

TRENCHES

MINERAL, MINING & EXPLORATION NEWS

UNDERWORLD TURNS ITS ATTENTION TO THE TOP OF THE WORLD

When Underworld Resources was formed in 2007, it never meant to be working in Yukon. It was originally formed to carry out mineral exploration in New Zealand, Australia and South America.

Instead, it has ended up searching for gold on the other side of the planet, in Canada's North. By the end of 2009, it will have spent approximately \$14 million over three years on exploration of its promising White Gold and Black Fox gold properties in Yukon. Its results so far have created quite a stir in mining and investment circles, including a staking rush around its property located 95 kilometres south of Dawson City.

In 2003, Shawn Ryan received funding from the Yukon government's Yukon Mining Incentive Program (developed to support the discovery of new mineral occurrences) for his initial prospecting activities which lead to the discovery of the White Gold property.

"This area originally got our attention when we saw exploration results obtained by prospector Shawn Ryan," says Underworld President Adrian Fleming. "There were elevated gold values in soil samples from several areas and it looked better than what we had going in the southern hemisphere."

This was enough to make Underworld shift gears and turn its attention northward, where company

leadership already had significant experience. Fleming had worked previously in Nunavut and the Northwest Territories. Underworld Chairman/Director Michael Williams and Director Rob McLeod also run a sister company, Full Metal Minerals, with projects in both Alaska and Yukon.

In 2007, Underworld followed up the work Ryan had done with its own trenching and mapping program. Good gold grades were returned from the trenches. The company's 2008 drilling programs resulted in two new discoveries in the Golden Saddle and Arc zones.



Underworld Resources

"Our drilling program has expanded both areas plus we are looking at several other targets as well," says Fleming.

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Did You Know?

*Top: Jodie Gibson and
Hanne Paulsen with
visible gold at Golden
Saddle property owned by
Underworld Resources.*

*Left: A view of
Underworld Resources'
White Gold Camp and
Golden Saddle located
in the Dawson Mining
District.*



Underworld Resources

EMPLOYEE PROFILE: THESE TWO EMR EMPLOYEES LOVE THEIR JOB!

This is a first in a series of profiles on Yukon government employees whose role and responsibilities provide valuable assistance and services to the mineral exploration and development and mining industries.

Judy Shannon and Gordon Moffatt LOVE their jobs as Mineral Development Officers. This is not an exaggeration. For the last four years, they have been the governmental point of contact for mineral development and mining industries. Their goal is to promote Yukon's mineral and mining potential to CEOs, First Nation government, potential investors and other governments.

"We are a direct and first point of contact for people," explains Gord. "They come to us and they know that we will help find the answers they need."

"We're like a portal," adds Judy. "People in the industry know us and we make a point of getting out there at trade shows and conferences and introducing ourselves."

They believe key components to their job is to be outgoing, be aware of what is happening in the industry, be knowledgeable about how things work within both government and industry and have a strong desire to help.

Their role as a liaison between government and industry has helped facilitate and attract new mining exploration companies to the territory.

Judy began with the Yukon Geological Survey about 12 years ago and has continued to work within the mineral resources sector throughout her career. While previously on the regulatory

side of the coin dealing with taxation, royalties and jurisdictional comparisons, she much prefers her current incarnation as a Mineral Development Officer working alongside Gord.

She explains that their team's success is in knowing what to hand off to one-another as well as to not take things personally when the other is grumpy.

"We're a great team," agrees Gord. "Judy has a phenomenal talent in dealing with people and there is never a dull moment when she's around."

Gord first began his career a consultant for Client Services and Inspections for INAC. Post-devolution, he joined EMR's Mineral Resources Branch and has been there ever since.

As part of their work, Gord and Judy have a chance to get out into the field, meet industry folks and hear stories from grizzled prospectors and long-time miners to presidents and CEOs of international mineral exploration and mining companies. They both see a bright future for the Yukon's mining industry.

