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INSIDE: 42 MINING Explorers with strategies to survive the persistent bear market



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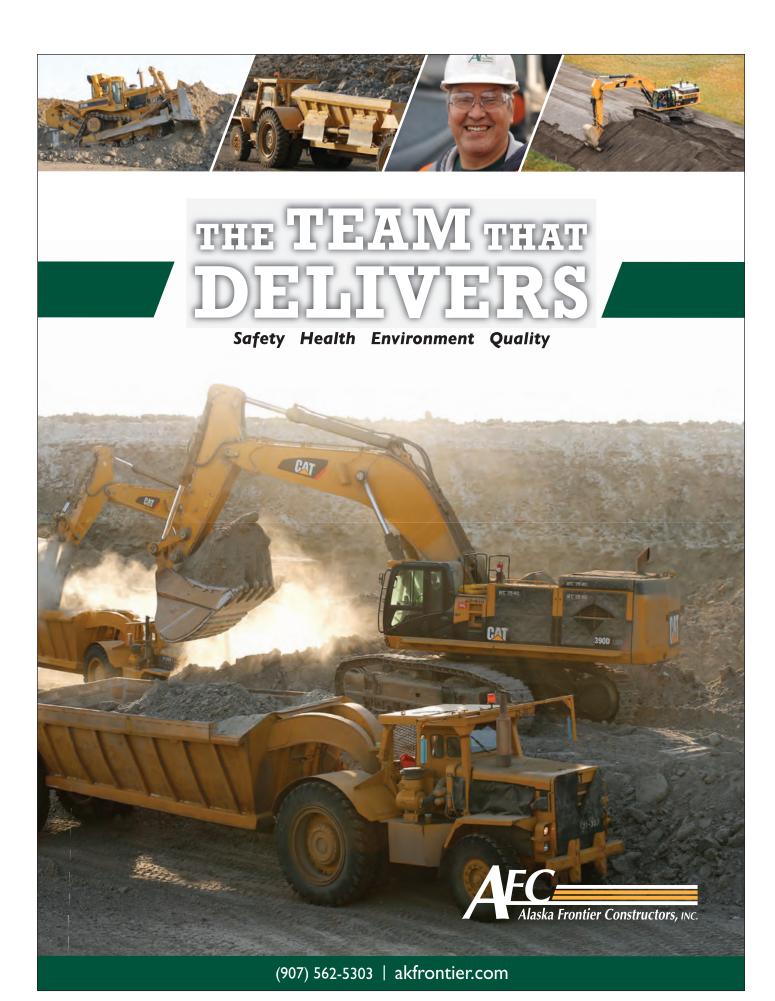
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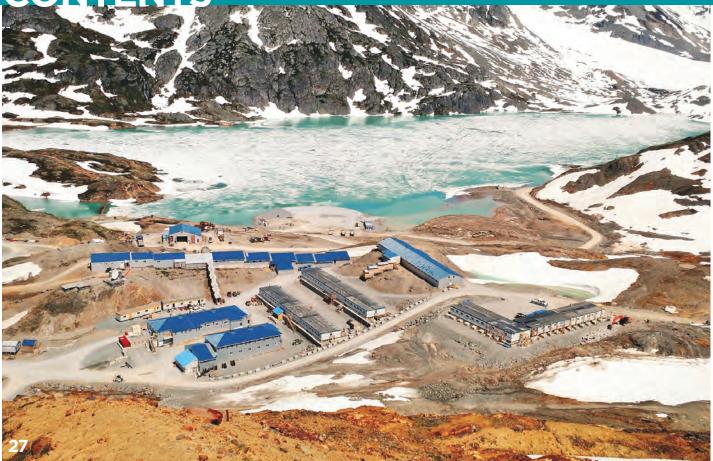
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#### ALASKA EXPLORERS

Coeur Mining Constantine Metal Resources	
Contango ORE	
First Quantum Minerals	
Freegold Ventures	60
Hecla Mining	61
International Tower Hills Mines	62
Kinross Gold	64
Millrock Resources	66
NovaCopper	21
Novagold Resources	67
Redstar Gold	68
Sumitomo Metal Mining Pogo	71
Ucore Rare Metals	73

#### **BC** EXPLORERS

Canada Zinc Metals	32
Kaizen Discovery	63
Pretium Resources	68
Seabridge Gold	70
Skeena Resources	31
Teck Resources	72

#### **NWT** EXPLORERS

Canadian Zinc	
	continued on base 6

### **Explorers survive bear markets**

Many of Alaska and northern Canada's mining explorers have demonstrated incredible resilience during a five-year bear market that has been especially deep and painful, even for seasoned mining sector veterans.

"This has been a particularly treacherous bear market," longtime natural resource investor, Rick Rule, noted during a July appearance on Palisade Radio. "The reason that this has been a particularly treacherous bear market is that the last bull market was particularly generous."

Even in the depths of this long and treacherous downturn in metals prices and mining equity markets, more than 40 companies mounted million-dollar-plus exploration programs at promising mineral projects across Alaska, Yukon, Northwest Territories, Nunavut and northern British Columbia during 2015.

Many of the same strategies that help prevent these mineral explorers from being mauled while working in bear country are being applied to surviving the persistent bear markets that have plagued the junior mining sector over the past several years.

One such bear survival strategy is to travel in groups.

A number of North of 60 mining explorers have formed partnerships with companies that look beyond the current market cycle and have the financial wherewithal to see that vision to fruition.

Many other junior companies have merged – a move that consolidates cash, expands portfolios, lowers overhead and strengthens management.



SHANE LASLEY

While a bear market may not be the ideal place to raise equity capital through traditional financings, it is a great environment to hunt for undervalued exploration companies. At least one Alaska exploration company was able to bolster its treasury by buying a fellow junior whose market cap was roughly 65 percent of the money it had in the bank.

If attacked by a bear, experts recommend playing dead until the predator loses interest and moves on. Many junior miners are employing a similar tactic to survive the current bear markets by conserving what little cash they have in the

bank in hopes of surviving until the current financial environment improves.

Those with expertise in mining equities, however, are reluctant to predict how much longer these companies will have to endure the bear market.

"I would say we are within 20 or 30 percent of a bottom, and we are 500 percent away from a top," according to Rule. "In terms of when this blessed time might occur, I have no earthly idea."

Whether the long and treacherous bear market holds or bulls carry mining equities and mineral prices northward, North of 60 Mining News will be here to keep you informed on the mining and exploration companies discovering the future of Alaska and Canada's North.

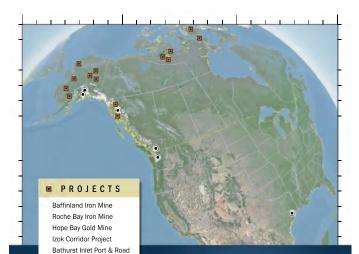
Thank you, and I hope you enjoy this seventh edition of Mining Explorers.

-Shane Lasley, publisher, North of 60 Mining News



### CONTENTS







WITH A TEAM OF MULTI-DISCIPLINED CIVIL/STRUCTURAL ENGINEERS, PND HAS LENT SUPPORT TO THE MINING INDUSTRY IN THE ARCTIC AND BEYOND SINCE 1979

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Dominion Diamond	60
Kennady Diamonds	64
Nighthawk Gold	66
TerraX Minerals Inc.	39

#### NUNAVUT EXPLORERS

Agnico-Eagle Mines	48
Auryn Resources	29
Kivalliq Energy	65
North Arrow Minerals	67
Northquest	67
Peregrine Diamonds	68
Sabina Gold & Silver	69
TMAC Resources	72

#### YUKON EXPLORERS

Alexco Resource	24
Atac Resources	28
Goldstrike Resources	61
Independence Gold	62
Kaminak Gold	64
Rockhaven Resources	58
Selwyn Chihong Mining	70
Strategic Metals	71
Wellgreen Platinum	73

#### Mining Explorers

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> SHANE LASLEY PUBLISHER & NEWS EDITOR

ROSE RAGSDALE

CONTRIBUTING EDITOR

CHIEF EXECUTIVE OFFICER

ADVERTISING DIRECTOR

BONNIE YONKER AK/NATL ADVERTISING SPECIALIST

> RENEE GARBUTT CIRCULATION MANAGER

MARTI REEVE SPECIAL PUBLICATIONS DIRECTOR

> STEVEN MERRITT PRODUCTION DIRECTOR

TOM KEARNEY ADVERTISING DESIGN

HEATHER YATES BOOKKEEPER



MAPMAKERS ALASKA CARTOGRAPHY

JUDY PATRICK CONTRACT PHOTOGRAPHER

MAILING ADDRESS: PO Box 231647 Anchorage, AK 99523-1647 Phone: (907) 522-9469 Fax: (907) 522-9583 E-mail:

publisher@miningnewsnorth.com Web Page: www.miningnewsnorth.com

About the cover: High-grade gold intercepts at Skeena Resources' Spectrum property in Northwest B.C. (left), an expanding copperand zinc-rich massive sulfide deposit at Constantine Metal Resources' Palmer project in Southeast Alaska (center); and the rapid expansion of Agnico Eagle's Amaruq gold project in Nunavut (right) are among the highlights from 2015 mining explorers. Bear photo by Patrick Endres, Alaska Photo Graphics. Inset photos courtesy of Skeena Resources Ltd. (left), Constantine Metal Resources Ltd. (center), and Agnico Eagle Mines Ltd. (right).

> Printed by Journal Graphics, Portland, Oregon

Red Dog Mine

Pogo Gold Mine

Usibelli Coal Mine

Valdez Creek Mine

Pebble Project

Illinois Creek Gold Mine

Donlin Creek Gold Mine

Kensington Gold Mine

Greens Creek Mine

• OFFICES

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#### **GUEST** COLUMNS

Ed Fogels, Alaska	.8
Bill Bennett, BC	25
Monica Ell, Nunavut	41
Lara Lewis, Yukon	50

#### **EXPLORATION OVERVIEWS**

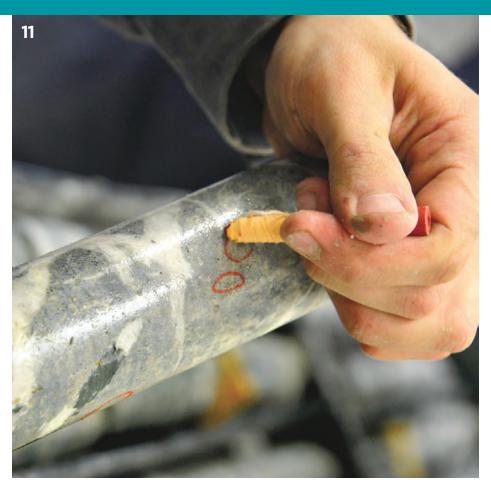
Alaska	10
British Columbia	27
Northwest Territories	34
Nunavut	44
Yukon Territory	52

#### MAPS

Alaska	12
British Columbia	26
Northwest Territories	35
Nunavut	43
Yukon Territory	53

#### **AD** INDEX

Advertisers75	
---------------	--



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Guest Column

### Adversity buffets mining sector

State benefits from world-class resources despite market, fiscal woes

By ED FOGELS Special to Mining News

The State of Alaska and its mining industry continue to benefit from a world-class natural resource base while being buffeted by significant challenges, mostly related to downward market trends for minerals and energy. The wide array of complex resource development issues and decisions facing Alaska resource managers, policy makers and the private sector is unabated – in fact it has grown – and the Alaska Department of Natural Resources is determined to address them as best we can despite adverse fiscal conditions.

Some good news for the minerals industry in Alaska is that the fiscal 2016 state budget reductions did not significantly undermine resource development, revenue generation, or DNR's stewardship role. We also have maintained DNR's strong permit coordination function. However, looking ahead to FY 2017, it will be very difficult to identify additional DNR budget reductions that will not impact our critical functions.

I want to take this opportunity to commend the excellent work on many fronts by the Division of Geological & Geophysical Surveys over the past year. This division faced painful FY 2016 cuts, including the loss of its airborne geophysical survey program, which we look forward to restoring in the future.

Yet with strong leadership from State Geologist Steve Masterman and new deputy director Ken Papp, the division opened its new Geologic Materials Center in Anchorage on July 1. The center's entire geologic collection moved from Eagle River to Anchorage on 2,522 pallets in 142 trucks in 31 days. Since opening, visits to the GMC have increased, and the center has received significant donations from corporations such as Calista Corp. and Bristol Bay Native Corp. These two organizations generously contributed core samples (more than 80 pallets combined) from a dozen mining prospects throughout Alaska, including the Saddle Mountain



Ed Fogels, Deputy Commissioner, Alaska Department of Natural Resources

prospect in southwest Alaska and the Bee Creek prospect north of Chignik Bay.

I also would like to mention some personnel changes in DNR's Division of Mining, Land and Water. Marty Lentz is now the division's Mining Section Chief. Marty comes to us from the Pennsylvania Department of Conservation and Natural Resources. Also, Mitch Henning has returned to DNR to work in the Mining Section, and many of you are familiar with Mitch from his many years with DNR prior to his first retirement!

Much already has been said about the increased scrutiny and regulatory requirements placed on the Alaska mining

industry in recent years. A case in point is the adverse ruling from the Alaska Supreme Court about DNR's public noticing of past exploration activities at the Pebble Project. We are actively evaluating what measures will be necessary to respond to the decision, and we are conferring with the plaintiffs and Pebble Limited

Partnership to draw the case to a close. Any statutory or regulatory changes that may be needed to implement the ruling will be subject to public review. We will do what we can to ensure that the ruling has minimal impacts on project timelines. Nevertheless, we encourage all miners to file their applications in a timely manner.

On the federal side, small-scale miners in Alaska continue to face uncertainty regarding pending regulations and policies

"Wetland issues remain at the forefront of the State's efforts to improve permitting in Alaska. Currently, we are focusing on the urgent matter of wetland compensatory mitigation cost escalation and regulatory issues currently impacting resource development projects." —Ed Fogels, deputy

commissioner, Alaska Department of Natural Resources

such as the Environmental Protection Agency's rulemaking regarding the Clean Water Act and implementation of wetland management on all waters of the United States. Furthermore, development and implementation by BLM of new Instruction Memoranda for placer mining and reclamation bonding also is generating a level of uncertainty. The Division of Mining Land & Water is working diligently with BLM to develop an updated framework for reclamation bonding within the existing State of Alaska Reclamation Bond Pool, and to further refine the process by which federal mining claim locaters and mine operators might convert their federal mining claims into state mining claims. The latter will allow the federal lands within a state land selection to become state-owned upon conveyance of that land to the State.

Wetland issues remain at the forefront of the State's efforts to improve permitting in Alaska. Currently, we are focusing on the urgent matter of wetland compensatory mitigation cost escalation and regulatory issues currently impacting resource development projects.

To that end, DNR's Office of Project Management & Permitting is leading the State's effort to develop the prospectus necessary to request approval from the U.S. Army Corps of Engineers to establish a state-managed in-lieu fee wetlands mitigation program. The Corps' current approach requires developers to pay ever-increasing sums of money for every acre of disturbed wetlands or impacted streams in Alaska. This money often is used to put additional land off limits to development. A state-run wetlands mitigation program may offer more ways to comply with federal wetlands mitigation requirements while utilizing more effective methods to support and enhance aquatic ecosystems on state land.

Other notable activities this year include the ongoing state and federal permitting process for the Donlin Gold project in the Yukon-Kuskokwim Region and the Chuitna Coal project near Beluga. The Corps of Engineers is the lead agency for the National Environmental Policy Act review of both projects. The Draft EIS for Donlin is currently scheduled to be released to the public in November 2015, with a final EIS released at the beginning of 2017 and many other state and federal permit decisions anticipated around that same time. The draft Supplemental EIS and state and federal permit applications and draft decisions for Chuitna are currently scheduled for the early second quarter of 2016, with final decisions anticipated in 2017.

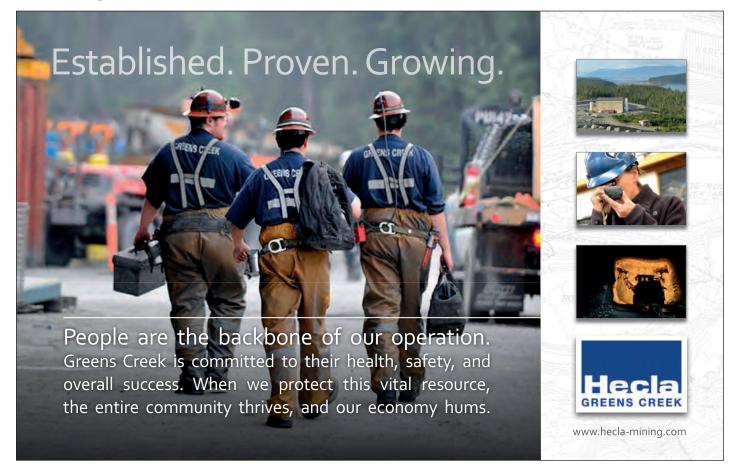
This year, the Division of Mining, Land & Water processed 488 placer mining applications, with about 413 of them on state land. As part of DNR's continuing efforts to improve permitting, the division is working on revisions to the APMA application to make it easier for miners to complete and also to better capture information for DNR's decision process.



In July, the Alaska Division of Geological & Geophysical Surveys opened the doors to its new and expanded Alaska Geological Materials Center in Anchorage. A map depicting examples of Alaska's rich mineral resources covers one wall of the spacious lobby that welcomes visitors to this newly renovated, 110,000-square-foot climate-controlled facility.

Media attention tends to focus on adverse court rulings for the State on natural resource issues, so I'd like to conclude this piece by highlighting a significant legal win for the State with implications for Alaska mining. In July, the U.S. Department of Justice conceded and U.S. District Judge Sharon Gleason signed an order confirming that the State of Alaska owns the submerged lands of the Fortymile River's Mosquito Fork, successfully concluding a case filed by the State in 2012. Many mining claims located on these submerged lands could not be perfected because of uncertainty of ownership. With the successful outcome of this case, mining on these claims would be authorized under the state's permitting process.

*Ed Fogels is deputy commissioner of the Alaska Department of Natural Resources.* 



Kinross Gold Corp. continues to seek new ore for the mill and heap leach facility at its Fort Knox Mine. Gilmore, a potential pit expansion area on previously restricted federal lands immediately west of the Fort Knox pit (shown here), is one area that could extend the life of this Interior Alaska Mine.

Alaska Exploration 2015

### Majors carry Alaska exploration

Alaska producers continue robust programs, other majors seek opportunities

#### By SHANE LASLEY Mining News

The owners of Alaska's five large metal mines – Sumitomo Metal Mining Pogo, Hecla Mining Co., Kinross Gold Corp., Teck Resources Ltd. and Coeur Mining Inc. – accounted for nearly half of the US\$96 million of exploration spending in the state during 2014. This year, similar investments by these large companies and other majors are again providing solid footing for the Far North state's mineral exploration sector. Avalon Development Corp. President Curt Freeman said he is seeing more mining majors shopping for deals in Alaska.

"The junior markets are still flat, but that plus-three-year slump in the junior explorer market has caused joint ventures and leases and mining claims to unravel, providing well-heeled producers with opportunities to acquire at the bottom of the market. Expect to see more producers become involved in Alaska's mineral industry this year," the longtime Alaska geologist predicted.



#### Pogo tops spending

Sumitomo Metal Mining Pogo – a joint venture between Japanese firms Sumitomo Metal Mining Company (85 percent) and Sumitomo Corp. (15 percent) – accounted for nearly 20 percent of the exploration spending in Alaska during 2014 and 2015.

Following up on the US\$17 million exploration program in 2014, the Japanbased owners of the Pogo Mine invested US\$15 million on discovering and expanding zones of high-grade gold that are adding years to the life of the Interior Alaska mine.

"This funding shows the tremendous confidence that Sumitomo has in the Pogo deposit and our ability to find additional resources for many years to come," said Lorna Shaw, external affairs manager, SMM Pogo.

Based on the high-grade gold discoveries made in the immediate mine area over the past five years, this confidence is wellfounded.

In addition to the robust exploration in the immediate mine area, the Sumitomo partners continue to seek other highgrade gold deposits in the broader Goodpaster Mining District where Pogo is located.

Stone Boy Inc., owned by subsidiaries of Sumitomo Metal Mining (95 percent) and Sumitomo Corp. (5 percent), has been exploring this area for other high-grade gold deposits since 1991. Over the past three years, the Ink claims, located about 15 miles (24 kilometers) southeast of Pogo, has been the primary focus of this search, including a US\$1.3 million program completed in 2014.

Millrock Resources said it has formed a strategic partnership with a major mining company to explore for high-grade gold deposits in Alaska. While the name of this strategic partner is currently being withheld, Millrock said the gold miner is new to the state, further shrinking the field of candidates.

Millrock and its yet-to-be-named strategic partner furthered its search for high-grade gold deposits through the acquisition of an extensive, proprietary database of geological information from nearly two decades of exploration Anglogold-Ashanti and International Tower Hill Mines carried out in the Goodpaster Mining District where the Pogo Mine is located.

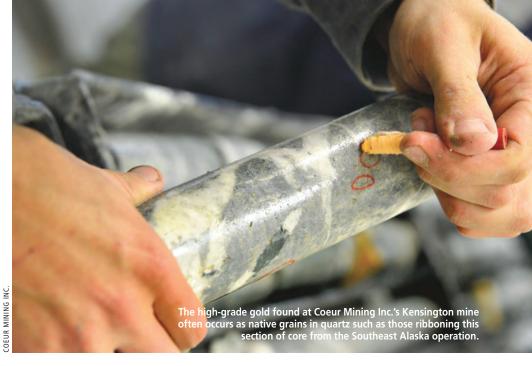
Millrock CEO Philip St. George said, "With the acquisition of the Anglogold-Ashanti database, our company will have the most comprehensive store of geological knowledge on this district. We will have a distinct competitive advantage for generating new grassroots exploration targets for high-grade gold deposits with our strategic partner."

The company acquired the geological data from Corvus Gold Inc., a spin-out company formed to explore International Tower Hill's non-Livengood assets.

Millrock also purchased West Pogo, a gold property located about two miles (three kilometers) west of Sumitomo Metal Mining Co.'s Pogo Mine, from Corvus along with right of first refusal to acquire LMS, another gold project in the area.

New on the Alaska exploration scene, Royal Gold Inc. has agreed to invest up to US\$30 million in furthering the exploration and potential development of Contango Ore Inc.'s Tetlin gold properties situated along the Alaska Highway near the crossroads community of Tok in eastern Alaska.

In return, the Denver-based royalty company will earn up to a 40 percent interest in Peak Gold, a joint venture that will hold the 676,200 acres of Native



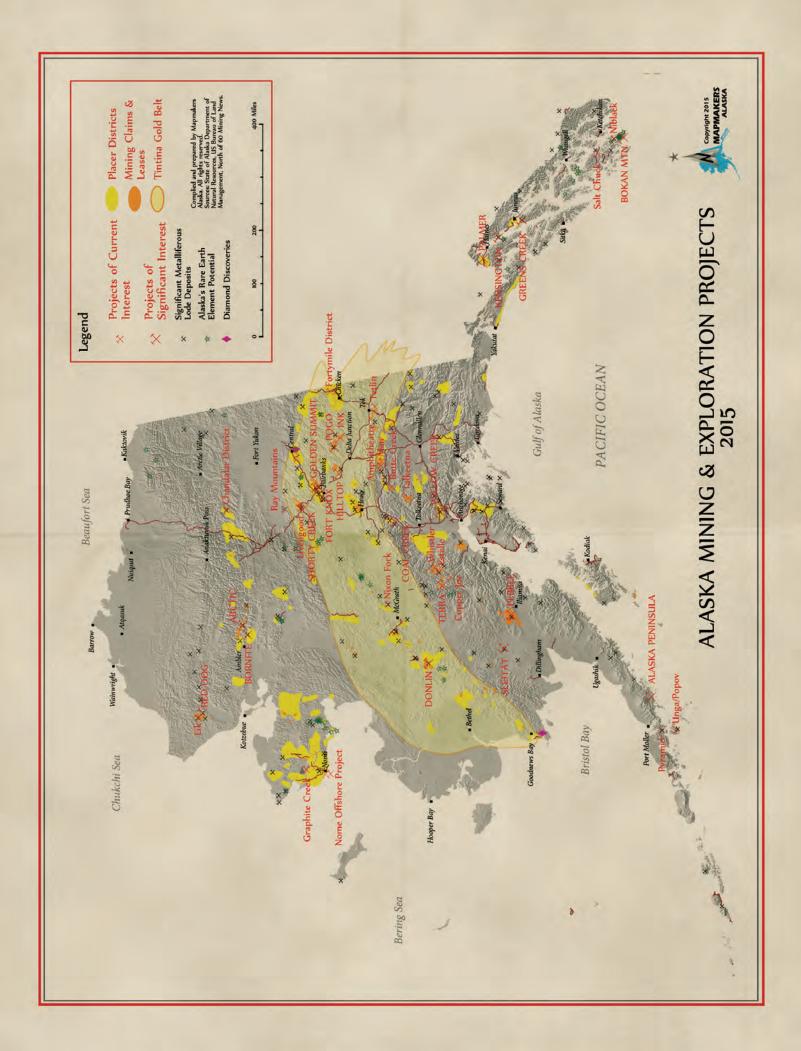
owned lands Contango leased from the Tetlin Village Council and some 83,720 acres of state of Alaska mining claims staked adjacent to the Tetlin lease.

While this extensive land package blankets numerous precious and base metal targets ripe for exploration, the Peak zone, a gold-rich skarn deposit located on the Tetlin lease, is currently the property's most advanced asset.

Early in 2014, Contango published a maiden indicated resources of 6 million metric tons averaging 3.46 grams of gold per metric ton, 11 g/t silver and 0.25 percent copper for 783,115 gold-equivalent ounces. Additionally, the skarn deposit

continued on page 14













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#### ALASKA OVERVIEW continued from page 11

has an inferred resource of 3.9 million metric tons averaging 2.07 g/t gold, 14.28 g/t silver, 0.23 percent copper for 332,969 gold-equivalent ounces.

For 2015, Royal Gold committed US\$5 million to a phase-one exploration program that tested some the blue-sky potential of the expansive Tetlin property. This included some 7,500 meters of drilling at a number of outlying targets – Tars, Saddle, North Saddle and Saddle Skarn – as well as below the Peak zone.

"While the joint venture has not received all assays back from the phase 1 drilling, initial findings are encouraging," Contango Ore President and CEO Brad Juneau reported in early September.

Results from the initial exploratory drilling were encouraging enough for Royal Gold to invest another US\$4 million towards a 6,000-meter drill program during the fall of 2015.

Northern Empire Resources Corp., another new Alaska explorer, was formed as a restructuring of Prosperity Goldfields late in 2014. The company's portfolio of early-stage gold properties in Alaska and Nunavut includes the Richardson property about 45 miles (70 kilometers) west of Pogo.

Early in 2015, Northern Empire optioned Hilltop, a portion of the larger Richardson property, to Sonoro Metals Corp.

Northern Empire and Sonoro said that an initial round of exploration has confirmed and expanded the footprint of known gold mineralization at Hilltop.

Highlights from the program include channel samples returning up to 19.45 g/t gold and rock grab samples grading as high as 26.55 g/t gold.

#### Fort Knox and beyond

Kinross Gold Corp. continues to seek deposits that can extend the life of its Fort Knox Mine about 25 miles (40 kilometers) north of Fairbanks.

According to an updated mine plan published this year, Fort Knox has enough higher grade reserves to feed the mill into 2017 and lower grade ore to stack on the heap leach pad into 2019.

Kinross invested roughly US\$7.8 million on exploration at its Interior Alaska properties in 2014 and continued this work with a similar scale program this year.

This work is focused on upgrading measured and indicated resources immediately surrounding its Interior Alaska gold mine; continued exploration of Gil, a deposit located roughly five miles east of the mill; and exploration of Gilmore, a potential pit expansion area on previously restricted federal lands immediately west of the Fort Knox pit.

Kinross is also carrying out early-stage exploration on a large block of claims in the Circle Mining District about 80 miles (130 kilometers) north of Fort Knox.

Freegold Ventures Ltd. has outlined a 6-million-ounce bulktonnage gold deposit on its Golden Summit property located just four miles (seven kilometers) north of the Fort Knox mine.

This year's work at Golden Summit is focused on completing a preliminary economic assessment that investigates the viability of a two-phase development plan that starts off with a heap leach operation to recover gold from a near-surface oxide resource with the potential of adding a mill to process the sulfide resource that lies beneath oxide ore.

Freegold's 2015 exploration program, meanwhile, focused on Shorty Creek, a copper-gold porphyry project in the Livengood region of Interior Alaska.

Following the acquisition of Shorty Creek in mid-2014, Free-

gold completed an initial pass of geophysical and geochemical surveys; and staked 5,200 acres of additional claims, increasing the project area to 20,920 acres.

This year, Freegold put together a 3,000-meter drill program to test two significant porphyry targets it has identified on the property.

International Tower Hill Mines Ltd. budgeted US\$10 million for metallurgical, field and engineering work aimed at optimizing its mine plan for the 20-million-ounce Livengood gold project located about three miles (five kilometers) north of Shorty Creek.

A feasibility study completed for Livengood in 2013 anticipates a 100,000-ton-per-day mill churning out 8.1 million oz. of gold over an initial 14-year mine life.

Since the completion of the feasibility study, Tower Hill has been investigating opportunities to lower the capital and operating expenditures for mining the large but low-grade deposit at Livengood.

Evaluating the ideal size for the mill, steepening the pit slope in the early years and improving head grades with more thorough metallurgical sampling are some of the areas where the company believes it can improve the economics of developing Livengood.

About 45 miles (70 kilometers) southwest of Livengood, Endurance Gold Corp. continues prospecting and sampling aimed at prioritizing drill targets at its Elephant Mountain gold project.

#### Metals rich panhandle

Hecla and Coeur – owners of Southeast Alaska's two large mines – accounted for more than US\$10 million of mineral exploration on the panhandle in 2015. "Expect to see more producers become involved in Alaska's mineral industry this year."

-Curt Freeman, president, Avalon Development Corp.

At US\$8.2 million, Hecla's exploration at Greens Creek was the largest program along this metals-rich panhandle.

This robust exploration program is continuing to discover and delineate silver-rich volcanogenic massive sulfide mineralization at the lower Northwest West, Deep 200 South, Southwest and Gallagher Fault Block of the underground mine at Greens Creek.

Highlights include: 6.0 feet grading 107.3 ounces per short ton silver, 0.73 oz/t gold, 4.0 percent zinc and 2.1 percent lead at the NWW zone; and 6.2 feet averaging 61.9 oz/t silver, 0.04 oz/t gold, 2.1 percent zinc, and 1.3 percent lead at Deep 200 South.

In addition to underground drilling, Hecla tested Killer Creek, an exploration target about a mile west-northwest of the mine, and High Sore, a prospect less than a mile southeast of the mine, with a 3,000-meter surface drilling program.

Coeur Mining is reaping the benefits of its recent exploration at its Kensington mine.

"Our recent success identifying high-grade mineralization near existing Kensington infrastructure has added higher-margin production to our mine plan and significantly improved the expected economics of the mine," Coeur Mining President and CEO Mitchell Krebs explained.

The highest grade portion of this newfound gold is located in the area of the historic Jualin Mine, which is situated about 8,250 feet from current mining in the Kensington Mine area. Since late

continued on page 16

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#### **ALASKA OVERVIEW** continued from page 15

2013, surface drilling has outlined 289,000 tons of inferred resource at Jualin averaging 0.619 oz/t (179,000 oz) gold, nearly triple the grades currently being mined.

This higher grade resource has been incorporated into a new mine plan that anticipates higher-grade Jualin material supplementing ore from the Kensington side of the mine by 2017.

For 2015, Coeur dialed back its exploration at Kensington to US\$2.2 million as it begins underground development to reach the high-grade Jualin deposit.

At the northern end of the Southeast Alaska Panhandle, Dowa Metals & Mining Co. Ltd. invested another US\$5 million on expanding the Glacier Creek volcanogenic massive sulfide deposit at Constantine Metal Resources Ltd.'s Palmer project.

In May, Constantine published an inferred resource of 8.125 million metric tons averaging 1.41 percent (252.6 million pounds) copper, 5.25 percent (940.4 million lbs.) zinc, 0.32 grams per metric ton (83,600 ounces) gold and 31.7 g/t (8.3 million oz.) silver for Palmer. This is nearly double the previous resource calculated for the Glacier Creek deposit in 2010.

This year, Dowa and Constantine focused on expanding the deposit down into an area where the geological and geophysical evidence points to the potential of a copper-rich core of the VMS deposit.

At the southern end of the Southeast Alaska Panhandle, Ucore Rare Metals Inc. is finalizing a feasibility study for its Bokan rare earth element project on Prince of Wales Island.

Early in 2015, the company published the results from a 4,000meter infill and resource expansion program at the Dotson Ridge deposit at Bokan.

This drilling increased the indicated resource by 63 percent to 4.79 million metric tons averaging 0.6 percent (63.54 million pounds) total rare earth oxides. Additionally, the deposit has 1.05 million metric tons of inferred resource averaging 0.6 percent (13.96 million lbs.) TREO. Roughly 39 percent of the TREO in both categories are the higher valued heavy rare earths.

In addition to putting the final touches on a feasibility study, Ucore has been working with Utah-based IBC Advanced Technologies to develop a new method of separating rare earths using molecular recognition technology, a process that designed to bind selectively with ions based on multiple parameters such as size, chemistry, and geometry.

Ucore believes the exploration and development of its heavy rare earth-enriched Bokan Mountain project, alongside the cutting-edge REE refining technology separates it from other rare earth-focused companies in North America.

#### NANA in Northwest

From Red Dog to grassroots gold exploration, NANA Corp., the Alaska Native regional corporation that represents the Iñupiat of Northwest Alaska, is involved in a number of mining initiatives across its traditional homeland.

