

## **Occurrence Details**

Occurrence Number: 105G 034 Occurrence Name: Fyre Lake Occurrence Type: Hard-rock

Status: Deposit

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# **General Information**

Primary Commodities: cobalt, copper, gold, silver, zinc

Aliases: Kona

Deposit Type(s): Volcanogenic Massive Sulphide (VMS) Besshi Cu-Zn

Location(s): 61°13'31.41" N - -130°30'7.82" W

NTS Mapsheet(s): 105G02

Location Comments: Approximate center of deposit.

Hand Samples Available: No Last Reviewed: Jan 4, 2017

### Capsule

#### WORK HISTORY

Staked as Top cl 1-272 (75213) in Sep/60 by Cassiar Asbestos Corp, which conducted ground magnetic and EM geophysical surveys and drilled 23 packsack holes (224 m) and 12 AX holes (582 m) in 1961.

Restaked as Dub cl 1-167 (89964) in Jan/66 by Atlas Exploration Ltd, which flew an airborne magnetic-electromagnetic survey, conducted ground magnetic-electromagnetic and soil sampling surveys, bulldozer trenching and drilled 6 diamond drill holes (589 m) over the winter of (1966-67).

Restaked as Frye cl 1-40 (YA066) in Jul/76 by Amax Potash Ltd which performed limited mapping in 1976 and grid soil sampling in 1977.

Restaked as Kona cl 1-68 (YA56560) in Sep/80 by Welcome North Mines Ltd & Esperanza Exploration Ltd, which conducted geological mapping and soil sampling surveys in 1981.

T. Dodge tied on Swan cl 1-2 (YB14492) to the east in Jul/88.

Prior to optioning the property in Dec/90, Placer Dome Exploration Inc, flew a magnetic and very low frequency (VLF) - electromagnetic geophysical survey and staked Fire claims cl 1-192 (YB33748). In 1991 the company conducted ground magnetic and electromagnetic geophysical surveys, geological mapping and rock, silt and grid soil sampling surveys before dropping its option in Jan/92.

In Nov/95 Columbia Gold Mines Ltd optioned the Kona and Fire claims from Welcome Opportunities Ltd (a successor company to Welcome North Mines Ltd). Between late June and early Oct/96 the company conducted an integrated exploration program over the Kona grid. Columbia Gold Mines Ltd carried out extensive geological, geochemical and geophysical surveys on the grid and drilled 71 NQ and/or BQTK core diamond drill holes (9,600 m). At the same time Columbia Gold Mines Ltd also staked the Dub claims which are located to the south and cover airborne geophysical anomalies and Minfile Occurrences 105G 035 & 036. In 1997 the company drilled 44 diamond drill holes totaling 13,600 m, in turn doubling the known size of the Kona deposit.

In May/99, Columbia Gold Mines Limited refinanced and changed its name to Pacific Ridge Exploration Ltd. In Jul/99 Pacific Ridge removed all drilling and camp equipment, fuel and fuel barrels from the property but left the actual camp intact. In Dec/2001 many of the outlying Fire claims expired.

In Jul/2002 True North Gems staked Straw cl 1-43 (YB93671) and Lion cl 1-58 (YB93714) north and northeast of Pacific Ridge Explorations' remaining Kona claims (claims 43-46, host of Kona deposit).

In Jul/2002 Pacific Ridge optioned a 60% interest in the property to Rock Resources which contracted J.D. Blanchflower to complete a NI 43-101 compliant, compilation report and mineral resource estimate which was never publicly released. Rock Resources never carried out any actual work. In Feb/2004 Rock Resources changed its name to Adroit Resources Inc and in Apr/2004 dropped its option on the property.

In Dec/2002 Pacific Ridge staked Ember cl 1-99 (YB88808) on the west side of the Straw claims.

In Dec/2002 True North Gems optioned a 60% interest in the Straw and Lion claims to Firestone Ventures Inc. In 2003, Firestone Ventures carried out a reconnaissance scale geological mapping, prospecting, soil and stream sediment sampling and pan sampling program over the claims. In 2004 the company carried out detailed pit sampling and prospecting on the Straw claims. Firestone Ventures terminated its option in Aug/2005.

In Jan/2006 Pacific Ridge hired Blanchflower to review and update his 2002 compilation report and mineral resource estimate. The report was released on January 17, 2006.

In Jan/2009 the Lion claims lapsed.

In Jan/2013 Pacific Ridge purchased the Straw claims from True North Gems Inc in return for cash and shares. During the summer of 2013 the company contracted PhotoSat Information Ltd to collect 50 cm resolution stereo satellite imagery over the property and prepare orthophoto images and various other digital products.

On July 16, 2014 Pacific Ridge optioned a 51% interest in the property to Merah Resources Ltd, an Australian public company in return for cash, shares and certain exploration expenditures. In Oct/2014 Merah conducted a helicopter borne versatile time domain electromagnetic (VTEM) and magnetic geophysical survey over the property. The company also reassayed select samples of diamond drill core obtained during the 1996-97 drill program. On November 28, 2014 Merah Resources Ltd changed its name to MinQuest Ltd.

On January 23, 2015 MinQuest released a JORC compliant (Australasian Code for Reporting Results, Mineral Resources and Ore Reserves) updated mineral resource for the Kona deposit. The company contracted IMC Mining Pty Ltd, an Australian based mining consulting company to complete an independent review of the geological model for the Kona deposit, along with historical and recent assays and QA (Quality assurance) and QC (Quality Controlled) results.