"The Yukon is on the cusp of a huge exploration and development boom," predicts Gord, "Despite the economic downturn the mineral industry is going to explode. The big guys are coming back, the base metals are starting to make a move, there is more exploration and we have one metal-based mine operating with more in development." Spoken like a true mining promoter. ■



Government of Yukon

Mineral Development Officers Judy Shannon and Gordon Moffat are happy to promote the Yukon's mineral and mining industries to the world.

BEATING THE ECONOMIC RECESSION BLUES

Did you know...

Did you know that silver is mined in Yukon? Here are a few interesting facts about this Yukon mineral.

- Silver has superior anti-bactericidal qualities. Small concentrations of silver kill bacteria by causing the cell membranes to break down. Bacteria are also unable to develop a resistance to silver.
- Silver is the best heat conductor of all elements which is why it is used in solar panels and automobile rear window defoggers.
- Silver is almost as ductile as gold. One ounce of silver can be drawn into almost 2 and a half kilometres of thin wire.
- More than two-thirds of silver produced worldwide is a by product of lead, copper and zinc mining.
- Silver has the highest degree of optical reflectivity of all elements. A silver mirror can reflect about 95 per cent of the visible light spectrum. Silver is also an important component in telescopes, microscopes and solar panels.
- In the Middle Ages, silverware and other eating utensils were introduced as people observed that those who ate with silverware did not get sick as often as those who did not.

DESPITE CHALLENGING ECONOMIC TIMES FACED WORLD WIDE, YUKON REMAINS A HOT DESTINATION FOR MINERAL EXPLORATION.

On a national level, Canadian mineral exploration activity in 2009 was markedly reduced in comparison to the heightened activity of the past few years. This was a direct reflection of unfavourable market conditions associated with the global economic recession. Yet, in notable contrast to nationwide trends, vigorous exploration activity occurred throughout Yukon Territory, a region known for its historical gold placer and bedrock production.

With the price of gold nearing the \$1,000 US-per-ounce mark a number of times in the last 12 months, and the gradual upward trend of gold prices since April of this year, the search for new gold targets in Yukon became increasingly attractive during the 2009 exploration season. This trend was particularly encouraged by the new bedrock discoveries, **Underworld Resources Ltd.**, **Whitegold** property, south of Dawson City and **ATAC Resources Ltd. Rau** property, 50 km northeast of Keno City. Additionally, **Victoria Gold Corp.** on the **Eagle Zone** (Dublin Gulch) commissioned a pre-feasibility study and a comprehensive project proposal to move closer to open pit production of the 2,690,400 oz. indicated resource. Although Yukon exploration activities occurred throughout the classically known 'Tintina Gold Belt', the area of most intense interest was, and continues to be, the under-explored Dawson Ranges.

The Dawson Range Mineral Belt in west-central Yukon has historically been recognized as a 125-kilometre northwest-trending corridor of mineral deposits from the Mount Nansen epithermal gold-silver deposit in the southeast to the Casino porphyry

copper-gold-molybdenum deposit to the northwest. The 2008 discovery of the White Gold property has extended the belt a further 50 kilometres to the northwest and a number of additional gold occurrences continue along the trend a further 75 kilometres to the Yukon-Alaska border. If one follows this same general trend, the Pogo deposit is encountered in Alaska approximately 125 kilometres from the border. Mineralization styles within the Dawson Range Mineral Belt consists of porphyries, epithermal veins and breccias, skarns, structurally hosted veins and breccias to name a few, plus placer gold deposits in many of the creeks draining the belt.