NANA owns the land where Red Dog zinc is located and is a partner in the mining of the world-class zinc mine.

Teck Resource Ltd., the operator of Red Dog, continues to add years to the mine by upgrading high-grade resources in nearby deposits to reserves and seeking out new deposits in the larger Red Dog area of Northwest Alaska.

Going into 2015, Red Dog had 45.4 million metric tons of ore in reserve averaging 15.8 percent (6.05 million metric tons) zinc, 4.1 percent (1.86 million metric tons) lead and 72.6 grams per metric ton (106 million ounces) silver.

This includes the first-ever reserves of 7.4 million metric tons averaging 24.7 percent zinc and 6.9 percent lead for Qanaiyaq, a near-surface deposit that lies to the south of the mined out Red Dog main deposit.

In addition to adding to the reserves on NANA lands, Teck is exploring prospective state lands in the larger Red Dog district. Anarraaq-Aktigiruq, situated roughly eight miles (13 kilometers) northwest of the current operations, is among the highest quality of these outlying targets.

The diversified miner also holds a 50 percent stake in Lik, another Red Dog District zinc project that is being advanced by Zazu Resources Ltd.

According to a preliminary economic assessment published in 2014, a 5,500 metric-ton-per-day mill processing ore from an open pit mine at Lik would produce an average of 234,000 dry metric tons of zinc concentrate and 55,800 dry metric tons of lead concentrate annually over an initial nine-year mine life.

Zazu's 2015 work program at Lik includes the continuation of acid rock drainage and environmental baseline studies needed for permitting.

About 180 miles (290 kilometers) southeast of Red Dog, Nova-Copper invested US\$5.5 million on a work program focused on advancing a pre-feasibility study for the development of an open-pit mine at the Arctic volcanogenic massive sulfide project in the Ambler Mining District. This work included resource confirmation and geotechnical drilling, as well as engineering and environmental studies.

Arctic is the most advanced of the Upper Kobuk Mineral Projects, a partnership between NovaCopper and NANA.

In addition to its partnered projects, NANA is seeking the lode source of the some 350,000 ounces of placer gold recovered

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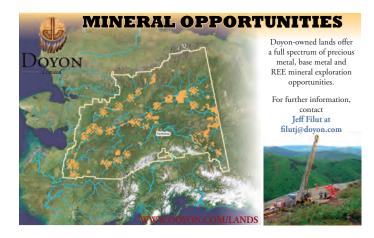
#### ALASKA OVERVIEW continued from page 16

from the Fairhaven Mining District. Following up on systematic prospecting and sampling carried out in recent years, the Alaska Native regional corporation completed roughly 4,000 meters of drilling on its gold prospects in the area.

#### Spending slips in Southcentral

Southcentral Alaska is known to host deposits rich in gold, copper, nickel, tungsten and tin. This region stretching south of a large portion of the Alaska Range, however, saw little in the way of mineral exploration during 2015.

Kiska Metals Corp. sold Whistler, a Southcentral Alaska copper-gold project that was once considered the company's flagship asset, to Brazil Resources Inc.





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Whistler is anchored by its namesake deposit, which hosts 79.2 million metric tons of indicated resource grading 0.51 grams per metric ton gold, 1.97 g/t silver and 0.17 percent copper; and 145.8 million metric tons of inferred resource averaging 0.40 g/t gold, 1.75 g/t silver and 0.15 percent copper.

Some 20 other prospects and deposits have been identified across the roughly 65-square-mile Whistler property, including those found at Whistler orbit, Island Mountain and Muddy Creek.

"The Whistler deposit is one of several porphyry centers (Raintree West, Raintree East, Rainmaker and Island Mountain) identified on the property, and future exploration programs will focus on developing a better understanding of their size potential," explained Brazil Resources CEO Garnet Dawson.

Kiska, meanwhile, is continuing to explore Southcentral Alaska.

First Quantum Minerals Ltd., a global mining company with a particular focus on copper, is funding exploration of the project generator's Copper Joe copper-gold-molybdenum project situated about 20 miles southwest of Whistler.

Under an option agreement signed in 2014, First Quantum can earn an initial 51 percent interest by investing US\$5 million at Copper Joe by the end of 2017, a stake that would increase to 80 percent if the copper miner decided to build a mine there.

After signing the deal last August, First Quantum drilled two holes at Copper Joe late in 2014. While this initial program did not return significant copper and gold assay results, the confirmation of a strong porphyry-hydrothermal system was enough to pique the interest of the global miner.

To identify areas to conduct a follow-up drill program, First Quantum invested US\$826,000 in an early 2015 program that included geological mapping and a magnetotelluric geophysical survey at Copper Joe.

Strongbow Exploration Inc. picked up two Alaska tin properties from Osisko Gold Royalties Ltd. during 2015, including the Coal Creek property in Southcentral Alaska.

Coal Creek was staked for its tin-silver potential by Houston Oil and Minerals in 1980.

Based on about 5,000 meters of drilling, an historical resource of 4.4 million metric tons averaging 0.27 percent tin was calculated for Coal Creek, according to data published by the U.S. Geological Survey.

Tungsten and gold also have been identified at Coal Creek. Choice grab samples collected from the property in 1990 turned up 720 g/t tungsten, 65 g/t silver, 0.5 g/t gold and 4.86 percent zinc.

Sleitat, the other tin property picked up by Strongbow, is lo-



This sample chipped off an outcrop at the Whistler deposit in Southcentral Alaska is rich with porphyly copper-gold mineralization. Brazil Resources Inc., the new owner of the Whistler property, has published an updated resource for this deposit that includes 2.25 million gold-equivalent oz. in the indicated category and 3.35 million gold-equivalent oz. in the inferred category.

cated in Southwest Alaska about 40 miles (65 miles) west of Northern Dynasty Ltd.'s Pebble copper-gold-molybdenum project.

SHANE LASLEY

In 1989, the U.S. Bureau of Mines estimated the Sleitat prospect to contain 25.9 million tons at average grades of 0.22 percent to 0.37 percent tin, 0.04 percent tungsten and 17 grams per metric ton silver.

The Sleitat and Coal Creek resource estimates do not meet the rigor of NI 43-101 standards.

#### **Drilling Alaska Peninsula**

The recent slowdown of mineral exploration in Southwest Alaska continued into 2015. The Alaska Peninsula that stretches off this region into the Pacific Ocean, however, was a target of increasing activity this year.

Redstar Gold Corp. got the ball rolling with a 1,500-meter drill program at its Unga gold project, which blankets two parallel trends of high-grade epithermal gold veins that each extend for more than 4.5 miles across the southeast corner of Unga Island.

The Apollo-Sitka trend is home to the historic Apollo and Sitka mines, which

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continued on page 20

#### ALASKA OVERVIEW continued from page 19

produced some 150,000 ounces of gold from high-grade veins on the Apollo-Sitka trend between 1891 and 1922.

This year's drilling, however, targeted the Shumagin Trend, which lies about two miles northeast of Apollo-Sitka.

In 2000, SRK Consulting calculated a non-NI 43-101-compliant resource of 254,000 metric tons averaging 27.4 g/t gold and 127 g/t silver for a segment of the Shumagin Trend known as the Shumagin prospect area.

The first four holes drilled this year, which targeted various structural elevations of the Shumagin vein system within the resource area, cut high-grade gold mineralization where expected.

Hole 15SH011, the first hole of this confirmation drilling, cut 1.9 meters grading 5.89 oz/t gold and 2.4 oz/t silver.

Redstar interim CEO Ken Booth told Mining News that the holes drilled during phase 1 proves that there is continuity of structure and very high-grade gold.

"If (Redstar) or somebody else wants to tighten up that area and starts to work towards a resource – measure and indicated or inferred – there is a very good chance the drilling is going to produce similar results," he said.

The remaining four holes hit gold beyond the resource area.

This year's drilling, along with past drilling, has outlined an area of high-grade gold mineralization at the Shumagin prospect for roughly 500 meters along strike and about 330 meters of depth. Redstar said trenching in this area has shown the vein system extends for at least 1,200 meters.

First Quantum minerals funded a US\$2 million program for further exploration at Millrock Resources' aptly named Alaska Peninsula project in 2015. Millrock came by this 500,000-acre highly prospective land package through an exploration and option-lease agreement signed with the Bristol Bay Native Corporation in 2012.

After funding a US\$600,000 reconnaissance program in 2014, First Quantum entered into an option to earn up to an 80 percent joint venture interest in the property.

Results from this initial work, intrigued First Quantum enough to take up the option and fund a 2,400-meter drill program aimed at investigating what lies below the surface at two the most promising prospects – Dry Creek, formerly known as Bee Creek, and MDB, short for Mallard Duck Bay.

Historical exploration, along with sampling completed by Millrock and First Quantum, has outlined an area of zoned mineralization at Dry Creek that covers roughly 3,000 acres.

"We found this beautifully zoned alteration system, and we found this beautifully zoned metallic anomaly in soil," Beischer said. "It is just an absolute classic porphyry signature."

Situated roughly 20 miles (32 kilometers) south of Dry Creek and about three miles south of the local community of Chignik Lagoon, MDB hosts a large alteration zone that was first recognized by prospectors at the turn of the 20th Century.

"MDB is ... is a huge alteration system, but there doesn't appear to be a lot of base metals at surface," Beischer told Mining News.

Beischer said this lack of metals at surface, coupled with the enormous size of the alteration system, made MDB a challenging prospect for previous explorers to target with drilling.

Millrock, however, is up to the challenge of tackling the huge alteration system, which could be the surface expression of a porphyry ore body waiting to be discovered, he added.  $\bullet$ 



Alaska

### NovaCopper seizes opportunity

Arctic explorer funds pre-feasibility work with buyout of fellow junior

By SHANE LASLEY Mining News

When NovaCopper Inc. needed additional funds to advance its copper-rich deposits in the Ambler Mining District of Northwest Alaska, the Vancouver B.C.-based junior bypassed typical financing vehicles for such ventures and seized the opportunity to buy Sunward Resources Ltd., a fellow exploration company with roughly US\$20 million in the bank but a market cap hovering around US\$13 million.

"The market had basically discounted the cash they had in the bank, so that provided an opportunity for us, particularly since we have a couple of shareholders in common," NovaCopper President and CEO Rick Van Nieuwenhuyse explained.

As a result of the buyout, NovaCopper gained full ownership of a project in Colombia and a substantial bump to its treasury north of

US\$20 million. In exchange for the cash and Sunward's Titiribi gold-copper project in Columbia, NovaCopper issued 43.1 million shares to Sunward shareholders, or 0.3 NovaCopper shares per Sunward share issued.

Considering the state of the junior mining sector, Van Nieuwenhuyse said, "We felt this is the best financing alternative, with the least amount of dilution."

For Sunward shareholders, the deal provides an opportunity to realize a benefit to the cash by continuing the exploration and development of a large Alaska project with nearly 10 billion pounds of copper identified to date.

"The combination of Sunward and NovaCopper provides shareholders a single company with a strong balance sheet to advance critical path objectives at our high-quality Arctic and Bornite copper-zinc assets in Alaska," said Van Nieuwenhuyse.

With more than US\$20 million in the bank, NovaCopper management shifted its focus to the next step in the development of the world-class Ambler Mining District in Northwest Alaska – gathering the data needed to complete a pre-feasibility study for a potential open-pit mine at its Arctic volcanogenic massive sulfide deposit, one of the copper-rich deposits that make up the Upper Kobuk Mineral Projects.

#### Arctic focus

In July, NovaCopper launched a C\$5.5 million work program focused on advancing a pre-feasibility study for the development of an open-pit mine at Arctic, the most advanced of numerous copper-rich deposits that NovaCopper has assembled in the Ambler Mining District.

continued on page 22

#### NovaCopper Inc.

NCQ:TSX / NCQ:NYSE-MKT

CHAIRMAN: Gerald McConnell PRESIDENT AND CEO: Rick Van Nieuwenhuyse EXPLORATION BUSINESS MANAGER: Frank Gish

PROPERTIES WITH MINERAL(S) EXPLORED: Upper Kobuk Mineral Projects: Copper-Zinc-Lead-Gold-Silver

CASH AND SHORT-TERM DEPOSITS: US\$18.4 million (Aug. 31, 2015) WORKING CAPITAL: US\$17.8 million (Aug. 31, 2015) MARKET CAPITALIZATION: US\$45.7 million (Sept. 18, 2015)

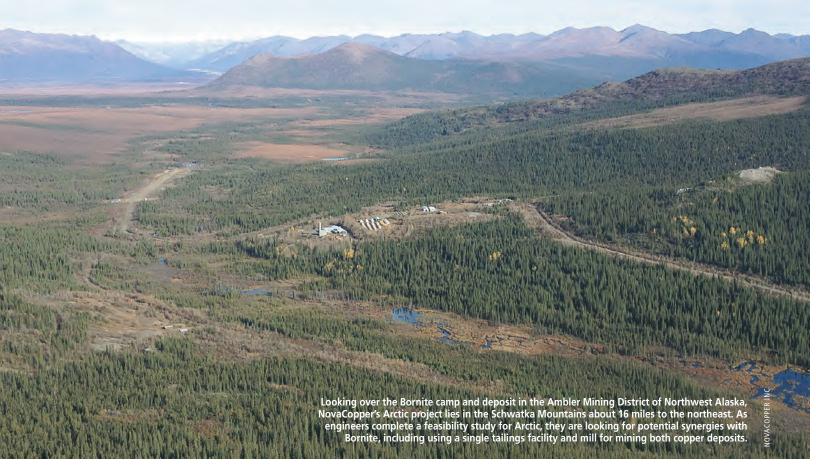
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NIEUWENHUYSE



#### **NOVACOPPER** continued from page 21

In 2011, NovaCopper forged a partnership with NANA Corp., the Alaska Native regional corporation that represents the Iñupiat of Northwest Alaska, to explore a large swath of land in the Ambler district. Known as the Upper Kobuk Mineral Projects, the 353,000 acres being advanced by this partnership cover two adjacent mineralized belts - the Ambler Belt, which hosts Arctic and numerous other known VMS deposits, and the Devonianage Bornite sequence, which includes the Bornite carbonatehosted copper deposit.

A preliminary economic assessment for developing an openpit mine at Arctic was completed in 2013.

This scoping level study outlined a 10,000-metric-ton-per-day mill at Arctic that is anticipated to produce roughly 1.5 billion pounds of copper, 1.8 billion lbs. of zinc, 289 million lbs. of lead, 30.5 million ounces of silver and 349,000 oz of gold over a 12year mine-life.

The open-pit for Arctic encompasses an indicated resource of

23.85 million metric tons averaging 3.26 percent (1.71 billion lbs.) copper, 4.45 percent (2.34 billion lbs.) zinc, 0.76 percent (400 million lbs.) lead, 0.71 grams per metric ton (550,000 oz) gold, and 53.2 g/t (40.8 million oz) silver. Additionally, Arctic has an inferred resource of 3.63 million metric tons averaging 3.22 percent (239 million lbs.) copper, 3.84 percent (285 million lbs.) zinc, 0.58 percent (43.2 million lbs.) lead and 0.59 g/t (60,000 oz) gold.

One of the primary goals of a 3,000-meter infill drill program completed this summer was to upgrade much of the inferred resources at Arctic to the higher confidence measured and indicated category.

Other facets of the 2015 program included: geotechnical and hydrology drilling to better understand the wall rock characteristics and hydrology within the open pit area; waste rock characterization studies to evaluate acid generation potential; wetlands delineations studies; and continued environmental baseline studies.

continued on page 24



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#### Yukon Territory

#### Alexco Resource Corp.

#### AXR:TSX / AXU:NYSE-MKT

PRESIDENT AND CEO: Clynton Nauman EXECUTIVE VP AND COO: Brad Thrall VICE PRESIDENT, EXPLORATION: Alan McOnie

Alexco Resource Corp. owns the Bellekeno silver-zinc-lead mine, as well as a number of other mineral properties within historic Keno Hill Silver District of central Yukon Territory. Bellekeno began commercial production at the beginning of 2011, but was temporarily sus-

pended late in 2013 due to lower silver prices. Based on roughly 18,000 meters of drilling completed in 2014, Alexco



published an updated resource for the Flame & Moth and Bermingham deposits at Keno Hill. Flame & Moth contains 1.64 million metric tons of indicated resources of averaging 506 grams per metric ton (26.7 million ounces) silver, and 348,000 metric tons of inferred resources averaging 366 g/t (4.1 million oz) silver. Bermingham

has 377,000 metric tons of indicated resources averaging 430 g/t (5.2 million oz) silver and 52,000 metric tons of inferred resources averaging 477 g/t (797,000 oz) silver. The company is currently carrying out engineering and optimization work for the future development of



CLYNTON NAUMAN

Flame & Moth, Bellekeno and Lucky Queen. With a budget of roughly C\$1.6 million, Alexco's 2015 exploration program included 2,595 meters of surface drilling primarily to follow up on the successful results at Bermingham, where one hole drilled in 2014 cut 6.39 meters (true width) averaging 5,667 g/t silver. In September, the company reported high-grade silver intercepts from eight holes drilled this year, including one hole that cut 4.98 meters (true width) averaging 7,462 g/t silver. Alexco President and CEO Clynt Nauman said the open-ended 40- by 140meter zone of high-grade silver mineralization outlined by this year's drilling at Bermingham "may be a game changer for the future of Keno Hill." Alexco continues to monitor global markets as it decides when to resume mining the expanding high-grade silver deposits across its Keno Hill Silver District property.

#### CASH AND SHORT-TERM DEPOSITS:

C\$7.5 million (June 30, 2015) **WORKING CAPITAL:** C\$9.6 million (June 30, 2015) **MARKET CAPITALIZATION:** C\$44 million (Sept. 18, 2015) 200 Granville Street • Suite 1150, Vancouver, BC Canada V6C 154 Tel: 604-633-4888 • Fax: 604-633-4887 www.alexcoresource.com



#### **NOVACOPPER** continued from page 22

"So, in short all the information we need to advance the Arctic towards a pre-feasibility study," Van Nieuwenhuyse summarized.

#### **Bornite synergies**

While the 2015 program will primarily focus on advancing Arctic to a project that can be presented to banks and permitting agencies, NovaCopper intends to continue to investigate the viability of mining Bornite, which has been the primary focus of Nova-Copper's exploration since the 2012 season.

"We will continue to work on Bornite but probably at a little slower pace," Van Nieuwenhuyse told Mining News early in 2015.

The company sees the potential for synergies for staged development of Arctic and Bornite, which are located about 16 miles apart.

The potentially open-pittable portion of Bornite contains indicated resources of 14.1 million metric tons grading 1.08 percent (334 million pounds) copper and inferred resources of 109.6 million metric tons grading 0.94 percent (2.3 billion pounds) copper; and the deeper, potentially underground mineable part of the project contains inferred resources of 55.6 million metric tons grading 2.8 percent (3.4 billion pounds) copper.

While NovaCopper did not complete any new drilling at Bornite in 2014, crews re-

logged and re-sampled roughly 13,000 meters of core from 37 holes drilled by Kennecott Copper Co. between 1957 and 1976.

During its tenure at Bornite, Kennecott was focused on the highest grade components of the deposit and overlooked lower grade mineralization. For NovaCopper, these lower grade portions of the deposit could potentially convert to reserves in an open-pit mining scenario for Bornite.

To find the overlooked copper-bearing portions of the deposit, NovaCopper sampled 11,149 meters of untested core. This exercise identified five historical holes with grades topping 0.5 percent copper and another 22 with intercepts of more than 0.2 percent copper.

The program also re-affirmed results from Kennecott's previous assay work by resampling 1,503 meters of core already tested by its predecessor at Bornite.

NovaCopper says the data re-logging and re-sampling campaigns it has completed since 2012 are expected to fill in gaps in the Bornite resource model and help determine the ultimate pit configuration for the project.

NovaCopper is tentatively planning to complete a PEA of Bornite in 2016, a scoping level study that will assist the evaluation of synergies with Arctic and mark the first engineering step toward developing what would become the second high-grade copper deposit in the Ambler district. • Guest Column

### Mining plays key role in British Columbia

Industry investment spurs development of new mines in northern region

#### By MIN. BILL BENNETT

Special to Mining News

Northern British Columbia accounts for two-thirds of the province's landmass and plays an important role in our provincial economy. In 2014, an estimated \$338 million was spent on mining exploration projects across B. C.; nearly half of which took place in northern B. C.

Proposed mine developments in northern B. C. have the potential to create billions of dollars in capital investment as well as thousands of family-sustaining jobs throughout B. C., adding to the

more than 30,000 people currently employed in mining, mineral exploration and related sectors in over 50 B. C. communities.

Our government is working hard to grow and support this important industry. Since June 2011, five new metal mines have opened in British Columbia, creating more than 1,300 new full-time jobs. Another seven new mines have been approved since the BC Jobs Plan was released in September 2011, and expansions of seven existing major mines also have been approved.



Min. Bill Bennett

Most recently, the Province issued a Mines Act permit for Pretium Resources Inc.'s Brucejack gold-silver mine in northwestern B.C., after the project received an environmental assessment certificate and the necessary federal approvals. Constructing the mine will create about 900 jobs over two years, and the operation will supply about 500 jobs during its 18-year operating life, bringing significant economic benefits to northern British Columbia with minimal anticipated environmental impacts.

None of these new mines would exist but for the efforts of the exploration sector. Exploration in B. C. remains strong despite tough times for the mining industry and low commodity prices. In 2012 and 2013, more than C\$1 billion was invested in exploration, and B.C. now accounts for over 21 percent of exploration spending in Canada—up from 6 percent in 2001. B.C. also remains a global center for exploration companies, with over 50 percent of mineral exploration and mining companies listed on the Toronto Stock Exchange headquartered in B.C.

We've also invested to ensure we have the infrastructure in place to power future mining development in the north. In July 2014, the Northwest Transmission Line was completed. The NTL delivers affordable, reliable and clean power to an area that's never before had access to the grid, unlocking the economic potential of northwest British Columbia and supporting new jobs and investment in mining. The construction of the NTL has opened up many opportunities for mining in northwest British Columbia; currently there are 10 mines either operating or in advanced stages of development in the northwest region, and many of them would not be possible without the additional power available in the region from the new Northwest Transmission Line. Our significant achievements have only been made possible through a tremendous amount of collaboration between industry and First Nations. The mining industry employs more Aboriginal people than any other industry in B.C., and the Province continues to develop and maintain the positive relationships with First Nations that leads to successful resource development. B.C. is the first province in Canada to share direct provincial mining tax revenue generated from new mines or mine expansions with First Nations, creating certainty for industry while demonstrating that responsible mining is possible through the development and maintenance of long-lasting relationships built on trust.

Not only are we listening to First Nations in B.C., but we have been working on furthering our relationships with our neighbors in the trans-boundary areas of Alaska and Montana, who also have an interest in B.C.'s mining developments.

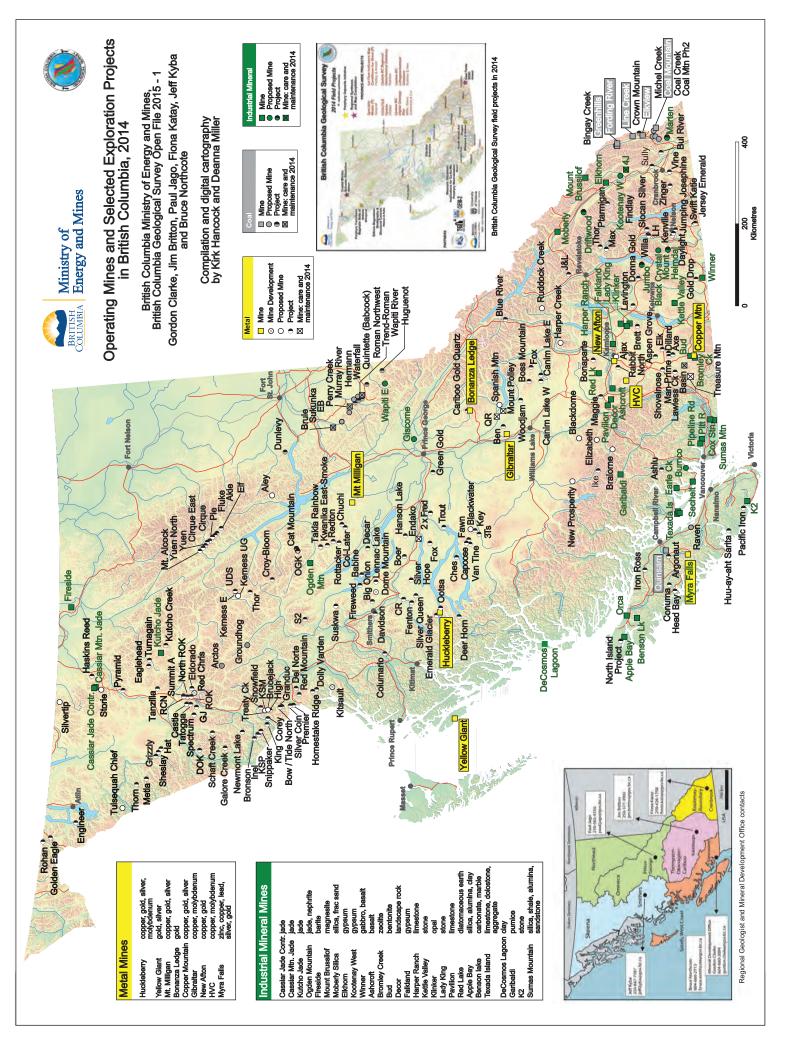
The failure of the tailings storage facility at the Mount Polley mine last summer was a wakeup call for our province, the mining industry and governments throughout Canada and around the world. Since then, British Columbians and Alaskans have brought forward many concerns and questions about B.C.'s mining regulations. This is why we recently traveled to southeast Alaska to meet with state officials, Alaska tribal governments and representatives from commercial fishing, tourism and environmental groups, to hear their concerns and discuss B.C.'s environmental assessment and permitting processes. We took time to address some common misconceptions Alaskans have about British Columbia's mining policies and practices, and communicated the message that the protection of our shared trans-boundary waterways is a shared concern.

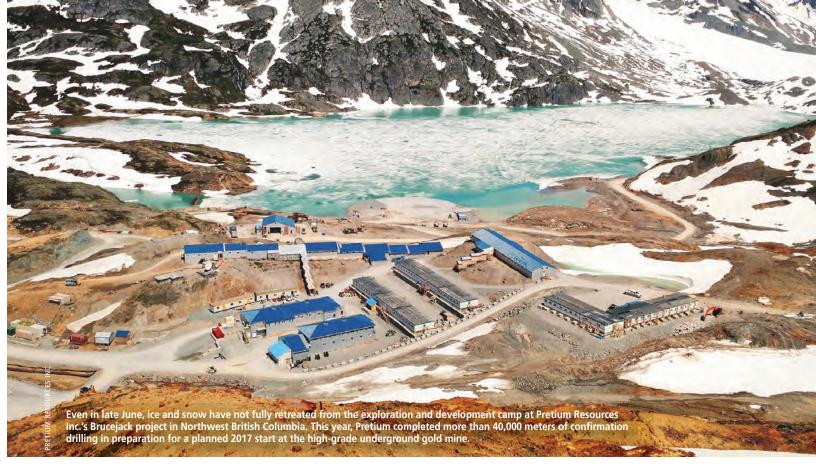
We will continue to work with state officials, Alaska tribal governments and interest groups to give Alaskans more direct access to the information they need to determine whether or not B.C. is doing a good job protecting our shared environment. This is something we have committed to try to resolve with a memorandum of understanding, which we hope to complete in the coming months.

Our government is leading Canada in making changes to how mining is done, and we will continue to work hard to ensure our policies are the best in the world. Combined with our rich mineral deposits, world-class infrastructure, outstanding public geoscience data and abundant sources of clean and affordable energy, B.C. will continue to be an extremely attractive place for mining investors.

I am delighted by the continued success of the North of 60 Mining News magazine. Together, government, First Nations and the mining industry can continue to build a thriving resource development sector in the north and across British Columbia. Mining is critical to this province's economic future, and we're working hard to ensure it remains a vital, sustainable industry.

*The Hon. Bill Bennett is minister of Energy and Mines for the Province of British Columbia.* 





British Columbia Exploration 2015

# Exploration mimics world trend

#### Province, metals-rich projects awaits next upswing in metals markets

By SHANE LASLEY Mining News

Mineral and coal exploration spending in British Columbia has dropped nearly 30 percent a year since reaching a pinnacle of C\$680 million in 2012, mirroring the downward trend seen during the same period in global exploration expenditures. Mineral-rich B. C., however, is preparing to take advantage of the next upswing in metals markets.

In June, British Columbia Energy and Mines Minister Bill Bennett said the province will provide Geoscience BC with C\$5 million in additional funding. Since its formation in 2005, this non-profit organization has helped draw mineral exploration investment to the province with the information it has generated.

The Association for Mineral Exploration British Columbia, which advocated for the formation of Geoscience BC, said this ongoing funding gives the western province a global advantage.

"Compared to other areas around the world, B. C. truly has a competitive edge with regard to its publicly available geoscience data that facilitates mineral exploration and development," said AME BC President and CEO Gavin Dirom. "The continued funding ... will help maintain the province's competitive advantage, particularly when commodity and market conditions improve and foster an upswing in mineral exploration."

Bennett, meanwhile, focused a lot of his attention this year on diplomatic efforts with Alaska aimed at laying groundwork for an agreement that will provide the State of Alaska and Southeast Alaska stakeholders more influence in the process for permitting and monitoring mines in the extremely metal-rich transboundary region of northwestern British Columbia.

"We have had some really excellent discussions with the State of Alaska on what we can do to enhance (its) already existing role in our environmental assessment process," Bennett said during a nearly weeklong visit to Southeast Alaska.

Imperial Metals' Red Chris copper-gold mine, which is located upstream of Alaska, reached commercial production this summer.

At least six Northwest B.C. projects located in the transboundary region – Brucejack (Pretium Resources), Kerr-Sulphurets-Mitchell (Seabridge Gold), Schaft Creek (Copper Fox Metals-Teck Resources), Galore Creek (Novagold-Teck), Kisault (Avanti Mining) and Tulsequah Chief (Chieftain Metals) – are currently in various stages of advanced exploration and permitting.

continued on page 28

#### Yukon Territory

Atac Resources Ltd.

PRESIDENT & CEO: Graham Downs VP, EXPLORATION: Julia Lane CHIEF OPERATING OFFICER: Ian Talbot

In 2015 ATAC Resources Ltd. continued to expand the Carlin-type gold discoveries made at its Rackla Gold project in Yukon Territory with a C\$3 million phase-1 exploration program that began in June. This work primarily focused on the Conrad Zone and 18-sqaure-kilometer Anubis cluster within the Nadaleen Trend, a 30-kilometer- (20 miles) long subset of the company's east-west extending land package that blankets an area roughly 185 kilometers (114 miles)





GRAHAM DOWNS

long by roughly 10 kilometers (6 miles) wide. At Conrad, the company's most advanced Carlin-type gold zone, three layers of Carlin-type mineralization – Upper, Middle and Lower zones – has been found near a vertical siltstone-limestone contact at Conrad. The Upper zone has been continuously traced by shallow drilling over a strike length of 800 meters and remains open to the east and west. Hole OS-12-114, the best hole drilled in this shallowest zone, cut 42.9 meters averaging 18.44 grams per metric ton gold. The 2015 program focused on targeting an untested area along the siltstone-limestone contact between the Upper and Middle zones. Mineralization in the Middle zone is characterized by strong alteration and mineralization within multiple stacked, flat-lying bodies. The Lower zone, discovered in 2014, opens up a new area for Conrad exploration. The discovery hole,

#### **BC EXPLORATION** continued from page 27

#### **Exploring the Golden Triangle**

The Skeena District, which hosts the six advanced-stage northwestern B.C. projects and numerous other gold, copper and silver deposits and prospects – was the target of some C\$161 million of mineral exploration in 2014 and continues to be popular among explorers this year.

The wide swath of prospective geology sweeps southward from Yukon Territory along the entire Southeast Alaska Panhandle.

The Golden Triangle, a particularly gold- and copper-rich area within the Skeena district, continues to be a particularly favored location for mineral exploration.

After completing a C\$8.1 million financing in June, the aptlynamed Skeena Resources Ltd. kicked off a roughly 7,500-meter drill program at its Spectrum copper-gold property, located about 45 kilometers west of Imperial Metals' recently commissioned Red Chris Mine.

Skeena Chairman Ron Netolitzky is credited for the discovery of two world-class Golden Triangle mines – Eskay Creek and Snip – and believes Spectrum has all of the indicators of a third.

"Spectrum is one of those very rare, high-grade gold occurrences that would attract any explorationist, even in a challenging, risk-adverse market," Netolitzky said upon Spectrum signing a deal on the property in 2014.

The Schaft Creek Joint Venture – 75 percent Teck Resources Ltd. and 25 percent Copper Fox Metals Inc. – carried out a C\$4.8 million program at Schaft Creek, a Golden Triangle copper-gold project located about 80 kilometers southwest of Red Chris.

This work included a 2,500-meter drill program to test the depth of surface copper-gold mineralization at the LaCasse zone, located north of the area included in the current mine plan for Schaft Creek.

A feasibility study completed in 2013 outlined a 130,000-metricton-per-day open-pit mine operating for 21 years at Schaft Creek OS-14-230, cut 42.67 meters of 3.03 g/t gold and 21.71 meters of 3.15 g/t gold, beneath previously known Conrad mineralization. The 2015 program also included track-mounted rotary air blast drilling as a cost-effective way to collect bedrock samples at the Anubis cluster, a large Carlin-type prospect about 10 kilometers (six miles) east of Conrad. One hole of this RAB program, ARB-15-026, cut 47.24 meters averaging 3.79 g/t gold at the newly discovered Orion target located about 300 meters west of the Anubis Zone. ATAC President and CEO Graham Downs described the Orion discovery hole as "the most significant drill intersection to date within the 18-square-kilometer Anubis cluster of targets." He also said the RAB drilling has proven to be an effective, yet low-cost exploration tool in these tough market conditions.