On May 6, 2015 MinQuest reported that the company had obtained a 5 year, Class 3 Mining Land Use Permit allowing it to carry out a diamond drill program and other exploration

activities on the property

In Sep/2015 MinQuest paid Pacific Ridge cash and shares required to maintain the option agreement. MinQuest stated at that time they were preparing for a 2015 through 2016 exploration program consisting of geological mapping, soil sampling and extensional drilling with the objective of increasing the size of the Kona resource.

On April 14, 2016 MinQuest announced that it had executed a binding agreement to acquire 100% of ePat Pty Ltd an Australian based company which has developed a smartphone application that uses facial recognition technology and other indicators of pain to provide a more objective pain assessment in patients who are unable to communicate with their caregivers. As part of the agreement MinQuest announced that they would dispose of their current portfolio of mineral projects.

On July 19, 2016 MinQuest announced it had terminated its option on the property.

On December 28, 2016 Pacific Ridge optioned the property to BMC Minerals (No.1) Ltd owner of the neighboring Kudz Ze Kayah (Minfile Occurrence 105G 117) property, in return for cash and shares.

#### **GEOLOGY**

The Finlayson Lake district is primarily underlain by rocks of the Yukon-Tanana terrane, a large enigmatic terrane that lies between the ancestral North American continental margin to the east and exotic terranes to the west. In the Finlayson Lake area, the Yukon-Tanana terrane is lozenge-shaped, approximately 400 km long and up to 50 km wide. It is juxtaposed against Proterozoic and Paleozoic miogeoclinal strata of the ancestral North American continental margin along the Tintina fault zone to the southwest, and along the Finlayson Lake fault zone to the northeast.

In the occurrence area (Fire Lake area) the rocks are primarily Paleozoic metasedimentary and metavolcanic units assigned to the Upper Devonian Grass Lake group. The Grass Lake group comprises three main rock units. The Lowermost are quartz-feldspar-rich metasedimentary rocks assigned to the North River formation. Overlying the North River formation are rocks of the Fire Lake formation, which is composed of mafic metavolcanic rocks, plagioclase-chlorite schist, muscovite-quartz-rich phyllite and schist and lesser carbonaceous phyllite. Uppermost in the Grass Lakes group is the Kudz Ze Kayah formation comprised of a lower unit of carbonaceous phyllite and quartzite and an upper unit which consists of feldsparmuscovite-quartz schist, pale siliceous, locally quartz-amygdaloidal phyllite or schist and minor feldspar-augen schist (representing metaporphyry and felsic metavolcanic rocks). Interbeds of carbonaceous phyllite and rare limestone are also present.

The copper-cobalt-gold-bearing Fyre Lake (Kona) deposit lies at the contact between mafic metavolcanic rocks of the Fire Lake formation and the lower carbonaceous phyllite of the Kudz Ze Kayah formation. Recent work by Sebert and Hunt (1999) has shown the chemistry of the hosting mafic schist to be unique in the area. The protolith of the hosting meta-volcanic rocks has a boninitic affinity and was likely derived from a depleted source region. The deposit is considered to be a Besshi type volcanic massive sulphide deposit.

Copper-cobalt-gold VMS mineralization within the Kona grid area is hosted by deformed and moderately metamorphosed chlorite to quartz-chlorite schist which, geochemically, are basaltic to andesitic in silica content and sub-alkalic in Zr/ITO2 ratio. Hanging wall metasedimentary rocks are more than 700 m thick. The immediate hanging wall quartz-biotite schist or psammite schist have a major and trace element geochemistry which suggests they were derived from sediments accumulated in an advanced tectonic setting such as a continental margin or arc (Sebert and Hunt, 1999). Carbonaceous phyllites make up the bulk of hanging wall meta-sedimentary rocks. Unusual, and so far unique to the Fire Lake area, is the existence of carbonaceous phyllites below the mafic volcanic sequence.

The Fyre Lake deposit consists of two parallel, northwest trending, elongated zones, the East and West Kona. The stratigraphically higher East Kona zone consists of two staked lenses, the Upper and Lower horizons, of interlayered stratiform massive and semi—massive sulphide mineralization and magnetite. Both lenses have been drill tested for a strike length in excess of 1,000 m and a width of 100 to 200 m. The Upper Horizon is up to 12 m thick and is located immediately below the contact between the metasedimentary and metavolcanic strata. Locally, at the western periphery, the Upper Horizon overlies metasiltstone and metasandstone layers. The Lower Horizon is up to 16 m thick and lies about 40 to 80 m below the Upper Horizon.

The West Kona Zone consists of one stratiform massive to semi-massive sulphide-magnetite rich lens located at the metasedimentary to metavolcanic contact. It measures up to 44 m thick on its northeastern edge, and has been drilled-tested over a strike length of 1,420 m and a width of 75 to 125 m. All three mineralized lenses dip moderately (20-40°) to the east and plunge shallowly to the south. A cross-fault (1,160) offsets the lenses at the mouth of the Kona Cirque.

Diamond drilling by Cassiar Asbestos and Atlas Explorations outlined a 500 by 100 m wide area of stratiform iron formation hosting copper-zinc-silver mineralization. In Apr/91 Welcome North Resources used Cassiar Asbestos and Atlas Explorations results to calculate a historical resource of 1,360,777 tonnes grading 1% copper, 1% zinc, 5.15 g/t silver and 0.69 g/t gold (George Cross Newsletter April 17, 1991). The figure report in Yukon Exploration 1991 is similar but was not converted properly, i.e. tons reported as tonnes.

On March 31, 1998 Columbia Gold outlined a historical resource (based on their 1996 and 97 drilling programs) of 15.4 million tonnes within which 8.2 million tonnes grade 2.1% copper, 0.11% cobalt, and 0.73 g/t gold, using a 1.0% copper cut-off (George Cross Newsletter March 31, 1998). This figure is not NI 43-101 compliant. The company (W. Roberts, pers. Com.) points out that metal grades within the deposit appear to increase to the southeast offering as an example; drill hole 13 intersected 0.90% copper, 0.809 g/t gold, and 0.11% cobalt over 12.3 meters in the northwest, while 1,000 m to the southeast drill hole 100 intersected 10.9 meters grading 2.5% copper, 1.7 g/t gold, and 0.12% cobalt as evidence.

