Exploration in British Columbia

2015 in Review

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Features

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Regions, including Kootenay-Boundary, Omineca and Northeast, in British Columbia, Canada

Preliminary reports from regional geologists discussed British Columbia's by the Ministry of Energy and Mines indicate that exploration continued to slow in 2015. The trend started at a decade-low in small and mid-tier junior stage projects in 2011 and was followed by a slowdown in larger, more advanced projects by 2013. Nonetheless, explorers continued to define or expand productive and prolific-related copper-gold and copper-molybdenum deposits, gold deposits of various types, and deposits of strontium base metals, specialty metals, industrial minerals and coal.

Distinctive exploration projects and mines, 2015, NOTE: "Mine, Operating" includes operations with production in 2015; "Mine, Care[/] and Maintenance" entered that status within the past three years; "Mine, Development", underwent construction activity during the year; and "Mine, proposed" includes projects active in the mine permitting or environmental assessment process.

Precious Metals

Distributing Pretoria Resources Inc's Brunswick gold project's 10 full scale commercial

resource.

Metal Mountain Resources Inc. and its subsidiary Gavin Mines Inc. partnered with Grace Mining Inc. to keep the **Dome Mountain** gold mine project financed and moving forward in construction upon receipt of an amended Mines Act permit expected before 2016. A senior drill program targeted extensions of the Boulder, Footwall and Argillite veins.

Avoca Resources Ltd. started investigating selective high-grade gold bulk sampling in the past producing **Premier** mine. Drill results returned several intercepts grading between 250 and 1,000 grams per tonne gold over 0.6 to 10 metres intervals. One intercept returned 14.8m 5 grams per tonne over 23.75 metres.

Approximately 13,000 metres of drilling at Skeena Resources Limited's **Spectrum** project was designed to define a near-surface, high-grade gold resource. Skeena also acquired the Cu-Copper-gold prospect from Tock Resources Limited and NGEx Resources Inc.

Porphyry (Copper-Gold, Coppermolybdenum and Molybdenum) Projects

Giant's magnetite twinrite vein at Imperial Metals Corporation's Red Chris

mine.

196.8 metres grading 0.69 grams per tonne gold and 0.51 per cent copper, including 24.5 metres grading 1.5 grams per tonne gold and 0.5 per cent copper. Continuation of higher copper-gold grades, which could be amenable to underground block-caving mining. Phase 1 construction permits were issued in late 2014.

Albayana Inc. proposed a new mill site at **Ascot Kitsault** molybdenum mine, which is fully permitted for construction. Financing is partially in place and expected to be finalized after completion of an engineering study in 2016.

Pacific Booker Minerals Inc's **Morrison** copper-gold porphyry project received the environmental assessment process in June and is undergoing further review of several prior permitted areas.

The future lift and ramp site for Imperial's Kerr Kitsault molybdenum project.

Tock Resources Limited drilled several exploration holes at **Schaft Creek**, concurrent with engineering and optimization studies of the defined Paramount and Liard zones. Preliminary economic assessment (PEA) completed on its 50 per cent owned **Galore Creek** gold-copper project, jointly held with NovaGold Resources Inc.

Carmax Mining Corp. tested two diamond drill holes on the **Lost Creek** copper-molybdenum porphyry prospect. Results indicated copper-molybdenum mineralization extends outside of and below the known resource area.

Gold Reach Resources Ltd. started a preliminary economic assessment of the **Cedar** copper-gold-molybdenum porphyry project and continued greenrock target generation on surrounding claims.

Pit ramp in the vicinity of Kelly Stokker Creek (Copperstain) pass producing Duck, Nestor-silver mine.

Colorado Resources Ltd. discovered the NICU copper-gold-silver prospect at the **Hess Project** and validated the Tami prospect at its **KSP** project. Channel sample results returned 15 metres grading 2.06 grams per tonne gold and 0.51 per cent copper from Tami. Colorado also partnered with Cantera Gold Inc. to explore the **Hawks Peak** gold prospect.

Kaiser Discovery Inc. and its joint venture partner Freeport McMoRan Inc. completed nine 2,000 metres of drilling at the **Yuquilla** project, confirming porphyry copper-gold mineralization.