ATAC is a member of the Strategic Exploration Group, a collection of junior resource companies focused on exploring northwestern Canada. Members of the group enjoy a close working relationship with Archer, Cathro & Associates (1981) Ltd., a geological consulting firm with extensive knowledge and exploration expertise in the Yukon Territory and northern British Columbia.

CASH AND SHORT-TERM DEPOSITS: C\$19.2 million (June 30, 2015) WORKING CAPITAL: C\$18.4 million (June 30, 2015) MARKET CAPITALIZATION: C\$57.7 million (Sept. 17, 2015)

Suite 1016 - 510 West Hastings Street Vancouver, British Columbia Canada V6B 1L8 Tel: 604-688-2568 • Fax: 604-688-2578 www.atacresources.com

based on proven and probable reserves of 940.8 million metric tons averaging 0.27 percent copper, 0.19 grams per metric ton gold, 0.018 percent molybdenum and 1.72 g/t silver.

This year's work also includes the continuation of optimization studies started in 2014.

Teck completed minimal work at GJ and Galore Creek, two other Golden Triangle projects in which it is involved.

At the southern end of the Golden Triangle, two companies continued to expand and confirm deposits at their advanced-stage projects.

Pretium Resources Inc. completed some 50,000 meters of drilling that ranged from confirming the early-mine resource at the Valley of the Kings to grassroots exploration of outlying targets on the encompassing Brucejack gold property.

The plan for mining the Valley of the Kings deposit at Brucejack is based on 13.6 million metric tons of reserves averaging 15.7 grams per metric ton (6.9 million oz) gold. This year, Pretium carried out a 40,000-meter underground infill drill program that bolstered the confidence in the style and grade distribution of the gold mineralization where mining is slated to begin.

On the surface, the company is carrying out 10,000 to 15,000 meters of exploration drilling at two exploration targets within five kilometers (three miles) of the Valley of the Kings.

Pretium obtained two key permits – the provincial Environmental Assessment Certificate and a positive Environmental Assessment Decision Statement from the federal Minister of the Environment – in 2015.

A mine at the Valley of the Kings is expected to average roughly 404,000 oz. of gold annually over 18 years. Pretium is targeting a 2017 start-up.

Immediately west of Brucejack, Seabridge Gold Inc. is continuing to test for higher grade core zones beneath the near-surface porphyry deposits that make up its KSM project.

In March, the company announced an inferred resource of 782 million metric tons grading 0.54 percent (9.3 billion pounds) cop-

A geologist collects samples from one of the four historical high-grade silver mines – Dolly Varden, North Star, Torbrit, and Wolf – found on the Dolly Varden property in Northwest British Columbia. In 2015, Dolly Varden Silver Corp.'s published a maiden indicated resource of 31.8 million oz. of silver in 3.07 million metric tons of rock averaging 321.6 g/t ton silver near these past-producing mines.

per and 0.33 grams per metric tons (8.2 million ounces) gold for Deep Kerr, one of the core zones at KSM.

Seabridge started off the 2015 field season by testing for a core zone beneath Mitchell, the largest of the KSM deposits. While drilling here did encounter zones of copper and gold that are expected to expand the block cave operation planned for Mitchell, the company said these holes encountered evidence of faulting that needs to be analyzed before targeting the core zone with additional holes.

"Although we are excited about where this discovery could lead, we have decided to scale back this year's Mitchell program by about C\$2.2 million until we have completed our analysis of all the available data. The balance of the program will concentrate on expanding the block cave shapes associated with the Deep Kerr deposit," Seabridge said in a statement.

Together, the near-surface and deep zones at KSM contain 2.2 billion metric tons of reserves averaging 0.55 g/t (38.2 million oz.) gold and 0.21 percent (10 billion pounds) copper.

#### Beyond the triangle

South of the Golden Triangle, Dolly Varden Silver Corp. continues to seek and expand high-grade epithermal deposits similar to the Brucejack project located about 100 kilometers (60 miles) to the north, and volcanogenic massive sulfide projects like Eskay Creek located about 25 kilometers (20 miles) farther to the north.

The company started off the 2015 exploration at its namesake property with an economical program that included mapping, sampling and historical data analysis. In addition to prioritizing targets for future drilling, this work informed a maiden resource for the Dolly Varden property.

The initial NI 43-101-compliant resource for Dolly Varden in-

cludes an indicated resource of 31.8 million ounces of silver contained within 3.07 million metric tons of material averaging 321.6 grams (10.34 oz) of silver per metric ton for the Dolly Varden, North Star, Torbrit, and Wolf deposits.

Dolly Varden, the highest grade of these deposits, hosts 10.5 million ounces of this silver in 522,000 metric tons averaging 625.1 g/t (20.1 oz/t) silver. Dolly Varden interim President and CEO Rosie Moore said this robust mineral resource "means that this project warrants attention even at today's metal prices."

The four deposits also host 10.8 million ounces of silver at a grade of 373.3 g/t silver in the inferred category.

On the same day the resource was published, Skeena Resources revealed an offer it made to acquire Dolly Varden in a shares exchange deal valued at roughly C\$4.2 million.

"The timing of the Skeena offer was highly opportunistic, given that it was made less than nine hours after the company publicly disclosed its resource estimate," Dolly Varden said in response to offer.

Skeena, which characterized a counter-offer made by Dolly Varden as unrealistic, said it is open to negotiating a merger that would be acceptable to management and be beneficial to the shareholders of both companies.

Hecla Mining and another major shareholder provided Dolly Varden with a C\$1.5 million loan to carry out a 2,200-meter late season drill program at the high-grade silver property.

To the north of the Golden Triangle, Carmax Mining Corp. continued to advance its Eaglehead copper-gold-molybdenum project with an economical exploration program that included data compilation, re-logging of core and two drill holes to test a chargeability anomaly in the Pass zone area of the project.

#### Auryn Resources Inc.



#### AUG:TSX.V / GGTCF:OTCQX

#### EXECUTIVE CHAIRMAN: Ivan Bebek • PRESIDENT AND CEO: Shawn Wallace

After buying out North Country Gold Corp., Auryn Resources Inc. added the Committee Bay gold project, making it a major player in Nunavut gold exploration. Auryn's interest in the Committee Bay project first came to light in February when the company agreed to join North Country in a joint venture on the expansive gold property. This JV agreement, which was finalized in March, included Auryn buying 10 million North Country shares at C5 cents each. By the end of June, this JV had transitioned into a fullfledged merger in which Auryn agreed to issue about 13.8 million Auryn shares valued at roughly C\$20.4 million, to buy North Country Gold. As a result, North Country shareholders received one Auryn share for each 10 North Country common shares held. Over the past two decades North Country Gold and earlier iterations of the company has identified more than 50 gold occurrences along the 300-kilometer- (186 miles) long Committee Bay Greenstone Belt, including the 1.6-million-ounce Three Bluffs gold deposit. Instead of expansion of the known deposits, Auryn wants to take a closer look at the larger potential of the expansive property. Though the merger was not finalized until September, Auryn and North Country forged ahead with a C\$4 million program that focused on testing some high-priority exploration targets stretching for some 100 kilometers (60 miles) southwest of Three Bluffs. In order to keep the costs down, the Committee Bay JV employed an innovative approach to exploring the Arctic project. These new exploration techniques included the use of a lightweight rotary air rig to carry out the drilling; a drone to capture 10-centimeter resolution aerial imagery across the entire project area; 60 line-kilometers of induced polarization geophysics; structural mapping; and a till sampling program utilizing bulk cyanide leach methodology. The company's used these relatively low-cost techniques to test a number of targets located along a 100-kilometer (60 miles) stretch of highly prospective structures identified in

the southwestern third of the Committee Bay Greenstone Belt. This work centered on Raven, a prospect about 50 kilometers (30 miles) southwest of the Three Bluffs deposit, a prospect located about 60 kilometers (35 miles) further southwest. Rock samples hammered off a 500-meter-long outcrop at Raven have returned assays containing as much as 143.9 grams per metric ton gold. A small amount of drilling has been completed at the western end of the outcrop, including two holes drilled in 2005 that cut 2.4 meters of 36.22 g/t gold and 5.5 meters averaging 12.6 g/t gold. In addition to historical drill targets, the partners have identified numerous untested targets spanning more than 50 kilometers (30 miles) of banded iron formations and intersecting fault zones in the Raven project area. Located at the southwestern end of the Committee Bay property and only about 180 kilometers (110 miles) northeast of Agnico Eagle's Meadowbank Mine, the West plains project area covers another large swath of highly prospective banded iron formation. The West Plains prospect, itself, is characterized by a number of magnetic and electromagnetic ridges, which have been interpreted as sheared volcanics and iron formation. A number of past holes drilled at West Plains have tapped nice intercepts of high-grade gold including: 8.7 meters of 14.76 g/t gold drilled in 2004; eight meters of 13.14 g/t gold drilled in 2006; and 25.1 meters of 4.1 g/t gold in a hole drilled in 2011. Pickle, situated some 11.5 kilometers (seven miles) northeast of the West Plains prospect, hosts a 2,400- by 1,000-meter intense magnetic anomaly. Altered volcanic rocks gathered from Quartzite Ridge, a prospect about 20 kilometers (12.5 miles) north of West Plains, have returned assays as high as 37.7 g/t aold.

CASH AND SHORT-TERM DEPOSITS: C\$7.6 million (March 31, 2015) WORKING CAPITAL: C\$7.9 million (March 31, 2015; closed C\$5.8 million financing on Sept. 18)

MARKET CAPITALIZATION: C\$36.8 million (Sept. 18, 2015)

600 -1199 West Hastings Street, Vancouver, British Columbia Canada V6E 3T5 Tel: 778-729-0600 • Fax: 778-729-0650 www.aurynresources.com

#### **BC EXPLORATION** continued from page 29

#### Zinc-rich trough

The Kechika Trough, a finger of the Selwyn Basin that stretches some 500 kilometers into north-central B.C., makes the Omineca region of the province a popular destination for explorers seeking sedimentary exhalative zinc-lead deposits.

Key among these explorers is Canada Zinc Metals Corp., which owns a band of properties that blankets 79,870 hectares (197,359 acres) of the Kechika SEDEX belt.

The company has divided this land package into two projects – Akie, which hosts the Cardiac Creek deposit, and the Kechika regional properties, a series of property blocks that extend roughly 140 kilometers (85 miles) northwest of Akie.

According to a calculation completed in 2012, Cardiac Creek hosts an indicated resource of 12.7 million metric tons grading 8.4 percent (2.4 billion pounds) zinc, 1.7 percent (472 million lbs.) lead and 13.7 g/t (5.6 million oz) silver; and an inferred resource of 16.3 million metric tons grading 7.4 percent (2.6 billion lbs.) zinc, 1.3 percent (482 million lbs.) lead and 11.6 g/t (6.1 million oz) silver.

This year, Canada Zinc funded a 5,000-meter drill program that tested the down-dip extents of a high-grade core to the Cardiac Creek deposit.

The first hole of the program, A-15-121, cut 64.3 meters (true width) averaging 6.1 percent zinc, 1.3 percent lead and 14.24 g/t silver, including 28.5 meters averaging 10.2 percent zinc, 2.3 percent lead and 20.45 g/t silver.

Targeting the lateral extension of the core zone, hole A-15-122 cut 39.2 meters (true width) averaging 5.8 percent zinc, 1.1 percent lead and 11.16 g/t silver, including 23.4 meters averaging 8.6 percent zinc, 1.7 percent lead and 14.64 g/t silver.

"Assays from the first two holes of the 2015 exploration drill

program continue to confirm our understanding that the highgrade core of the deposit continues laterally and at depth," said Canada Zinc President and CEO Peeyush Varshney.

In 2013, Teck Resources Ltd. and Korea Zinc Co. Ltd entered into an agreement to option three of Canada Zinc's regional properties that stretch northwest from Akie – Pie, Cirque East and Yuen. Under this agreement the Teck-Korea Zinc joint venture can earn up to 70 percent interest in these contiguous claim blocks by investing C\$8.5 million in them by 2019, including C\$1.5 million by the end of 2015.

The partners invested roughly C\$500,000 into these properties in 2014, leaving about C\$1 million to meet the 2015 earn-in obligations.

Early in the year, Teck flew an 840-line-kilometer gravity gradiometry survey over the Pie, Cirque East and Yuen properties. At the same time, Canada Zinc flew a 40-line-kilometer survey over Akie property to the south and the Mt. Alcock and Yuen North to the north of the Teck-Korea Zinc optioned claims.

Together, these surveys provided detailed information that will help the companies identify massive sulfide bodies along a contiguous 45 kilometers of the Kechika Trough.

"The gravity gradiometry survey is a key component in Canada Zinc Metals' exploration strategy, representing an effective tool to rapidly assess the company's Akie property and several of the other extensive tenure holdings in the Kechika Trough," Varshney explained.

Canada Zinc hopes the zinc-rich deposits on these extensive holding will help supply a predicted global shortage in the galvanizing metal. Meanwhile, the explorer, like the province as a whole, is readying itself to take advantage of the next upswing in the metals markets. ●

Drillers enjoy a spectacular view as they tap high-grade gold Skeena Resources Ltd.'s Spectrum property in Northwest British Columbia. S15-010, the first hole of the 2015 program at Spectrum cut 3.6 meters grading 16.4 g/t gold from a depth of 3.4 meters, and 1.4 meters grading 15.9 g/t gold at 199 meters.

**British Columbia** 

### Spectrum exceeds expectations

Skeena taps high-grade gold worthy of Netolitzky legacy in Golden Triangle

By SHANE LASLEY Mining News

**S** keena Resources Ltd. entered 2015 with a mission – outline at least 2.0 million ounces of high-grade gold at its Spectrum property located in the Golden Triangle region of northwestern British Columbia.

Skeena Chairman Ron Netolitzky is no stranger to this metals-rich corner of B.C. In fact, he is a 2015 Canadian Mining Hall of Fame inductee, an honor that is largely due to his finding two world-class mines – Eskay Creek and Snip – in the Golden Triangle.

The legendary prospector believes Spectrum has the potential to be the third such find in his illustrious career.

"Spectrum is one of those very rare, high-grade gold occurrences that would attract any explorationist, even in a challenging, risk-adverse market," Netolitzky said, upon Spectrum signing a deal on the property in 2014.

While the markets may be risk-adverse, investors piled onto an opportunity to own a piece of Netolitzky's latest exploration vehicle.

In April, Skeena announced plans to raise C\$4 million to fund

#### Skeena Resources Ltd.



CHAIRMAN: Ron Netolitzky PRESIDENT AND CEO: Walter Coles, Jr. VP, EXPLORATION: J. Rupert Allan

**PROPERTIES WITH MINERAL(S) EXPLORED:** Spectrum, British Columbia: Gold

CASH AND SHORT-TERM DEPOSITS: US\$7.4 million (June 30, 2015) WORKING CAPITAL: C\$6.9 million (June 30, 2015) MARKET CAPITALIZATION: US\$18.5 million (Sept. 17, 2015)

675 West Hastings St., Suite 611, Vancouver, British Columbia V6B 1N2 Tel: 604-684-8725 • Fax: 604-669-2543 www.skeenaresources.com

the 2015 exploration program at Spectrum – a financing that swelled to C\$8.1 million by the time it closed in June.

With funds in place, Skeena President and CEO Walter Coles Jr. said, "We look forward to the upcoming 10,000- to 12,000-

SKEENA

#### Canada Zinc Metals Corp.

czx:TSX.V

CHAIRMAN, PRESIDENT AND CEO: Peeyush Varshney VP, EXPLORATION: Ken MacDonald DIRECTOR: John Thomas

Canada Zinc Metals Corp. is focused on exploring a band of zinc-lead-silver properties that blankets 79,870 hectares (197,359 acres) of the Kechika SEDEX belt in northeastern British Columbia. The company has divided this land package into two projects – Akie, which hosts the Cardiac Creek deposit, and the Kechika regional properties, a series of property blocks that extend roughly 140 kilometers (85 miles) northwest of Akie. According to a calcula-

tion completed in 2012, Cardiac Creek hosts an indicated resource estimate of 12.7 million metric tons grading 8.4 percent (2.4 billion



pounds) zinc, 1.7 percent (472 million lbs) lead and 13.7 g/t (5.6 million oz) silver; and an inferred resource estimate of 16.3 million metric tons grading 7.4 percent (2.6 billion lbs) zinc, 1.3 percent (482 million lbs) lead and 11.6 g/t (6.1 million oz) silver. The Kechika regional project encompasses 10 properties that stretch northwest from Akie. In 2013, Teck Resources Ltd. and Korea Zinc Co. Ltd entered into an agreement to option three of these properties that stretch northwest from Akie - Pie, Cirque East and Yuen. Under this agreement the Teck-Korea Zinc joint venture can earn up to 70 percent interest in these contiguous claim blocks by investing C\$8.5 million in them by 2019, including C\$1.5 million by the end of 2015. Canada Zinc Metals is mulling the idea of spinning the Kechika regional properties into a separate publicly-traded company. Canada Zinc Metals started its 2015 exploration by flying a 940-line-kilometer gravity gradiometry survey over Akie and two Kechika regional properties - Yuen North and Mt. Alcock. Teck Resources Ltd. flew a similar survey over the Pie, Yuen and Cirque East properties. Together, the surveys covered a 45-kilometer (28 miles) stretch of Canada Zinc Metal claims. Canada Zinc says Yuan North and Mt. Alcock offer drill-ready targets. One hole drilled at Mt. Alcock in 1989 cut 8.8 meters grading 9.3 percent zinc-lead and 1.2 oz. per ton silver.

A 5,000-meter drill program carried out in 2015 targeted the downward extension of the indicated resource at Cardiac Creek and expansion of the high-grade zinc-lead-silver central core of deposit. The first hole of the program, A-15-121, cut 64.3 meters (true width) averaging 6.1 percent zinc, 1.3 percent lead and 14.24 g/t silver, including 28.5 meters averaging 10.2 percent zinc, 2.3 percent lead and 20.45 g/t silver. This is one of the best intercepts to date at Cardiac Creek. Targeting the lateral extension of the core zone, hole A-15-122 cut 39.2 meters (true width) averaging 5.8 percent zinc, 1.1 percent lead and 11.16 g/t silver, including 23.4 meters averaging 8.6 percent zinc, 1.7 percent lead and 14.64 g/t silver. The 2015 program also included field assessment of high-priority geophysical targets; soil sampling; and continued environmental baseline studies.

CASH AND SHORT-TERM DEPOSITS: C\$10.3 million (March 31, 2015) WORKING CAPITAL: C\$9.7 million (March 31, 2015) MARKET CAPITALIZATION: C\$29.7 million (Sept. 17, 2015)

Suite 2050 - 1055 West Georgia Street PO Box 11121, Royal Centre, Vancouver, B.C. Canada, V6E 3P3 Tel: 604- 684-2181 • Fax: 604- 682-4768 www.canadazincmetals.com

#### **SPECTRUM** continued from page 31

meter drill program at the Spectrum property with a goal of establishing a substantial high-grade NI 43-101-compliant resource before the end of the year."

#### **First million ounces**

The high-grade gold identified at Spectrum is found in mesothermal veins, which are renowned for their large size and depth. Skeena hopes that its 2015 drill program will outline at least 1.0 million oz of gold across a number of parallel deeply dipping zones of these gold veins.

With 92 holes historically drilled at Spectrum before 1992, Skeena has a jump on its initial million-ounce goal.

In 1991, Columbia Gold Mines calculated a non-43-101-compliant resource of 614,000 metric tons grading 12.3 grams per metric ton (243,600 oz) was historically estimated for the 500 Colour and Central zones at Spectrum.

The past drilling on the property, however, only tested the zones to a depth of about 150 meters.

In 2014, Spectrum drilled nine holes from four platforms along the Central zone that tapped the vein system about 50 meters further down.

Highlights from this drilling include 6.5 meters of 23.84 g/t gold in hole 14-SP-003; 27 meters of 10.63 g/t gold in 14-SP-004; 43.8 g/t gold over two meters in 14-SP-006; and 13.7 g/t gold over four meters and 254.5 g/t gold over two meters in hole 14-SP-009.

The Central Zone remains open for more than 1,500 meters on strike to the north and south, based on recent geological mapping and soil geochemistry.

#### **Exceeding expectations**

Skeena started this year's drill program with high expectations. Between visible gold seen by technicians logging core and assay results showing multiple intercepts of high-grade gold, the company was not disappointed.

By early September, Skeena had reported results from about half of the first 43 holes. Highlights from this drilling include:

•Hole S15-010 cut 3.6 meters grading 16.4 g/t gold from a depth of 3.4 meters, and 1.4 meters grading 15.9 g/t gold at 199 meters;

•S15-011 cut six meters grading 7.86 g/t gold from six meters down the hole, 1.6 meters grading 8.56 g/t gold beginning at 20 meters, and 14 meters grading 3.28 g/t gold beginning at 130 meters;

•S15-012 cut 6.6 meters grading 10.59 g/t gold from a depth of 102 meters, 3.9 meters of 25.27 g/t gold at 198 meters, and four meters grading 7.08 g/t gold at 234 meters;

•S15-013 cut 127 meters grading 1.26 g/t gold beginning at three meters;

•S15-014 cut 24 meters grading 3.77 g/t gold, 15.5 g/t silver and 0.54 percent copper from 77 meters, two meters grading 21.3 g/t gold at 153 meters, and 1.75 meters grading 11.7 g/t gold at 171 meters;

•S15-15 cut 26.15 meters grading 8.21 grams per metric ton gold from a depth of 164 meters, including two meters grading 74.5 g/t gold;

•S15-017 cut 85 meters grading 9.79 g/t gold and 430 g/t silver starting at 103.2 meters, eight meters grading 10.46 g/t gold starting at 128 meters, and 3.6 meters grading 11.68 g/t gold starting at 157.4 meters;

•S15-022 cut 14.9 meters grading 8.97 g/t gold from a depth of 174 meters, including 2.9 meters grading 38.5 g/t gold; and

•S15-024 cut 9.64 meters grading 6.81 g/t gold, 20.7 g/t silver and 0.09 percent copper from a depth of 183 meters, including 1.7 meters grading 14.1 g/t gold, 20.4 g/t silver and 0.14 percent copper.

"Over 80 percent of the 2015 holes for which we have assays have yielded high-grade gold intervals," Netolitzky said upon the release of a second batch of results in September. "Due to the positive results, the 2015 drilling campaign will be expanded to 16,000 meters from the original plan of 10,000 to 12,000 meters."

#### **Positive surprises**

During the expanded program, which had increased to 17,500 meters by October, Skeena tested promising targets identified during an early summer prospecting and sampling program.

This work includes 168 samples collected from Target A, a soil anomaly located north and east of the Central zone.

Located outside of any current or historical drilling, the samples collected from Target A averaged 0.55 g/t gold, with seven topping 1.0 g/t gold. The best of these samples collected from this roughly 700- by 300-meter exploration target contained 19.5 g/t.

These soil results are considered very significant as they indicate a potential new zone of high-grade mineralization parallel to and 100 to 200 meters east of previous drilling and trenching.

"It is still early days for exploration at Spectrum. Nevertheless, this project continues to surprise us in positive ways," said Coles. "What's really important though is that we get through this summer program and determine how the various mineralized zones link together."

#### **High-grade opportunities**

While drills are turning at Spectrum, Skeena is keeping its eyes open for good deals on other high-quality projects in the area.

"Skeena's management team continues to evaluate other high-grade, post-discovery resource acquisition opportunities in the Golden Triangle region of northwest British Columbia," explained Coles.

The Dolly Varden silver project is one such resource opportunity the company has been trying to land.

In late August, Skeena confirmed that it had proposed to acquire Dolly Varden in a shares exchange deal valued at roughly C\$4.2 million.

Dolly Varden, which had just published a maiden indicated resource of 31.8 million oz of silver contained within 3.07 million metric tons of material averaging 321.6 g/t silver for its namesake project, turned down the offer.

In October, Skeena cut a deal to buy GJ, a 37,508-hectare (92,684 acres) copper-gold project that lies adjacent to the eastern border of Spectrum, from joint venture partners Teck Resources Ltd. and NGEx Resources Inc.

Skeena, meanwhile, continues to seek high-grade gold deposits worthy of Netolitzky's legacy in the Golden Triangle. ●

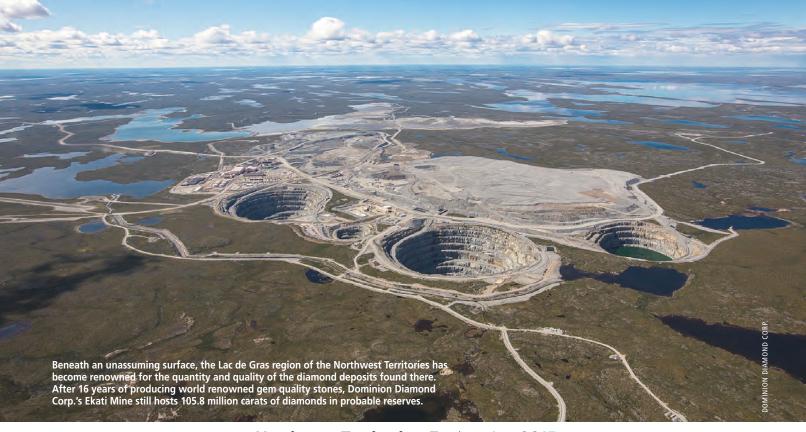




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#### Northwest Territories Exploration 2015

### NWT exploration dips sharply

#### Government, industry leaders seek to draw mineral investment to territory

#### By SHANE LASLEY Mining News

Mineral exploration spending in Northwest Territories dipped sharply in 2015. While the final numbers are not in, Natural Resources Canada predicts exploration and deposit appraisal expenditures in the territory to be around C\$43.6 million, or less than half the roughly C\$95.8 mil-

lion invested last year.

Industry and government leaders in the territory, however, have come together "to develop a robust mineral industry in the NWT."

In January, the government announced the formation of Northwest Territories' Mining Industry Advisory Board, a seven-person volunteer panel that includes Northwest Territories Minister of Industry, Tourism and Investment David Ramsay and six mining industry leaders.



DAVID RAMASAY

During an inaugural meeting held in June, the group recommended a set of priorities for the territory that includes the creation of a leading-edge mineral resources act for NWT; a campaign to raise public awareness in support of mineral exploration and development in the territory; and active promotion of the territory to private sector investors.

"We need to ensure employment and business opportunities for our communities are realized from our resource-based economy while continuing to achieve high environmental and social standards," explained Ramsay.

To help spur exploration, Northwest Territories granted C\$400,000 to prospectors and explorers under a mineral incentive program initiated in 2014. This year, the exploration incentive was divvied up among six mineral exploration companies and six individual prospectors.

"We know our territory is rich in minerals, but we are still under-explored," said Ramsay. "Prospecting maximizes the return on our investment through innovative and effective exploration. We are open for business with socially responsible companies that are willing to work with us to maximize the benefits for all northerners."

#### **Diamonds glitter**

While not all that glitters in Northwest Territories are diamonds, the precious gem continues to be the most sought-after commodity in the northern jurisdiction.

Dominion Diamond Corp., which owns interests in the Ekati



#### Northwest Territories mineral map

10	•	Diamonds 😑	Gold	Base Metals
	1.	Crest		12. Pine Point
1	2.	Mactung		(Closed)
0	3.	Howards Pass		13. Nechalacho (REE)
-	4.	Coates Lake		14. Indian Mountain
N.	5.	Prairie Cre <b>ek</b>		15. Snap Lake
	6.	Port Radium		16. Courageous Lake
		(Closed)		17. Gahcho Kué
	7.	Terra		18. Ekati
2	8.	NICO		19. Diavik
	9.	Con, Giant (Close	d)	20. lzok
	10.	Discovery (Closed	l)	21. Cantung
2	11.	Colomac		

and Diavik diamond mines, reported continued extensions to the mine life of both operations found in the Lac de Gras region.

The company operates the Ekati Diamond Mine through an 88.9 percent ownership of the project's Core zone as well as a 65.3 percent ownership in the Buffer zone.

Roughly US\$33 million was budgeted for continued exploration of the Jay and Sable kimberlite pipes at Ekati during 2015.

Jay, located in the Buffer Zone area of Ekati, is considered the mine's most significant undeveloped deposit due to its size and grade.

In January, Dominion announced a pre-feasibility study for Jay that includes 45.6 million metric tons of ore averaging 1.9 carats per metric ton for 84.6 million metric tons of diamonds in reserves. This would feed the current processing plant at its full capacity of 4.3 metric tons per year for roughly 11 years. A feasibility study is currently in the works.

This year, a 1,500-metric-ton bulk sample was collected from Sable, a pipe with 15.4 million metric tons of indicated resources averaging 0.9 carats per metric tons. A pre-feasibility study is currently underway for this kimberlite.

Dominion also owns a 40 percent in the Diavik Mine. In 2014, Rio Tinto approved the development of the A-21 pipe at Diavik, which has 3.7 million metric tons of proven reserves averaging 2.7 carat per metric ton for 10 million carats of diamonds.

The Lac de Gras joint venture property, located roughly 10 kilometers (six miles) south of Ekati and less than 40 kilometers (25 miles) southeast of Diavik, is an exploration project that covers kimberlite trends from both mines. Dominion's Lac de Gras property covers 32,780 hectares and is contiguous with a 91,459-hectare property held by North Arrow Minerals Inc. Under the terms of an agreement between Dominion Diamond and North

Arrow, the two adjacent parcels are to be joined to form a joint venture property.

This year, North Arrow has been carrying out ground geophysics aimed at identifying targets for a potential spring 2016 drill program at the Redemption diamond project, located about 32 kilometers (20 miles) southwest of Ekati.

This work is being complemented by the Slave Province Surficial Materials and Permafrost Study, an ongoing Government funded research project led by the Northwest Territories Geoscience Office.

SPSMPS is evaluating the potential for new deposits by gaining a better understanding of the complex glacial sediments in the diamond-rich Lac de Gras region of Northwest Territories.

As part of the program, some 52 overburden reverse circulation drill holes were completed within and around the Redemption property in 2014 and further testing of the area is planned for this year.

Separately, North Arrow is doing its own more detailed evaluation of the surficial geology at Redemption.

North Arrow can earn a 55 percent interest in Redemption from Arctic Star Exploration Corp. by investing C\$5 million on exploration by July 2017.

#### **Beyond Lac de Gras**

Throughout 2015, Kennady Diamonds Inc. poured out a steady stream of results from exploration at its Kennady North diamond project, a property that envelops the acreage south, west and north of Gahcho Kué, a diamond project being developed by a joint venture between De Beers Canada (51 percent) and Mountain Province Diamonds (49 percent).

continued on page 36

#### Northwest Territories

#### Canadian Zinc Corp.

CZN:TSX



CHAIRMAN, PRESIDENT AND CEO: John Kearney VP, EXPLORATION & COO: Alan Taylor VP, PERMITTING AND ENVIRONMENTAL AFFAIRS: David Harpley

Canadian Zinc Corp. is focused on optimizing the economics of its Prairie Creek Mine in Northwest Territories with the aim of putting the zinc-lead-silver project into production as soon as possible. In March, the company incorporated drilling completed from 2012 through 2014 into an updated mineral resource estimate that also considered new engineering parameters for the pending underground operation. This resource outlined 6.6 million metric tons of measured and indicated resources averaging 10.2 percent zinc, 9.5 percent lead and 147 grams of silver per metric ton, plus 7.09 million metric tons of inferred resources averaging 11.7 percent zinc, 9.6 percent lead and 117 g/t silver. A 5,484-meter underground drill program completed early in 2015 successfully upgraded a portion of the inferred resources to the measured and indicated category for potential inclusion in an update of the preliminary feasibility study. In this area of the mine, the mineralization occurs either in the Main Quartz Vein, a high-grade fault structure that hosts the majority of the defined reserves and resources; or in the Stockwork Zone, a series of narrow high-grade veins occurring at an oblique angle to the Main Vein. One hole intersecting MQV cut 3.03 meters grading 30.5 percent zinc, 27.5 percent lead and 289 g/t silver. Another hole targeting a lower portion of MQV cut two veins about eight meters apart that averaged 9.7 percent zinc, 22.7 percent lead and

#### **NWT EXPLORATION** continued from page 35

In August, the company reported that a 433-metric-ton bulk sample from the southeast lobe of the Kelvin kimberlite at Kennady North returned 893 carats of commercial-size diamonds, or about 2.02 carats per metric ton. Of these, 35 were larger than one carat, including a 4.22 carat white/colorless, diamond with no inclusions.

Additionally, a 1.83-metric-ton sample from the Kelvin South Lobe averaged 3.64 carats per metric ton of commercial size diamonds, 2.7-metric-ton, sample collected from the north lobe of the Kelvin kimberlite averaged 2.74 carats of commercial-size diamonds per metric ton; and 1.92 metric tons of material sampled from the nearby Faraday kimberlite in 2013 and 2014 returned 6.57 carats of commercial size diamonds, or about 3.32 carats per metric ton.

"Based on drilling and sampling completed to date, we estimate that the Kelvin-Faraday kimberlite cluster has the potential to host between 12 million and 15 million metric tons at a grade of between 2 carats per metric ton and 2.5 cpt," said Kennady Diamonds CEO Patrick Evans.

The company plans to completed a maiden resource estimate for Kennady North by the end of the year and publish a prefeasibility study early in 2016. Ultimately, the company is targeting first production in 2020.

Evans, who is also president and CEO of Mountain Province, said the Gahcho Kué Mine, is on pace to begin production in the second half of 2016.