In Aug/98 Expatriate Resources discovered emerald mineralization at the Regal Ridge occurrence (Minfile Occurrence 105G 147) located approximately 7 km to the north. Expatriate sold its emerald interests to True North Gems in 2000, and True North has continued to define the emerald prospect through geological mapping, soil geochemistry, diamond drilling etc. The discovery of the Regal Ridge emerald mineralization set off a mini exploration boom throughout the Finlayson Lakes district. L. Groat (2000) who has studied the emerald mineralization extensively, reports that the emeralds occur where quartz veins cut mafic-rich layers in a shallowly dipping mica-chlorite schist of Murphy's Upper Devonian Fire Lake unit comprises meta-basalt of boninitic composition and overlies a thick, laterally tapering slab of variably serpentinized mafic and ultramafic meta-plutonic rocks. Murphy and et al. (2001) interpreted this slab as a comagnatic sill that intruded laterally from feeder dikes localized along a nearby synvolcanic fault.

The Straw and Lion claims host rocks similar to those seen at Regal Ridge. The oldest unit is Upper Devonian and older North River formation clastic sediments (unit DN). It is overlain by the Fire Lake formation metavolcanic unit (DF) consisting predominantly of chlorite schist but grades locally to biotite schist and occasionally to golden muscovite schist. Unit DF is overlain by Upper Devonian Kudz Ze Kayah felsic metavolcanics (DK). Feldspar-muscovite-quartz schist which is characteristic of the unit is not present on the Straw-Lion claims. Most of the rocks that have been assigned to this unit are carbonaceous phyllite. Firestone geologists mapped unit Mb which they theorized to be an unmetamorphosed equivalent of unit DF mafic metavolcanics or more likely part of the serpentinized hartzburgite and ultramafic package of the Lower Mississippian Wolverine Lake Group (unit MWd). They described the unit as consisting of porphyritic basalt with minor disseminated sulphides however it likely represents a rare locally amygdaloidal meta-rhyolite. Olivine phenocrysts up to 1 cm in diameter are surrounded by fine grained, dark green to brown matrix. No pillows were observed. A few small bodies of ultramafic rock unit Dum (late Devonian), intrude the upper portion of unit DF. These rocks tend to weather rusty brown and commonly have mottled surfaces. The entire sequence is intruded by several small Early Cretaceous age grantic intrusions. The intrusions consist of grey-weathering biotite granite which are unfoliated, coarse-grained and equigranular. Pegmatite dikes noted in various parts of the claims are likely associated with this unit.

Soil sampling on the Lion claims returned low values for chromium and beryllium, indicator minerals used to locate potential emerald mineralization. One soil sample yielded moderately to strongly anomalous values for volcanic massive sulphide indicator elements, 2.5 g/t silver, 144 ppm copper, 337 ppm lead and 848 ppm zinc. Soil sampling on the Straw claims returned two clusters of moderately to strongly anomalous beryllium values and samples collected over units DF or Dum returned moderately to strongly anomalous values for chromium. Follow-up prospecting outlined three alteration zones similar to that found at Regal Ridge. The Trident and Neptune zones are located in the west-central portion of the Straw claims. They are defined by chromium and beryllium soil anomalies and lie at opposite ends of a large ridge. At the Trident zone black tourmaline crystals occur in a few pegmatite dikes up to 5 m thick and abundant quartz veins up to 0.5 cm thick in an area about 100 m in diameter and hosted within unit DF. White to pale green opaque beryl crystals were discovered within a zone in a 10 cm wide by 3 m long section of silica and muscovite altered schist adjacent to a pegmatite dike.

At the Neptune zone radiating bird's foot tourmaline crystals occur along foliation planes in unit DF, chlorite schist over a 400 length and 150 m width. Within this zone are areas of

recessive weathering tourmaline bearing, golden muscovite schist and numerous quartz-tourmaline veins. A series of linear recessive benches, 5 to 10 m deep, cuts across the zone and could represent weathered fault structures. The Davey Jones zone lies about 100 m northeast of the Trident Zone. It is hosted by unit DF chlorite schist and contains tourmaline both as individual crystals and forming radiating bird's foot aggregates. In the places the tourmaline forms massive pods up to 12 cm thick. Three areas of tourmaline have been identified, the largest of which is about 100 m long and 25 m wide. This zone did not produce a beryllium soil anomaly.

In 2004 Firestone Resources carried out detailed prospecting around the Trident zone where beryl was discovered in 2003. Despite extensive efforts no additional mineralization was found. The company also carried out detailed pit sampling in the vicinity of the Neptune zone. One hundred and sixty-five, 20 kg samples were collected from four grids targeting recessive tourmaline and phlogopite altered schist horizons containing abundant tourmaline bearing quartz vein float centered on strongly elevated and coincident beryllium and chromium soil anomalies. The samples were processed through various graduated screens and visually assessed on a white board. No beryl was identified through this process. Soil samples collected from the pits verified the presence of elevated emerald indicator elements. Copper and cobalt were also significantly elevated in parts of the pitted areas.