The first drilling in 2008 of **Underworld Resources' White Gold** property resulted in the discovery of the Golden Saddle and Arc zones. Early drill results in 2009 (WD09-31: 3.39 g/t Au over 104.0 m) highlighted the significance of the discovery and ignited a staking rush. This resulted in over 7,000 claims recorded in the area. Over 20 junior mining companies have acquired land in the area which has been dubbed "The White Gold District". Companies focusing their attention on the White Gold District however may be missing opportunities when considering the geological similarities to the broader mineralizing event that created the Dawson Range Mineral Belt. Some of the more advanced projects in the Dawson Range that are being actively explored in 2009 include: a 12,000 m drilling program at the **Nucleus deposit** (Inferred Resource of 1,082,000 oz. Au within 67.57 Mt @ 0.50 g/t Au) of **Northern Freegold Resources**; a 2,500 m drilling program at the **Sonora Gulch** project of **Northern Tiger Resources** on the Night Music zone, another 2008 drill discovery (SG-08-27 intercepted 26.6 m grading 4.96 g/t Au, 11.9 g/t Ag and 0.23% Cu); 10,000 m of drilling at **Western Copper Corporation's Casino** Cu-Au-Mo porphyry deposit (4.4 billion lbs Cu, eight million oz Au and 475 million lbs of Mo, contained in a resource of approximately one billion tonnes)



Construction underway at Yukon Zinc's Wolverine Mine located southeast of Ross River.

Government of Yukon



Concentrate in transport truck leaving Minto Mine site by barge on its way to port.

designed to upgrade inferred resources and to test potential new mineralization identified in a Quantec Titan 24 deep-penetration geophysical survey; 2,000 m of drilling at **Cariboo Rose** and **Alder Resources Canadian Creek** project adjacent to Casino; and of course the over 20,000 m drill project at the **White Gold** project of **Underworld Resources Inc.**

Many other companies are active in the belt (see www.whitegolddistrict.com) with earlier stage programs of soil sampling, geophysics, mapping and trenching. Initial results from **Kaminak Resources Coffee** property include soil samples containing up to 3.16 g/t Au and trenching returning 2.3 g/t Au over 21.0 m and further south **Tarsis Resources** reporting porphyry style mineralization with grab samples of altered intrusive assaying 3.1 g/t Au, 206 g/t Ag and 0.04% Cu and a prospecting discovery of a 0.30 m wide quartz vein type assaying 4.06 g/t gold, 161 g/t silver and 0.89 per cent lead on the **Prospector Mountain** property.

Other gold exploration programs that are within the classical Tintina Gold Belt include drill programs by **Golden Predator Royalty and Development Corp.** on three properties. The **Brewery Creek Mine** property is being explored for sulphide resources within the mine trend which produced approximately 280,000 ounces of gold from oxidized deposits. The **Gold Dome** (formerly Scheelite Dome) property is host to numerous styles of intrusion related gold mineralization which have produced impressive drill results that need follow up (i.e. Tom zone - SH03-30 - 7.09 g/t Au over 6.4 m). The **Antimony Mountain** property is drill testing the AJ vein, a gold bearing quartz vein, which has returned high grade gold from historical sampling. **Canarc Resource Corp** has started a 10-hole, 2,000 metre drill program on the **Tay/LP property** located just west of the **Ketza River Gold** project of **Yukon-Nevada Gold Corp.** **Emerick Resources Corp.** has also started a drill project on the **Grew Creek**, an Eocene aged epithermal gold deposit located along the Campbell Highway between Faro and Ross River.

The **Rau property** of **Atac Resources** was a new 2008 gold discovery and is subject to a substantial drill program with three drills working on the site. Two types of mineralization are present on the property: sulphide mineralization replacing dolomitized limestone and oxide mineralization which has produced substantially higher grades than the sulphide type. The first drill hole of the season returned an impressive 28.04 metres of 24.07 g/t Au in oxide mineralization. The company is focusing on the oxides for their higher grades and excellent recoveries. Initial cyanide leach tests on oxide core returned recoveries in the +90% range.

While gold is capturing the lion's share of attention, it is not the only commodity of interest in Yukon. **Capstone Mining Corp.** continues to conduct exploration at their **Minto Mine** property in an effort to expand their resource base. They have been extremely successful with the discovery of the Minto North deposit located approximately 500 metres away from the existing open pit. Drilling at Minto North has produced the highest grade intersection ever from the project: 16.8 metres grading 5.87% Cu, 2.6 g/t Au and 24.2 g/t Ag. Drilling of other zones on the property continue to confirm and upgrade resources. **BC Gold Corp.** is exploring a number of properties in the vicinity of the Minto and Carmacks Copper deposits in an effort to refine drill targets. All their properties are underlain by the same Jurassic aged intrusion that hosts the Minto and Carmacks Copper deposits. **Western Copper Corporation** working on the **Carmacks Copper** deposit, has received their Quartz Mining Licence and is awaiting their Water Licence. The company is reviewing the parameters of the 2007 feasibility study and upon receipt of the final Water Licence, will make a production decision.