According to a feasibility study completed last year, the Gahcho Kué Mine is anticipated to produce 53.4 million carats of diamonds over a 12-year mine-life.

About 650 kilometers west of Gahcho Kué, Olivut Resources Ltd. continues to chase signs of diamonds at its HOAM project, which covers a vast region of Northwest Territories' Interior Plains region south of Great Bear Lake.

While Olivut has identified 29 kimberlite occurrences across the underexplored region, some with micro-diamonds, the com-

226 g/t silver over 8.4 meters; and 3.5 percent zinc, 14 percent lead and 194 g/t silver over 5.1 meters. One hole drilled at Stockwork cut 2.4 meters grading 32.7 percent zinc, 24.7 percent lead and 311 g/t silver. The drilling also encountered a previously unknown fault structure about 75 meters in the MQV footwall. The hole that discovered this structure cut 5.4 meters averaging 19.8 percent zinc, 8.3 percent lead and 150 g/t silver. PCU-15-72, the northern-most hole drilled in 2015, cut a 7.5-meter vein intercept grading 33.7 percent zinc, 17.8 percent lead and 247 grams per metric ton silver; immediately followed by a 24.5-meter intersection of stockwork-style mineralization averaging 12 percent zinc, 6.9 percent lead and 116 g/t silver; and subsequently followed by the intersection of a second vein that averaged 3.8 percent zinc, 5.6 percent lead and 88 g/t silver over 4.5 meters. As a result of this drilling, an updated resource calculated in September increased the measured and indicated mineral resource at Prairie Creek by 32 percent. The underground mine project now hosts to 8.7 million metric tons of measured and indicated resources averaging 9.5 percent zinc, 8.9 percent lead and 136 g/t silver; and 7 million metric tons of inferred resource averaging 11.3 percent zinc, 7.7 percent lead and 166 g/t silver. Canadian Zinc said the upgraded resource should result in a longer mine life and more higher grade reserves available in the early years of an optimized mine plan for Prairie Creek.

CASH AND SHORT-TERM DEPOSITS: C\$6.3 million (June 30, 2015) WORKING CAPITAL: C\$5.9 million (June 30, 2015) MARKET CAPITALIZATION: C\$17.4 million (Sept. 18, 2015)

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pany has not found the bedrock source of indicator minerals found in sediments that often accompany commercial grade diamonds.

After reviewing its extensive database of geophysical data during a program that extended into early 2015, the company identified some compelling targets for the source of kimberlite indicator mineral trains found on the property.

Olivut says detailed magnetic surveys are required to further narrow the field of targets for drilling.

Proxima Diamonds Corp., one of the six exploration companies to receive a Northwest Territories Mineral Incentive Program grant, continues to explore a number of promising diamond properties that it has acquired across the Slave Geological Province, including three high-priority targets in the Lac de Gras region and three lying between De Beers Snap Lake Mine and Gahcho Kué.

Canterra Minerals Corp., another 2015 mineral incentive program recipient, continued exploration of its South Slave properties, located between Snap Lake and Gahcho Kué. In September, the company announced a till sampling program to further refine drill targets, as well as groundwork in preparation of geophysical surveys to be completed early in 2016.

#### **Golden future**

The capital of Northwest Territories traces its roots to the discovery of gold just north of Great Slave Lake. Today, TerraX Minerals Inc. is reviving this legacy with an exploration program hoping to outline at least five million ounces of gold at its Yellowknife City Gold Project, located within 15 kilometers (three miles) of the capital city.

To get its 2015 summer program started, TerraX used a C\$80,000 grant from this year's Northwest Territories Mineral Incentive Program to complete mapping of structurally controlled gold targets it has identified on the property.

"The support shown through its MIP is seen by TerraX as a progressive move by the NWT government to sustain mining as



an important economic driver in the NWT economy," the company commented on the program.

Osisko Gold Royalties Ltd., which has been investing heavily in TerraX's activities, lent technical expertise and staff to the field work.

TerraX followed the mapping with a 6,000-meter drill program focused on two regions within a core area of the Yellowknife property, Barney Shear, an extension of the Con-Giant shear system; and Crestaurum, a high-grade gold zone with more than 200 drill intersections from historical holes and recent drilling by TerraX.

Some 220 kilometers (135 miles) north of Yellowknife, Nighthawk Gold Corp. carried out a 3,000-meter drill program at it Indin Lake gold property.

Following up on the success it had in 2014, this year's program focused on better defining Zone 1.5 and Zone 1.0 of the Colomac gold deposit at Indin.

C14-06, the first Nighthawk hole to tap Zone 1.5, cut 52.5 meters of 7.78 g/t gold, including 21 meters of 16.73 g/t gold. This year's drilling aimed to expand upon the discovery. Zone 1.0 is located about 2,000 meters north of Zone 1.5.

"The significant results we encountered from Zone 1.5 during our 2014 drill program prove the northern portion of the Colomac sill merits further exploration," said Nighthawk President and CEO David Wiley. "Those results clearly demonstrate the potential for significant resource growth at Colomac."

# Silver lining

Northwest Territories is also home to a number of base and

strategic minerals deposits; however, only a handful of these were the target of any significant exploration in 2015.

In the southwest corner of the territory, Canadian Zinc Corp. completed a 5,484-meter underground drill program primarily focused on upgrading a portion of the large inferred resource at its Prairie Creek zinc-lead-silver mine project for potential inclusion in an update of the preliminary feasibility study.

With all 21 holes cutting the primary vein structure, it is expected this year' program will succeed in convert additional inferred resources to the measured and indicated category. Step-out holes are expected to add new mineralization to the resources as well.

PCU-15-72, the northernmost hole drilled in 2015, returned some of the highest grades and thicknesses of the 2015 program, including a 7.5-meter vein intercept grading 33.7 percent zinc, 17.8 percent lead and 247 grams-per-metric-ton silver; immediately followed by a 24.5-meter intersection of stockwork style mineralization averaging 12 percent zinc, 6.9 percent lead and 116 g/t silver; and subsequently followed by the intersection of a second vein that averaged 3.8 percent zinc, 5.6 percent lead and 88 g/t silver over 4.5 meters.

Additional indications of a second vein system were also intercepted in PCU-15-69 where an initial 10.3-meter vein intercept grading 7.8 percent zinc, 8.5 percent lead and 129 g/t silver was followed by another vein cut 56 meters further downhole that averaged 28.2 percent zinc, 21.5 percent lead and 452 g/t silver over 13 meters.

According to a new calculation published in September,

continued on page 38

# **NWT EXPLORATION** continued from page 37

Prairie Creek now hosts 8.7 million metric tons of measured and indicated resources averaging 9.5 percent zinc, 8.9 percent lead and 136 g/t silver; plus 7 million metric tons of inferred resources averaging 11.3 percent zinc, 7.7 percent lead and 166 g/t silver.

The upgraded resource is expected to result in a longer mine life and potentially an increase in high-grade mineralization available in the early years at Prairie Creek.

Canadian Zinc said it will need to raise significant capital to finish developing this mine, a dilutive endeavor that it is not willing undertake in current markets.

The company, meanwhile, is wrapping up optimization studies started in 2014.

Avalon Rare Metals Inc.' Nechalacho rare earth elements project and Fortune Minerals Ltd.'s NICO gold-cobalt-bismuth-copper project are two other up and coming mines in Northwest Territories that are now in holding patterns in the current market.

Avalon has received the permits to begin development at Nechalacho, but has decided to hold off on development of the REE project situated on Thor Lake some 100 kilometers (60 miles) southeast of Yellowknife.

"The start date for beginning pre-construction work at Nechalacho remains uncertain due to the present market conditions for raising project financing," the company explained in its secondquarter financial disclosure.

Similarly, Fortune is looking for ways to fund the development of its NICO gold-cobalt-bismuth-copper project located about 160 kilometers (100 miles) northwest of Yellowknife.

The company has already secured the permits needed to begin

What can

9 years,

"We know our territory is rich in minerals, but we are still under-explored." —David Ramsay, minister of Industry, Tourism and Investment, Government of the Northwest Territories

construction and is now looking for potential off-take agreements and other financing options that will allow it to develop the mine.

Demco Limited Partnership, a mineral exploration company formed by the Dene First Nations in the Northwest Territories, is exploring an iron oxide-copper-gold project similar to NICO.

The properties acquired by Demco cover an area south of Great Bear Lake that host four historic mines that produced silver, copper and bismuth from the 1960s into the early 1980s.

When the company was formed in 2013, Demco observed that the downturn in the junior exploration sector was an ideal time to acquire junior mining companies and/or their assets.

"The silver lining to present and initiate a Denendeh exploration and mining company at this time may help create momentum for fundamental change in First Nation participation in resource development in the Northwest Territories and Canada," the company said.

Demco's 2015 exploration of this project was partially funded through the Northwest Territories mineral incentive program.

Two other base metal explorers that received MIP funding are Panarc Resources Ltd., which is exploring the Indian Mountain copper-zinc-lead-silver project; and GGL Resources Corp., which owns claims prospective for gold, copper, nickel and volcanogenic massive sulphide deposits and in the Northwest Territories. ●

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Northwest Territories

# In the head frame's shadow

TerraX seeks to identify a third mine in historic Yellowknife Gold Camp

By SHANE LASLEY Mining News

TerraX Minerals Inc. is on a mission – outline a multimillionounce resource along the many high-grade gold zones located at its Yellowknife City Gold Project, which is located about 15 kilometers (nine miles) north of the capital of Northwest Territories.

A C\$3.5 million cash infusion by Osisko Gold Royalties Ltd. along with nearly C\$2.7 million raised separately is helping the explorer to reach its goal.

"TerraX has always been committed to putting our dollars into the ground where they have the best chance of returning value to our investors," said TerraX President and CEO Joe Campbell. "Now, in the midst of historically difficult capital markets for junior mining companies, TerraX has more exploration funding available than at any time in the history of the company."

Lying "in the shadow of the head frame" of the historic Con and Giant mines, which produced a combined 14.2 million ounces of gold, the company's 99.3-square-kilometer (38.3 square miles) Yellowknife property blankets a region known for yielding deposits of a scale that the exploration company is seeking.

# Drilling the core

In its quest to outline enough gold to consider developing a third major gold mine in the Yellowknife camp, TerraX kicked off a 6,800-meter winter drill program in January.

This drilling focused on a 15-square-kilometer (six square miles) "core gold area" that includes the Barney Shear, an extension of the shear system that hosts the Con and Giant mines, and Crestaurum, a high-grade gold zone that has been drilled extensively by TerraX and previous explorers.

In the 1980s, Giant Mines Ltd. considered mining Crestaurum, drilling 187 holes along 1,200 meters of a shear that has been traced along surface for some 4,000 meters.

Two holes drilled by Giant in 1985 cut five meters averaging 12.42 grams per metric ton gold and five meters of 8.03 g/t gold; and one hole drilled by TerraX in 2014 cut 3.07 meters of 13.84 g/t gold.

TerraX confirmed the continuity and expanded the Crestaurum deposit with 28 holes drilled during its winter 2015 program.

The first six holes of this drilling tested the South Shoot of Crestaurum. Hole TCR15-003, the southwestern-most of these holes, cut seven meters averaging 10.23 g/t gold, including 2.97 meters averaging 23.69 g/t gold. TCR15-003, drilled about 100 meters north, cut 15.5 meters averaging 2.89 g/t gold.

"We are ... encouraged by the confirmation of the continuity

# **TerraX Minerals Inc.**

# TXR:TSX.V

PRESIDENT AND CEO: Joseph Campbell VP, EXPLORATION: Tom Setterfield CHIEF FINANCIAL OFFICER: Stuart Rogers

PROPERTIES WITH MINERAL(S) EXPLORED: Yellowknife City, Northwest Territories: Gold • Central Canada, Ontario: Gold • Stewart, Newfoundland: Gold-Copper

CASH AND SHORT-TERM DEPOSITS: C\$6.1 million (July 31, 2015) WORKING CAPITAL: C\$6.0 million (July, 31, 2015) MARKET CAPITALIZATION: C\$26.3 million (Sept. 18, 2015)

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Joe Campbell and Tom Setterfield

in the mineralized structure as well as the extension of the plunge and dip on the high-grade mineralized portions of the South Shoot evidenced by this drilling," said Campbell.

Similar grades continued as drills continued to the northeast. Highlights include: eight meters averaging 6.83 g/t gold in hole TCR15-005; 15.5 meters averaging 2.89 g/t gold in hole TCR15-006; five meters averaging 5.29 g/t gold in hole TCR15-019; and 8.86 meters averaging 2.86 g/t gold in hole TCR15-025.

The winter drill program also included 11 holes testing the southern end of the Barney zone, a shear system located roughly 1,000 meters northeast of Crestaurum. TerraX said all of these holes hit the mineralized shear where expected. Highlights include: 14.09 meters grading 2.96 g/t gold in hole TBY15-005; and 15 meters 1.59 g/t gold in hole TBY15-003.

# **New discoveries**

In June, Osisko paid TerraX C\$1 million for an option to purchase a one percent net smelter return royalty on the Yellowknife City Gold Project. To exercise this option, the royalty company would pay TerraX an additional C\$2 million within three months following the start of production of any mine that is developed on the Yellowknife property. This is on top of a previous option to acquire a two percent NSR on any future gold mined from the property.

In addition to reserving the option to buy future Yellowknife royalties, Osisko invested C\$2.5 million to buy 6.25 million TerraX flow-through shares in a private placement that closed in June.

# Alaska

# Coeur Mining Inc.

# CDE:NYSE

CHAIRMAN: Robert Mellor PRESIDENT & CEO: Mitchell Krebs VP, EXPLORATION: Hans Rasmussen

An incentive program that allocates exploration funds based on success has paid dividends for Coeur Mining Inc. and the Kensington gold mine in Southeast Alaska. As a result of this success-driven strategy, the exploration team at Kensington was doled US\$9.1 million to expand upon the high-grade gold discoveries made on



COEUR MINING

the property in 2014. As a return on its investment, Coeur Mining was rewarded with a new mine plan that will produce more gold at lower costs over the coming years. "Our recent success identifying high-grade mineralization near existing Kensington infrastructure has added highermargin production to our mine plan and significantly improved the expected economics of the mine," Coeur Mining President and CEO Mitchell Krebs explained.

The 12,400-acre Kensington property is divided into two blocks – Kensington and Jualin – that reflect two historical mines that trace their roots back to the turn of the 20th Century. At the end of 2014, the main Kensington deposit had 3.24 million tons of proven and probable reserves averaging 0.181 ounces per short ton (584,000 oz) gold. Recent exploration, however, has discovered a deposit on the Jualin side of the property that bests the historic average and is set to change the production profile of the Kensington Mine. At the end of 2014, the Vein 4 deposit at Jualin had 289,000 tons of inferred resource averaging 0.619 oz/t (179,000 oz) gold, around triple the grades currently being mined at Kensington. If all goes according to a new mine plan released early in 2015, mining will begin at Jualin in mid-2017. During 2018, the first full year of production after Jualin comes online, gold production at Kensington is expected to reach 149,000 oz. Development of a decline to Jualin began in July.

If recent drilling is any indication, Jualin and the other zones at Kensington will likely continue to deliver high-grade gold to the mill beyond the new mine plan. The inferred resource at Jualin is found in an area known as Vein 4. Recent drilling from the surface have intersected this vein over an area that extends roughly 1,000 feet from the current deposit, pointing to the potential to expand the high-grade gold found there. Highlights from the holes drilled beyond the inferred resource include: 4.3 feet of 2.69 oz/t gold and 2.6 feet of 1.83 oz/t in hole JU14-X045; 1.3 feet of 1.33 oz/t gold in hole JU15-X002; and 4.4 feet of 0.56 oz/t gold in JU15-X006. Beyond expanding Vein 4, Coeur said veins 1, 2, 3, and 5 at Jualin have the potential to increase the size of the overall zone and bring additional high-margin production into the mine plan. Drilling on the Kensington side of the mine also is finding additional relatively high-grade gold. Highlights from recent exploration drilling at the Raven deposit include: 5.4 feet of 0.71 oz/t gold in R14-1042-261-X03; 2.8 feet of 1.85 oz/t gold in R14-1042-261-X04; and 4.2 feet of 1.14 oz/t gold in R14-1042-261-X05. Highlights from recent exploration drilling at Zone 10 area of Kensington Main include: 1.8 feet of 1.03 oz/t gold, 2.2 feet of 0.94 oz/t gold and 2.2 feet of 1.26 oz/t gold in hole K14-0520-095-X07; and 2.2 feet of 4.3 oz/t gold in hole K14-1170-110-X08. While Coeur only budgeted about US\$2.2 million for exploration at Kensington in 2015, the company said it plans to invest roughly US\$9.1 million in 44,000 feet of underground drilling focused on expanding and upgrading high-grade resources at the mine over the next two years.

CASH AND SHORT-TERM DEPOSITS: US\$205.9 million (June 30, 2015) WORKING CAPITAL: US\$366.3 million (June 30, 2015) MARKET CAPITALIZATION: US\$450 million (Sept. 17, 2015)

104 S. Michigan Ave. Suite 900, Chicago, Illinois 60603 Tel: 312-489-5800 www.coeur.com



# **NWT EXPLORATION** continued from page 39

"This funding, along with our technical partnership with Osisko, gives TerraX the financial means to effectively explore the world-class potential of the Yellowknife City Gold project," said Campbell.

Though the company had plenty of funds, much of its summer program at Yellowknife focused on prospecting, mapping and sampling aimed at discovering new high-quality gold targets for a C\$4 million drill program planned for the winter of 2016.

High-grade gold at the Herbert-Brent showing, located about 1,000 meters south of the Barney zone, was among the most exciting discoveries made during the summer program.

An 11-meter segment of a channel cut across the strike of the Herbert-Brent zone averaged 7.55 g/t gold.

Some 75 meters to the south, a second channel cut across the zone returned six meters averaging 10.26 g/t gold.

Another trench dug across the strike of Herbert-Brent and about 45 meters to the east of the first trench cut 15.3 meters averaging 2.23 g/t gold.

"These high-grade sampling results give added confirmation of the gold endowment in the recently discovered Hebert-Brent Shear area," said Campbell. "Despite 75 years of exploration on the YCG property, this outstanding area of gold mineralization went undiscovered, with no previous surface workings or drilling prior to TerraX's work in 2014 and 2015."

Excited about the discovery, TerraX launched a program of extensive stripping and channel sampling in preparation for the first-ever drilling at the Hebert-Brent Shear.

The prospecting has identified another nine targets with similar mineralization and alteration as Hebert-Brent. These nearby targets include Brent, where a grab sample returned 44 g/t gold, and Alpha, where a composite sample grading 28 g/t gold was collected.

TerraX dug channel samples to get a better look at these new prospects. Assays were pending at the time of this report.

The continued discovery of new zones of high-grade gold has bolstered the company's confidence that exploring "in the shadow of the head frame" of the historic Con and Giant mines was a good move for TerraX and its shareholders.

"This exploration success is a strong endorsement of our corporate strategy to acquire property and explore within an established major Canadian Gold camp," said Campbell.

**Guest** Column

# Nunavut faces bright future

# Vast resources propel territory to forefront of mining activity, spending

By THE HON. MONICA ELL Special to Mining News

unavut's landmass, including the internal waters and offshore lands as legislated by the Nunavut Act, occupies about the size of Greenland or Saudi Arabia. As a proportion of Canada it accounts for roughly one-fifth of the land mass and the territory could contain an equal share of its natural resources.

At least half of Nunavut is not prop-

erly mapped at a detailed scale in comparison to the rest of the country. However, the federal and territorial government is investing in geological mapping. This allows Nunavut to compete with other jurisdictions, both within Canada and globally, for investment money. The Government of Nunavut remains strongly committed to public geoscience as a means of encouraging

Monica Ell, minister of Economic Development and Transportation for the Government of Nunavut

new exploration opportunities. The GN works through the Canada-Nunavut Geoscience Office to deliver and carry out geoscience research in the territory.

Nunavut is geologically diverse and the resources are as varied and significant as the vastness of the land. All commodities are being explored for, including gold, zinc, copper, iron, uranium, diamonds and coal. Nunavut has one settled land claim in which Inuit beneficiaries are the major recipients of any resource development. Although streamlining of the regulatory processes is ongoing, the processes are well-defined.

The GN developed "Parnautit: The Nunavut Mineral Exploration and Mining Strategy" in 2007. The goal of Parnautit is: "To create the conditions for a strong and sustainable minerals industry that contributes to a high and sustainable quality of life for all Nunavummiut." In 2013. with the election of a new premier and government, "Sivumut Abluqta: Stepping Forward Together 2014-2018" was released. Education and training, healthy

families and strong communities, economic growth through responsible development, and good government through wise use of Nunavut's resources are all considered priorities for Nunavut and the GN.

Nunavut now has two operating

mines, the Meadowbank gold mine north of Baker Lake and the Mary River iron mine southwest of Pond Inlet. One project is at the development stage, three projects are at the environmental assessment stage and active exploration continues across

continued on page 42



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#### MINING EXPLORERS 41

# • Dams & Frozen Core Dams • Dikes

- Earthworks & Site Development

# NUNAVUT continued from page 41

# Nunavut.

Some highlights include:

(1) The Doris North gold mine. This project is at the development and construction stage and could be operational by 2016;

- (2) The Meliadine gold project in central Nunavut;
- (3) The Back River gold project in western Nunavut;
- (4) The Hope Bay gold project in western Nunavut; and,

(5) The advanced diamond exploration project, Chidliak, which is returning encouraging results.

Canada is consistently ranked among the most attractive regions in the world for mining investment, and Nunavut has attracted the attention of major global producers. Natural Resources Canada determined that roughly C\$145 million was spent on exploring for minerals in Nunavut in 2014. Although exploration efforts have experienced a decline, this is a global trend, particularly as the junior mining sector companies reduce or discontinue their exploration programs. Nevertheless, the mining sector in Nunavut is still robust and with several potential mine openings in the territory within the next decade, we can look forward to a future of increased mineral production and economic growth in this sector.

Also on the horizon, the potential for petroleum prospects within Nunavut is high. Nunavut contains significant sedimentary basins, both onshore and offshore, with similar geology to the oil-producing basins of the rest of Canada and other areas of the world. Petroleum exploration and development could occur in the next decade under positive conditions of public understanding and benefits that can be derived from such development.



"Canada is consistently ranked among the most attractive regions in the world for mining investment, and Nunavut has attracted the attention of major global producers. Natural Resources Canada determined that roughly C\$145 million was spent on exploring for minerals in Nunavut in 2014." —Min. Monica Ell, Department of Economic Development and Transportation, Government of Nunavut

With its vast amount of resources, Nunavut will continue to be one of the leaders in mineral exploration and mining expenditures. The future of the territory's resource development industry is as bright as the midnight sun.

*The Hon. Monica Ell is minister of Economic Development and Transportation for the Government of Nunavut.* 

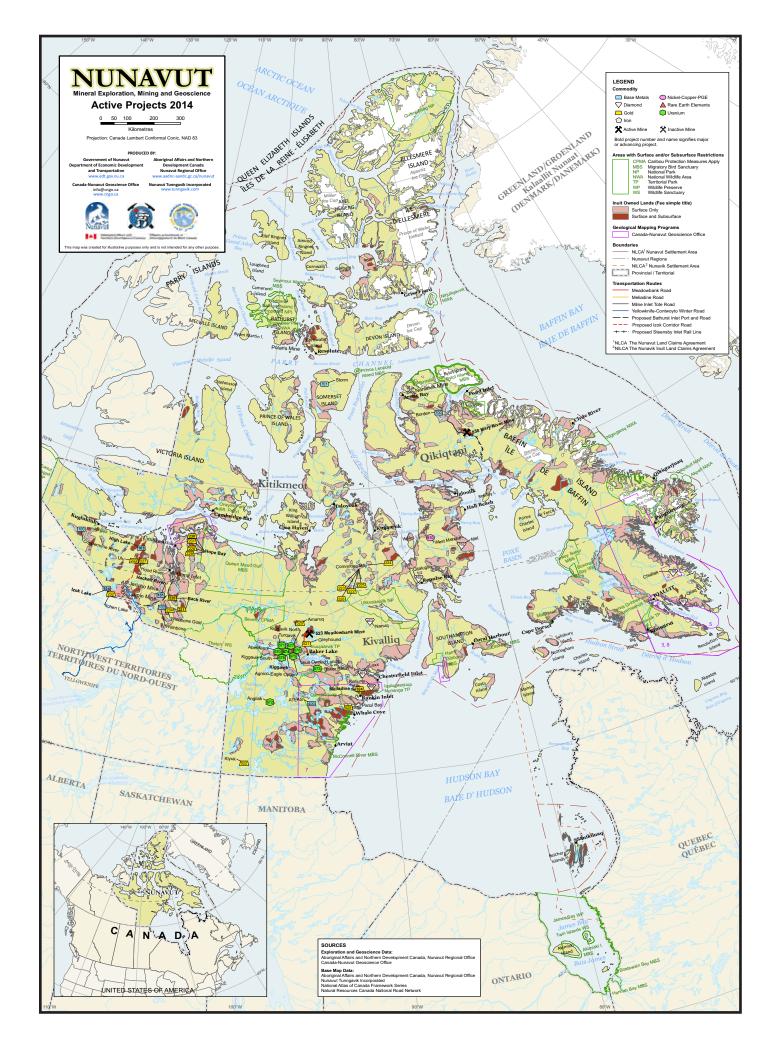
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# Nunavut Exploration 2015

# **Mining spurs growth** in Nunavut

# Mary River iron expected to boost territory's GDP, more mines on horizon

# By SHANE LASLEY

Mining News

hanks largely to its burgeoning mining sector, Nunavut is lead-L ing the Canadian territories in economic growth. With the start-up of the Mary River iron mine late in 2014, Nunavut now has two operating mines and a number of advanced stage gold, uranium, diamond and base metals projects poised to join the ranks in the coming years.

"All in all, real gross domestic product (in Nunavut) is expected to grow by 3.8 percent in 2015, the highest rate of growth among the provinces and territories," The Conference Board of Canada wrote in its summer report on the territories.

Despite a sharp drop in mineral exploration spending in recent years, more than C\$1.8 billion has been invested in exploration and deposit appraisals in Nunavut since 2010, according to figures compiled by Natural Resources Canada. This includes an estimated C\$174.3 million on such expenditures this year, roughly a 21 percent uptick from the C\$144.6 million spent last year.

Agnico Eagle CEO Sean Boyd said Nunavut has the "unique combination that many companies in the industry are looking for ... the ability to do business combined with significant exploration potential."

In July, Honorable Leona Aglukkaq, minister of the Canadian Northern Economic Development Agency, and Member of Parliament for Nunavut, announced federal funding for the Iqaluit Marine Infrastructure Project, a roughly C\$84.9-million upgrade to the port facilities at Nunavut's capital.

"Our government will continue to work with the government of Nunavut to ensure infrastructure funding continues to flow in our territory as we focus on creating jobs, promoting growth, and building strong, prosperous communities across Canada's North," said Aglukkaq.

When completed, this facility is expected to significantly reduce offload times; increase safety; provide safe harbor; serve as a potential base of operations for military or search and rescue operations; enhance the feasibility of resource and economic development in the North; and build on Canada Arctic sovereignty.

Peregrine Diamonds Ltd., which has outlined an inferred mineral resource of 8.57 million carats of diamonds at its Chidliak diamond project about 120 kilometers (75 miles) from Iqaluit, said the port would provide an important supply point for construction and operations, if a mine is developed at its southern Baffin Island project.

"In addition to being a key component of the infrastructure required to construct and operate a diamond mine at Chidliak, the efficiencies that the port will bring will improve the quality of life and lower the cost of living for the people of Iqaluit and the communities on Baffin Island," noted Peregrine President and CEO Tom Peregoodoff.

# **Coming gold mines**

Roughly C\$126.5 million, or roughly 72 percent, of the anticipated exploration expenditures in Nunavut this year is being invested in the search for precious metals.

A 100,000-meter drill program at Agnico Eagle Mines Ltd.'s Amaruq gold project in the Kivalliq District accounted for more than C\$30 million of the precious metals exploration spending in Nunavut.

After completing an initial 50,000 meters of drilling through May, Agnico published an updated inferred resource of 9.7 million metric tons grading 6.47 grams per metric ton (2 million ounces) gold for Amaruq, a 35 percent increase in gold content since the end of 2014. Most of this resource – of 9.1 million metric tons grading 6.56 g/t (1.9 million oz) gold – is located in the Whale Tail deposit.

Agnico is evaluating the potential of developing Amaruq as a satellite to the Meadowbank Mine about 50 kilometers (30 miles) to the southeast.

In July, the company reported plans to include the Vault Pit in the mine plan for Meadowbank, which is expected to extend the life of the mine by about one year, to the third quarter of 2018.

The added year is expected to help bridge the gap between the end of production at Meadowbank and the potential start of a satellite operation at Amaruq.

Amaruq is becoming a key component in Agnico's larger strategy for Nunavut. Meliadine, a large gold project located near Rankin Inlet, is another.

In March, Agnico published an updated technical report that details a plan to mine 3.3 million ounces of gold in 13.9 million metric tons, averaging 7.44 g/t gold, of proven and probable mineral reserves in the Tiriganiaq and Wesmeg deposits at Meliadine.

With an eye on starting production at Meliadine in 2019, Agnico budgeted US\$85 million for underground development; construction; infrastructure and permitting during 2015. The company said the underground development will allow for more cost-effective exploration and conversion drilling of the deeper parts of the Tiriganiaq and Wesmeg deposits and help to optimize potential mining plans.

"In Nunavut, we continue to focus on moving several of the pieces forward so that we're in a position in the first part of next year to decide how we move that large Nunavut platform forward," Boyd explained in August.

TMAC Resources Inc.'s Hope Bay project in the Kitikmeot region of Nunavut, however, will likely be the next Nunavut gold mine to go into production.

In January, the company published an upgraded resource of 14.73 million metric tons of measured and indicated resources grading 9.6 grams per metric ton (4.44 million ounces) gold for the Hope Bay project; and 5.39 million metric tons of inferred resources grading 7.6 g/t (1.65 million oz) gold.

This summer, TMAC closed C\$155.1 million initial public offering.

"Our priority now is to continue advancing the Hope Bay Project towards planned first production by the end of 2016," said TMAC Executive Chairman Terry MacGibbon.

To achieve this, TMAC has budgeted C\$165 million for "path to production" expenditures during 2015. More than C\$15 million of the 2015 budget will be invested in exploration, which will include both delineation and resource expansion drilling.

Roughly 125 kilometers (80 miles) south of Hope Bay, Sabina Gold and Silver is looking for the ideal scale of operation for its Back River gold project.

In May, the company announced positive results from a feasibility study that envisions a 6,000-metric-ton-per-day mill producing an average of about 346,000 ounces of gold annually over a 10-year mine life.

To build this mine, Sabina would need to raise roughly C\$695 million, which

continued on page 46

# **Constantine Metal Resources Ltd.**

CEM:TSX.V

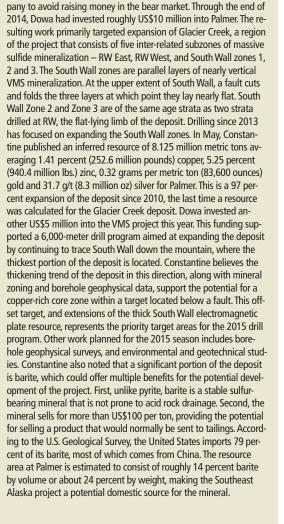
CHAIRMAN: Wayne Livingstone PRESIDENT & CEO: Garfield MacVeigh VP, EXPLORATION: Darwin Green

A partnership forged with Dowa Metals & Mining Co. Ltd. early in 2013 is providing Constantine Metal Resources Ltd. with the funds needed to expand a copper- and zinc-rich volcanogenic massive sulfide deposit at its Palmer project in Southeast Alaska. In 2013, Dowa and Constantine inked a deal that provides the Tokyobased smelting and mining company with the opportunity to earn a 49 percent stake in the Palmer project by investing US\$22 million in the exploration property over a four-year span. Under terms of the

CONSTANTINE

metal resources ltd.

agreement, Constantine will receive annual cash payments totaling US\$1.25 million over the four-year span. This, along with any other option payments and management fees received, is allowing the com-



CASH AND SHORT-TERM DEPOSITS: C\$1.4 million (July 31, 2015) WORKING CAPITAL: C\$453,965 (July 31, 2015) MARKET CAPITALIZATION: C\$12.9 million (Sept. 23, 2015)

Suite 320 – 800 West Pender St., Vancouver, BC V6C 2V6 Tel: 604-629-2348 • Fax: 604-608-3878 www.constantinemetals.com

# Alaska



# NUNAVUT EXPLORATION continued from page 45

would be challenging in current capital markets.

In July, the company commissioned a second feasibility study to evaluate the potential of a smaller, 3,000-metric-ton-per-day operation that would produce an estimated 250,000 ounces of gold annually over a 10-year mine-life.

# Golden prospects

In addition to the Nunavut gold projects that look to be tracking towards production over the next five years, three early stage gold exploration projects in the territory saw significant drilling in 2015.

Roughly 180 kilometers northeast of the Meadowbank Mine, Auryn Resources Inc. invested C\$4 million in exploration at the Committee Bay gold project.

Auryn became involved in the project as part of joint venture with North Country Gold Corp. By June, however, the JV had transitioned into a full-fledged merger.

Over the past two decades North Country Gold and earlier iterations of the company has identified more than 50 gold occurrences



along the 300-kilometer- (185 miles) long Committee Bay Greenstone Belt, including the 1.6-million-ounce Three Bluffs gold deposit.

With an eye on the larger potential of the expansive property, Auryn's 2015 program tested high-priority exploration targets stretching for some 100 kilometers (60 miles) southwest of Three Bluffs.