Blanchflower's 2006 Technical Report is NI 43-101 compliant and was an updated version of an internal report that he originally authored in 2002 for Rock Resources. Blanchflower rewrote the report updating the history of the property and reviewing the original data and statistical analysis used to calculate the 2002 mineral resource estimate. No major errors were reported. Based on a 1% copper cut-off grade the Kona deposit hosts an Indicated mineral resource of 3,571,000 tonnes grading 1.57% copper, 0.10% cobalt and 0.61 grams gold per tonne and an Inferred mineral resource of 5,361,000 tonnes grading 1.48% copper, 0.8% cobalt and 0.53 grams gold per tonne. Zinc and silver values were not calculated in this mineral resource estimate

Blanchflower's 2006 technical report (originally written in 2002) also noted that the current claim holdings were likely not of sufficient size to support a viable mining and milling operation. It appears Pacific Ridge staked the Ember claims in 2002 and acquired the Straw claims in 2013 to provide the additional lands. Pacific Ridge undertook the 2013 satellite mapping program to provide high definition imagery and topographic control to assist with compilations of historical exploration data and plan for future exploration and possible mine development.

Merah Resources VTEM airborne magnetic and electromagnetic survey outlined magnetic and electromagnetic anomalies directly associated with the current defined limit of the Kona deposit. The survey also identified other potential mineralized zones which could potentially lead to a significant increase in resources for the Kona deposit. Resampling of historical drill core confirmed the high grade of the nature of the deposit and resulted in an average increase of 3.7% in copper equivalent values over the original historic assays.

On January 23, 2015 MinQuest released a JORC Code compliant (Australasian Code for Reporting Results, Mineral Resources and Ore Reserves) mineral resource estimate for the Kona deposit. JORC Code is derived from the Joint Ore Reporting Committee, an independent mineral industry body from Australian based industry professional associates while NI 43-101 code is derived from Canadian Securities Authorities. Although JORC Code mineral resource estimates are similar to NI 43-101estimates and are routinely reported for Canadian exploration properties they are not NI 43-101 compliant.

Using a 1% copper cut-off, MinQuest calculated an Indicated mineral resource estimate of 3,530,000 tonnes grading 1.55% copper, 0.10% cobalt and 0.63 grams gold per tonne and an Inferred mineral resource estimate of 9,050,000 tonnes grading 1.56% copper, 0.09% cobalt and 0.63 grams gold per tonne. This estimate was calculated without conducting any new diamond drilling or other surface exploration. The increase in the mineral resource estimate is a result of a number of improvements in the interpretation and block estimates that resulted in an increase in grade and tonnage above the 1% copper cut-off. Readers need to refer to public documents MinQuest filed with the Australian Stock Exchange to understand the various methods used to calculate the mineral resource estimate (available on listcorp.com – Australian Stock Exchange).

It appears that MinQuest had every intention of carrying out a substantial exploration program (i.e. diamond drilling and surface exploration) as the company obtaining a 5 year Class 3 Land Use permit and paid the 2016 option payment. In early 2016 the company suddenly changed corporate direct and decided to change to a smartphone app based company, leading to the cancellation of its option agreement with Pacific Ridge Exploration Ltd.

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Date	Work Type	Comment
12/31/2004	Trenching	Dug 165 hand pits on Straw and Lion claims.
12/31/2004	Other	Intensive prospecting on Trident zone.
12/31/2003	Geology	On Straw and Lion claims.
12/31/2003	Geochemistry	Also silt sampling on Straw and Lion claims.
12/31/2003	Other	On Straw and Lion claims.
12/31/1997	Drilling	44 holes, 13,600 m
12/31/1997	Ground Geophysics	Conducted on four deep holes.
12/31/1996	Drilling	Seventy-one holes, 9,532 m.
12/31/1996	Geology	
12/31/1996	Geochemistry	
12/31/1996	Ground Geophysics	
12/31/1991	Geology	
12/31/1991	Geochemistry	Also collected rock and silt samples.
12/31/1991	Ground Geophysics	Also magnetic survey.
12/31/1990	Airborne Geophysics	Also VLF - EM surveys.
12/31/1981	Geology	
12/31/1981	Geochemistry	Grid based.
12/31/1977	Geochemistry	Grid based.
12/31/1976	Geology	
12/31/1966	Drilling	Six holes, 589 m.
12/31/1966	Trenching	Bulldozer used.

12/31/1966	Airborne Geophysics	Also magnetic survey.
12/31/1961	Drilling	Twelve holes, 582 m. AX size.
12/31/1961	Drilling	Twenty-three holes, 224 m. Drilled using packsack drill.
12/31/1961	Ground Geophysics	Also magnetometer survey.
12/13/2015	Studies	Prepared JORC (Australian) compliant mineral resource estimate. Not NI 43-101 compliant.
12/13/2015	Other	Obtained 5 year, Class 3 Mining Land Use Permit. Never used. Paid cash and shares to Pacific Ridge to maintain property option.
12/13/2014	Airborne Geophysics	Also magnetic survey.
12/13/2014	Geochemistry	Re-sampled 1996 and 1997 drill core to check accuracy.
12/13/2013	Airphotography	Created stereo air photos, orthophoto images and other digital products.
12/13/2002	Studies	Minorex Consulting completed compilation report including NI 43-101 compliant mineral resource estimate for Rock Resources. Never publicly released.
12/13/1999	Development, Surface	Pacific Ridge cleaned up camp area, removed debris.
12/13/1966	Geochemistry	Grid based.
12/13/1966	Ground Geophysics	Also magnetic survey.
1/17/2006	Studies	Minorex Consulting, 2006. This is a updated version of 2002 compilation and mineral resource estimate report. Released to public.