In the Keno Hill district, **Alexco Resource Corp.** has been conducting extensive work including underground development and drilling at the **Bellekeno** deposit to upgrade resources at the historical producer and make a production decision.

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BEATING THE ECONOMIC RECESSION BLUES

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Resources at the start of the season stood at an inferred resource of 517,000 tonnes of 1,016 grams per tonne silver, 13.5 per cent lead and 10.7 per cent zinc. The summer exploration drilling program continues to produce excellent results. Alexco also received a positive screening report subject to specified mitigation measures from the Yukon Environmental and Socio-economic Assessment Board - a key step in bring the mine closer to production. **Mega Precious Metals Inc.** is also active in the Keno Hill district with a 5,000 metre drilling program on the **Eagle** and **Fisher** properties which are adjacent to the Bellekeno property.

Selwyn Resources continues to conduct work at the massive **Selwyn zinc-lead deposit**. The company has

been focusing on pre-feasibility level studies for the development of the Selwyn project as a 5,000-tonne-per-day, high-grade underground mine followed by later expansion with addition of open-pit operations. The current high grade resources are indicated 16 Mt at 10.25% Zn, 4.23% Pb with an additional 26.7 Mt of 8.81% Zn, 2.81% Pb in the inferred category.

Lastly, in what is turning out to be an excellent year in Yukon, is the mine development work being conducted at **Yukon Zinc Corporation's Wolverine Mine** (zinc-silver-copper-lead-gold). Substantial work was completed on the lined tailings impoundment, industrial complex, road and underground mine workings. Production at Yukon's next mine is on track for the third quarter of 2010. ■

AL KULAN: A YUKON LEGEND

Al Kulan at Vangorda Creek in 1953. His discovery of the lead-zinc-silver deposit in the Anvil Range led to the creation of the Faro Mine.

Al Kulan was one of Yukon's most legendary mining figures. Leaving Toronto for Yukon in the late 1940s, Kulan took up prospecting and quickly made his mark in Yukon mining history.

During the 1950s, Kulan found a heavy concentration of rust close to Vangorda Creek, near the Ross River community. Consulting and working with Jack Sterriah and the Kaska people, lead Kulan to major lead-zinc discoveries.

Kulan formed Vangorda Mines Ltd. with a group of Dena citizens. The property was then optioned to Prospector Airways. Due to lack of money and proper equipment, further exploration of the area was halted.

In 1964, Kulan helped form Dynasty Explorations which re-staked the property. Dynasty Exploration eventually entered into a joint venture with Cypress Mines Corp. who formed Anvil Mining.

This merger allowed for the discovery and development of the world class deposit that would become Canada's largest producing lead-zinc mine. The Faro Mine not only started the biggest mining action since the 1898 Gold Rush, it operated for more than 20 years and established the Yukon as a major supplier of base metals.

Despite his wealth, Kulan continued prospecting during the 1970s, seeking iron ore deposits in the northeast corner of Yukon. There, in 1974, Kulan along with his associate Gunar Penikis made another significant discovery. They found a deposit of rare, unique and quality specimens of gemstones. This remote corner of the North became known as the source of the world's finest



E.E. "Ted" Chisholm

crystal specimens of lazulite. The azure-blue rock was later proclaimed as Yukon's gemstone.

This discovery also led to identifying a new group of phosphate minerals found nowhere else in the world. One was appropriately named kulanite.