Northquest Ltd. completed a 7,800-meter drill program at its Pistol Bay gold project, a 861-square-kilometer (332 square miles) property covers 90 kilometers (55 miles) of the Pistol Bay Trend, a west-trending series of surface gold occurrences and gold zones parallel to, and 80 kilometers (50 miles) south of a similar trend that hosts Agnico Eagle's Meliadine gold mine project.

Northquest has completed three airborne geophysical surveys and 13,660 meters of drilling in 66 drill holes over the previous four field seasons. This work has turned up what the company considers economically interesting drill intersections at three targets – Sako, Vickers, and Bazooka – that occur over a 20-kilometer (12 miles) segment of the Pistol Bay Trend.

This year's program primarily targeted Vickers, a zone where drilling has cut broad intercepts with good gold grades including: 156.5meters averaging 8.23 g/t gold in hole PB-12-22; 138.4 meters grading 3.79 g/t gold in hole PB-13-06; and 221.7 meters of 1.65 g/t gold in hole PB-14-08.

"The next phase of exploration includes the largest amount of drilling ever completed at the Vickers gold zone in a single drilling season, and we are confident that the program will have a great impact on defining the size of the gold zone," said Northquest President and CEO Jon North.

# Idling zinc projects

While gold projects in Nunavut continue to forge ahead, a pair of base metals projects on the verge of development has idled.

MMG Ltd., which submitted a project description to the Nunavut Impact Review Board to initiate the environmental review and permitting process for its Izok Corridor zinc-copper project in



2012, has retrenched for further analysis.

The Izok Corridor project includes two massive sulfide deposits: Izok Lake, which has a mineral resource of 14.8 million metric tons averaging 12.8 percent zinc and 2.5 percent copper; and High Lake deposit, which hosts a resource of 17 million metric tons averaging 3.4 percent zinc and 2.3 percent copper.

MMG's original plan was to develop a mine and mill at Izok Lake, a mine at High Lake, and a port at Grays Bay on the Coronation Gulf from which mineral concentrates would be shipped seasonally, all connected by a 325-kilometer (202 miles) all-weather road.

The company has since advised Nunavut regulators that it is evaluating engineering alternatives aimed at improving project economics.

One hurdle to an economically viable project at Izok, according to the MMG, is the cost of building the road and other infrastructure. The company says there would be many benefits for the improved regional infrastructure the company needs in the Kitikmeot region where the project is located, including a C\$5.1 billion increase to the gross domestic product of Nunavut and a C\$2.5 billion bump to the GDP of Canada.

Hackett River is another large base metals project in the Kitikmeot region that is being delayed in the midst of permitting.

According to the most recent published resource, Hackett River hosts 25 million metric tons of indicated resources averaging 4.2 percent zinc, 0.6 percent lead, 0.5 percent copper, 130 grams per metric ton silver and 0.3 g/t gold; and 57 million metric tons of inferred resources grading 3.0 percent zinc, 0.5 percent lead, 0.4 percent copper, 100 g/t silver and 0.2 g/t gold.

In February, Glencore Canada Corp. informed the Nunavut Impact Review Board that it is delaying the submission of a draft environmental impact statement for the Bathurst Inlet Port and Road, a key piece of infrastructure for this enormous volcanogenic massive sulfide project.

"Developing a project of this size is complex, especially in the context of uncertain economic growth and volatile metal prices," the company explained.

# Iron and diamonds

A bright spot for the Nunavut mining sector is that Baffinland Iron Mines Corp. loaded 53,624 metric tons of iron ore from the Mary River project on a ship bound for Germany. This is the first shipment from one of the richest and northernmost iron projects in the world.

"Iron ore from the Naluujaak pit at Mary River mine will soon become an ingredient in European steel, and Nunavut's role in contributing to the global economy has just increased," said Baffinland CEO Tom Paddon.

The company anticipates shipping roughly 3.5 million metric tons of iron ore per year from the northern Baffin Island project for an initial mine life of 21 years.

On southern Baffin Island, Peregrine Diamonds Ltd. carried out a C\$3.75 million exploration program chiefly focused on collecting the information needed to complete a preliminary economic assessment for the potential mining of the CH-6 and CH-7 kimberlites at its Chidliak diamond project.

North Arrow Minerals Inc. turned up some rare and beautiful yellow diamonds at its Qilalugaq project on the Melville Peninsula.

Qilalugaq encompasses Q1-4, a kimberlite with 48.8 metric tons of inferred resource averaging 53.6 carats per hundred tons for a total of 26.1 carats, to a depth of 205 meters.

This year's Qilalugaq program primarily focused on valuation a



A bulk sample collected from the Q1-4 kimberlite at North Arrow Minerals Inc.'s Qilalugaq project produced a vast array of diamonds, including an exceptionally rare type of yellow diamond.

1,353 dry-metric-ton sample collected from Q1-4 during 2014.

While the sample produced a number of rare yellow diamonds, the overall per-carat value averaged only US\$36 per carat. The company said the sample size was too small to properly evaluate a kimberlite with two distinct diamond populations – rare Type Ib yellows and non-yellow diamonds.

"Additional evaluation of the project will require the recovery of a larger diamond parcel including sufficient carats from each of the two populations to allow for a more confident assessment. North Arrow will review options for the cost-effective collection of a larger sample, taking advantage of Q1-4's large size and advantageous location near tidewater and the Hamlet of Repulse Bay (Naujaat)," said North Arrow President and CEO Ken Armstrong. ●



# Nunavut

# Agnico mulls Nunavut strategy

Rapidly growing Amaruq project emerges as potential Meadowbank satellite

By SHANE LASLEY Mining News

**S** ince acquiring Amaruq in 2013, Agnico Eagle Mines Ltd. has elevated the Nunavut property from an intriguing grass-roots prospect to a 2-million-ounce gold deposit that could follow the company's Meadowbank Mine as a successful venture in Nunavut.

"While it is still at an early stage of exploration, in less than two years, the Amaruq property has advanced from a grassroots discovery to a project that now hosts a significant and growing inferred gold resource. We also see good potential to expand the known deposits and discover new areas of mineralization on the property," said Agnico Eagle CEO Sean Boyd.

In February, the company announced a maiden inferred mineral resource for Amaruq of 6.6 million metric tons at 7.07 grams per metric ton (1.5 million oz) gold, which was boosted to 2 million oz in August.

This rapid expansion of high-grade gold already has Agnico looking seriously at the potential of developing Amaruq as a satellite to the Meadowbank mine, located about 50 kilometers (30 miles) to the southeast.

In July, the company announced plans to include the Vault Pit in the mine plan for Meadowbank, which is expected to extend the life of the mine by about one year, to the third quarter of 2018.

The added year will help bridge the gap between the end of production at Meadowbank and the potential start of a satellite operation at Amaruq.

# A whale of a deposit

Agnico entered 2015 with high expectations for Amaruq; the 100,000 meters of drilling completed this year did not betray these hopes for the potential of the early-stage project.

A big part of the 50,000-meter initial phase of this year's program focused on a gap in the growing Whale Tail deposit at Amaruq which lies under Whale Lake. Highlights from this drilling include 19.8 g/t gold over five meters in hole AMQ15-187; and 15.9 g/t gold over 14.6 meters in hole AMQ15-181.

The drilling also confirmed a new gold structure about 100 meters north of the Whale Tail deposit, including 6.1 g/t gold over four meters and 9.7 grams g/t gold over 3.8 meters in hole AMQ15-177.

After drilling 102 holes during the first phase completed at the end of May, Agnico published an updated inferred resource of 9.7 million metric tons grading 6.47 grams per metric ton (2 million oz) gold for Amaruq, reflecting a 35 percent increase in gold content since the end of 2014. Most of this resource -9.1

# Agnico Eagle Mines Ltd.

AEM:TSX / AEM:NYSE

VICE CHAIRMAN AND CEO: Sean Boyd PRESIDENT: Ammar Al-Jound SENIOR VP, EXPLORATION: Alain Blackburn

# **PROPERTIES WITH MINERAL(S) EXPLORED:**

Meadowbank, Nunavut: Gold Meliadine, Nunavut: Gold Amaruq, Nunavut: Gold Greyhound, Nunavut: Gold-Silver Kirkland Lake, Ontario: Gold Hammond Reef, Ontario: Gold Akasaba West, Quebec: Gold-Copper El Barqueño, Mexico: Gold-Silver

CASH AND SHORT-TERM DEPOSITS: US\$184 million (June 30, 2015) WORKING CAPITAL: US\$574 million (June 30, 2015)

MARKET CAPITALIZATION: US\$5.1 billion (Sept. 17, 2015)

145 King St. East, Suite 400, Toronto, Ont. Canada M5C 2Y7 Tel: 416-947-1212 • Fax: 416-367-4681 www.agnicoeagle.com





ALAIN BLACKBURN

million metric tons grading 6.56 g/t (1.9 million oz) gold – is located in the Whale Tail deposit.

"The updated resource estimate demonstrates that the Whale Tail deposit appears amenable to open pit mining, and there is potential for a higher grade underground operation," said Boyd.

The company continued to explore Amaruq this fall with a second 50,000-meter drill program started in July. The program is expanding the extent of known mineralization and finding new prospects on the 114,761-hectare (283,580 acres) property.

At Whale Tail, phase-2 drilling has encountered an openended high-grade ore shoot that yielded intersections of 6.7 g/t gold over 32.3 meters from a depth of 284 meters in hole AMQ15-310; and 10.4 g/t gold over 21.9 meters from a depth of 311 meters in hole AMQ15-330.

The company said that infill and deep exploration drilling continues to cut multiple intercepts of high-grade gold amenable to both open-pit and underground mining.

Drilling to the west of the Whale Tail zone in an area called Mammoth Lake cut mineralization between 50 and 300 meters that appears to connect with the Whale Tail deposit, possibly extending the strike length of the combined mineralization to roughly 2,000 meters. Agnico Eagle Mines Ltd. is rapidly outlining a sizeable gold deposit below a shallow blanket of lakes and tundra that cover the Whale Tail and Mammoth zones at its Amaruq project in Nunavut.

On the eastern edge of Mammoth Lake, 600 meters west of the known Whale Tail zone, Hole AMQ15-261 cut 6.2 g/t gold over 11.3 meters in the Mammoth Lake area some 600 meters west of Whale Tail. Two hundred meters farther west, hole AMQ15-246 cut two g/t gold over 8.8 meters and 6.8 g/t gold over 12.9 meters. Another 1,400 meters farther southwest, hole AMQ15-226 cut 13.3 g/t gold over three meters at 162 meters depth. In the eastern part of Mammoth Lake, AMQ15-351 cut 10.8 g/t gold over 6.9 meters.

Engineering and environmental baseline studies are underway to support the permitting process for Amaruq as a potential satellite to Agnico's Meadowbank mine.

The application to construct an all-weather access road between Meadowbank and the Amaruq site was filed in the first quarter of 2015.

# Nunavut platform

Agnico said it is studying options and alternatives in Nunavut to maximize the value of its large and growing mineral resource base in the territory.

"In Nunavut we continue to focus on moving several of the pieces forward so that we're in a position in the first part of next year to decide how we move that large Nunavut platform forward," Boyd explained.

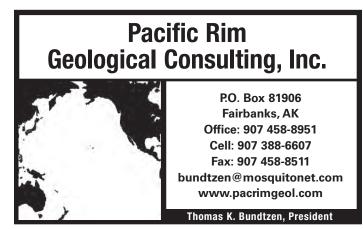
While Amaruq is shaping up as an exciting new piece to Agnico's overall strategy, Meliadine, an advanced stage project about 290 kilometers (180 miles) to the southeast of Meadowbank, is another important component.

In March, Agnico published an updated technical report for Meliadine, a large gold development project located near the community of Rankin Inlet. This study was based on extracting only the 3.3 million oz of gold in proven and probable mineral reserves (13.9 million metric tons of ore at 7.44 g/t gold), which is contained in the Tiriganiaq and Wesmeg deposits. The Melia-

dine property also hosts 3.3 million oz of measured and indicated mineral resources (20.2 million metric tons at 5.06 g/tgold), and 3.5 million oz of inferred mineral resources (14.1 million metric tons at 7.65 g/t gold). The company is currently evaluating potential expanded production scenarios at Meliadine.

In addition to finding success north of Meadowbank, Agnico is seeking near-mine exploration upside at Aura Silver Resources Inc.'s Greyhound property located 32 kilometers (20 miles) south of the mine.

In 2014, Agnico Eagle entered into an option agreement to earn an initial 51 percent interest in a portion of Greyhound by paying Aura C\$250,000 and investing C\$1.75 million in exploration by the end of May 2017, a stake that can be raised to 70 percent with additional expenditures. Following up on the results from rock sampling and drilling completed in 2014, Agnico funded a C\$500,000 program that included a 1,000-meter drill program to test gold and silver zones around Aura Lake gold; as well as copper targets at a prospect known as Dingo. ●



Guest Column

# Miners weather stormy markets

Global price slump depresses mineral output; new players enter territory



A geologist inspects core at Rockhaven Resources Ltd.'s Klaza gold-silver project in southern Yukon Territory.

By LARA LEWIS Special to Mining News

n 2015, junior exploration companies working in Yukon continued to weather the storm of depressed metal prices and cautious markets. Despite the lack of market enthusiasm, exploration spending maintained historically high levels at C\$100 million; although one project, the Selwyn-Chihong Selwyn lead-zinc project in eastern Yukon, accounted for 40 percent of the spending. More than 80 exploration programs were undertaken in the territory, ranging from small grassroots projects to multimilliondollar programs on advanced properties. Gold continued to be alluring, with almost two-thirds of hard-rock exploration programs searching for this metal. The re-

maining programs involved exploration for lead, zinc, copper, nickel, silver, platinum group elements and even jade. Predictably, mineral production levels decreased in 2015, with only one hardrock mine maintaining operations, primarily due to the slump in global metal prices. Capstone Mining Corp.'s continued to mine its copper-gold-silver deposits at the Minto mine in west-central Yukon, producing 8,236 metric tons of copper in concentrates in the first two quarters of 2015. The company received its water license for its Minto North deposit in August, allowing workers to strip the high-grade near-surface deposit for open-pit mining as part of a sixth phase of expansion at the mine since it opened in 2007.

Despite the closure of Yukon Zinc



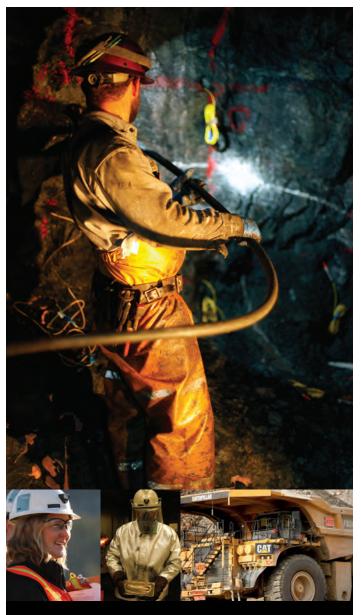
Corp.'s Wolverine Mine in the Finlayson Lake District in January, this volcanogenic massive sulphide district in southeast Yukon was the focus of renewed activity. Minquest Ltd., an Australian company, made a non-binding bid to buy the Wolverine Mine after Yukon Zinc went into receivership in March. Minquest's foray into the district began when it optioned the Fyre Lake copper-goldcobalt property from Pacific Ridge Exploration Ltd. in 2014. In the same District, the polymetallic Kudz Ze Kayah property, long held by Teck Resources Ltd., was acquired by BMC (UK) Ltd. in early 2015. Kudz Ze Kayah has not seen any exploration activity since 2000. BMC announced a \$15 million program for 2015, with a plan to advance the project to pre-feasibility by March 2016.

A handful of companies with advanced projects in Yukon are preserving capital and waiting for markets to recover before undertaking development activities. In the interim, a few of these companies have undertaken exploration programs to continue to expand their resources: e.g., Victoria Gold Corp (Dublin Gulch gold property) and Alexco Resources Ltd. (Keno Hill silver-lead-zinc deposits).

The Government of Yukon continues to provide strong support to the minerals industry through the Yukon Mineral Exploration Program. This program has been essential to keeping the wheels of exploration moving in the territory. The Yukon government maintained the C\$1.4 million funding level for 2015, approving 48 hardrock projects to offset exploration costs through the program. Although, initially, only 80 percent of the successful projects were able to go ahead due to lack of matching funds, several worthy projects below the funding cut-off level were able to be funded later in the field season.

Yukon has consistently rated highly in the annual Fraser Institute's Survey of Mining Companies. The 2014 survey rated Yukon's geology as the best in the world for exploration investment and put Yukon in the global top 10 of places where companies wanted to do business. The Yukon government continues to make positive strides forward on the regulatory and certainty front. The government is working towards improving the mining regulatory framework with its Mine Licensing Improvement Initiative. This initiative has brought together the Yukon Water Board, Yukon Environmental and Socio-economic Assessment Board and numerous government departments to develop ways to better coordinate the regulatory process, with the main goal of reducing overlap and duplication during the mine licensing process. When complete, this initiative will provide more certainty for companies wanting to do business in Yukon.

The Government of Yukon recognizes that a successful minerals industry is dependent on high-quality geo-scientific information. Through the Yukon Geological Survey, government continues to support the industry by generating and compiling geological data to form the foundation that allows for better decision-making by industry. Bedrock mapping is a key component of this effort: Projects underway this year include mapping the Hyland mapsheets in southeast Yukon, Aishihik Lake mapsheets in southwest Yukon, the Lake LaBerge area and the Tay River area in Central Yukon. Other projects include a metallogenic study of the mineralizing potential of Jurassic-aged plutons in Yukon, geochemical re-analysis of regional stream sediment samples for more than 25 1:250K mapsheets and the first-ever jointly funded airborne geophysical survey in partnership with the Kluane First Nation over its traditional territory in southwest Yukon.



# **On Location**

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Lara Lewis is head of Mineral Services, Yukon Geological Survey.

The legendary Yukon River cuts through the White Gold District, where enticing discoveries sparked an explosion of exploration six years ago in this gold-rich region. While the 21st Century Yukon Gold Rush may have run its course, a handful of the discoveries continue to present attractive exploration and development targets.

Yukon Exploration 2015

# Yukon exploration jumps 20%

# Spending in metals-rich territory flirts with C\$100 million mark

By SHANE LASLEY Mining News

As exploration across most of the North continues to trend downward, the Yukon Territory is celebrating the second straight year of increased spending.

Early estimates put exploration in Yukon at about C\$99 million for 2015, up roughly 20 percent over the C\$80 million spent last year.

With a wide swath of zinc-rich deposits in the Selwyn basin, a number of copper-rich porphyries in the Dawson Range, platinum group metal-nickel deposits in the southwest and gold deposits seemingly everywhere that you look, it is no wonder exploration spending is on the rise in Yukon.

In fact, the territory was ranked the richest mineral jurisdiction on the planet by the 485 mining executives that participated in Fraser Institute's Survey of Mining Companies 2014.

While gold usually dominates exploration spending in Canada's northwestern-most territory, nearly as much of the spending during 2014 was invested on zinc as was on gold, thanks to C\$32 million that Selwyn Chihong Mining Ltd. spent on exploration of the Selwyn project in eastern Yukon.

This year, gold is regaining its dominant position as Selwyn Chihong dials back a little and significant money continues to pour into exploration properties such as Rockhaven Resources Ltd.'s Klaza Project, and the Coffee Gold Project, being advanced by Kaminak Gold Corp.

# **Echoes of White Gold**

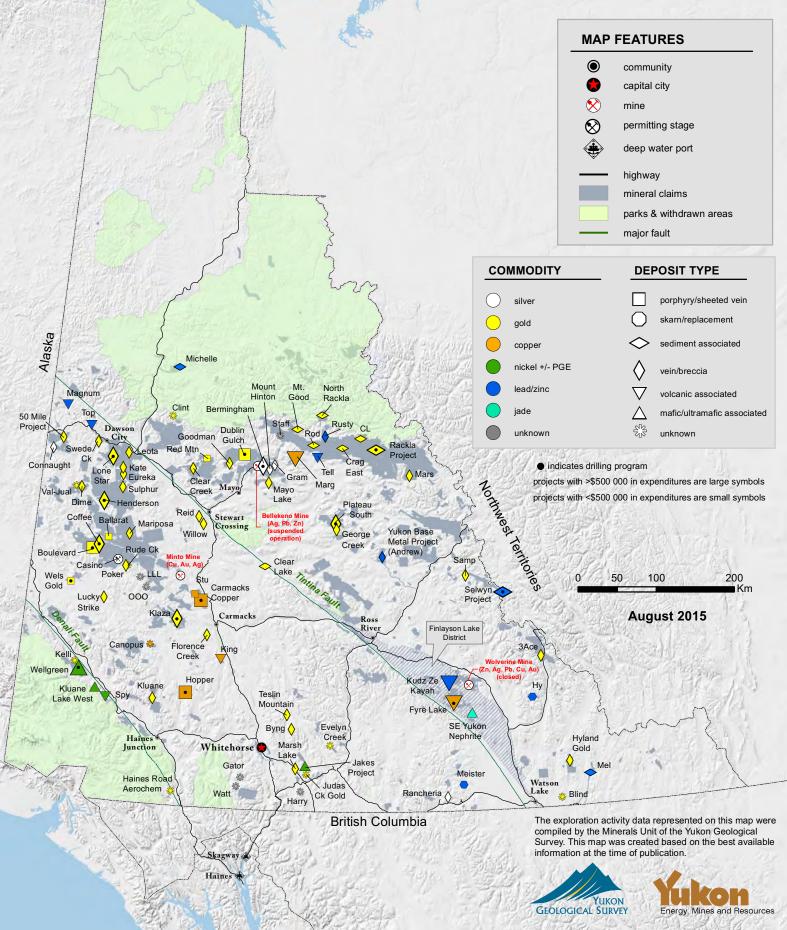
While the 21st Century Yukon Gold Rush may have run its course for now, a handful of the deposits found and advanced in the "White Gold District" during recent years continue to present enticing exploration targets today.

Most notable is Coffee, a 2010 gold discovery that is on pace to become one of Yukon's next generation of mines.

A preliminary economic assessment completed for Coffee in 2014 envisions an open-pit mine and heap-leach facility producing an average of 167,000 ounces of gold annually over an 11-year mine-life.

This initial look at the economics of developing a mine at Cof-

# Yukon Hardrock Exploration and Mining Projects 2015



# Alaska

# Contango ORE Inc.

# CTGO:OTC MARKETS

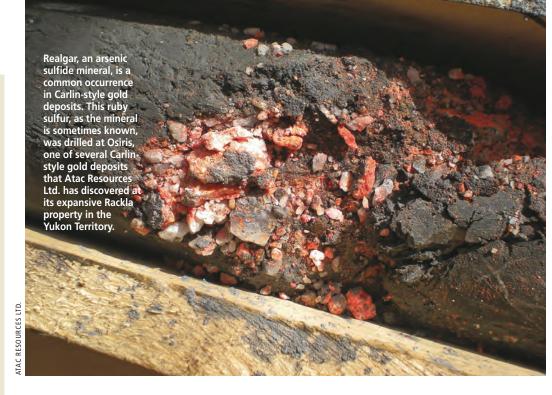
#### PRESIDENT AND CEO: Brad Juneau CHIEF FINANCIAL OFFICER: Leah Gaines

Contango ORE Inc. has forged an alliance with Royal Gold Inc., a company that promises to invest as much as US\$30 million in furthering the exploration and potential development of the Tetlin gold properties situated along the Alaska Highway near the crossroads community of Tok in eastern Alaska. Since acquiring the property in 2008, Texas-based Contango ORE has identified a number of precious and base metal targets across the 750,000-acre (303,521 hectares) Tetlin land package, including the Peak zone, a skarn deposit with a 1.2-million-ounce gold-equivalent resource. Royal Gold can earn up to 40 percent interest in Peak Gold, a limited-liability joint venture that holds the Tetlin properties, by making the full US\$30 million investment by October 2018. Contango Ore's contribution to the JV includes 676,200 acres (273,654 hectares) of Alaska Native-owned lands leased from the Tetlin Village Council and some 83,720 acres (33,881 hectares) of State of Alaska mining claims adjacent to the Tetlin lease - a package the partners have valued at US\$45.7 million. The Peak zone, first drilled in 2012, currently boasts 6 million metric tons of indicated resources averaging 3.46 grams-per-metric-ton gold, 11 g/t silver and 0.25 percent copper for 783,115 gold-equivalent ounces. Additionally, the skarn deposit has an inferred resource of 3.9 million metric tons averaging 2.07 g/t gold, 14.28 g/t silver, 0.23 percent copper for 332,969 goldequivalent ounces. In May, the Peak Gold JV began a US\$5 million initial phase of 2015 exploration at Tetlin. This 7,500-meter program was designed to identify the growth potential at Tetlin by testing outlying exploration targets at the Tars, Saddle, North Saddle and Saddle Skarn targets. The drilling also tested expansion targets at the Peak zone. "We expect to have a first phase of exploration to test new exploration targets, as well as a deeper test under the previously discovered Peak zone," said Contango ORE President and CEO Brad Juneau. In September, Contango reported that the Peak Gold joint venture approved a US\$4 million second phase of 2015 drilling at Tetlin. The 6,000-meter phase 2 drilling will follow up on some of the more promising holes drilled earlier this year. Juneau said, "While the joint venture has not received all assays back from the phase 1 drilling, initial findings are encouraging." As a result of the US\$9 million invested this year, Royal Gold has earned an eight percent interest in the Peak Gold joint venture.

# CASH AND SHORT-TERM DEPOSITS:

US\$1.9 million (June 30, 2015) WORKING CAPITAL: US\$1.9 million (June 30, 2015) MARKET CAPITALIZATION: US\$19.8 million (Sept. 24, 2015)

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## YUKON EXPLORATION

continued from page 52

fee is based on 14 million metric tons of indicated resource averaging 1.56 grams per metric ton (719,000 ounces) gold, and 79 million metric tons of inferred resource averaging 1.36 g/t (3.43 million ounces) gold.

One of Kaminak's primary goals since the completion of the PEA is to upgrade much of this inferred resource to the higher-confidence indicated category prior to completing a feasibility study.

With more than half of the needed infill drilling at Coffee wrapped up by the end of 2014, the company budgeted C\$30 million to complete the job as well as other work needed for the feasibility study at the rapidly advancing gold project.

"Our infill drilling program, which consisted of 70,000 meters, was executed on schedule and on budget in less than one year," Kaminak President and CEO Eira Thomas said in July. "Upgrading the confidence level of the Coffee gold resources is a big step towards de-risking Coffee as we move it through feasibility towards production."

The feasibility study is expected to be finished early in 2016.

Immediately southwest of Coffee, Independence Gold Corp. completed roughly 4,100 meters of reverse circulation drilling at the Denali and Sunset zones on its Boulevard property.

Drilling at Denali targeted a 700-meterlong gold-in-soil anomaly where trenching returned 4.56 g/t gold across 10 meters.

The Sunset zone is a 2,200-meter-long gold-in-soil anomaly located seven kilome-

ters (4.4 miles) southwest of Kaminak's Coffee deposit. Previous drilling there has cut up to 2.42 g/t gold across 6.26 meters. One hole drilled at Sunset this year cut 12.2 meters averaging 7.23 g/t gold.

Stakeholder Gold Corp. nabbed the expertise of renowned Yukon Territory prospector and innovator Shawn Ryan to help guide exploration at its Ballarat gold property and other strategic initiatives in the White Gold District.

Ballarat lies between Coffee and Kinross Gold's White Gold property, two of the many gold discoveries to Ryan's credit.

GroundTruth Exploration Inc., an innovative exploration company founded by Ryan, is reviewing geological data for furthering exploration at Ballarat.

GroundTruth will be applying a number of new exploration technologies – such as the GT Probe, the GT RAB Drill and the exploration applications developed for the UAV Drone – to the work at Ballarat and at other exploration projects in the White Gold District.

"We are happy to be involved with the Ballarat project, which we believe hosts meaningful potential for discovery of another economic gold deposit in the Yukon," said Ryan.

# **Beyond White Gold**

While the White Gold district grabbed much of the headlines, it is not the only region to turn up some sizable and promising gold projects in recent years.

Roughly 130 kilometers (80 miles) southeast of Coffee, Rockhaven Resources is quickly growing zones rich in gold and silver at its Klaza project.

In January, the company published a maiden inferred resource estimate of 7.04 million metric tons averaging 4.19 grams per metric ton (948,348 ounces) gold and 96.23 g/t (21.78 million ounces) silver for two of the zones.

This 1.31 ounce gold-equivalent resource does not take into account the 144.3 million pounds of zinc, 121.1 million lbs. lead and 14 million lbs. copper also contained in two of the nine main zones identified at Klaza.

This year the company completed a 15,000-meter drill program that is expected to significantly expand the resource at Klaza.

With the resource expanding, Rockhaven is beginning to looking at the other facets needed to advance this road assessable project to the next stage.

"Substantial progress is being made on geological and engineering fronts, which will be essential as the property moves toward development," reported Rockhaven CEO Matt Turner.

Rockhaven is one of five companies that belong to the Strategic Exploration Group, a Yukon-focused cooperative.

Atac Resources Ltd., another member of the Strategic group, continues to expand upon its Carlin-type gold discoveries at its massive Rackla property, which spans some 185 kilometers (114 miles) east-west across central Yukon.

On this 1,700-square-kilometer land package, Atac has identified two distinct trends: the 50-kilometer- (30 miles) long Nadaleen Trend which hosts Carlin-type gold deposits at the Conrad, Osiris, Isis East, Sunrise and Anubis zones: and the 20kilometer- (12.5 miles) long Rau Trend which hosts the Tiger gold deposit and the Ocelot silver-lead-zinc-tin discovery.

Atac has defined six zones of Carlin-type gold mineralization – Conrad, Osiris, Sunrise, Isis, Isis East and Anubis – and more than 40 geochemical anomalies at Nadaleen.

For 2015, Atac invested about C\$3 million on an exploration program primarily focused on Conrad and Anubis.

"The Conrad Zone is the most advanced Carlin-type gold discovery within the Nadaleen Trend and continues to deliver significant gold mineralization from three distinct areas and remains open along strike and at depth," explained Atac CEO Graham Downs.

Roughly 100 kilometers (60 miles) south of the Nadaleen Trend, Goldstrike Resources Ltd. continued to find visible gold in 2015 across large swaths of its Plateau property.

In addition to visible gold in grab samples collected from the surface, native gold was observed in five of the 11 holes drilled at Plateau this year.

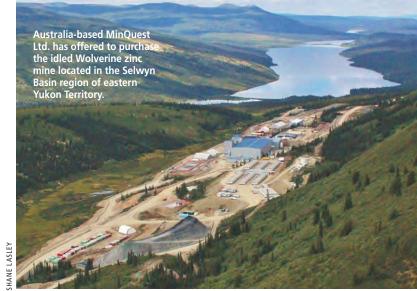
Most exciting, was the visible gold identified in all three holes drilled in the Goldstack zone.

Goldstrike says the visible gold now found at all three zones at Plateau – Gold Dome, Goldbank, and Goldstack – suggest that they are part of a single, large gold system that stretches along the surface for about 25 kilometers and to a depth of more than 1,000 meters.

The presence of coarse high-grade gold in all three zones and in multiple stacked layers that remain open shows that the entire property is part of a new district-scale gold system that is underexplored," said Goldstrike Chief Geologist Trevor Bremner.

"The geological team believes we have barely scratched the surface, and the best is yet to come," he added.

In the southeastern corner of the territory, Banyan Gold Corp. continued to advance exploration at its Hyland gold-silver project, which hosts a 12.5 million metric ton inferred resource aver-



aging 0.9 g/t (361,692 oz) gold and 5.59 g/t (2.25 million oz) silver in the Main zone.

Banyan's 2015 program, which included 800 meters of drilling at the Camp zone, investigated Hyland's larger potential.

"The company will maintain its current focus to qualify the large scale, regional potential of gold and silver mineralization beyond the Main Zone resource," explained Banyan Chairman Mark Ayranto.

Gorilla Minerals Corp., a new public exploration company, is investigating Wels a new and poorly understood gold project in southwestern Yukon.

Gorilla picked up the Wels property in 2011 and since has been carrying out early-stage exploration, including mapping, soil and rock sampling, geophysics and trenching. This work has identified a number of promising zones – North Ridge, Southwest Spur and Saddle.

This year, the company completed five holes at the Saddle zone, the first holes drilled at Wels. The best intercept of this drilling cut 25.5 meters averaging 2.41 g/t gold in the first hole of the program.

# Zinc-rich Selwyn

While gold may have regained the driver's seat, interest in zinc-rich deposits in Yukon's Selwyn Basin remains strong.

With the goal of shipping the first zinc and lead concentrates from the Selwyn project in 2020, Selwyn Chihong Mining Ltd. is investing another C\$40 million into the eastern Yukon project this year.

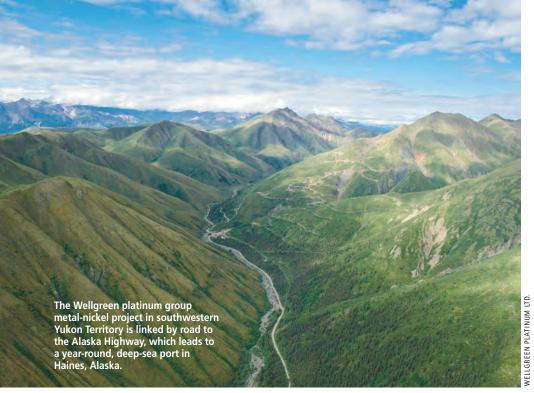
This work includes a 10,000-meter drill program that will provide the geological and geotechnical data for a pre-feasibility study due out this year. This study is expected to detail a 35,000metric-ton-per-day operation producing 2,500 metric tons of zinc concentrate and 600 metric tons of lead concentrate per day.