# **Assessment Reports that overlap occurrence**

Report Number	Year	Title	Worktypes	Holes Drilled	Meters Drilled
096896	2014	2014 Helicopter-Borne VTEM Geophysical Survey	Electromagnetic - Airborne Geophysics		
<u>096515</u>	2013	2013 Satellite Mapping on the Fyre Lake Property	Orthophoto - Airphotography		
<u>094457</u>	2003	Assessment Report Describing Report on Geology, Mineralization and Geochemistry at the Straw-Lion Property	Silt - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
<u>093569</u>	1996	Linecutting, Prospecting, Geochemical and Geophysical Report on the Fyre Lake Property	Rock - Geochemistry, Soil - Geochemistry, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other, Prospecting - Other		
<u>092991</u>	1991	Geological, Geochemical and Geophysical Report on the Kona Property	Rock - Geochemistry, Silt - Geochemistry, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics		
090920	1981	A Geological, Geophysical and Geochemical Report on the Fyre Lake Massive Sulphide Deposits Kona Mineral Claims	Rock - Geochemistry, Soil - Geochemistry, Bedrock Mapping - Geology, Prospecting - Other		
090245	1977	1977 Geological Assessment Report Fyre Lake Property	Bedrock Mapping - Geology, Prospecting - Other		
<u>061181</u>	1966	A Geological Report on Dub Claims 1 to 167 and Zot 11 and 12	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, Soil - Geochemistry, Detailed Bedrock Mapping - Geology, Regional Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other		
<u>061177</u>	1966	Magnetic and Electromagnetic Geophysical Surveys Dub and Zot Mineral Claim Groups	Electromagnetic - Airborne Geophysics, Magnetic - Airborne Geophysics, EM - Ground Geophysics, Magnetics - Ground Geophysics		
<u>061176</u>	1966	Geochemical Soil Sampling Survey Dub and Zot Mineral Claim Groups	Soil - Geochemistry		
<u>092901</u>	1961	Canadian Asbestos Corporation Limited Geology and Mineralization "E" Zone, Fire Lake Area	Diamond - Drilling, Detailed Bedrock Mapping - Geology, EM - Ground Geophysics, Magnetics - Ground Geophysics, Line Cutting - Other, Handblast - Trenching, Mechanical - Trenching	35	2644.50

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Number	Title	Page(s)	Reference Type	Document Type
ARMC00 2692	Map - Geology and geochem - Detail area 9 - 105G-7 - Fyre Lake project - Figure 15		Property File Collection	Geochemical Map
ARMC00 5057	The Fyre Lake deposit: a new VMS discovery		Property File Collection	Report
ARMC00 5056	Notes Re: Kona property		Property File Collection	Miscellaneous Company Documents
ARMC00 3618	Index map of detail areas - Fyre Lake project - Figure 1		Property File Collection	Geoscience Map (General)
ARMC00 3619	Detail map of area 3 - 105G-9 - Geochem values - Fyre Lake project - Figure 8		Property File Collection	Geochemical Map
ARMC00 3622	Detail area map 4 - 105G-9 - Geochem values - Fyre Lake project - Figure 9		Property File Collection	Geochemical Map

ARMC01 0135	Key map - Geology of Anvil Range-Fyre Lake metamorphic belt		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 0136	Geochemical values map - Fyre Lake project - Detail Area 1 - Figure 2		Property File Collection	Geochemical Map
ARMC01 0137	Geochemical values map - Fyre Lake project - Detail Area 6 - Figure 12		Property File Collection	Geochemical Map
ARMC01 0138	Geochemical values map - Fyre Lake project - Detail Area 2 - Figure 16		Property File Collection	Geoscience Map (General)
ARMC01 0139	Geochemical values map - Fyre Lake project - Detail Area 8 - Figure 14		Property File Collection	Geochemical Ma
ARMC01 0140	Geochemical values map - Lead values - Fyre Lake project - Detail Area 2 - Figure 6		Property File Collection	Geochemical Ma
ARMC01 0141	Geology map - Fyre Lake project - Detail Area 2 - Figure 4		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 0142	Geochemical values map - Zinc values - Fyre Lake project - Detail Area 2 - Figure 7		Property File Collection	Geochemical Ma
ARMC01 0143	Geochemical values map - Copper values - Fyre Lake project - Detail Area 2 - Figure 5		Property File Collection	Geochemical Ma
ARMC01 0144	Geology and geochemical map - Fyre Lake project - Detail Area 7 - Figure 13		Property File Collection	Geochemical Ma
ARMC01 0145	Geology map - Fyre Lake project - Detail Area 1 - Figure 3		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 0045	Compilation map - Fyre Lake project		Property File Collection	Geoscience Map (General)
YEG1997 Forema n	The Fyre Lake project 1997: Geology and mineralization of the Kona massive sulphide deposit	p. 105- 113.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
YEG1996 -pg46	The Fyre Lake Deposit: A New Copper-Cobalt-Gold VMS Discovery	p. 46-52.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
ARMC01 3902	Preliminary compilation, electromagnetic, magnetic, geochemical surveys - Showing proposed D.D.H. locations - Fyre Lake project - Dub M.C. group		Property File Collection	Geophysical Ma
ARMC01 6592	Geochemical map - 105G/2 - Upper Black River		Property File Collection	Geochemical Ma
ARMC01 4028	Aero Mag-EM survey - Staking location - Fyre Lake area		Property File Collection	Geophysical Ma
ARMC01 4015	Airborne EM - Mag. & photo geology with field notations- Fyre Lake, West group		Property File Collection	Geophysical Ma
ARMC01 3873	Airborne EM-mag & photogeology - Fyre Lake, Central group - Drawing no. 9		Property File Collection	Geophysical Ma
ARMC01 3871	Airborne EM-mag & photogeology - Fyre Lake, East group		Property File Collection	Geophysical Map
ARMC01 3872	Airborne EM-mag & photogeology - Fyre Lake, West group		Property File Collection	Geophysical Map
ARMC01 3867	Notes on Fyre Lake previous work by G.S.C.		Property File Collection	Miscellaneous Company Documents
ARMC01 4004	Map showing PB samples creek SE of Fyre Lake - Dub claim group		Property File Collection	Geoscience Map (General)
ARMC01 3864	Summary - Kona claims - Fyre Lake		Property File Collection	Miscellaneous Company Documents
ARMC01 4006	Map of Cassiar's anomaly #1 and gossan		Property File Collection	Geoscience Map (General)
ARMC01 3862	Staking map - Fyre Lake area		Property File Collection	Geoscience Map (General)
ARMC01 3819	News clipping - Fyre Lake		Property File Collection	News Release
ARMC01 3936	Geochemical map with overlay - Upper Black River		Property File Collection	Geochemical Ma
ARMC01 4000	Map of Dub claim group and geochemical stream sediment survey data		Property File Collection	Geochemical Ma
ARMC01 3901	Magnetometer survey - Fire Lake E zone		Property File Collection	Geophysical Map
ARMC01 3866	Pelly Mountains area - Fyre Lake		Property File Collection	Report