Drill programs and geosamers activities were completed on copper-gold targets in the Sheeley area, including Doubleview Capital Corp's **Hat** project, Garibaldi Resources Corp's **Sheeley** project and Prosper Gold Corp's **Star** project.

Polymetallic Base and Precious Metals

JDL Silver Inc. received its Mines Act permit to mill up to 75,000 tonnes per year from its Silverlip silver-gold mine. The company purchased a used mill and is awaiting construction financing.

Chalfont Metals Corp's **Takwahoni Chief** zinc-copper-gold mine was deemed "substantially started," meaning that the environmental assessment certificate will remain in effect for the life of the project. The mine is permitted for construction.

Doliu Harbin Silver Corporation conducted some drilling and an extensive geosamers exploration campaign at the **Doliu Verde** silver project.

Exploration at the **Big Bulk** gold-copper prospect by LCT Holdings Ltd. included extensive channel sampling, reinterpretation and geological mapping of a high-level intrusive complex that features high-grade gold at surface mineralization.

Golden Jubilee Capital Corp. completed early-stage activities at its **Pyramid** prospect and identified a multi-phase intrusive complex with elevated copper-gold values. Drilling is planned for 2016.

Ferrin Resources Corp. acquired the **Bell Creek** copper-gold-porphyry project from Flagship Minerals Corp. and conducted geological mapping and sampling.

Jade

Several operators mined nephrite jade boulders in the **Cassiar**, **Kutcho** and **Provincher Lake** areas. Boulders are generally trucked to Vancouver and destined for international markets.

Aggregate

Highbank Resources Ltd. developed its Vancouver-accessible **Sewmp Point** aggregate mine and shipped its first 4,000 tonnes off site. The company is targeting future sales to construction projects around Prince Rupert.

Omineca and Northeast

Geologists Jonathan Lewis, Ryan Sawyers and Pacific Empire Minerals Corp. geologists.

Precious Metals

PPM Phoenix Precious Metals Corp. drilled the Cliff Creek and Kelly Creek areas on the **Lawson** project to better define mineralized zones and test a second target in greater depth. This was the first exploration drilling program on the property in nine years.

New Gold Inc. continued engineering and environmental studies to support the environmental assessment of its **Blackwater** project. A 2014 feasibility study describes an open-pit mining operation with a 60,000-tonne-per-day processing plant. Exploration in 2015 focused on targets up to four kilometres south (Dave and Blackwater South) and up to 10 kilometres west (Kwanitsa Ridge and Buck) of the Blackwater deposit. Activities included diamond drilling, ballooner and ground-based magnetics surveys, infill induced polarization surveys, and geosamers work.

Kiwa Resources Inc. and Kootenay Silver Inc. followed up a 2014 trenching program with diamond drilling at **J Z Fred**. Drilling tested the downdip of mineralized quartz veins below the trenches at the Sam and Cold Drift target zones.

Grassroots to early-stage exploration included programs at Perpetua Bay Minerals Ltd's **#1**, C.J. Greig & Associates Ltd's **Holy Cross** and Kings' auto Wrecks's **Blackjack Mineral**.

Porphyry (Copper-Gold, Coppermolybdenum and Molybdenum) Projects

Thompson Creek Metals Company Inc. completed its second full year of operations at the **Mt. Milligan** mine, with ramp-up activities scheduled for completion by year end. A temporary secondary crusher is in use while engineering for a permanent circuit continues. An updated feasibility study completed in 12 NI 43-101 technical report was released in January. Exploration drilling began on three target areas northeast of the mine, with initial focus on **Mitzi**. The company placed the **Endako** molybdenum mine on care and maintenance mid-year following a suspension in 2014.

Auffico Metals Inc. continued to advance the proposed **Kemess Underground (KUG)** block-cave mine through environmental assessment and toward an updated feasibility study. Geotechnical drilling was undertaken on key infrastructure areas. Exploration drilling continued at **Kemess East**, where a similar zone and style of deposit as KUG is being defined and for which an initial resource estimate was released in January. Other targets across the Kemess Volcanic property also saw drilling and geosamers work.