In January, Yukon Zinc Corp. announced that it was putting the Wolverine zinc mine, located about 130 kilometers south of the Selwyn project, on care and maintenance. A couple months later, the company said it was filing for bankruptcy.

Yukon Zinc Corp. has invested more than C\$500 million in development of Wolverine since it acquired the project in 2008. The mine was commissioned in 2010, but ran into a number of difficulties during its operation.

Australia-based MinQuest Ltd. is examining the potential of utilizing the existing processing and tailings management facilities at Wolverine to fast-track the development of the Kona de-

continued on page 56



# YUKON EXPLORATION

continued from page 55

posit at its own Fyre Lake copper project, which is located about 28 kilometers (17 miles) to the south.

Jeremy Read, managing director of MinQuest, said: "Using the existing infrastructure at Wolverine could decrease the pre-production capital expenditure for putting Fyre Lake into production by as much as C\$150 million to C\$200 million, which would substantially improve the economics of the Fyre Lake copper project."

The Kona deposit has a JORC-compliant indicated and inferred resource of 12.6 million metric tons averaging 1.56 percent copper, 0.09 percent cobalt, 0.30 zinc and 0.63 grams per metric ton gold.

MinQuest is planning an exploration program that it believes will add some 4 million metric tons to the resource at Kona with similar grades.

MinQuest is also working towards earning a 75 percent joint venture interest in the Marg copper-zinc-lead-silver project located some 40 kilometers east of Keno City, in central Yukon. The company is currently working on a scoping study for the VMS project ahead of drilling planned for 2016.

In January, London-based BMC (UK) Ltd. bought the Kudz Ze Kayah and Pelly base metals projects, KZK for short, from Teck Resources Ltd.

Located about 25 kilometers west of the idled Wolverine Mine, KZK hosts a historical inferred resource of 12.8 million metric tons averaging at 0.81 percent copper, 5.9 percent zinc, 1.7 percent lead, 1.38 g/t gold, along with silver credits.

Formed in 2014 as a partnership between management and Barclays Natural Resource Investments Inc., BMC is scouring the globe for base metals deposits, es-



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5020 Fairbanks Street, Anchorage, AK 99503-7442 • Phone: 907.771.0104 • Fax: 907.561.3178 Email: sales@autolaundrysystems.com • Website: www.autolaundrysystems.com/myindustry/petroleum pecially those dominated by zinc and have the potential for near-term development.

The company considers Yukon the best place to look for such an asset and KZK as its flagship property.

"We believe that KZK is a quality asset that suits our business model perfectly," said BMC CEO Scott Donaldson.

This year, the company is carrying out a C\$15 million program focused on expanding the historical resource at Kudz Ze Kayah and bringing it up to NI 43-101compliant standards ahead of a pre-feasibility study planned for 2016.

Better known for its silver rather than its zinc, Alexco Resource Corp.'s Bellekeno Mine is located within historic the Keno Hill Silver District.

Bellekeno began commercial production at the beginning of 2011, but was temporarily suspended late in 2013 due to lower silver prices. Since suspending operation, Alexco has carried out steady drilling focused primarily on upgrading and expanding the Flame & Moth and Bermingham deposits at Keno Hill.

This year, the company invested roughly C\$1.6 million in a surface drill program to follow up on successful results at Bermingham, where one hole drilled in 2014 cut 6.39 meters (true width) averaging 5,667 g/t silver.

# Copper and platinum

With operations at the Bellekeno and Wolverine mines suspended, Capstone Mining Corp.'s Minto copper mine, is the only hard-rock mining operation in Yukon currently in production.

While Capstone did not invest a lot in exploration at Minto this year, other companies advanced copper-dominant projects across the territory with the goal of contributing to the next generation of copper producers in Yukon.

About 45 kilometers southeast of the Minto Mine, Copper North Mining Corp. continued resource expansion drilling at its Carmacks copper project.

Carmacks project currently hosts 11.98 million metric tons of measured and indicated resource grading 1.07 percent copper, 0.46 grams per metric ton gold and 4.6 g/t silver. This oxide component of the deposit forms the basis for the potentially mineable mineralization by open pit methods as outlined in a preliminary economic assessment completed in 2014. A significant sulfide resource also has been outlined at the project.

In addition to expanding several zones within the resource, the 2015 drilling

tested geophysical targets identified earlier in the year.

About 80 kilometers west of Minto, Western Copper and Gold Corp. continued to advance its Casino project through permitting.

According to a feasibility study completed in 2013, a heap leach and mill operation at Casino is expected to produce 3.7 billion lbs. copper, 6 million oz gold, 341.9 million lbs. molybdenum and 28.8 million oz silver over a 22-year mine-life.

While Western copper did not carry out much in the way of exploration at this enormous project, Strategic Metals Ltd. is exploring an intriguingly similar but early stage prospect at its Hopper property about 200 kilometers (120 miles) to the southeast.

Recent geochemical surveys have outlined strong copper, gold and molybdenum soil anomalies that span a 3,600- by 2,500-meter area of the Hopper property.

Historical drilling at this copper prospect has identified three skarn horizons – JG, AM and LV – that are about 50 meters apart stratigraphically and typically range from two to 20 meters in thickness.

Hole 15-01, the first hole of Strategic's 2015 program, targets gold-rich skarn horizons below JG, the main copper horizon. This hole, drilled 342 meters north-northwest of the nearest historical hole, extended deeper discovered a new, deeper skarn horizon (JP) that averaged 12.15 g/t gold and 0.95 percent copper over 2.65 meters. Hole 15-02, drilled 435 meters north-northeast of hole 1, cut 6.44 meters averaging 1.0 percent copper and 1.01 g/t gold within a 15-meter thick zone of weak to moderate mineralization in the JG horizon.

The balance of Strategic's program targeted other skarn and porphyry deposits in other areas of the large copper-gold anomaly at Hopper.

Wellgreen Platinum Ltd. continues to advance what it hopes

"Upgrading the confidence level of the Coffee gold resources is a big step towards de-risking Coffee as we move it through feasibility towards production." —Eira Thomas, president and CEO, Kaminak Gold Corp.

will be one of the largest and lowest cost open-pit platinum group metal-nickel mines in the world.

In February, the company published an updated preliminary economic assessment that investigates the option of starting off mining with a 25,000-ton-per-day operation for the first five years and then scaling up to 50,000 tpd for another 20 years.

The mine is anticipated to average 208,880 oz of platinum-palladium-gold (3E), 73 million lb. of nickel and 55 million lb. of copper annually over the first 16 years of mining.

In May, the company announced plans to invest C\$4.2 million on a phase-1 drill program designed to advance the Wellgreen project towards a pre-feasibility study.

This program is focused on infill drilling within the resource to be mined in the initial 25-year base case as well as step-out drilling targeting areas to expand the scope of the mine.

Bringing current resources into the mine plan has the potential to add up to 31 years to life of mine projections, according to the PEA. This would make Yukon a significant supplier of PGMs for more than 50 years.

Wellgreen Platinum President and CEO Greg Johnson said "the development of an open-pit amenable, road-accessible PGM and nickel project in the mining-friendly Yukon Territory represents a truly unique opportunity."





Yukon Territory

# Marching Klaza toward development

Rockhaven sees a mine emerging at high-grade gold-silver project in Yukon

By SHANE LASLEY Mining News

**F**ive years of systematic exploration has identified nine parallel zones rich in gold and silver at Rockhaven Resources Ltd.'s Klaza property in southern Yukon Territory that are beginning to look as if they may carry the size and grade to be developed into an economic mine.

In January, the junior published a maiden inferred resource estimate of 7.04 million metric tons grading 4.19 grams per metric ton (948,348 ounces) gold and 96.23 g/t (21.78 million ounces) silver for two of the zones.

This 1.31-million-ounce gold-equivalent resource does not take into account the 144.3 million pounds of zinc, 121.1 million lbs. lead and 14 million lbs. copper also contained in the drill delineated portion of the deposit.

"Attaining one million ounces of gold-equivalent was a key goal for our initial resource at Klaza," said Rockhaven CEO Matt Turner.

Achieving its initial goal, Rockhaven's 2015 program included a 56-hole drill program aimed at upgrading and expanding the re-





RK:TSX.V

CHIEF EXECUTIVE OFFICER: Matthew Turner PRESIDENT: Rob Carne CHIEF OPERATING OFFICER: Ian Talbot

**PROPERTIES WITH MINERAL(S) EXPLORED:** 

Klaza, Yukon: Gold-Silver Mount Hinton, Yukon: Gold-Silver Ruby Range, Yukon: Gold Plata, Yukon: Silver-Gold-Lead-Zinc

CASH AND SHORT-TERM DEPOSITS: C\$2.5 million (July 31, 2015) WORKING CAPITAL: C\$1.7 million (July 31, 2105) MARKET CAPITALIZATION: C\$15.8 million (Sept. 22, 2015)

Suite 1016 - 510 West Hastings Street, Vancouver, BC Canada V6B 1L8 Tel: 604-688-2568 • Fax: 604-688-2578 www.rockhavenresources.com source, as well as carrying out engineering, metallurgical and environmental work that will be needed if a high-grade gold-silver mine is to be developed at this road-accessible project in southern Yukon Territory.

# Strategic partner

To fund the 2015 exploration and development for Klaza, Rockhaven raised C\$4.4 million in March.

The company's largest shareholder, Strategic Metals Ltd., scooped up all 21 million shares offered by the explorer. As a result, Strategic owns about 48.85 million Rockhaven shares, roughly 46.6 percent of the 104.84 million of the company's issued and outstanding shares.

Strategic Metals is a prospect generator with roughly 130 properties in its portfolio, most of them located in Yukon.

A group of five junior companies – Strategic, Rockhaven, Atac Resources Ltd., Silver Range Resources and Arcus Development Group – belong to the Yukon-focused cooperative known as the Strategic Exploration Group.

In July, Strategic Metals swapped five properties located near Klaza (BBB, Sked-Desk, Dade, Queen and Nor) from its vast portfolio in exchange for five of Rockhaven's distal Yukon properties (Plata, Mount Hinton-Gram, Groundhog-Grayling-Cyr, Zap and Kluane-Ellias).

As a sweetener, Strategic paid Rockhaven C\$250,000 in cash that the explorer used to consolidate other properties surrounding Klaza. All told, Rockhaven roughly tripled the size of the Klaza property to roughly 25,000 hectares (61,775 acres).

"Securing a much larger land position in the district is important for both continued exploration and logistical purposes, as Rockhaven advances the Klaza deposit toward development," Turner explained.

# **Growing Central Klaza**

While the expanded land position gives Rockhaven a number of new exploration targets to investigate, the exploration company remains focused on the task at hand – developing the zones it has already identified at Klaza.

"We are excited to begin our fully-funded 2015 program which we expect will significantly expand the current high-grade gold and silver resources outlined within two of the nine main zones on the Klaza property. The drilling also will assess the potential at some of the seven other sub-parallel zones at which only broadly spaced drilling and trenching have been done," Turner said at the start of the program.

The nine parallel mineralized zones at Klaza are found within a 2,000- by 4,000-meter corridor. If lined up end to end, the strike of these zones has been traced for more than 9.4 kilometers (5.8 miles).

The maiden resource is contained within two of these zones, BRX and Klaza.

The majority of the 2015 drill program focused on expanding the high-grade gold and silver resource found in the main structure of the Central Klaza zone as well as subsidiary vein structures in the immediate hanging wall and footwall that were not included in the maiden resource.

Highlights include:

• 8.05 grams per metric ton gold, 272 g/t silver, 4.72 percent lead and 1.53 percent zinc over 1.39 meters of hole 243;

• 11.28 g/t gold, 75.9 g/t silver and 7.37 percent zinc over 3.68 meters of hole 258;

• 5.99 g/t gold and 165 g/t silver over 0.96 meters of hole 259;

• 5.2 g/t gold and 24.7 g/t silver over 2.08 meters of hole 261;



• 5.51 g/t gold, 141 g/t silver, 5.34 percent lead and 1.55 percent zinc over 2.95 meters of hole 265; and

• 9.46 g/t gold, 84.9 g/t silver, 1.83 percent lead and 2.68 percent zinc over 6.09 meters, and 11.29 g/t gold, 120 g/t silver, 1.15 percent lead and 7.93 percent zinc over 1.04 meters of hole 270.

"Drilling around the existing mineral resource at the Central Klaza Zone was one of the major focus (areas) of this year's exploration program," said Turner. "These intercepts better define the geological model in this part of the deposit and should expand the area of the mineral resource."

# Southeastern expansion

Drilling also tapped multiple zones of mineralization in the southeastern portion of the drilled area at Klaza.

Hole KL-15-240 cut five gold-silver intercepts in three zones – Eastern BRX, Pika and an unnamed subsidiary structure. The best of these intercepts -4.08 g/t gold and 63.5 g/t silver over 2.41 meters – was tapped in the Pika zone.

Hole Kl-15-245 cut numerous gold-silver intercepts across five zone, including 0.51 meters of 14.85 g/t gold and 101 g/t silver while cutting through the Eastern BRX zone.

Hole Kl-15-248 also cut numerous gold-silver intercepts across five zone, including 0.42 meters of 26.9 g/t gold, 576 g/t silver and 8.5 percent lead in the AEX zone.

"The veins in the southeastern part of the drill area at Klaza are relatively closely-spaced, which suggests potential for bulk tonnage mining," explained Turner. "These intercepts better define the geological model in this part of the deposit and should allow us to bring this mineralization into the mineral resource."

# **Toward development**

After wrapping up the 13,738-meter drill program in late August, Rockhaven shifted its focus to engineering studies.

"Substantial progress is being made on geological and engineering fronts, which will be essential as the property moves toward development," Turner summarized.

Metallurgical work carried out this year outlined a preliminary flowsheet for Klaza that consists of lead flotation, followed by zinc flotation and then arsenopyrite-pyrite flotation. The arsenopyritepyrite concentrate is then pressure oxidized to liberate the gold and leached with cyanide. The overall flotation tails are also leached with cyanide.

This process is expected to recover 95 percent of the gold and 91 percent of the silver milled from the zones identified at Klaza.

"We're highly encouraged by these outstanding metallurgical results," Turner said. "Not only have recoveries increased substantially, we now have increased confidence that the same process works on all zones and at resource grades." •

# **Mining explorers profiles**

# NORTHWEST TERRITORIES

# Dominion Diamond Corp.

DDC.TO: TSX

CHAIRMAN: Robert Gannicott CHIEF EXECUTIVE OFFICER: Brendan Bell CHIEF OPERATING OFFICER: Chantal Lavoie

Dominion Diamond Corp. mines rough diamonds at the Ekati and Diavik mines, both located in Northwest Territories about 300 kilometers (190 miles) north of Yellowknife. The company operates the Ekati Diamond Mine through an 88.9 percent ownership of the project's Core zone as well as a 65.3 percent ownership in the Buffer zone. The 2015 exploration at Ekati focused on the Jay and Sable kimberlite pipes. Jay, located in the Buffer Zone area of Ekati, is considered the mine's most significant undeveloped deposit due to its size and grade. In January, Dominion announced a pre-feasibility study for Jay that includes 45.6 million metric

tons of ore averaging 1.9 carats per metric ton for 84.6 million metric tons of diamonds in reserves. This would feed the current processing plant at its full capacity of 4.3 metric tons per year for roughly



11 years. For 2015, roughly US\$27 million of exploration is planned for the Jay kimberlite. Another US\$6 million of exploration is budgeted for Sable, a pipe with 15.4 million metric tons of indicate resources averaging 0.9 carats per metric tons. In September, Dominion Diamond Corp. released the results of a preliminary economic assessment for Sable that envisions recovering 9 million carats of diamonds from 12.1 million tons of kimberlite over a mine life of 10 years. This production, along with Jay, would supply ore to the existing Ekati process plant at its full capacity until 2033. The company estimates that construction at Jay could start in the first half of 2016 and mining could begin in 2019.

Dominion also owns a 40 percent stake in the Diavik Mine. In 2014, Rio Tinto plc, which holds a 60 percent interest in the mine, approved development of Diavik's A-21 pipe. A-21 has 3.7 million metric tons of proven reserves averaging 2.7 carat per metric ton for 10 million carats of diamonds. Dominion's Lac de Gras property, located roughly 10 kilometers (six miles) south of Ekati and fewer than 40 kilometers (25 miles) southeast of Diavik, is an exploration project that covers kimberlite trends from both mines. The Lac de Gras property covers 32,780 hectares and is contiguous with a 91,459-hectare property held by North Arrow Minerals Inc. Under the terms of an agreement between Dominion Diamond and North Arrow, the two adjacent parcels are to be joined to form a joint venture.

CASH AND CASH EQUIVALENTS: US\$344.2 million (July 31, 2015) WORKING CAPITAL: US\$695 million (July 31, 2015) MARKET CAPITALIZATION: US\$915 million (Sept. 18, 2015)

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## ALASKA

# First Quantum Minerals Ltd.

FM: TSX / FQM: LSE

CHAIRMAN AND CEO: Philip Pascall PRESIDENT: Clive Newall PRINCIPAL GEOLOGIST, GENERATIVE PROJECTS: Tim Ireland

With seven mines in operation and five mineral projects under development, First Quantum Minerals Ltd. is a growing, diversified miner with a particular focus on copper. Its operating mines and development projects are located in Africa, Australia, Finland, Spain, Turkey and Latin America. Yet the company has no foothold in North America. Carrying forward a relationship built between Inmet and Millrock Resources Corp., First Quantum is now exploring the possibility of expanding its copper business into Alaska. Early in 2014, the copper miner invested US\$600,000 in a 2014 reconnaissance program aimed at investigating some of the more intriguing targets on the Alaska Peninsula property. In exchange, Millrock granted First Quantum an exclusive right to an option to earn up to an 80 percent joint-venture interest in the project. The 2014 program included high-resolution airborne magnetic and resistivity surveys followed by mapping and sampling. Results from this initial work, intrigued First Quantum enough for it to take up the option and invest roughly US\$2 million in a 2,400meter drill program aimed at investigating what lies below the surface at two of the most promising prospects – Dry Creek, formerly known as Bee Creek, and MDB, short for Mallard Duck Bay.

During 2014, First Quantum also cut a tentative deal on Kiska Metals Corp.'s Copper Joe property located roughly 110 miles (175 kilometers) northwest of Anchorage. Situated roughly 20 miles (30 kilometers) southwest of Millrock's Estelle project, Copper Joe is in a region of Southcentral Alaska known for its copper-gold potential. To secure the exclusive right to option Copper Joe, First Quantum funded a late-2014 drill program that included 885 meters of drilling in two holes. In early December, Kiska reported that the drilling did not return any significant assay results, but confirmed the presence of a strong porphyry-hydrothermal system. Early in 2015, First Quantum spent US\$826,000 on a geological mapping program and a magnetotelluric geophysical survey on the property. Results of this work are being evaluated to determine the potential of a follow-up drill program. First Quantum can earn an initial 51 percent interest in the Copper Joe by investing US\$5 million in the project by the end of 2017, and a stake could be increased to 80 percent with a production decision.

CASH AND CASH EQUIVALENTS: US\$289 million (June 30, 2015) WORKING CAPITAL: US\$1.64 billion (June 30, 2015) MARKET CAPITALIZATION: C\$4.8 billion (Sept. 18, 2015)

14th Floor, 543 Granville Street, Vancouver, British Columbia V6C 1X8 Tel: 416-361-6400 www.first-guantum.com

ALASKA

# **Freegold Ventures Ltd.**

FVL: TSX

PRESIDENT AND CEO: Kristina Walcott VP, EXPLORATION AND DEVELOPMENT: Alvin Jackson



**Freegold Ventures Limited** 

In recent years, Freegold Ventures Ltd. has focused its exploration primarily on Golden Summit, a 6-million-ounce bulk-tonnage gold project located roughly 20 miles (32 kilometers) northeast of Fairbanks and four miles (seven kilometers) from Kinross Gold Corp.'s Fort Knox Mine. In 2015, the company turned its attention to Shorty Creek, a copper-gold project in the Livengood region of Interior Alaska. For at least three decades, geologists have known that Shorty Creek is prospective for gold, copper and molybdenum. With the available data, previous explorers concluded that the mineralization seen at surface comes from two separate sources - an intrusive-related gold system in the southern part of the property and a copper-molybdenum system to the north. After compiling the historical data, Curt Freeman, president of Fairbanks-based Avalon Development Corp. concluded that a large porphyry was the likely source of the surface mineralization. Following the acquisition of Shorty Creek in mid-2014, Freegold completed an initial pass of geophysical and geochemical surveys. This field work provided further indications of a buried porphyry deposit. In August, Freegold raised C\$1.35 million to fund a 3,000- meter drill program aimed at providing definitive evidence that various zones of copper, gold and molybdenum found across the 26,000-acre Shorty Creek land package are pieces of one porphyry copper-gold-molybdenum deposit spanning up to eight miles across. One of the target areas received limited drilling in 1989 and 1990. Highlights include 67 meters of 1.22 grams per metric ton gold starting from surface. The holes, which were only drilled to 150 meters, consistently bottomed in significant copper mineralization. Additional mapping has confirmed the presence of quartz porphyry in the

creek 30 meters below the depth of the historical drilling. Ground geophysics and soil sampling completed by Freegold in the vicinity of the drilling has expanded this target area. The second target, located about 2,500 meters to the northwest, was identified with ground geophysics and soil sampling. This work identified the presence of a strong chargeability anomaly coincident with strong copper values in soils (up to 669 parts-per-million copper) covering a 2,000- by 1,000-meter area. A strong molybdenum core (up to 235 ppm molybdenum) covers a 1,000- by 800-meter area within the copper geochemical anomaly.

Freegold is also working toward the finalization of a preliminary economic assessment for Golden Summit. Dolphin-Cleary zone at Golden Summit has an indicated resource of 79.8 million tons averaging 0.66 grams per metric ton (1.68 million oz) gold; and an inferred resource of 248.1 million metric tons averaging 0.61 g/t (4.84 million oz) gold. In addition, a resource was calculated for the oxide portion of this deposit, which is contained largely within the upper 60 meters of the overall resource. At a 0.2 percent cut-off, the oxide cap of the Dolphin-Cleary zone has an indicated resource of 25 million metric tons averaging 0.55 g/t (439,000 oz) gold; and an inferred resource of 16.6 million metric tons averaging 0.47 g/t (253,000 oz) gold. The PEA is expected to examine the potential for a standalone heap-leach operation and include a comprehensive review of the current sulfide resource using different cut-off grades.

CASH AND SHORT-TERM DEPOSITS: C\$261,321 (June 30, 2015)

WORKING CAPITAL: C\$106,156 deficit (June 30, 2015; C\$1.35 million financing closed Aug. 12) MARKET CAPITALIZATION: C\$9.4 million (Sept. 15, 2015)

P.O. Box 10351, 888 - 700 West Georgia St. Vancouver, B.C. Canada V7Y 1G5 Tel: 604-662-7307 • Fax: 604-662-3791 www.freegoldventures.com

# YUKON TERRITORY

# Goldstrike Resources Ltd.

#### GSR: TSX-V

CHAIRMAN, PRESIDENT AND CEO: Terry King CHIEF OPERATING OFFICER: William Chornobay CHIEF GEOLOGIST: Trevor Bremner

Goldstrike Resources Ltd. continues to find visible gold on surface and in the core from drilling at its Plateau Project in central Yukon Territory. Within the first two days of an earlyseason prospecting program at Plateau, four samples with visible gold were taken from new target areas up to 550 meters away from the 2013 Gold Dome discovery hole - 7.6 grams per metric ton gold over 9.03 meters in hole PSVG13-03 - at Plateau. Following up on this surface exploration, the company drilled 11 holes (912 meters) at the Gold Dome and Goldstack zones on the property. Multiple grains of visible gold were cut in two of the eight holes drilled at Gold Dome in 2015. Hole PSVG15-02, collared 45 meters south-southeast of PSVG13-03, cut 3.48 g/t gold over two meters at a downhole depth of 71.5 meters. PSVG15-06, which targeted a blind geophysical anomaly at Gold Dome, cut four previously unknown gold miner-



alized zones downhole, including 9.09 g/t gold over 1.5 meters near surface, and 12.65 g/t gold over 0.5 meters at a depth of 117 meters. Goldstrike said this discovery significantly expands the area of known gold mineralization on Gold Dome and shows the potential for new goldbearing zones along strike and at depth. PSVG15-08, which targeted the zone discovered in PSVG13-03, cut 18 meters (nine meters true width) of strongly mineralized quartz stockwork with visible gold in numerous locations. PSGS15-01, which was drilled 30 meters southeast of a seven-meter-wide outcrop at the Goldstack zone with abundant free native gold, cut 17.25 meters (true width) averaging 13.25 g/t gold. Hole PSGS15-02, drilled vertically from the same setup as hole one, cut 2.35 g/t gold over 40.5 meters (38.1 meters true width). Goldstrike said this hole confirmed that the gold mineralization is getting thicker to depth, and remains open. Hole PSGS15-03, which was set up on the discovery outcrop and drilled roughly down-dip, confirmed the continuity and consistency of the

gold mineralized zone. The hole averaged 1.78 g/t gold over its entire 94.5-meter length. These three drill holes show that the gold mineralized body is consistent and widens to depth, and have significantly expanded its dimensions that remain open. Further drilling is planned to trace the full extent of the high-grade gold mineralized system. Goldstrike says the visible gold now found at all three zones at Plateau – Gold Dome, Goldbank, and Goldstack – indicate that they are part of a single, large gold system that stretches along the surface for about 25 kilometers and to a depth of more than 1,000 meters.

# CASH AND SHORT-TERM DEPOSITS: C\$695,586 (June 30, 2015)

WORKING CAPITAL: C\$680,981 (June 30, 2015) MARKET CAPITALIZATION: C\$13.2 million (Sept. 17, 2015)

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# ALASKA

# Hecla Mining Co.

HL: NYSE

PRESIDENT AND CEO: Phillips Baker Jr. CHAIRMAN: Ted Crumley SENIOR VP, EXPLORATION: Dean McDonald

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Greens Creek Mine in Southeast Alaska is helping Hecla Mining Co. weather low metals prices. In addition to Greens Greek, the Idaho-based miner operates the Lucky Friday silver mine in Idaho and the Casa Berardi gold mine in Quebec. In June, Hecla bought Revett Mining Co. in an allshare transaction valued at roughly US\$19 million. Hecla now owns the Rock Creek mine project in Montana, considered one of the largest undeveloped silver-copper deposits in North America. The San Sebastian project in Mexico, however, is expected to be the next

Hecla mine to go into production. Greens Creek has been the primary revenue

generator for Hecla in recent years and much of the company's exploration is focused on replacing reserves at the mine with underground drilling and seeking new deposits across the 27square-mile (70 square kilometers) property



from the surface. The company budgeted US\$5.8 million for definition drilling that primarily consists of infill drilling aimed at developing mine plans for the Lower NWW, Deep 200 South, East Ore, Deep Southwest and 9a zones of the underground operation. Hecla said drilling of the lower



NWW zone has generally confirmed and upgraded the resource model of the shared and upper limbs. Highlights include: 6.0 feet grading 107.3 ounces per short ton silver, 0.73 oz/ton gold, 4.0 percent zinc and 2.1 percent lead; and 6.2 feet grading 50.5 oz/ton silver, 0.14 oz/ton gold, 13.1 percent zinc and 7.3 percent lead. Drilling at 200 South cut 6.2 feet averaging 61.9 oz/ton silver, 0.04 oz/ton gold, 2.1 percent zinc, and 1.3 percent lead over and 7.0 feet averaging 41.2 oz/ton silver, 0.04 oz/ton gold, 3.7 percent zinc and 3.2 percent lead along the upper limb. Deep 200 South consists of three stacked folds of high-grade mineralization that has been traced for 600 feet of down-dip. The mineraliza-

PHILLIPS BAKER JR.

tion remains open to the south, an area being tested in the second half of 2015.

Another US\$2.4 million was allotted for exploration drilling targeting the Deep 200 South, 5250 and 9a zones trends; down-plunge of the Central West and East ore zones; and along the Southwest Bench upper contact and Gallagher Fault Block area. Drilling at 9a has defined continuous mineralization along the southernmost portion of the mine contact within the Maki Fault. Highlights include: 14 feet averaging 26.8 oz/ton silver, 0.01 oz/ton gold, 3.8 percent zinc and 2.4 percent lead; and 10.2 feet averaging 10.4 oz/ton silver, 0.06 oz/ton gold, 18.4 percent zinc, and 7.9 percent lead. This year's exploration drilling at Gallagher, along with past intercepts, defines mineralized zones with 95 to 425 vertical feet of continuity over 1,000 feet of strike. The first hole of a planned 10,000-foot surface program was drilled in the southeast portion of Killer Creek, an exploration target less than a mile west-northwest of the mine. In August, Hecla reported that this hole intersected the "mine contact" at 1,580 feet. This contact is located about 3,100 feet away from NWW mine infrastructure. The surface program also tested the High Sore target which has sur-



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CASH AND SHORT-TERM DEPOSITS: US\$196.2 million (June 30, 2015) WORKING CAPITAL: US\$220 million (June 30, 2015) MARKET CAPITALIZATION: US\$838 million (Sept. 18, 2015)

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# YUKON TERRITORY / BRITISH COLUMBIA

# Independence Gold Corp.

IGO: TSX-V

**PRESIDENT AND CEO:** Randy Turner **VP, EXPLORATION:** David Pawliuk

Independence Gold Corp. focused its 2015 exploration on drilling the Sunset and Denali zones of its Boulevard gold project, which wraps the west and south sides of Kaminak Gold Corp.'s Coffee project in the Yukon Territory. The Sunset zone is a 2,200-meter-long gold-in-soil anomaly located seven kilometers (4.4 miles) southwest of Kaminak's Coffee deposit. Trench results of up to 7.04 g/t gold across six meters and drill intercepts of

up to 2.42 g/t gold across 6.26 meters have been encountered at Sunset. An initial eight holes drilled at Sunset tested this northeast trending geochemical anomaly that coincides with magnetic



low geophysical anomalies. The best intercepts from this drilling at Sunrise was 7.23 grams per metric ton gold across 12.2 meters in hole BV15-31. The initial round of drilling also included five RC holes at the Denali zone, which is located about 14 kilometers (nine miles) west of Kaminak's Coffee deposit. This drilling followed on trench results of 4.56 g/t gold across 10 meters and a 700-meter-long gold-in-soil anomaly. Hole YCS15-03, the best intercept at Denali, cut 6.1 meters grading 4.25 g/t gold. Given the success of the initial drilling, Independence opted to carry out a second 1,400-meter phase of 2015 drilling to expand the Sunshine zone.

To accommodate the added drilling at Boulevard, the company deferred a planned 800-meter drill program at the Henderson project, a gold property that covers a placer mining area along North Henderson Creek some 60 kilometers (37 miles) south of Dawson City. Cross-cutting fault structures are interpreted to underlie stretches of the creek where large gold nuggets have been discovered. Independence believes that goldbearing quartz veins forming at these fault intersections could be the source of the abundant coarse gold found in Henderson Creek.

In addition to Boulevard and Henderson, Independence Gold holds a number of other properties in the Yukon's White Gold district. The company also owns the 3Ts gold-silver project located about 20 kilometers (12 miles south of New Gold's Blackwater gold deposit in central British Columbia. Two veins at 3Ts, Tommy and Ted-Mint, host a combined inferred resource of 5.45 million metric tons averaging 2.52 g/t (441,000 ounces) gold and 71.5 g/t (12.54 million oz.) silver.

Cash and short-term deposits: C\$7.3 million (June 30, 2015) Working capital: C\$6.8 million (June 30, 2015) Market capitalization: C\$3.51 million (Sept. 1, 2015)

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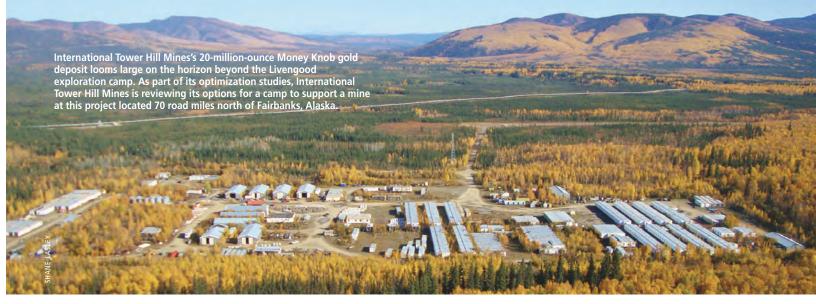
# ALASKA

# International Tower Hill Mines Ltd.

ITH: TSX / THM: NYSE-A

CHAIRMAN: Stephen Lang PRESIDENT AND CEO: Tom Irwin CHIEF OPERATING OFFICER: Karl Hanneman





International Tower Hill Mines Ltd. plans to invest roughly US\$10 million to support a 2015 work program that includes metallurgical, field and engineering work aimed at optimizing the mine plan for its 20-millionounce Livengood gold project in Interior Alaska. Lying along the Elliot Highway about 70 miles northwest of Fairbanks, the Money Knob deposit at Livengood encompasses 15.7 million oz of gold in 802 million metric tons of indicated resources averaging 0.61 grams per metric ton gold; plus another 4.4 million oz of gold in 266 million metric tons of inferred resources averaging 0.52 g/t gold. Utilizing these reserves, a feasibility study completed in 2013 anticipates a 100,000-ton-per-day mill churning out 8.1 million oz of gold over an initial 14-year mine life. This comes to 577,600 ounces annually; and anticipates an average annual output of 698,500 oz of gold over the first five years of operation. Since the completion of the feasibility study, Tower Hill has been investigating opportunities to lower the capital and operating expenditures for mining the large but low-grade deposit at Livengood. Evaluating the ideal size for the mill - ranging from 11,250 to 90,000 metric tons per day - and steepening the pit slope in the early years are ideas under consideration. Metallurgical studies that demonstrate the potential to improve head grade, however, has been a large focus of 2015 optimization work for the project. This year's optimization work follows up on a 2014 program that included metallurgical; mine production scheduling; power supply alternatives; and alternative camp reviews. Once defined, the operating costs generated from the 2014-2015 optimization studies will be used to evaluate and optimize the project configuration and capital costs, including determination of the ideal scale for the project. In order to position Livengood for a construction decision when warranted by market conditions, environmental baseline studies continue at the project.