ARMC01 3820	Resume of geology and mineralization in the area of the "E" zone, Fyre Lake, Y.T.	Property File Collection	Report
ARMC01 7625	Geochemical map of Upper Black River - Cu, Pb, Zn, Mn, Mo.W - Copper and lead numbers circled	Property File Collection	Geochemical Map
<u>ARMC01</u> <u>3987</u>	Fyre Lake geochem survey - Dub 1 group - Contour map - Copper	Property File Collection	Geochemical Map
ARMC01 3986	Fyre Lake geochem survey - Dub 1 group - Contour map - Zinc	Property File Collection	Geochemical Map
<u>ARMC01</u> <u>3934</u>	Fyre Lake OEX staking claim map	Property File Collection	Geoscience Map (General)
ARMC01 3935	Fyre Lake OEX staking claim map	Property File Collection	Geoscience Map (General)
ARMC01 3982	Compilation map - Dub group	Property File Collection	Geoscience Map (General)
ARMC01 3898	Drill log sample descriptions - Dub claims	Property File Collection	Miscellaneous Company Documents
ARMC01 2003	Geology - Detail area 5 - Fyre Lake project - Figure 11	Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 3865	Geology - Fyre Lake area - Yukon Territory	Property File Collection	Report
ARMC01 3999	Analytical work sheet - Geochemical - Cu, Pb, Zn - T samples - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 3994	Analytical work sheet - Geochemical - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 3996	Analytical work sheet - Geochemical - R-32-66 - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 3997	Analytical work sheet - Geochemical - R-49-66 - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 3998	Analytical work sheet - Geochemical - R-64 - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 3833	Location map indicating Fyre Lake follow-up program 1969 - Finlayson Lake area	Property File Collection	Geoscience Map (General)
ARMC01 3995	Geochemical stream sediment survey data - Fyre Lake	Property File Collection	Miscellaneous Company Documents
ARMC01 2002	Geochemical values - Detail area 5 - Fyre Lake project - Figure 10	Property File Collection	Geochemical Map
ARMC01 3984	Mag. survey - Fyre Lake "E" zone	Property File Collection	Geophysical Map
ARMC01 8598	Field notes - Dub Group (Cirque area) - Fire Lake area, McLean Arm area	Property File Collection	Miscellaneous Company Documents
ARMC01 6574	Geochemistry map - 105G/2 - Upper Black River	Property File Collection	Geochemical Map
ARMC01 6573	Geology map - 105G/2 - Upper Black River	Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 8196	Geochemical result sheets - Fyre Lake	Property File Collection	Assays
ARMC01 8275	Assay results - 1975 field season - Anvil, Earn, Reef, Freegold, Fyre Lake, MacMillan project and Chilliwack project	Property File Collection	Assays
ARMC01 3906	Airborne EM-mag and photogeology - Fyre Lake, Central group - with notations	Property File Collection	Geophysical Map
ARMC01 3900	Airborne EM-mag and photogeology - Fyre Lake, East group - Drawing no. 10	Property File Collection	Geophysical Map
ARMC01 4025	Airborne geophysical survey - Aeromagnetic map - Fyre Lake area	Property File Collection	Geophysical Map
ARMC01 3876	Airborne geophysical survey - Aeromagnetic map - Sheet 1 of 4 - Fyre Lake area	Property File Collection	Geophysical Map
ARMC01 3874	Airborne geophysical survey - Aeromagnetic map - Sheet 2 of 4 - Fyre Lake area	Property File Collection	Geophysical Map
ARMC01 3875	Airborne geophysical survey - Aeromagnetic map - Sheet 3 of 4 - Fyre Lake area	Property File Collection	Geophysical Map