Teck Resources Limited completed a step-out drilling program at Falco Metals Corporation's **Kliaz** project to test the extent of the Kliaz zone. Results indicate that mineralization in the Kliaz zone. Several geological and geophysical surveys on the property are also known, as is an extensive phyllic alteration zone.

Pacific Empire Minerals Corp. followed up an induced polarization survey with diamond drilling at the Kliaz and Sooner targets at **Cut Lake**. The targets lie near an inflection point in the southern portion of the Hogem intrusive complex.

Grassroots to early-stage exploration included programs at Teck A Resources Inc's **Prince George 101**, Stone Ridge Exploration Corp's **Hanson**, Kiwa Metals Corporation's **Chaffe**, Serengeti Resources Inc's **Jewel** and **Kwanika East-Stones**, Garibaldi Resources Corp's **Red Lake**, Pacific Empire Minerals Corp's **Copper King** and High Power Exploration Inc's **Mound**.

Sam and Cold Drift targets (left) the J Z Fred property of Kiwa Resources Ltd. and Kootenay Silver Inc.

Polymetallic Base and Precious Metals

Giant's chalcopyrite vein at Pacific Empire Minerals Corp's Cut Lake property.

Canada Zinc Metals Corp. focused on diversity resource expansion and infill of the Cardiac Creek deposit with a drilling program at its **Akie** project. Preliminary results of an extreme gravity gradiometry survey flown in 2014 and 2015 identified new target areas at Akie. **Tuva North** and **Mt. Alcock**.

At its **Cirque** project, Teck Resources Limited resumed drilling at South Cirque to verify and step out from historic drilling results, and to improve resource definition. A ground based gravity geophysical survey was completed on the Cirque, **Elf** and optioned properties from Canada Zinc Metals Corp. (**Pie** and **Tuva**). Preliminary results of an airborne gravity gradiometry survey were also received for the same properties, including the optioned **Cirque East**. Soil sample grids were expanded on Pie and Tuva, and mapping and prospecting continued on Pie, Tuva and Cirque.

Fireside Minerals Ltd. has mined out the **Bear** and pre-stripped overburden at the Mouse pit in preparation for the 2016 season. **Fireside** tests mine. Exploration and definition drilling delineated three extensions, which are being tested for second years. Barite is crushed, milled and bagged on site and trucked to a drilling mud supplier in North Dakota.

Teeko Mines Limited continued to focus on its Nechako property, including full work and environmental baseline data gathering for the **Aley** niobium project as it advances through environmental assessment. Jan-Jan mine pit with a 10,000-tonne-per-day processing plant and ferronobium converter is proposed.

Draytonn Western Canada Inc. continued engineering and environmental studies at **Discovery** in support of its environmental assessment application and final three years and quarry designs. A 1,000-tonne bulk test tonnes were collected for processing tests.

Parlux Limited upgraded the resource at **Wapiti East** and completed a scoping study. A seasonal shallow open pit mine is proposed with production of up to 75,000 tonnes per year of phosphate rock. A small-mine application was submitted in 2014.

Green Mountain Gemstones Inc. returned to Ogden Mountain to mine and explore for nephrite jade.

Coal

Coal mines in the Peace River coalfield (of northeast B.C. were suspended and placed on care and maintenance in 2014. Walter Energy Inc.'s **Perry Creek (Wolverine)** mine remained idle, while mined inventory from **Brule** was transported to **Willow Creek** for processing and all load out, completed in May. At the **Trend Resources** mine, Peace River Coal Inc. (Anglo American plc) continued transport and all load out of coal stockpile in January. The fully permitted **Quintette (Babcock)** mine of Teck Coal Limited was idle.

HD Mining International Ltd. continued decline construction at its **Murray River** project for the extraction of an underground bulk coal sample. The decline was at 1,300 metres in length by July. Underground exploration drilling targeted the first workable seam. Engineering and environmental studies continued, and a provincial environmental assessment certificate was granted for a longwall mining operation with a saleable coal production rate of 4.4 million tonnes per year.

Glencore plc continued engineering and environmental studies in support of its environmental assessment application for the **Sukunka** project, which was accepted for review. An open pit mining operation with up to 4.0 million tonnes per year production of metallurgical coal is proposed. An updated geologic model increased coal resources.