CASH AND SHORT-TERM DEPOSITS: US\$9.5 million (June 30, 2015) WORKING CAPITAL: US\$9.4 million (June 30, 2015) MARKET CAPITALIZATION: US\$37.8 million (Sept. 22, 2015)

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# **BRITISH COLUMBIA / NUNAVUT**

# Kaizen Discovery Inc.

# KZD: TSX.V

CHAIRMAN: Peter Meredith PRESIDENT AND CEO: B. Matthew Hornor EXECUTIVE VP, EXPLORATION: David Broughton

Kaizen Discovery Inc. is leveraging strong business ties with Japan to explore its early-stage copper projects in Nunavut, British Columbia, Australia and Africa. Shortly after the formation of Kaizen at the end of 2013, Tokyo-based Itochu Corp. provided the exploration company with C\$5.1 million to acquire distressed assets around the world. Kaizen acquired its first B.C. properties through an all-shares buyout of West Cirque Resources Ltd., including the Aspen Grove porphyry copper-gold-silver project in the southern part of the province and the Tanzilla porphyry prospect near the

northern B.C. community of Dease Lake. In 2013, Freeport-McMoRan Corporation of Canada Ltd. was granted the right to earn an initial 51 percent interest in three projects held by Kaizen subsidiary, West Cirque Resources, by funding C\$8 million over a four-year period At June 30, Freeport had invested roughly C\$2.5 million toward the earn-in, including C\$1.5 million on Tanzilla. The 2015 program at Tanzilla included 1,878 meters of drilling in three holes, with two-holes targeting the central Silica Ridge alteration zone and one-hole exploring the Gopher Zone, located about 2,750 meters to the southeast. Late in 2014, Kaizen also acquired the Coppermine project in Nunavut through a shares exchange buyout of Tundra Copper Corp. The 3,500-square-kilometer Coppermine property blankets two geologically distinct exploration targets - sediment-hosted and volcanichosted copper-silver mineralization. Rock chip sampling of near-vertical mineralized structures completed by Kaizen in 2014 returned spectacular copper grades. Highlights from the sampling include: a 2.5-meter sample averaging 10.3 percent copper and five grams per metric ton silver at the Cu-Tar prospect; a six-meter sample averaging 4.74 percent copper and 23.3 g/t silver at the Nor 98 prospect; a 10-meter chip sample averaging 4.66 percent copper and 12.2 g/t silver at the Lars prospect; a one-meter chip sample averaging 23 percent copper and 47 g/t silver at the Jack prospect; a 0.5-meter chip sample averaging 22.3 percent copper and 243 g/t silver at the Lloyd prospect; and a 3.6-meters sample averaging 10.82 percent copper and 17.1 g/t silver at the Dick prospect. This year, Kaizen budgeted C\$1.65 million for an exploration program at Coppermine that included regional mapping, sampling and drilling.

CASH AND SHORT-TERM DEPOSITS: C\$4.4 million (June 30, 2015) WORKING CAPITAL: C\$4.9 million (June 30, 2015) MARKET CAPITALIZATION: C\$27.7 million (Sept. 18, 2015)



# YUKON TERRITORY

# Kaminak Gold Corp.

KAM: TSX-V

PRESIDENT AND CEO: Eira Thomas EXECUTIVE CHAIRMAN: John Robins VP, EXPLORATION: Tim Smith

Since drilling the discovery hole at the Coffee gold project in 2010, Kaminak Gold Corp. has established indicated resource of 14 million metric tons averaging 1.56 grams per metric ton (719,000 ounces) gold, and an inferred resource of 79 million metric tons averaging 1.36 g/t (3.43 million ounces) gold. Kaminak budgeted C\$30 million to continue the advancement of the Coffee project in 2015. The bulk of this budget, roughly C\$21

million, was allotted for the finalization of a feasibility study, which is due to be finished early in 2016; about C\$3.6 million was invested into permittingrelated activities; and the balance of some C\$5.4 million was earmarked for exploration, marketing and general expenses. A preliminary economic assessment completed in 2014 envi-



KAMINAK

sions an open-pit mine and heap-leach facility producing an average of 167,000 ounces of gold annually over an 11-year mine-life. At a gold-price of US\$1,250 per ounce, the mine outlined in the PEA generates a pre-tax net present value (5 percent discount) of C\$522 million and an internal rate of return of 33 percent. One of the primary goals since the completion of the PEA is to upgrade much of the inferred resources at Coffee to the higher confidence indicated category prior to completing the feasibility study. The company completed nearly 39,000 meters of the infill drilling in 2014 and another 31,000 meters this year. The 2015 exploration at Coffee included drilling at two of the more recent discoveries, Kona North and Dolce. Kona North, which lies less than 1,000 meters north of the main Kona deposit, is associated with a 1,800-meter-long gold-in-soil anomaly of which only 300 meters has been systematically drill-tested to date. A 10hole (718 meters) program completed at Kona North in April confirmed the east-west strike and steep southerly dip of mineralization. The depth of oxide and transitional mineralization, however, appears to be shallow at Kona North compared to other Coffee gold deposits. The company said there is good potential to test for extensions of the oxide mineralization to the east. Kona North is now pending further analysis to determine if it will be included in the overall Coffee feasibility study. The Dolce zone, situated about 1,100 meters south of the main Kona deposit, is associated with a semi-contiguous 1,000-meter-long gold-in-soil anomaly originally drilled in 2014 as part of the condemnation program within areas adjacent to proposed mine infrastructure. Recent results from Dolce include 4.57 meters of 2.93 g/t gold in hole CFR0974.

CASH AND SHORT-TERM DEPOSITS: C\$13.7 million (June 30, 2015) WORKING CAPITAL: C\$10.2 million (June 30, 2015) MARKET CAPITALIZATION: C\$119.3 million (Sept. 22, 2015)

1020-800 West Pender Street, Vancouver, BC, V6C 2V6 Tel: 604-646-4527 • Fax: 604-646-4526 www.kaminak.com

# NORTHWEST TERRITORIES

# Kennady Diamonds Inc.

KDI: TSX.V

CHAIRMAN: Jonathan Comerford PRESIDENT AND CEO: Patrick Evans VP, FINANCE AND CFO: Bruce Ramsden

Kennady Diamonds Inc.'s ultimate goal is to develop next-generation Northwest Territories diamond mine at its Kennady North diamond project located 280 kilometers (174 miles) northeast of Yellowknife. Early in 2015, the company raised C\$18.64 million to fund the continued exploration of its diamond property that lies immediately adjacent to the De Beers-Mountain Province Diamonds' Gahcho Kué diamond mine project. Since its formation in 2012, Kennady's exploration on its namesake project has focused on building a resource along the Kelvin-Faraday kimberlite corridor, a region of the property that hosts two unique kimberlite bodies. The company hopes to establish a resource along this corridor of 12 million to 15 million metric tons of kimberlite averaging upwards of 2.5 carats per ton. As of the end of 2014, drilling at Kelvin had collected 53.15 metric tons of kimberlite averaging 2.35 carats per metric tons of commercial grade diamonds, the largest of which weighed 2.48 carats. In August, the company reported that a 433-metric-ton bulk sample collected from the southeast lobe of the Kelvin kimberlite early in 2015 returned 893 carats of commercial size diamonds, or about 2.02 carats per metric ton. Of these, 35 were larger than one carat, include a 4.22 carat white/colorless, diamond with no inclusions. Additionally, a 1.83-metric-ton sample from the Kelvin South Lobe averaged 3.64 carats per metric ton of commercial size diamonds; a 2.7-metric-ton sample collected from the north lobe of the Kelvin kimberlite averaged 2.74 carats of commercial-size diamonds per metric ton; and 1.92 metric tons of material sampled from the nearby Faraday kimberlite in 2013 and 2014 returned 6.57 carats of commercial size diamonds, or about 3.32 carats per metric ton. Results from additional samples from Faraday and Kelvin are expected through October. The company plans to have a maiden resource for Kennady North by the end of the year and a prefeasibility study published early in 2016. The company also completed roughly 5,000-meters of drilling at MZ and Doyle, two exploration targets at Kennady North. Exploration drilling at MZ, which is located about 25 kilometers (16 miles) west of Kelvin camp – has helped define what appears to be a three-meter sheet structure over a strike of about 1,800 meters. Doyle is located south of Kelvin on the same structure that hosts the Faraday, Kelvin and Gahcho Kué kimberlites.

CASH AND SHORT-TERM DEPOSITS: C\$3.37 million (June 30, 2015) WORKING CAPITAL: C\$1.8 million (June 30, 2015; closed C\$4 million private placement on Aug. 12; closed C\$48 million private placement on Oct. 8) MARKET CAPITALIZATION: C\$83.5 million (Sept. 22, 2015)

161 Bay Street, Suite 2315 Toronto, ON, M5J 2S1 www.kennadydiamonds.com

# ALASKA

KINROSS

# **Kinross Gold Corp.**

KGC: NYSE/K.TO: TSX

CHAIRMAN: John Oliver CHIEF EXECUTIVE OFFICER: Paul Rollison CHIEF OPERATING OFFICER: Warwick Morley-Jepson

Kinross Gold Corp. continues to carry out robust exploration at and around its Fort Knox gold mine in Interior Alaska, while quietly investigating other prospects around the state. When Kinross began mining at Fort Knox in 1996, the deposit had 4.1 million ounces of proven and probable



gold reserves; going into 2015, the mine boasts 2.4 million ounces of gold contained in 263.8 million metric tons of reserves averaging 0.46 grams per metric ton gold. This includes enough higher grade ore to feed the Fort Knox mill into 2017; lower grade reserves are scheduled to continue to be stacked on the Walter Creek heap leach pad at Fort Knox into 2019. Above and beyond the mineral reserves that support the current mine plan, the area in and immediately surrounding the open-pit at Fort Knox has 75.9 million metric tons of measured and indicated resources, averaging 0.37 g/t (912,000 oz) gold. At a roughly 20 percent lower grade than the current reserves, much of this material, if brought into the mine plan, would likely be stacked on the heap-leach pad. The Gil gold property, located about five miles east of Fort Knox, is another source of potential ore to extend the life of the mine. Gil has been defined by 73,876 meters of drilling in 738 holes, including 11,665 meters of drilling completed by Kinross after buying full ownership of the property in 2011. Based on this exploration work, Gil has 29.5 million metric tons of measured and indicated resources averaging 0.56 g/t (532,700 oz) gold. Kinross did not complete any drilling at Gil in 2014 but indicated it plans to resume exploration, including drilling, on the neighboring property this year. Gilmore, an area immediately west of Fort Knox, is another prospect that could add to the mine's life. In 2014, the U.S. Bureau of Land Management authorized Kinross to conduct exploration on federal lands adjacent to the open-pit at Fort Knox that were previously withdrawn for use by the National Oceanic and Atmospheric Administration. Soil sampling, geologic mapping, and drilling are planned for this potential pit expansion area. About 80 miles (130 kilometers) northeast of Fort Knox, Kinross continues to carry out early-stage gold exploration at its PB and NPB claims roughly located in the Circle Mining District. The company invested about US\$7.8 million on exploration at its Interior Alaska properties in 2014 and is carrying out a similar scale program this year.

Kinross also owns the White Gold property about 60 miles (95 kilometers) south of Dawson City, Yukon Territory. A 2008 discovery at this property sparked the recent Yukon gold rush, and Kinross picked up the project in 2010. At the end of 2014, Kinross reported 9.8 million metric tons of indicated resources at White Gold averaging 2.67 g/t (840,000 ounces) gold, and 2.17 million metric tons of inferred resources at 1.79 g/t (125,000) ounces gold. This is unchanged from the previous year.

CASH AND SHORT-TERM DEPOSITS: US\$1.03 billion (June 30, 2015)

WORKING CAPITAL: US\$2.02 billion (June 30, 2015) MARKET CAPITALIZATION: US\$1.87 billion (Sept. 22, 2015)

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#### NUNAVUT

# Kivalliq Energy Corp.

KIV: TSX-V

CHAIRMAN: John Robins CHIEF EXECUTIVE OFFICER: Jim Paterson PRESIDENT: Jeff Ward EXPLORATION MANAGER: Bill Cronk



Kivallig Energy Corp. is focused on the exploration of its growing portfolio of quality uranium projects in Nunavut and Saskatchewan. Angilak, the flagship of this portfolio, is a 105,280-hectare (275,469 acres) property that blankets a number of high-priority zones including the promising high-grade Lac 50 Trend uranium deposit. Since acquiring Angilak in 2008, Kivallig has invested more than C\$55 million on exploration at Angilak. In 2013, the company reported an inferred resource of 2.83 million metric tons averaging 0.69 percent (43.3 million pounds) U3O8 for the Lac 50 Trend deposit. In July, Kivallig launched an exploration program focused on drilling the Dipole target and seeking out other targets along the Dipole-RIB trend. Located about 25 kilometers (16 miles) southwest of Lac 50, the Dipole-RIB trend shows many similarities to the trend hosting the high-grade uranium deposit. Following up on historical work in the Dipole area, Kivalliq identified a 2,000-meter-long very low frequency electromagnetic conductor that is coincident with mineralized boulders, including one angular boulder that assayed 2.24 percent U3O8 and 116 grams per metric ton silver. Enzyme Leach soil sampling conducted in 2014 outlined a 3,400-meter-long uranium-in-soil trend along this conductor. Kivalliq said the nine-hole drill program completed at Dipole this year cut parallel radioactive intercepts contained within a new zone that is 35 to 48 meters



For more than 15 years, Alaska Aggregate Products has traveled across Alaska to support mining construction and development – big and small. Visit our website to see what we can do for your next project. This second hole of the 2015 drill program at the Alaska Peninsula project tested one of a number of targets that Millrock Resources and First Quantum minerals have identified at the Dry Creek copper-gold prospect.

thick. Kivalliq President Jeff Ward said, "Discovering this new and significantly radioactive zone at Dipole confirms that Lac 50-type mineralization exists in multiple trends on the Angilak Property and supports our belief we have an important uranium district in Nunavut."

Kivalliq's portfolio also includes the Baker Basin property, located in eastern Nunavut about 60 kilometers (35 miles) southeast of the community of Baker Lake and roughly 200 kilometers (125 miles) northeast of Angilak. A number of zones identified by Pacific Ridge Exploration Ltd., which sold the Baker Lake property to Kivalliq in 2013, offer compelling uranium targets, including two considered to be drill-ready. Since late 2014, Kivalliq also has diversified its project portfolio through the staking of the Genesis property and acquisition of the Hatchet Lake property, both in Saskatchewan.

CASH AND SHORT-TERM DEPOSITS: C\$2.0 million (June 30, 2015) WORKING CAPITAL: C\$1.8 million (June 30, 2015) MARKET CAPITALIZATION: C\$16.3 million (Sept. 22, 2015)

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#### ALASKA

# Millrock Resources Inc.

MRO: TSX.V

PRESIDENT AND CEO: Gregory Beischer CHIEF EXPLORATION OFFICER: Philip St. George

Through careful execution of the project generator model, Millrock Resources Inc. has built a portfolio of grassroots mineral prospects in Alaska, New Mexico and Mexico. In finding joint venture partners to help fund exploration, the project generator model lessens Millrock's need to raise money in tight equity markets, minimizes the risks involved with grassroots exploration and exposes shareholders to a larger amount of exploration expenditure per dollar invested. In Alaska, the company has eight projects prospective for gold, copper, zinc and associated metals. Of these, Alaska Peninsula, a 500,000-acre tract highly regarded for its porphyry copper-gold potential, was the primary focus in 2015. In 2012, Millrock entered into an exploration agreement with Bristol Bay Native Corp. that includes an option to secure a 100 percent leasehold interest for mining on this land package. In 2014, First Quantum Minerals Ltd. agreed to fund a US\$600,000 reconnaissance exploration program in exchange for an exclusive right to enter into an option to joint venture projects on the huge property. To narrow the search, the partners launched the 2014 season with 1,140 line-kilometers of airborne magnetic and resistivity surveys, followed by a mapping and sampling program. Results from this initial work intrigued First Quantum enough to take up the option and fund a 2,400meter drill program to test two of the most promising prospects - Dry Creek, formerly known as Bee Creek, and MDB, short for Mallard Duck Bay. Dry Creek was initially explored by Bear Creek Mining, which drilled five holes in 1976. One hole cut 160 meters averaging 0.25 percent copper, 0.011 percent molybdenum, including 20 meters of 0.35 percent copper and 0.018 percent molybdenum, according to a Bear Creek Mining report.

66 MINING EXPLORERS

Similar results were encountered in two holes drilled in 2006, including one intercept of II8 meters averaging 0.32 percent copper and 0.21 g/t gold. Historical work along with sampling completed last year outlines a core zone rich in copper, gold and molybdenum surrounded by a halo of anomalous zinc, lead and manganese. All told, this zoned mineralization covers roughly 3,000 acres (1,214 hectares). Situated roughly 20 miles south of Dry Creek and about three miles south of the community of Chig-nik Lagoon, MDB hosts a large alteration zone that was first recognized by prospectors at the turn of the 20th Century but had never been drilled prior to the 2015 program.

In March, Millrock signed an agreement with a major gold mining company under which the unnamed major will fund research and reconnaissance exploration focused on defined areas in Alaska that the two companies see as having potential for high-grade gold deposits. This collaboration has allowed Millrock to pursue prospects and deposits that are owned by other parties. Projects approved by a technical committee with representatives from both parties will be subject to separate farm-in and joint venture agreements that provide the undisclosed major an option to acquire up to 80 percent of each project.

In July, Millrock announced the acquisition of an extensive, proprietary database of geological information from nearly two decades of exploration that Anglogold-Ashanti and International Tower Hill Mines carried out in the Goodpaster Mining District where the Pogo gold mine is located. This geological database was acquired from Corvus Gold Inc., a spinout company formed to explore International Tower Hill's non-Livengood assets. Millrock also purchased West Pogo, a gold property located about two miles (three kilometers) west of Sumitomo Metal Mining Co.'s Pogo Mine, and the right of first refusal to acquire LMS, another gold project in the area from Corvus.

Millrock's Alaska portfolio also includes: Apex-El Nido, home to two historical high-grade gold mines in Southeast Alaska; Lisburne, a large claim group in Northwest Alaska that is prospective for large-scale zinclead-silver deposits similar to Red Dog; Stellar, a copper-gold project situated some eight miles (13 kilometers) north of the Denali Highway; Estelle, a copper-gold project in the Kahiltna Terrane region of Southcentral Alaska that is being explored under a joint venture with Teck Resources; Cristo, a large porphyry copper-gold prospect located a few miles northeast of Estelle; Humble, a Late Cretaceous-aged magmatic complex located 50 miles (80 kilometers) east of Dillingham; AUDN, a porphyry copper-gold deposit comparable to the Pebble deposit located about 55 miles to the northeast; and Fortymile, a gold property located near the Alaska-Yukon border.

CASH AND CASH EQUIVALENTS: C\$2.7 (June 30, 2015) WORKING CAPITAL: C\$2.1 million (June 30, 2015) MARKET CAPITALIZATION: C\$4.8 million (Sept. 22, 2015)

P.O. Box 200867, 719 E 11th Ave. Suite C, Anchorage, AK 99520 Tel: 907-677-7479 • Fax: 907-677-3599 www.millrockresources.com

# NORTHWEST TERRITORIES

# Nighthawk Gold Corp.

NHK: TSX.V

### CHIEF EXECUTIVE OFFICER: David Wiley CHIEF GEOLOGIST: Michael Byron

Nighthawk Gold Corp. initiated a 3,000-meter drill program at its Indin Lake gold property late in 2015. Located 220 kilometers (137 miles) north of Yellowknife, Northwest Territories, the Indin Lake property hosts a number of gold deposits, including the historical Colomac open-pit mine, which produced 527,908 ounces of gold during the 1990s. The Colomac portion of the larger Indin Lake property hosts five known gold deposits -Colomac Main, Grizzly Bear, Goldcrest, Dyke Lake, and 24/27 - of which, only the main Colomac deposit was mined. In 2013, Nighthawk reported an inferred mineral resource estimate of 39.815 million metric tons averaging 1.64 grams per metric ton (2.1 million ounces) gold. Late in 2013, the company completed an option agreement to acquire four mining leases adjacent to the Indin Lake property that encompass two additional gold deposits - Kim and Cass. This year Nighthawk focused its exploration on Zone 1.5 and Zone 1.0, two emerging exploration areas. At Zone 1.5, Nighthawk will follow-up on high-grade intercepts drilled last year. C14-06, the first hole Nighthawk drilled at Zone 1.5, cut 52.5 meters of 7.78 g/t gold, including 21 meters of 16.73 g/t gold. The goal of this year's drilling



was to test the size potential of this zone. About 2,000 meters north of Zone 1.5, Nighthawk will complete its first-ever drilling of Zone 1.0. The company says historical shallow drilling at this target indicate the potential for an emerging high-grade gold zone similar to 1.5.

CASH AND SHORT-TERM DEPOSITS: C\$2.1 million (April 30, 2015) WORKING CAPITAL: C\$2.2million (April 30, 2015) MARKET CAPITALIZATION: C\$3.8 million (Sept. 22, 2015)

150 York Street, Suite 410, Toronto, Ontario, M5H 3S5 Tel: 647-260-1247 • Fax: 416-363-4567

# NUNAVUT & NORTHWEST TERRITORIES

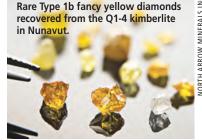
# North Arrow Minerals Inc.

NAR: TSX.V

CHAIRMAN: D. Grenville Thomas PRESIDENT AND CEO: Kenneth Armstrong ADVISOR: Eira Thomas

North Arrow Minerals Inc. has seven diamond exploration projects in Canada – Qilalugaq, Mel and Luxx in Nunavut; Lac de Gras and Redemption in Northwest Territories; Pikoo in Saskatchewan; and Timiskaming in Ontario. Located nine kilometers from the Hamlet of Repulse Bay (Naujaat), Qilalugaq encompasses Q1-4, a kimberlite with 48.8 metric tons of inferred resource averaging 53.6 carats per hundred tons for a total of

26.1 carats, to a depth of 205 meters. Throughout the first half of 2015, the company reported results from the evaluation of a 1,353 dry-metric-ton sample collected from Q1-4 during 2014. Roughly 21 percent of the diamonds recovered from this sample were yellow, and many showed indications of being rare Type 1b fancy yellow diamonds. Despite the early promise these rare diamonds promised, the final analysis of the valuation of Q1-4 sample



was disappointing. According to the results released in June, a parcel of 383.55 carats of diamonds greater than +1DTC (about 1 millimeter) recovered from a bulk sample was valued at US\$13,795, or US\$36 per carat. North Arrow says the relatively small sample was challenged by the fact that there are two distinct populations of diamonds at Q1-4, including the rare yellows diamonds. The company says a sample containing roughly 3,000 carats of diamonds is needed to properly evaluate the Q1-4 diamond values. As a result of the bulk sample program, North Arrow has earned an 80 percent interest in Qilalugaq from Stornoway Diamonds Corp. In July, Stornoway opted to not exercise its back-in rights on the project. As a result, exploration will now proceed under an 80-20 joint venture.

In 2013, North Arrow entered into an agreement with Arctic Start Exploration to earn a 55 percent interest in Redemption, a diamond project located in the Lac de Gras district of NWT about 32 kilometers (20 miles) southwest of the Ekati Mine. The 2015 program at Redemption included geophysical surveys and surficial geology evaluations intended to help identify and define potential drill targets for a winter 2016 drilling program that hopes to find the bedrock source of the South Coppermine kimberlite mineral trail at Redemption.

North Arrow also carried out a till sampling program aimed at narrowing down the bedrock source of two kimberlite indicator mineral trains at the Mel diamond project located roughly 250 kilometers (155 miles) northeast of Qilalugaq. The company's portfolio also includes the Luxx diamond project, Nunavut; Pikoo diamond project, Saskatchewan; and a number of gold, base metal and lithium projects in the Northwest Territories and Nunavut.

CASH AND CASH EQUIVALENTS: C\$5.0 million (July 31, 2015) WORKING CAPITAL: C\$4.9 million (July 31, 2015) MARKET CAPITALIZATION: C\$18.5 million (Sept. 23, 2015)

789 West Pender Street, Suite 960, Vancouver, BC, V6C 1H2 Tel: 604-668-8355 • Fax: 604-336-4813 www.northarrowminerals.com

# NUNAVUT

# Northquest Ltd.



NQ: TSX-V

#### CHAIRMAN AND CEO: Jon North CHIEF FINANCIAL OFFICER: Carmelo Marrelli VICE PRESIDENT, EXPLORATION: Dwayne Car

Northquest Ltd. completed roughly 8,300 meters of drilling at its Pistol Bay gold project in Nunavut this year. The 861-square-kilometer (332 square miles) property covers 90 kilometers (55 miles) of the Pistol Bay Trend, a west-trending series of surface gold occurrences and gold zones parallel to, and 80 kilometers (50 miles) south of, a similar trend that hosts Agnico Eagle Mines' Meliadine gold mine project. Exploration funds over the past two years have come from Nordgold, a Netherlands-based gold producer with operations in Russia, Kazakhstan, Burkina Faso and Guinea. In June, Nordgold added C\$4.44 million to Northquest's treasury by acquiring 22.22 million units of the exploration company at C20 cents each. With funding in place, the mineral explorer launched its 2015 program at Pistol Bay. Since its first field operations at Pistol Bay in 2011 through 2014, Northquest has completed three airborne geophysical surveys and 13,660 meters of drilling in 66 drill holes. This work has turned up what the company considers economically interesting drill intersections at three targets Sako, Vickers, and Bazooka – that occur over a 20-kilometer (12 miles) segment of the Pistol Bay Trend. This year's program primarily targeted Vickers, a zone where drilling has cut broad intercepts with good gold grades including: 156.5 meters averaging 8.23 g/t gold in hole PB-12-22; 158 meters of 3.46 g/t gold in hole PB-13-03; and 222 meters of 1.65 g/t gold in hole PB-14-08. Northquest said the visual core logging and assays received from 31 holes completed at Vickers through early September indicate that this drilling has increased the strike of this zone from 400 to at least 600 meters. With some 8,300 meters drilled at Vickers this year, Northquest has completed roughly 17,700 meters at the potentially significant gold target along the Pistol Bay Trend in Nunavut.

#### CASH AND SHORT-TERM DEPOSITS: C\$456,391 (March 31, 2015) WORKING CAPITAL: C\$280,694 (March 31, 2015; closed C\$4.44 million financing in June)

MARKET CAPITALIZATION: C\$14.2 million (Sept. 17, 2015)

1000 - 36 Toronto St., Toronto, Ont. Canada M5C 2C5 Tel: 416-306-0954 • Fax: 416-350-5226 www.northguest.biz

## ALASKA / BRITISH COLUMBIA

# **Novagold Resources Inc.**

NG: TSX / NG: NYSE-MKT

CHAIRMAN: Thomas Kaplan PRESIDENT AND CEO: Gregory Lang EXECUTIVE VICE PRESIDENT: David Deisley



GREG LANG

Supporting the permitting process for the Donlin Gold project in Alaska continued to be the primary

focus of Novagold Resources Inc. in 2015. The U.S. Army Corps of Engineers, the lead agency for the Donlin Gold Environmental Impact Statement, plans to issue a draft EIS for public comment toward year's end 2015 and the final EIS is expected to be completed by early 2017. This puts Donlin Gold LLC – an operating company equally owned by subsidiaries of Novagold and Barrick Gold Corp. – on pace to begin construction within two years, if the partners decide that

building the gold mine is prudent. A feasibility study completed in 2011 envisions a 53,500-metricton-per-day mill at Donlin produc-



ing an average of 1.1 million ounces of gold annually at a cash-cost of US\$585 per ounce for 27 years. During its first five years of operation, the massive mine is designed to extract 1.5 million oz of gold annually at an average cash cost of US\$409 per ounce. At US\$1,200/oz gold, the base price scenario used for the feasibility study, the mine is predicted to generate after-tax cash flow averaging US\$949.5 million per year for the first five years and US\$500.7 million annually over the life of the mine – result-



ing in a payback of its foreseen US\$6.7 billion in capital costs in 9.2 years. In addition to permitting, Novagold and Barrick have allotted a combined US\$3 million for studies aimed at finding ways to improve the design and execution of the mine proposed in the study. With roughly US\$135 million in the bank and no debt, Novagold has sufficient cash to see Donlin Gold through the permitting process.

Novagold hopes to further bolster its cash with the eventual sale of the Galore Creek copper-gold project in northwestern British Columbia. The company and its partner at Galore Creek, Teck Resources Ltd., meanwhile, are content with maintaining the project and optimizing a mine plan while global markets stabilize and the demand for and price of copper rebounds. A feasibility study completed in 2011 envisioned a mine a Galore Creek producing 6.2 billion pounds of copper over an 18-year span – making it the largest copper mining operation in Canada. Crediting the 4 million oz gold and 65.8 million oz silver forecast to be recovered over that mine-life, Galore Creek also would be the lowest cost copper producer in the country. For 2015, Novagold and Teck invested roughly US\$3.2 million in technical and environmental baseline studies and other work aimed at protecting and enhancing the value of Galore Creek.

CASH AND TERM DEPOSITS: US\$130 million (Aug. 31, 2015) WORKING CAPITAL: US\$130 million (Aug. 31, 2015) MARKET CAPITALIZATION: US\$1.13 billion (Sept. 17, 2015)

789 West Pender St., Suite 720, Vancouver, British Columbia V6C 1H2 Tel: 604-669-6227 • Fax: 604-669-6272 www.novagold.com

# NUNAVUT & NORTHWEST TERRITORIES

PEREGRINE

DIAMONDS LTD.

# Peregrine Diamonds Ltd.

PGD: TSX

EXECUTIVE CHAIRMAN: Eric Friedland PRESIDENT AND CEO: Tom Peregoodoff PRESIDENT AND CEO, PEREGRINE EXPLORATION: Brooke Clements

Peregrine Diamonds Ltd. focused its 2015 exploration on expanding and upgrading the resources for the CH-6 and CH-7 kimberlites at its Chidliak diamond project located roughly 120 kilometers north of Since 2008, 71 kimberlites have been identified on the 748,000-hectare (1.85 million acres) Chidliak property, eight of which are considered to be potentially economic. Peregrine started off 2015 by announcing a 15 percent expansion of the inferred resource for the CH-6 kimberlite to 3.3 million metric tons averaging 2.58 carats per metric ton, for 8.57 million carats of diamonds in the top 250 meters of the kimberlite. The company believes the integration of recent work could add 2.5 million carats of diamonds to this upper kimberlite resource. CH-6 lies within the southern priority area, which hosts seven potentially economic kimberlite pipes. Tonnage estimates have been completed for CH-7 and CH-44, two of the promising kimberlites in the priority area. CH-7 is estimated to contain 3.7 and 6.0 million metric tons from surface to a depth of 290 meters and CH-44 is projected to host 1.3 and 3.2 million metric tons from surface to a depth of 250 meters. Caustic fusion analyses completed on drill core identified a new geologic domain within CH-7 that contains some of the highest total diamond counts defined to date at Chidliak. A 558.5 metric ton bulk sample was collected from CH-7 during the summer 2015 program and Peregrine hopes to be able to publish a maiden resource for this kimberlite early in 2016. The CH-6 and CH-7 resources are expected to anchor a preliminary economic assessment scheduled to be completed for Chidliak by mid-2016. The 2015 budget for exploration and bulk sampling was C\$3.75 million.

Peregine's portfolio of projects also includes: Qilaq, a diamond and metals project adjacent to Chidliak; Nanuq and Nanuq North, diamond projects located north of Rankin Inlet, Nunavut; and the Lac de Gras project, a group of three diamond properties in Northwest Territories. No exploration activities occurred on those properties in 2015. The company is continually seeking new diamond prospects in North America. A proprietary database acquired from BHP Billiton that contains data from about 38,000 kimberlite indicator mineral samples covering some 3 million square kilometers (1.16 million square miles) of Canada, is a key tool in this search.

CASH AND SHORT-TERM DEPOSITS: C\$10.3 million (June 30, 2015) WORKING CAPITAL: C\$7.8 million (June 30, 2015) MARKET CAPITALIZATION: C\$49.5 million (Sept. 23, 2015) 201-1250 Homer Street, Vancouver, B.C. Canada, V6B 1C6 Tel: 604-408-8880 • Fax: 604-408-8881 www.pdiam.com

#### **BRITISH COLUMBIA**

# **Pretium Resources Inc.**

PVG: TSX/NYSE

CHAIRMAN AND CEO: Robert Quartermain PRESIDENT: Joseph Ovsenek CHIEF EXPLORATION OFFICER: Kenneth McNaughton

Pretium Resources Inc. plans to begin mining the high-grade gold from the Valley of the Kings deposit of its Brucejack gold-silver project in northwestern British Columbia by 2017. The junior achieved two key permitting milestones – obtaining a provincial Environmental Assessment Certificate and a positive Environmental Assessment Decision Statement from the federal Minister of the Environment – in 2015. Once in production, a



PRETIVM

ROBERT QUARTERMAIN

high-grade underground operation at Valley of the Kings is expected to produce 7.3 million ounces of gold over an 18-year mine life, or roughly 404,000 oz of gold annually, according to a feasibility study completed in 2014. This mine plan is based on 13.6 million metric tons of reserves averaging 15.7 grams per metric ton (6.9 million oz) gold. In September, Pretium secured a US\$540 million financing package that will fund a significant portion of the costs to develop this mine at Brucejack. To confirm the style and grade distribution of the gold mineralization where mining is slated to begin, the company completed a 40,000-meter underground infill drill program in the Valley of the Kings. This drilling continued to cut visible and high-grade gold. Highlights include: 13.75 meters grading 164.54 g/t gold uncut in hole VU-422; 10 meters of 259.48 g/t gold uncut in hole VU-423; 10.98 meters of 156.02 g/t gold uncut in hole VU-424; and 15 meters of 83.89 g/t gold uncut in hole VU-426. In addition to infill drilling, Pretium began a 10,000- to 15,000-meter grassroots exploration program targeting porphyry and epithermal-style mineralization east of the Brucejack project. This program began with drilling at Flow Dome, a zone about 1,000 meters east of the Valley of the Kings. Pretium said high-grade intersections along with long intervals of low-grade mineralization encountered in the first holes drilled at Flow Dome suggest a new stockwork zone or an extension of the Valley of the Kings deposit. Kitchenview, a zone further to the northeast of the pending underground mine is another target drilled this year.