In 1988, Alan Kulan was inducted into the Yukon Mining Hall of Fame. His name is engraved on the plaque under the statue of a prospector located on Main Street in Whitehorse. In 2005, he was also inducted into the Canadian Mining Hall of Fame, where he is described as: "a compassionate and pioneering prospector with an independent, entrepreneurial spirit. His successes spawned other ventures such as prospecting syndicates and exploration companies that discovered other notable deposits and significant mineral occurrences and in which he played a leading role. He was also a generous man who assisted in the education of others and supported the development of local communities in Yukon".

Alan Kulan was a true northern character, who embodied the spirit of Yukon and remains one of its most beloved heroes. ■

A DAY IN THE LIFE: WORKING FOR YUKON GEOLOGICAL SURVEY

Despite the global economic mood of doom and gloom, government and private sector geological activity throughout the Yukon this season was in stark contrast to the rest of Canada. Just as Yukon was frequently the weather hotspot across the country this summer, it was also (and continues to be) the hot spot for mineral exploration, particularly for precious metals such as gold and silver.

Yukon Geological Survey (YGS) bedrock mapping projects conducted in collaboration with the Geological Survey of Canada (GSC), university and industry partners set the stage for what turned out to be a very busy and, on occasion, hectic summer. This year's projects were carried out in locations across Yukon. Like clock work, logistical planning and summer preparations began in late 2008, with field operations in full swing by the last week of June. During this annual flurry of activity, the YGS managed to find the time to hire us – Venessa Bennett (Metallogenist / Mineral Assessment Geologist) and Joyia Chakungal (Project Geologist).

As the 'new kids on the block' and in part because of the time of year, we assumed our posts where we were told to 'see as many rocks as possible' during the season. To do this, we visited many field operations (government and industry camps alike) to familiarize ourselves with the Yukon's diverse geology, landscape and vegetation while getting to know our colleagues who have been working in Yukon for many years.

Joyia's field visits were concentrated in the eastern Yukon. Here's the account of her summer in her own words: *Beginning in early July, I visited the YGS/GSC led Coal River mapping camp where I was introduced to the realities of bush traverses. Having previously mapped only above the tree line, or on water with the luxury of a zodiac, it*

days above the vegetation touring the TOM deposit (MacMillian Pass) and the spectacular Wernecke Mountains. All in all, the summer's geology tour gave me the opportunity to see some of the rocks that would have once formed the western edge of ancient North America, known as Laurentia. Rocks included the middle Proterozoic rocks of the Wernecke Supergroup, up through the Road River Group of the Selwyn Basin into volcanic rocks and later plutonic rocks of the Yukon Tanana terrane.

Venessa's role as Metallogenist/ Mineral Assessment Geologist was not only to assess the mineral potential that lies within the Yukon territory but also to understand the how and the why of mineral deposit formation. Here's her description of her summer work: *The Yukon is extraordinarily rich with economic mineral occurrences. The better part of my summer was spent observing as many of these occurrences, particularly in light of the new and very exciting discoveries at the Rau property (ATAC Resources Ltd.) northeast of Keno City; the Whitegold discovery (Underworld Resources) south of Dawson; and, the ongoing discoveries at the Northern Freegold Resources Property northwest of Carmacks.*

Left: A camp location for geologists can vary widely. Here, Yukon Geological Survey summer students pitched their yellow tent at the picturesque Crest Formation iron deposit fly-in camp along the Yukon/ NWT border. The Crest deposit is one of the largest iron deposits in North America.

Venessa and Joyia experienced various forms of camps during their field visits this summer. Pictured here is their tent pitched in a wall tent frame at Copper Point Camp.



Government of Yukon

During my summer travels, I spent time working with both government colleagues and the mineral exploration community in total about 20 or so bedrock mapping and exploration camps distributed across the Yukon.