Following a 2014 pre-feasibility study, Liberty Rock Corp. completed additional exploration drilling, bulk sampling, and upgraded the resource and geological models for the Groundhog North component of its **Groundhog** project. An underground mine expected to produce 5.0 million tonnes per year of saleable, ultra-high-rank anthracite product is planned. Anthracite coal has both steelmaking and industrial applications.

Copper oxide minerals in outcrop at Kiwa Metals Corporation's Kiwa property.

Kootenay-Boundary

Precious Metals

Drilling for Red Mine Exploration's Magnum Bluebird magnesite mine.

Magnum Goldcorp Inc. drilled the **LK** property, targeting gold mineralization identified in historic underground workings.

In the Greenwood area, Kinross Mining Corp. continued work at the **Gold Drop** project. Golden Queen Minerals Inc. was active on its **Greenwood Mine** (Nov.) project, and Kinross Gold Corporation optioned 27,040 hectares of land owned by Gravity Discoveries Inc. The area is north of Kinross Gold Corporation's Kettle River Bulldozer mine and consistency Kettle River Operations in Washington state, which has a mill capacity of 1,800 tonnes per day.

Drilling at Red Mine Exploration's Magnum Bluebird magnesite mine.

Polymetallic Base and Precious Metals

Parallel Bash Minerals Inc. continued with environmental baseline studies at its **Galloway Red River Mine** and is working toward an application for a mine permit. The copper-silver mine has a 750 tonne per day mill on site, as well as underground development, and has been on care and maintenance since 2009.

Sedimentary exhalative mineralization in mesoproterozoic rocks continued to be a target in the East Kootenays. PJX Resources Inc. continued drilling at the **Phillips** project and engineering and geophysical modelling to define additional targets. Sandy Ck Metals Corp. continued geological work, with plans for additional drilling later this year on the **Sulu** property, and Lenora Metals Corp. drilled at the **Monroe** project.

In the West Kootenays, Tanana Resources Inc. continued work at the **Zitac** project, targeting gold and southern base metal mineralization. Geochemical sampling and mapping at the **Ymir** property, which is adjacent to Zitac, was completed. The company also acquired Kirkham Metals Inc. and renamed itself as Zitac. Mine work and drill holes were taken in place to use to process one from Nitinat. The bike mine and mill have been on care and maintenance since 2011, when the Nitinat molybdenum mine was shut down.

Dwight Resources Ltd. targeted both a strata-bound lead-zinc silver zone and a tungsten-skarn zone at **Jersey-Emerald** with a focus on underground bulk sampling and drilling.

Breakfast Resources Inc. continued work at its neighbouring **Rafterdown** and **Whitewater** properties, and Klondike Silver Corp. continued mine and mill facility upgrades and environmental work at its **Slocan Silver** project to the north.

North of Revelstoke, Hudson International Mining Inc. continued environmental baseline studies at the underground gold and base metal **JBJ**. Mine, in order to move toward environmental assessment, and Silver Phoenix Resources Inc. drilled electromagnetic targets at its **River Jordan** project.

Specialty Metals and Industry Metals

Certain Feed Systems Canada Inc. continued production at its **Kitimat** gypsum mine and continued to advance the proposed **Rustenburg Mine West**, which entered the pre-application stages of environmental assessment in 2015.

Magnesite is produced by Baymag Inc. at the **Mount Brussilof** mine from Cambrian carbonate rocks, and Red Minerals Inc. continued drilling at its **Driftwood Magnesite** project. Red Minerals Inc. is also working on a mine permit application and has entered into agreements to acquire a site to construct a processing facility in Cranbrook.

Interstitial Canada Ltd. continued construction of a hydraulic fracturing sand processing plant at its **Mallardry** silica mine.

Phosphate is being targeted in the Rocky Mountain Foothills belt by Inlet Mineral Inc. at its **Dry** project.

Eagle Graphite Corp. continued exploration drilling at the **Black Crystal** flake graphite layers and is focusing its efforts on improving processing techniques at the plant to enhance the product quality.

