of Canada, Open File 6840, 2 sheets.

Hayward, N. and Oneschuk, D., 2011. Geophysical Series, detailed geophysical compilation project, Yukon Plateau, Yukon, NTS 115-I, J, K, N, O, P and 116A and B. Geological Survey of Canada, Open File 6841, 2 sheets.

Smith, I.R., 2011. The seismic shothole drillers' log database and GIS for Northwest Territories and northern Yukon: an archive of near-surface lithostratigraphic surficial and bedrock geology data. Geological Survey of Canada, Open File 6833, 1 DVD-ROM.

Smith, I.R., Bednarski, J.M., Deblonde, C., Duk-Rodkin, A., Huntley, D. and Kennedy, K.E., 2011. Potential granular aggregate resources in Northwest Territories and northern Yukon: an updated assessment integrating seismic shothole drillers' logs and surficial geology maps. Geological Survey of Canada, Open File 6849, 1 DVD-ROM.

## the final word...

YGS would like to congratulate two ex-Yukon Geological Survey employees who have been recognized by their peers for their outstanding work and contributions to Yukon geology. Grant Abbott, who worked for the survey for nearly 30 years, was awarded the Geological Association of Canada's Ambrose Medal in May 2011. The medal is awarded annually to an individual for sustained, dedicated service to the Canadian Earth science community. Mike Burke, who was with the survey for nearly 20 years, received the first annual Yukon Chamber of Mines' Community Award, which honours the contributions of an individual or organization for their efforts to advance sustainable and responsible mining in Yukon. Both geologists are worthy recipients, and YGS is very proud to have worked with them. The citations for the awards are included below.

### 2011 J. WILLIS AMBROSE MEDAL – CITATION

Canada's geological surveys play a key role in protecting the public's interest in values associated with the Canadian landmass, and the individuals who manage the surveys influence how this role is achieved. Between 1980 and his retirement in 2008, Grant Abbott played a pivotal role in public earth science, both in Yukon and on the national stage. His thoughtful considerations (and diplomatic persuasiveness) were instrumental in the evolution of the public geoscience agency in the Yukon from a branch of the federal government (INAC) to a joint federal-territorial geoscience



office and ultimately to the creation of the Yukon Geological Survey. At the core of Grant's efforts lies a belief in the fundamental importance of scientific data in making informed decisions.

Grant started his career as a staff geologist with INAC in Whitehorse following the completion of his M.Sc. at Queen's University. His research comprised deposit to regional-scale mapping-based studies which were integral to understanding the regional geological setting and mineral wealth of Yukon. Our current models for important Yukon deposits (e.g. Macmillan Pass SEDEX deposits, Cassiar and Mackenzie platform carbonate-replacement deposits, Plata and Rancheria vein-hosted mineralization) are based largely on Grant's scientific documentation and analysis. In addition to his scientific contributions, Grant's work had important economic impacts: when compiled with other geoscience work underway in the territory, Yukon was becoming a jurisdiction that could compete for exploration investment and offer growing geoscience expertise to industry.

In the late 1980's, in anticipation of the devolution of resource management responsibilities from the federal to territorial government, Canada and Yukon embarked on a jointly-administered geoscience office. With Grant as its scientific authority and his unapologetically uncompromising attitude on quality, the office was staffed and projects were developed and delivered. To ensure the program's credibility, a Technical Liaison Committee comprising key client groups was convened, accountable to the Deputy Minister/Director General levels of the two governments. With devolution in 2003, this organization became the Yukon Geological Survey, listed by the Fraser Institute as one of the top geological surveys on the planet.

During his tenure with the survey, Grant helped focus the committee on influencing government opinion about the importance of public geoscience and establishing geological surveys as key advisors to government on issues ranging from wealth generation to public health and safety.

While he was laying the groundwork for the creation of YGS, Grant also participated on the National Geological Surveys Committee (NGSC), bringing a strong western and northern Canadian voice to the table. Grant's tenure with the NGSC coincided with many of the formative events that shaped the current roles of geological surveys in Canada. Fiscal pressures at all levels of government required prudent responses in order for geological surveys to survive. Relevance to government priorities had to be made explicit; the respective roles of the federal and provincial/territorial surveys needed to be clearly defined. The current existence of geological surveys in several jurisdictions can be credited to the quality of the response of the NGSC to these pressures. Grant's particular brand of clear-thinking and persuasive diplomacy played an important role in shaping public geoscience at the national level.

## **2011 YUKON CHAMBER OF MINES COMMUNITY AWARD - CITATION**



Mike Burke worked for Yukon Geological survey and its early incarnations for 19 years before joining Golden Predator in 2011. During his tenure he was a key figure in promoting Yukon as a great place to explore, and he kept his finger continually on the pulse of the exploration community. When Mike left the survey earlier this year, we lost a walking encyclopedia of exploration history and knowledge; perhaps his next contribution will be the announcement of Yukon's next mine.

## **YUKON GEOLOGICAL SURVEY**

Yukon Geological Survey staff are located in the following buildings in Whitehorse: the Elijah Smith Building at 102-300 Main Street, the Professional Building at 2099-2nd Avenue, and the H.S. Bostock Core Library at Mile 918 on the Alaska Hwy.

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