The one general impression I am left with from this summer experience is that camp life varies widely from camp to camp. From fly-in camps on the Yukon / NWT border to examine the iron-ore potential of the picturesque Crest Formation, to constructing makeshift shelters on the skeleton frames of haunted exploration camps in the Wernecke Mountains, to sharing a tent and many laughs in the thriving exploration camps in the Dawson ranges. The Yukon in all its geological, geographic and cultural diversity has certainly captured my curiosity and my imagination. ■



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was in Coal River where I came to appreciate how much fun bush whacking is not! My efforts were then directed to the YGS/GSC led McQuesten mapping project based at the Pelly Farm, where believe it or not, the bush traverses were even more challenging! Following visits to the two major mapping operations, I was lucky to spend a few

MINERAL EXPLORATION INVESTMENT TO EXCEED PROJECTIONS

Investment in exploration of Yukon's mineral resources will likely exceed government projections this year, Energy, Mines and Resources Minister Archie Lang announced.

"There has been some encouraging news recently from Yukon's mining sector and this has spurred exploration companies to take a closer look and begin some new on-the-ground programs," Lang said. "With initial projections now expected to be surpassed, Yukon is benefiting from an increased demand for the services of local contractors and businesses."

In January, exploration investment in Yukon was expected to be in the range of \$20-\$30 million as a result of the economic downturn. However, with the recent upturn in the sector, current projections now place expected exploration expenditures at over \$50 million.

Following the release of excellent drill results this spring from Underworld Resources' White Gold property, there has been increased interest in Yukon from mineral exploration companies. This has resulted in over 6,000 new placer and quartz claims being staked in the Dawson area since April 1. Positive results from other projects such as Atac Resources' Rau property

and Northern Freegold's Revenue property have also attracted increased interest.

Earlier this summer, the Mineral Resources Branch hosted industry journalists for a tour of Yukon's exploration projects. During the tour, journalists visited several ongoing exploration sites including the White Gold, Rau and Revenue properties, among others.

"We want investors outside of Yukon to be aware of our mineral potential and the government's support for the mining sector," Lang added.

Along with initiatives to increase awareness, the minister credits making information readily available to potential investors for Yukon's attractiveness to industry. Assisting in this are online resources such as Geology Mapmaker Online, which provides geological information, and the Mining Claims database, which is a map-based system providing information on land tenure. Both of these resources are accessible at www.yukonmining.com through the Maps and Data link.

For more information on Yukon's mineral resources, contact the Mineral Resources Branch at 867-633-7952, toll-free in Yukon at 1-800-661-0480 extension 7952. ■

DON'T MISS THE YUKON'S LARGEST MINING CONVENTION!

YUKON GEOSCIENCE FORUM KICKS-OFF ON SUNDAY, NOVEMBER 22.

Featuring the latest in technology, reclamation, research, exploration development and mining activities, the annual Yukon Geoscience Forum will be held in Whitehorse from November 22 to 25, 2009.

The 37th annual conference and trade show is organized by the Yukon Chamber of Mines and the Yukon Geological Survey who anticipate about 400 delegates from across Canada will attend, including geologists, scientists, academics, service and supply companies, investors, prospectors, quartz and placer miners, various levels of government, and mining companies.

"The Yukon government is a strong supporter of this event, which highlights the work of Energy, Mines and Resources and its Yukon Geological Survey Branch," Minister Archie Lang said. "The Geological Survey plays a crucial role in the management and development of our resources by expanding the scientific and technical database of the territory's mineral resources. This information is important for industry

development, land use decision-making and wise stewardship of our resources."

The Yukon's largest mining convention will kick off with a workshop and trade show on Sunday, November 22, followed by an opening reception that evening at High Country Inn.

The forum will also have various speakers making presentations about the latest mining exploration projects and developments in mining science.

One special event is the presentation of the annual Robert E. Leckie Award for Outstanding Quartz and Placer Mining Reclamation Practices. The annual award is given to quartz exploration companies and placer operators for exceptional reclamation and site restoration efforts.

The award was created in 1999 as a tribute to Robert E. Leckie, a mining inspector who worked in Mayo for over a decade. Robert was influential in educating area miners on the benefits of thoughtful reclamation practices and instrumental in initiating research projects to define acceptable placer mining discharge.

For more information or to register as a delegate, contact the Yukon Chamber of Mines at 667-2090 or visit www.ycmines.ca. ■

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