Coal

Mining operations, coal production and environmental assessment for expansion plans continue at the five mines in the Elk Valley operated by Teck Coal Limited. The main product is metallurgical coal (86 per cent), with some thermal and pulverized coal injection coal (14 per cent). Production from the Elk Valley in 2014 was 26.0 megatonnes of clean coal. In 2015, Teck Coal Limited implemented rotating shutdowns in order to reduce stockpile and other inventory with weaker commodity prices. Expected production volumes for 2015 are around 25 megatonnes, and the company is focused on reducing costs and improving efficiency in all operations.

Looking out across the valley of Skeena Ridge in Liberty Rock's Groundhog North project.

In **Fording River Operations**, the **Swift** project expansion received environmental assessment approval in September 2015, and the company is preparing for the start of construction. Construction is also underway on the **Swift** expansion application drilling, also continued on the Fording mine site in active pits.

In **Elkview Operations**, the **Baldy Ridge Extension** entered the pre-application stage of environmental assessment in 2015. Exploration drilling in the current mine boundary was directed toward planning for the next phases of mining in the Baldy and Natal pits.

In **Line Creek Operations**, the **Horseshoe** and **Horse Creek** pit, and baseline work continued for the environmental assessment application of the **Cougar Pit Extension** project.

In **Line Creek Operations**, the **Burnt Ridge Extension** project entered the pre-application stage of environmental assessment in 2014. The project will continue to work operating area to the south.

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Hills as a reverse thrust and folded Jurassic-Cretaceous sediments.

Precious Metals

Zeltardo Gold Mines Ltd. began last mining at its **Rossland Ledge** mine near Waitts in early 2015. Activity at its **Carlboo Gold** project included up to 15,000 metres of underground diamond drilling on high grade underground mine and exploration drilling and as-dreamed/mined bulk surface minerals deposits. A March 2015 technical report for Cole Mountain, part of the Carlboo project, lists 2.6 million ounces of gold in the 'indicated' category and two million ounces in the "inferred" category, at grades of 3 g gram per tonne and 2.7 grams per tonne respectively.

Westhaven Ventures Inc. acquired synthetical gold prospects in the Spences Bridge gold belt. Work on the **Shoestring** prospect included hand and ground geochemical surveys and drilling.

Aston Bay & Gold Mines Ltd. acquired **Endeavour** gold mine in late 2015, but suspended mining shortly thereafter. The company's Kitsault Molybdenum project, which hosts the gold deposit, continued to work on a feasibility study. More in 2016 included improvements to mine and mill facilities as well as exploration drilling.

Source Aston and Gold Mines & CIMA Resources Inc. c.a. Jonathan Lewis

Porphyry (Copper-Gold, Copper-molybdenum and Molybdenum) Projects

The Thompson-Okanagan-Cariboo area region hosts three copper-bearing mines. New Gold Inc's Mesa Mine, Copper Mountain Mining Corporation's Copper Mountain mine and Imperial Metals Corporation's Ruby mine, where limited production resumed in August 2015, one year after a major tailings dam breach.

After four years of exploration, environmental studies and engineering studies, Aurizon Mines Ltd. completed a feasibility study on its **Kwanika** copper-gold project. Alexco Environmental Assessment Office and the Canadian Environmental Assessment Agency **Apex** is a proposed 60,000-tonne per day, open pit mine with a projected 20 year lifespan, on the outskirts of Kamloops. The company's partners, Japan's Sumitomo 42.5% Kansai 42.5% Pacific Metals 5.0, and Mazoca Mining and Exploration Corporation.

Westfarm Gold Corp. followed up in 2013 and 2014 geophysical surveys and trenching, sampling and a drill program on its **Bonanza** project to test quartz stockwork gold prospects targets. Historically, high grade, near-surface gold veins in quartz diorite have been the focus of exploration.

Kalano Diamond Inc. drilled the Aspen Grove copper-gold project. An adjacent property hosted a copper-gold mine in the Nicola Lake prospect. Imperial platinum resells the Stillwater Mine platinum-palladium-rhodium-copper-nickel-cobalt-gold-silver-copper-zinc-lead-cadmium-sulfur-selenium-tellurium-bismuth-arsenic-antimony-mercury-thallium-gallium-indium-germanium-tin-tungsten-molybdenum-rhenium-platinum-palladium-rhodium-ruthenium-iridium-osmium-silver-gold-copper-nickel-cobalt