In August, Pretium optioned the King Tut, Tuck and Silver Crown West properties from Teuton Resources Corp. for C\$1.8 million in cash payable over four years. Teuton will retain a 2 percent net smelter return royalty in the properties with no buyback. These gold-silver prospective properties lie south of Brucejack. Pretium also owns the Snowfield project, a longer term bulk tonnage project to the north of Brucejack. Snowfield hosts 1.37 billion metric tons of measured and indicated resources containing 25.9 million oz of gold, 75.8 million oz of silver, 2.98 billion pounds of copper, 258.3 million lbs of molybdenum and 22.5 million oz of rhenium. The project also has considerable resources reporting to the inferred category. Pretium maintains a confidentiality and cooperation agreement with Seabridge Gold, whose KSM project shares a common boundary with Snowfield.

CASH AND SHORT-TERM DEPOSITS: C\$68.9 million (June 30, 2015) WORKING CAPITAL: C\$60.8 million (June 30, 2015; completed US\$540 million financing in September)

MARKET CAPITALIZATION: C\$967.6 million (Sept. 23, 2015)

1600 - 570 Granville Street, Vancouver, B.C. Canada V6C 3P1 Tel: 604-558-1784 • Fax: 604-408-8893 www.pretivm.com

ALASKA

# **Redstar Gold Corp.**

RGC: TSX.V

EXECUTIVE CHAIRMAN: Jacques Vaillancourt INTERIM PRESIDENT AND CEO: Ken Booth VP, EXPLORATION: Jesse Grady

Redstar Gold Corp. got an early start on exploration at its Unga gold project in Southwest Alaska. Located on an island just off the Alaska Peninsula, Redstar's Unga property blankets two parallel trends of highgrade epithermal gold veins that each extend for more than 4.5 miles across the southeast corner of Unga Island. An initial phase of exploration that began in April included an eight-hole drill program that targeted the Shumagin gold zone, part of the larger Shumagin trend. Past trenching and drilling in the Shumagin prospect area has traced high-grade gold-silver veins for more than 1,200 meters along strike and to a depth of 330 meters. In 2000, SRK Consulting calculated a non-NI 43-101-compliant resource for a portion of this prospective area of 254,000 metric tons averaging 27.4 g/t gold and 127 g/t silver for the Shumagin vein. The first four holes of Redstar's 2015 phase-1 program this year targeted various structural elevations of the Shumagin vein system within the resource area. All four of the holes hit gold mineralization were expected, confirming the continuity of the structure. Highlights from this drilling include: 1.03 oz/t gold and 6.1 oz/t silver over 2.0 meters, 0.49 oz/t gold and 5.3 oz/t silver over 3.0 meters, and 3.88 oz/t gold and 12.3 oz/t silver over 0.7 meters in hole 15SH012; 4.0 meters of 11.62 g/t gold and 95.6 g/t silver in hole 15SH013; and 3.0 meters with 9.86 g/t gold and 8.0 g/t silver in hole 15SH014. The remaining four holes tested for the continuation of the vein structure and high-grade gold for about 100 meters along strike to the northeast. Highlights from the step-out drilling included 5.0 meters grading 9.35 g/t gold and 27.6 g/t silver, including 1.0 meters of 41.2 g/t gold and 130.0 g/t silver in hole 15SH018. This high-grade intercept was encountered about 100 meters northeast of 11SH010, a 2011 hole that cut 0.55 meters of 738 g/t gold and 408 g/t silver, and 100 meters above BMS-01, a historical hole that cut 5.49 meters of 24.02 g/t gold and 19.4 g/t silver. While hole 18 was the only step-out hole to cut high-grade gold, all four encountered a "Ginguro-style" epithermal breccia vein system in the footwall below younger Shumagin-style quartz veining. The new vein system exhibits contrasting epithermal geochemical signatures to Shumagin-style breccia veins with distinctly higher levels of arsenic, antimony and mercury. Redstar says the discovery of this new style of mineralization implies that the Shumagin scarp is a structural corridor that has had a long-lived history of repeated epithermal veining and high-grade mineralization. The phase-1 program, along with past drilling, has outlined an area of high-grade gold mineralization at the Shumagin prospect for roughly 500 meters along strike and about 330 meters of depth. Redstar said trenching indicates the vein system extends for at least 1,200 meters.

**CASH AND TERM DEPOSITS:** C\$183,901 (June 30, 2015) **WORKING CAPITAL:** C\$133,766 (June 30, 2015; closed C\$750,000 financing on Sept. 9) **MARKET CAPITALIZATION:** C\$7.2 million (Sept. 16, 2015)

615-800 West Pender Street, Vancouver, B.C. V6C 2V6 Tel: 604-488-0051 • Fax: 604-484-7855 www.redstargold.com

## NUNAVUT

# Sabina Gold & Silver Corp.

SBB: TSX

PRESIDENT AND CEO: Bruce McLeod VP, PROJECT DEVELOPMENT: Wes Carson VP, EXPLORATION: Angus Campbell



Sabina Gold & Silver Corp. is on a mission to evolve from a successful mineral exploration company to a mid-tier gold producer by developing its portfolio of assets in Canada's North. Towards this goal, the company commissioned a feasibility study for its Back River gold project in western Nunavut. The study, led by JDS Energy & Mining Inc., envisions a 6,000-metricton-per-day mill producing an average of about 346,000 ounces of gold annually over a 10-year mine life. The operation outlined in this study was projected to mill some 19.8 million metric tons of ore at an average grade of 5.7 grams per metric ton gold, producing 3.4 million ounces of gold at costs of roughly US\$535/oz, including royalties. To build this mine, however, Sabina would need to raise roughly C\$695 million, which would be challenging in the current market. The company says the resource at Back River offers an option to selectively mine higher grade zones with a smaller initial operation. In September, Sabina released the results of a second feasibility study that evaluates the potential of a 3,000 tpd operation. At an average head grade of 6.3 g/t gold, the study anticipates the reduced mill rate would produce an average of 198,100 oz/year gold over an 11.8-year mine life at a cost of US\$534/oz. Initial capital for the project is estimated at C\$415 million with sustaining capital of C\$185 million. "Both of these studies delivered very positive economic results which demonstrate the optionality of these high-grade continuous deposits. The 3,000 tpd FS is the most compelling opportunity for Sabina in this current market environment," said Sabina President and CEO Bruce McLeod.

In addition to Back River, Sabina also owns a significant silver royalty on Hackett River, a silver-rich volcanogenic massive sulphide project located some 45 kilometers (28 miles) west of Back River. In 2011, Sabina sold Hackett River to Xstrata Canada Corp, now Glencore Canada Corp., for C\$50 million in cash. Sabina retained a royalty of 22.5 percent of the first 190 million ounces produced at Hackett River and 12.5 produced thereafter. Sabina's Nunavut assets also include the Wishbone project, a series of 48 mining claims that blanket a prospective extension of the Hackett River Greenstone belt. The company also holds five gold properties in Ontario and on in northern British Columbia. Sabina expects to end 2015 with C\$16 million in cash and equivalents.

CASH AND SHORT-TERM DEPOSITS: C\$22.2 million (June 30, 2015) WORKING CAPITAL: C\$22.4 million (June 30, 2015) MARKET CAPITALIZATION: C\$71.8 million (Sept. 23, 2015)

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# BRITISH COLUMBIA & NORTHWEST TERRITORIES

# Seabridge Gold Inc.

# SEA: TSX / SA: NYSE Amex

CHAIRMAN AND CEO: Rudi Fronk PRESIDENT AND COO: Jay Layman SENIOR VP, EXPLORATION: William Threlkeld

In recent years, Seabridge Gold Inc. has successfully targeted higher grade zones beneath KSM's near-surface porphyry deposits, resulting in the discovery of the Deep Kerr and Iron Cap Lower zones, two copper-rich deposits that have added nearly one billion metric tons of better grade material to project resources. In March, the company announced an inferred resource of 782 million metric tons grading



SEABRIDGE GOLD

RUDI FRONK

0.54 percent (9.3 billion pounds) copper and 0.33 grams per metric tons (8.2 million ounces) gold for Deep Kerr. The 2015 program aimed to expand upon this success by testing for a higher grade core zone beneath the Mitchell deposit, the largest porphyry copper-gold system discovered at KSM. The Mitchell deposit contains 1.4 billion metric tons of proven and probable reserves grading 0.60 grams per metric ton gold and 0.16 percent copper. M-15-130, the first hole of the program, cut 174 meters of 0.55 grams per metric ton gold and 0.28 percent copper and M-15-131, drilled more than 200 meters to the northeast, cut 167 meters of 0.81 g/t gold and 0.25 percent copper. Seabridge said the 2015 intercepts at Mitchell indicate the potential to expand the block cave operation planned for the deposit. These holes, however, did not reach the targeted core zone. The company said the holes encountered evidence of faulting that needs to be analyzed before targeting the core zone with additional holes. As a result, Seabridge scaled back its planned 2015 drill program by about C\$2.2 million. The balance of which focused on expanding the block cave shapes associated with the Deep Kerr deposit. All told, the deposits at KSM contain 2.2 billion metric tons of reserves averaging 0.55 g/t (38.2 million oz.) gold and 0.21 percent (10 billion pounds) copper.

Seabridge did not carry out any exploration at its second core asset, the

Courageous Lake gold project in Northwest Territories. At 91 million metric tons averaging 2.2 g/t (6.5 million oz), the reserves at Courageous Lake are second only to KSM for undeveloped Canadian projects. The company is seeking to sell or joint venture KSM and Courageous Lake, as well as vend its other non-core assets in the United States and Canada.

CASH AND SHORT-TERM DEPOSITS: C\$14.7 million (June 30, 2015) WORKING CAPITAL: C\$17.1 million (June 30, 2015) MARKET CAPITALIZATION: C\$412 million (Sept. 16, 2015)

106 Front Street East, Suite 400, Toronto, Ontario M5A 1E1 Tel: (416) 367-9292 • Fax: (416) 367-2711 www.seabridgegold.net

## YUKON TERRITORY

# Selwyn Chihong Mining Ltd.

CHIEF EXECUTIVE OFFICER: Richard (Shilin) Li VP, EXPLORATION: John O'Donnell

Selwyn Chihong Mining Ltd., a Canadian subsidiary of Yunnan Chihong Zinc & Germanium Co. Ltd., is targeting 2021 for the start of production at the Selwyn zinc-lead project in far eastern Yukon Territory. Yunnan Chihong Zinc & Germanium, which formed a joint venture with Selwyn Resources Ltd. on the project in 2009, subsequently invested C\$100 million to earn a 50 percent interest in Selwyn and then paid C\$50 million for the remaining half of the project. According to a 2012 calculation, the Selwyn project has an indicated resource of 185.6 million metric tons averaging 5.2 percent (21.26 billion pounds) zinc and 1.79 percent (7.3 billion lbs.) lead, and an inferred resource of 237.86 million metric tons averaging 4.47 percent (23.45 billion lbs.) zinc and 1.38 percent (7.22 billion lbs.) lead. Though earlier studies considered an underground mine, Selwyn Chihong believes a larger scale open-pit mine with a 35,000-metric-ton-per-day mill is a better fit for developing one of the world's largest zinc deposits. The company expects this operation to produce 2,500 metric tons of zinc concentrate and 600 metric tons of lead concentrate per day. These concentrates will be trucked to an ore terminal in Skagway, Alaska to be shipped

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overseas. A prefeasibility study detailing this plan is scheduled to be completed this year and a bankable feasibility study is expected in 2016. With the goal of putting a mine into production in 2020, Selwyn Chihong invested C\$56 million to advance the enormous zinc project in 2014 and has budgeted another C\$40 million this year. A 10,000-meter drill program being carried out in 2015 will provide additional geological and geotechnical data needed for the studies. Capital expenditures are currently estimated at roughly US\$2 billion and operating costs are anticipated to run about US\$950 million per year – providing some 1,500 construction jobs and employing about 750 people during operations.

2701-1055 W. Georgia Street, Vancouver, B.C. Canada, V6E 0B6 Tel: 604-620-6188 • Fax: 604-681-8344 www.selwynchihong.com

## YUKON TERRITORY / BRITISH COLUMBIA

# Strategic Metals Ltd.

SMD: TSX

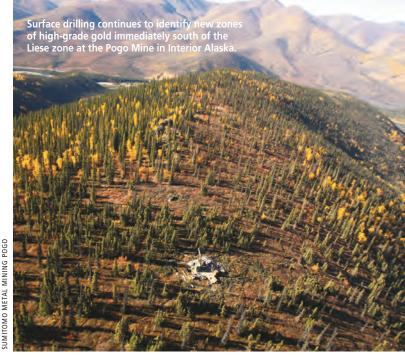
PRESIDENT AND CEO: W. Douglas Eaton CHAIRMAN: Bruce Youngman CHIEF OPERATING OFFICER: lan Talbot Strategic metals ltd.

Strategic Metals Ltd. has more than 125 mineral properties in the Yukon, making it the largest claim holder in the territory. These properties, along with five in northern British Columbia, are prospective for gold, silver, lead, zinc, copper, tin, tungsten, vanadium. As a prospect generator, Strategic identifies and stakes promising projects and completes initial exploration to confirm the geologic potential of its targets. The company then seeks partners to advance the projects and shares in the blue-sky potential via shareholdings or royalty interests. Through this strategy, the prospect generator holds an 8.6 percent interest in Atac Resources Ltd., which is expanding Carlin-style gold deposits at its Rackla Gold project; a 46.6 percent stake in Rockhaven Resources Ltd., which has identified large gold-silver zones at the Klaza property; and a 19.9 percent interest in Silver Range Resources Ltd., a company that has delineated 38.7 million ounces of silver at the Keg deposit.

Strategic Metals' primarily focused its own 2015 exploration on the Hopper gold-copper project in southwestern Yukon. Recent geochemical surveys have outlined strong copper, gold and molybdenum soil anomalies that span a 3,600- by 2,500-meter area. The mineralization at the Hopper property is similar in age to the Casino porphyry deposit, which is located in the same geological belt 200 kilometers (120 miles) to the north-northwest. Historical drilling on the property targeted a copper-rich skarn zone exposed in a creek bed. This past drilling identified three skarn horizons -JG, AM and LV - that are about 50 meters apart and typically range from two to 20 meters in thickness. Hole 15-01, the first hole of a 3,227-meter drill program completed at Hopper in 2015, targeted gold-rich skarn horizons below JG, the main copper horizon. This hole, drilled 342 meters north-northwest of the nearest historical hole, discovered a new, deeper skarn horizon (JP) that averaged 12.15 grams per metric ton gold and 0.95 percent copper over 2.65 meters from a depth of 284 meters. Hole 15-02, drilled 435 meters north-northeast of hole 15-01, cut 6.44 meters averaging 1.00 percent copper and 1.01 g/t gold within a 15-meter thick zone of weak to moderate mineralization in the JG horizon. Hole 15-04, drilled on the southern flank of the Hopper pluton about 172 meters north of hole 2, cut 4.48 meters averaging 2.4 g/t gold and 1.03 percent copper. Hole 15-05, drilled beneath a larger chargeability anomaly which straddles the northern contact of the Hopper pluton about 1,750 meters north of hole 4, cut 162.5 meters grading 0.17 percent copper. Strategic Metals CEO Doug Eaton said, "Results from the 2015 program have significantly expanded the area of known skarn mineralization and provide evidence of a porphyry center coring this very large hydrothermal system."

Strategic also completed a 1,200-meter reverse circulation drill program at the Ranch silver-lead-bismuth property in northern British Columbia, just south of the Yukon-B.C. border. In addition, the company sent threeand four-man crews on exploration forays to 31 other properties where they conducted included soil sampling, prospecting, geological mapping, geophysical surveys, air photo surveys and hand trenching work.

CASH AND SHORT-TERM DEPOSITS: C\$37.3 million (June 30, 2015) WORKING CAPITAL: C\$35.7 million (June 30, 2015) MARKET CAPITALIZATION: C\$24 million (Sept. 23, 2015)



1016-510 West Hastings St, Vancouver, BC V6B 1L8 Tel: 604-687-2522 • Fax: 604-688-2578 www.strategicmetalsltd.com

## ALASKA

# Sumitomo Metal Mining Pogo LLC

Sumitomo Metal Mining Co. (85 percent); Sumitomo Corp. (15 percent)

GENERAL MANAGER: Chris Kennedy SENIOR MINE GEOLOGIST: Dave Larimer

Sumitomo Metal Mining Pogo LLC – a joint venture between Japanese firms Sumitomo Metal Mining Company (85 percent) and Sumitomo Corp. (15 percent) – budgeted roughly US\$15 million to explore the high-grade gold zones at and around its Pogo Mine in Interior Alaska in 2015. This follows a US\$17 million program last year that further defined and expanded East Deep, North and South Pogo, three zones of high-grade gold mineralization adjacent to the current underground workings at the high-grade underground mine. Situated some 60 miles (100 kilometers) southeast of

Fairbanks, Pogo began operation in 2006 by mining the Liese zone, three flat-lying, parallel quartz veins that carry high-grade gold. In 2010, SMM Pogo discovered East Deep, a twin to Liese.



Geological and metallurgical evidence indicates that the Liese and East Deep zones were once a single body of gold-rich mineralization split by a wedge of gold-barren igneous rock (diorite) some 95 million years ago. The Pogo mill sits on this wedge, making mining of East Deep as convenient as the original zone. Today, the Pogo mill processes high-grade ore from both zones. While East Deep and Liese appear to have been torn apart by intruding igneous rocks, the zones are still linked at the North Zone, a group of higher grade vertical veins that likely provided a conduit to deliver gold mineralized fluids to the flat-lying Liese and East Deep zones. In 2014, SMM Pogo drove two drifts from the underground workings at East Deep to the North Zone. These exploration drives will provide a better angle for drill the vertical North Zone veins as well as provide a platform for defining the northwest expansion area of the East Deep zone. The 2015 program includes roughly 140,000 feet (42,650 meters) of surface drilling in 80 holes and about 28,000 feet (8,550 meters) of underground drilling in 20 holes. This program primarily focused on expansion of the north East Deep and North Zone areas, as well as Pogo South, a new zone immediately south of the Liese zone.

3204 International St., Fairbanks, AK 99701 Tel: 907-458-4003 www.smm.co.jp/E/csr/environment/pogo/

# ALASKA / BRITISH COLUMBIA

Teck

# **Teck Resources Ltd.**

TCK: NYSE/ TCK.B: TSX

CHAIRMAN: Norman Keevil PRESIDENT AND CEO: Don Lindsay VP, EXPLORATION: Alex Christopher

Zinc continues to be a primary exploration focus for Teck Resources Ltd. In Alaska, this work is dedicated to extending the life of the Red Dog Mine by upgrading high-grade resources in nearby deposits to reserves and seeking out new deposits in the larger Red Dog area. Going into 2015, Red Dog had 45.4 million metric tons of ore in reserves, averaging 15.8 percent (6.05 million metric tons) zinc, 4.1 percent (1.86 million metric tons) lead and 72.6 grams per metric ton (106 million ounces) silver. Qanaiyag and Paalaag are potential sources of near-term higher-grade ore to supplement reserves currently being mined from the adjacent Aqqaluk pit. This includes the first-ever reserves of 7.4 million metric tons averaging 24.7 percent zinc and 6.9 percent lead for Qanaiyaq, a near-surface deposit that lies to the south of the mined out Red Dog main deposit. Teck has not released a resource for Paalaag, a deeper deposit immediately north of Aqqaluk. In addition to the near-mine deposits, Teck continues to explore some 224,000 acres of highly prospective lands in the larger Red Dog region of Northwest Alaska. Anarraag-Aktigirug, situated roughly eight miles (13 kilometers) northwest of the current operations, is among the high-quality targets Teck is pursuing. Teck discovered Anarraag in 1999, subsequently establishing an inferred resource of about 19 million tons grading 15.8 percent zinc, 4.8 percent lead, and 2.1 oz/t silver. For about two decades, Teck and joint venture partner Korea Zinc Co. have been investigating zinc prospects in both Yukon Territory's Selwyn Basin and the Kechika Trough of northern British Columbia. In 2013, Teck cut a deal with Canada Zinc Metals Corp. to explore the Pie, Yuen and Cirque East properties, which lie adjacent to Teck and Korea Zinc's Cirgue property in the Kechika Trough. Under the agreement, Teck can earn up to a 51 percent interest in the properties by spending C\$3.5 million on exploration by the end of Sept. 2017, a stake that can be increased to 70 percent by investing an additional C\$5 million by 2019. In 2015, Teck had an airborne gravity gradiometry survey flown over the Pie, Yuen and Cirque East properties. Canada Zinc Metals had similar surveys flown over two of its adjacent properties. Together, the surveys covered a 45-kilometer (28 miles) stretch of the zinc-rich Kechika Trough.

Teck (75 percent) also entered into a joint venture in 2013 with Copper Fox Metals Inc. (25 percent) on the Schaft Creek copper-gold project in the Golden Triangle region of Northwest British Columbia. A 2013 feasibility study outlined a 130,000-metric-ton-per-day open-pit mine operating for 21 years at Schaft Creek based on proven and probable reserves of 940.8 million metric tons averaging 0.27 percent copper, 0.19 grams per metric ton gold, 0.018 percent molybdenum and 1.72 g/t silver. For 2015, Teck funded a C\$4.8 million program that included a 2,500-meter drill program to test the depth of surface copper-gold mineralization at the LaCasse zone, located north of the area included in the current mine plan for Schaft Creek, as well as the continuation of optimization studies that were started in 2014.

Early in 2014, Teck elected to take up an option on Kiska Metals Corp.'s Kliyul gold-copper project located 67 kilometers (42 miles) southeast of the shuttered Kemess Mine in north-central British Columbia. Teck can earn a 51 percent interest in the property by spending C\$5.5 million on exploration by Jan. 31, 2018. Early in 2015, Kiska reported that Teck had invested C\$765,000 in exploration at Kliyul and planned to drill the property in 2015. Teck also completed minimal work at GJ and Galore Creek, two other northwestern B.C. copper-gold projects in which the company holds ownership interests.

CASH AND SHORT-TERM DEPOSITS: C\$1.3 billion (June 30, 2015) WORKING CAPITAL: C\$2.4 billion (June 30, 2015) MARKET CAPITALIZATION: C\$5.7 billion (Sept. 18, 2015)

3300 – Bentall 5, 550 Burrard St. Vancouver, B.C. Canada, V6C 0B3 Tel: 604-699-4000 • Fax: 604-699-4750 www.teck.com

#### NUNAVUT

# TMAC Resources Inc.

TMR: TSX

**EXECUTIVE CHAIRMAN:** Terry MacGibbon



# CHIEF EXECUTIVE OFFICER: Catharine Farrow VP, EXPLORATION AND GEOSCIENCE: Dave King

TMAC Resources Inc. has its sights on bringing its Hope Bay gold project in northwestern Nunavut into production by the end of 2016. The Hope Bay project, which TMAC acquired from Newmont Mining Corp. in 2013, blankets most of the 80-kilometer- (50 miles) long Hope Bay greenstone belt in the Kitikmeot region of Nunavut. As part of its acquisition, TMAC inherited more than C\$800 million worth of exploration data, development, and infrastructure from previous operators. In January, TMAC published an upgraded resource of 14.73 million metric tons of measured and indicated resources grading 9.6 grams per metric ton (4.44 million ounces) gold; and 5.39 million metric tons of inferred resources grading 7.6 g/t (1.65 million oz) gold. This resource supports a prefeasibility study that outlines a 2,000-metric-tons-per-day operation producing 3.2 million ounces of gold over an initial 20-year mine-life. By leveraging the existing advanced infrastructure at Hope Bay, the PFS estimates that the robust economics of mining the high-grade gold at the project would result in a 1.7-year payback of the modest C\$206 million in initial capital needed to bring the Hope Bay Mine into production. In July, TMAC closed a C\$135 million initial public offering that involved issuing 22.5 million shares at C\$6 per share. Following its listing on the Toronto Stock Exchange, the company received C\$20.1 million from overallotment options. This IPO, coupled with the C\$68 million TMAC had in the bank and a US\$120 million term loan facility provides the company with more than C\$350 million. "We are extremely pleased with the strong support TMAC has received, which allowed us to upsize our initial public offering," TMAC Executive Chairman Terry MacGibbon said. "Our priority now is to continue advancing the Hope Bay Project towards planned first production by the end of 2016." TMAC has budgeted C\$165 million for "path to production" expenditures during 2015. This includes more than C\$15 million on exploration that is primarily focused on the Doris and Madrid deposits. Drilling at Doris is focused on further definition of stopes within the first two years of the Hope Bay mine plan. Drilling during the fall of 2015 on the Madrid deposit trend is focused on the Naartok zone with the objective of further defining the high-grade areas and the addition of gold ounces to the resource base. TMAC also carried out regional exploration work beyond the Doris, Madrid and Boston trends that included airborne magnetic-electromagnetic and induced polarization geophysical surveys over the Hope Bay greenstone belt. Further afield, the company flew airborne geophysics over its Elu claims, which the company also purchased from Newmont in 2013. The Elu claims cover 305 square kilometers (118 square miles) of the Elu greenstone belt, which is about the same age as the Hope Bay greenstone belt about 35 kilometers (22 miles) to the southwest. TMAC says limited historical exploration at Elu suggests that there is potential for significant gold mineralization similar to the deposits found within the Hope Bay greenstone belt.

CASH AND SHORT-TERM DEPOSITS: C\$23.4 million (June 30, 2015) WORKING CAPITAL: C\$25.6 million (June 30, 2015; completed C\$155.25 million IPO in July) MARKET CAPITALIZATION: C\$428 million (Sept. 18, 2015)

95 Wellington St. West, Suite 1010, P.O. Box 44 Toronto, ON M5J 2N7 Tel: 416-628-0216 www.tmacresources.com Icore

# Ucore Rare Metals Inc.

#### UXU: TSX.V

PRESIDENT AND CEO: Jim McKenzie CHIEF OPERATING OFFICER: Ken Collison VP, BUSINESS DEVELOPMENT: Mark MacDonald

Ucore Rare Metals Inc. has its sights set on developing a complete mines-to-metal operation at its Bokan Mountain rare earth elements project in Southeast Alaska. Toward this goal, the company has been working on expanding the heavy REE-enriched Dotson Ridge deposit at Bokan and developing innovative technologies for the separation of the individual REE. In February, Ucore published results of a 3,960-meters drill program completed at Bokan in 2014. The smaller of two rigs drilling at Bokan last year focused on upgrading inferred resources through infill drilling. Of the 12 infill holes drilled, 10 cut significant mineralization. One, LM 14-142, cut multiple intercepts exceeding 1 percent TREO. Highlights from this hole include 2.42 meters of 1.03 percent TREO, 2.76 meters grading 1.65 percent TREO, 3.37 meters grading 1.9 percent TREO and 2.88 meters grading 1.12 percent TREO. The larger rig drilled five holes aimed at expanding the resource to depth. The best intercept of this drilling was 3.0 meters averaging 0.755 TREO, of which 43 percent were HREOs, in hole LM14-143. Incorporating these holes in the calculations, the deposit now contains an estimated indicated resource of 4.79 million metric tons averaging 0.6 percent (63.54 million pounds) total rare earth oxides, a roughly 63 percent increase over the 2.94 million metric tons of indicated resource included in a 2013 estimate. The updated resource provides some of the final bits of information for a feasibility study that builds upon a preliminary economic assessment completed in 2012 that outlines an underground mine feeding 1,500 metric tons of ore to a 750-metric-tons-per-day mill and a state-ofthe-art processing facility at Bokan Mountain. The operation outlined in the PEA envisions the production of about 2,500 tons of rare earth oxides per year during the first five years of full production; including an annual output of 105 tons of dysprosium oxide, 15 tons of terbium oxide, and 568 tons of vttrium oxide.

With the feasibility study in the works, Ucore has already initiated permitting, and the company is drafting a plan of operations to be submitted by early 2016.

Ucore is also working with Utah-based IBC Advanced Technologies to develop a new method of separating rare earths using molecular recognition technology, a process designed to bind selectively with ions based on multiple parameters such as size, chemistry, and geometry. Using a pregnant leach solution prepared from material taken from the Dotson Ridge deposit, IBC developed a three-step process for separating all of the rare earths into individual salts exceeding 99 percent purity. With the technology proven, Ucore contracted IBC to build a pilot plant that will test the technology on a bulk scale. The test plant, "SuperLig-One," is expected to be completed by year's end 2015; it will then be relocated to a third-party facility for an independent review of pilot-scale test procedures. Ucore believes the exploration and development of its heavy rare earthenriched Bokan Mountain project, alongside the cutting-edge REE refining technology separates it from other rare earth-focused companies in North America.

CASH AND SHORT-TERM DEPOSITS: C\$4.2 million (June 30, 2015, including C\$2.6 million royalty financing receivable) WORKING CAPITAL: C\$3.9 million (June 30, 2015; US\$1 million royalty sale closed in August)

MARKET CAPITALIZATION: C\$56 million (Sept. 18, 2015)

210 Waterfront Dr., Suite 106, Bedford, Nova Scotia Canada B4A 0H3 Tel: 902-482-5214 • Fax: 902-492-0197 www.ucore.com

## YUKON TERRITORY

# Wellgreen Platinum Ltd.

WG: TSX.V

PRESIDENT AND CEO: Greg Johnson SENIOR VP AND COO: John Sagman VP, CORPORATE DEVELOPMENT: Rob Bruggeman



GREG JOHNSON

Wellgreen Platinum Ltd. is focused on advancing its namesake platinum group metals-copper-nickel project located near the Alaska Highway in southwestern Yukon Territory. In February, the company published the results of an updated preliminary economic assessment for the Wellgreen project that envisions a conventional open pit operation, with some selective higher grade underground mining. Milling would start at 25,000 metric tons per day for the first five years of operation, then scale up to 50,000 tpd for an additional 20 years. Capital expenditures to build the initial phase of the mine are roughly C\$586 million, including contingencies in the amount of C\$100 million. Mine expansion, sustaining and closure capital is estimated to be C\$964 million over the life of the mine. Over the 25year life, Wellgreen is anticipated to produce roughly 1.8 million ounces of platinum, 2.2 million oz palladium, 310,000 oz gold, 1.7 billion pounds of nickel and 1.1 lbs. of copper from about 34 percent of the current pit-constrained resource. These metals would be contained in a bulk concentrate that would be shipped from an existing deep sea ports in Alaska. The PEA estimates an after-tax net present value (7.5 percent discount) of C\$1.2 billion and internal rate of return of 24.6 percent. The assessment offered a number of opportunities to enhance the value of the project, including the potential to expand the mine-life by 15 years through a bulk underground operation or by 31 years through additional open-pit mining targeting the remaining 66 percent of the resource. In May, the company announced plans to invest C\$4.2 million on a phase-1 drill program designed to advance the Wellgreen project towards a pre-feasibility study. This drilling is focused on infill drilling within the resource to be mined in the initial 25-year base case as well as step-out drilling targeting areas to expand the scope of the mine. The 2015 optimization program also included metallurgical work aimed at increasing metals recoveries; and analyzing the cost and benefits of quantifying the exotic platinum group metals - rhodium, iridium, osmium and ruthenium - and potentially including them in the Wellgreen resource estimate.

CASH AND SHORT-TERM DEPOSITS: C\$4 million (June 30, 2015) WORKING CAPITAL: C\$5.8 million (June 30, 2015) MARKET CAPITALIZATION: C\$25.8 million (Sept. 23, 2015)

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# Advertiser Index

# Α

ABR Inc
Alaska Aggregate Products (AAP)65
Alaska Dreams
Alaska Earth Sciences
Alaska Frontier Constructors (AFC)3
Alaska Land Status
Alaska Miners Association (AMA)23
Alaska Railroad47
Alaska Resource Education
Alaska Rubber & Rigging Supply7
Alaska Steel
Astralloy Steel Products
AT&T Alascom17
Austin Powder Co
Automated Laundry Systems56

# C-M

Constantine Metal Resources 63
Construction Machinery Industrial (CMI) 2
Cruz Construction75
Denali Industrial Supply
Doyon, Limited
Dyno Nobel
Fireweed Helicopters50
Foundex
GCI
Granite Construction Co 15
Hecla Greens Creek9
Judy Patrick Photography 51
Kinross / Ft. Knox
Last Frontier Air Ventures 64
Lynden
M-I SWACO

# N-Z

NANA Regional Corp70
NC Machinery
Northern Industrial Training
NovaCopper
NOVAGOLD13
NUNA Logistics
Oxford Assaying & Refining 14
Pacific Rim Geological Consulting
Pathfinder Aviation
PND Engineers 6
PNW Equipment
Pogo Mine
Precision Flight Devices (PFD)20
SRK Consulting8
Taiga Ventures / PacWest Drilling 21
Usibelli Coal Mine33



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