ARMC01 3870	Airborne geophysical survey - Aeromagnetic map - Sheet 4 of 4 - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 1024	Airborne geophysical survey - Electromagnetic map - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 3877	Airborne geophysical survey - Electromagnetic map - Sheet 1 of 4 - Fyre Lake area		Property File Collection	Geophysical Map
A RMC01 3878	Airborne geophysical survey - Electromagnetic map - Sheet 2 of 4 - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 3879	Airborne geophysical survey - Electromagnetic map - Sheet 3 of 4 - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 3869	Airborne geophysical survey - Electromagnetic map - Sheet 4 of 4 - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 3861	Airborne geophysical survey - Fyre Lake area		Property File Collection	Geophysical Map
ARMC01 3915	Field maps of Fyre Lake showing geology and structure		Property File Collection	Geoscience Map (Geological - Bedrock)
ARMC01 3983	Cassiar asbestos E.M. survey - Sheridan-Kelk magniphase of "E" zone		Property File Collection	Geophysical Map
ARMC01 3931	Cassiar development map - Fire Lake drilling to Sept. 12, 1961		Property File Collection	Geoscience Map (General)
ARMC01 3930	Development map - Cassiar asbestos - Fyre Lake - E zone - 66-12		Property File Collection	Geoscience Map (General)
A RMC01 3985	Claim map - Fyre Lake area - Cassiar asbestos		Property File Collection	Geoscience Map (General)
YEG1998 10	Lithogeochemistry of meta-volcanic rocks from Yukon-Tanana Terrane, Finlayson lake region, Yukon: Preliminary results	p. 125- 138.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
YEG1998 11	A note on preliminary lithogeochemistry of the Fire Lake area	p, 139- 142.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
YEG1997 _04	A note on preliminary bedrock mapping in the Fire Lake area	p. 59-68.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
MIR1977	Mineral Industry Report 1977	p.85.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Geology	Annual Report
<u>12</u>	Volcanic-associated massive sulphide (VMS) mineralization in the Yukon-Tanana Terrane and coeval strata of the North American miogeocline, in the Yukon and adjacent areas		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Bulletin
YEG1998 04	Finlayson project: Geological evolution of Yukon-Tanana Terrane and its relationship to Campbell Range belt, northern Wolverine Lake map area, southeastern Yukon	p.47-62.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
YEG1999 06	Syn-mineralization faults and their re-activation, Finlayson Lake massive sulphide district, Yukon-Tanana Terrane, southeastern Yukon		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
<u>1999-4</u>	Geological map of parts of Finlayson Lake area (105G/7, 8, and parts of 1, 2 and 9) and Frances Lake (parts of 105H/5 and 12) map areas, southeastern Yukon		Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Open File (Geological - Bedrock)
YEG2001 17	Finlayson Lake Targeted Geoscience Initiative (southeastern Yukon), Part 1: Bedrock geology	p. 189- 207.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report Paper
YEG1979 80	Yukon Geology and Exploration 1979-80	p. 91-95.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
2004-11	Geological map of part of Waters Creek and Fire Lake map areas (part of NTS 105G/1,2), southeastern Yukon		Yukon Geological Survey	Open File (Geological - Bedrock)
<u>2004-17</u>	Geology and lithogeochemistry of the Fyre lake copper-cobalt-gold sulphide-magnetite deposit, southeastern Yukon		Yukon Geological Survey	Open File (Geological - Bedrock)
YEG1981	Yukon Exploration and Geology 1981	p. 135.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1996	Yukon Exploration and Geology 1996	p. 16-17, 30, 32.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1997 OV	Yukon Mining and Exploration Overview 1997	p. 36, 38.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report
YEG1991	Yukon Exploration 1991	p. 6, 10.	Indian & Northern Affairs Canada/Department of Indian & Northern Development: Exploration & Geological Services Division	Annual Report

<u>YEG2003</u> <u>OV</u>	Yukon Mining, Development and Exploration Overview 2003		Yukon Geological Survey	Annual Report
<u>YEG2004</u> <u>OV</u>	Yukon Mining, Development & Exploration Overview 2004	p. 26-27, 32.	Yukon Geological Survey	Annual Report
<u>YEG2014</u> <u>OV</u>	Yukon Exploration and Geology Overview 2014	p. 35, 40.	Yukon Geological Survey	Annual Report
YEG2015 OV2	Yukon Hard Rock Mining, Development and Exploration Overview 2015	p.38-39, 44.	Yukon Geological Survey	Annual Report Paper

ear/	Zone	Туре	Commodity	Grade	Tonnage	A mount	Reported Amount	43-101 Compliant	Cut-off
)15	KONA - INFERRED (Underground)	Inferred	cobalt	.09 %	9,050,000	8145	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated								
)15	KONA - INDICATED (Underground)	Indicated	cobalt	.1 %	3,530,000	3530	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada. This resource was calculated								
)15	KONA - TOTAL (Underground)	Not Defined	cobalt	.09 %	12,570,000	11313	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated						-	_	
)15	KONA - INFERRED (Underground)	Inferred	copper	1.56 %	9,050,000	141180	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated								
)15	KONA - INDICATED (Underground)	Indicated	copper	1.55 %	3,530,000	54715	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada. This resource was calculated								
)15	KONA - TOTAL (Underground)	Not Defined	copper	1.56 %	12,570,000	196092	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated						-	_	
)15	KONA - INFERRED (Underground)	Inferred	gold	.63 g/t	9,050,000	5701500	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated								
15	KONA - INDICATED (Underground)	Indicated	gold	.63 g/t	3,530,000		No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada. This resource was calculated								
15	KONA - TOTAL (Underground)	Not Defined	gold	.63 g/t	12,570,000	7919100	No	No	1 % Copper
	on desktop exercise completed by MinQuest Ltd. Company tighte immary of report released in Canada.This resource was calculated								
006	FYRE - HIGH GRADE CORE (UNDERGROUND)	Inferred	cobalt	.08 %	5,361,000	4288	No	Yes	1% Copper
	Consulting Ltd report by Blanchflower, January 17 2006 p. 48. A cut-off.	Available on SEDAR. Cald	culated using Atla	s Exploration	's 1966-67 and C	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
06	FYRE - HIGH GRADE CORE (UNDERGROUND)	Indicated	cobalt	.1 %	3,571,000	3571	No	Yes	1% Copper
	c Consulting Ltd report by Blanchflower, January 17 2006 p. 46. A cut-off.	Available on SEDAR. Cald	culated using Atla	Exploration	's 1966-67 and C	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
006	FYRE - HIGH GRADE CORE (UNDERGROUND)	Inferred	copper	1.48 %	5,361,000	79343	No	Yes	1% Copper
	c Consulting Ltd report by Blanchflower, January 17 2006 p. 48. Acut-off.	Available on SEDAR. Cald	culated using Atlas	Exploration	's 1966-67 and Co	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
006	FYRE - HIGH GRADE CORE (UNDERGROUND)	Indicated	copper	1.57 %	3,571,000	56065	No	Yes	1% Copper
	c Consulting Ltd report by Blanchflower, January 17 2006 p. 46. <i>I</i> cut-off.	Available on SEDAR. Cald	culated using Atla	Exploration	's 1966-67 and C	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
006	FYRE - HIGH GRADE CORE (UNDERGROUND)	Inferred	gold	.53 g/t	5,361,000	2841330	No	Yes	1% Copper
	Consulting Ltd report by Blanchflower, January 17 2006 p. 46. A cut-off.	Available on SEDAR. Cald	culated using Atla	Exploration	's 1966-67 and C	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
006	FYRE - HIGH GRADE CORE (UNDERGROUND)	Indicated	gold	.61 g/t	3,571,000	2178310	No	Yes	1% Copper
	c Consulting Ltd report by Blanchflower, January 17 2006 p. 46. A cut-off.	Available on SEDAR. Cal	culated using Atla	Exploration	's 1966-67 and C	olumbia Gold	Mines 1996-97	drill programs	s. Employs a 1.0
98	FYRE - HIGH GRADE CORE (UNDERGROUND)	Historical Estimate	cobalt	.11 %	8,200,000	9922	No	No	1 % Copper
	ce estimate for high grade core.Calculated by Columbia Gold Min- cut off.Reported in George Cross Newsletter, 31 Mar/98, p. 2. Als						n are not NI 4	13-101 complia	nt. Employs 1 %

Resource estimate for high grade core. Calculated by Columbia Gold Mines using data acquired from 115 drill holes collared between 1996 and 1997. Calculation are not NI 43-101 compliant. Employs 1 % copper cut off. Reported in George Cross Newsletter, 31 Mar/98, p. 2. Also Pacific Ridge Web Site, Sep/2003 and Blanchflower's 2006 report, p. 17.

1	.998	FYRE - HIGH GRADE CORE (UNDERGROUND)	Historical Estimate	gold	.73 g/t	8,200,000	5986000	No	No	1% Copper

Resource estimate for high grade core. Calculated by Columbia Gold Mines using data acquired from 115 drill holes collared between 1996 and 1997. Calculation are not NI 43-101 compliant. Employs 1 % copper cut off. Reported in George Cross Newsletter, 31 Mar/98, p. 2. Also Pacific Ridge Web Site, Sep/2003 and Blanchflower's 2006 report, p. 17.

1001	FYRE - HIGH GRADE CORE (Underground)	Historical Estimate	copper	1 %	1,360,777	13608	No	No	Unknown
TOOT	TITLE THOU GRADE CORE (Olidcigiodila)	THISOTICAL ESAFRIAGE	соррсі	1 /0	1,500,777	13000	INO	140	OTIKITOWIT

Existing reserve before Placer Dome Inc optioned property. Based on exploration work conducted by Cassiar Asbestos and Atlas Explorations prior to 1991. Calculated by Welcome North Resources. Does not meet National Instrument 43-101 standards. Reported as preliminary reserve.; George Cross Newsletter, April 17, 1991, p. 2. Also Yukon Exploration 1991, p. 10 (tons not properly converted to tonnes). Northern Miner, 29 Apr/91.

1991 FYRE - HIGH GRADE CORE (UNDERGROUND) Historical Estimate zinc	1 %	1,360,777	13608	No	No	Unknown
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Existing reserve before Placer Dome Inc optioned property. Based on exploration work conducted by Cassiar Asbestos and Atlas Explorations prior to 1991. Calculated by Welcome North Resources. Does not meet National Instrument 43-101 standards. Reported as preliminary reserve.; George Cross Newsletter, April 17, 1991, p. 2. Also Yukon Exploration 1991, p. 10 (tons not properly converted to tonnes). Northern Miner. 29 Apr/91.

1991	FYRE - HIGH GRADE CORE (UNDERGROUND)	Historical Estimate	silver	5.14 a/t	1,360,777	6994393.78	No	No	Unknown

Existing reserve before Placer Dome Inc optioned property. Based on exploration work conducted by Cassiar Asbestos and Atlas Explorations prior to 1991. Calculated by Welcome North Resources. Does not meet National Instrument 43-101 standards. Reported as preliminary reserve.; George Cross Newsletter, April 17, 1991, p. 2. Also Yukon Exploration 1991, p. 10 (tons not properly converted to tonnes). Northern Miner. 29 Apr/91.

1991	FYRE - HIGH GRADE CORE (UNDERGROUND)	Historical Estimate	gold	.6857 g/t	1,360,777	933084.79	No	No	Unknown
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Existing reserve before Placer Dome Inc optioned property. Based on exploration work conducted by Cassiar Asbestos and Atlas Explorations prior to 1991. Calculated by Welcome North Resources. Does not meet National Instrument 43-101 standards. Reported as preliminary reserve.; George Cross Newsletter, April 17, 1991, p. 2. Also Yukon Exploration 1991, p. 10 (tons not properly converted to tonnes). Northern Miner, 29 Apr/91.

# **Drill core at YGS core library**

Number	Property	Year Drilled	Core Size	Photos	Data
<u>66-1</u>	Fyre	1966	AQ	12	2
<u>66-3</u>	Fyre	1966	AQ	4	2
<u>66-4</u>	Fyre	1966	AQ	8	2
<u>66-5A</u>	Fyre	1966	BQ	0	2