

Nechako Project (British Columbia)

INTRODUCTION

Four properties were staked in 1992 following a reconnaissance exploration programme of the **Nechako Basin** to define Tertiary epithermal precious metal targets. Further ground was acquired in 1993 and 1994 after follow-up work on various 1992 and newer targets.

Most properties are on epithermal gold targets, but some contain mesothermal gold mineralization. Base metals targets were also identified during the course of this work.

The Nechako Basin is an underexplored region with a tectonic and geologic setting similar to the Basin and Range Province of the Western United States, that is easily accessible, and has minimal environmental encumbrances.

THE NECHAKO BASIN

The Nechako Basin is the largest area of Eocene volcanics in the Canadian Cordillera. Its structure and volcanic evolution are similar to the Basin and Range Province of the Western United States.

The Eocene is one of the major mineralizing period in the Canadian Cordillera and epithermal mineralization is known throughout the Basin at a number of prospects and two mines: **Blackdome**, 225 000 ozs gold (1986-1990); **Equity Silver**, about 500 000 ozs gold and 70 millions ozs silver (1980-1993). Similar Eocene mineralisation also occurs just south of the United States border in the **Republic** district (3.5 million ozs gold) and in the **Wenatchee** district (1.6 million ozs gold).

Compared to other areas in the Cordillera, showings are rather sparse in the Nechako Basin. This can be attributed to a lack of exploration due to very poor access in the past. An abundance of new logging roads now provides good access to most of the Basin and create new outcrops and opportunities for finding new showings. Recent work by the Provincial and Federal geological surveys, bedrock and surficial geology mapping, geochemistry, aeromagnetic surveys is also improving the knowledge of the area and providing new tools.

The southern part of the Basin is within the Cariboo-Chilcotin CORE region where Protected Areas have been clearly defined. The northern part is mainly within the Vanderhoof District where an LRMP is in progress and Protected Areas will be defined very soon. A small portion of the Basin is within the Burns Lake District where the LRMP process is under way.

LIST OF PROPERTIES

Cutoff	388 units	(±97 km ²)
Yellow Moose	173 units	(±43 km ²)
Brewster Lake	66 units	(±16 km ²)
Quartz Lake	308 units	(±77 km ²)
Snag	95 units	(±24 km ²)
Tonka	20 units	(5 km ²)
Lucas	20 units	(5 km ²)
Lucas West	20 units	(5 km ²)
Saunders	26 units	(± 6 km ²)
Laidman	92 units	(±23 km ²)
Tam	16 units	(± 4 km ²)
Holy Cross	24 units	(± 6 km ²)

CUTOFF PROPERTY

Introduction

The Cutoff property has potential for epithermal precious metal deposits hosted in Tertiary and Late Cretaceous volcanics and for base metals in the Jurassic Hazelton Group rocks. The property is located in NTS 93F/10, in the Omineca Mining Division, consists of 22 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in late 1992 with two claims added in 1993. It is situated 90 km southwest of the town of Vanderhoof and is accessible from the North, West, and South by logging roads.

Exploration

Pre-1992 work was concentrated on the Trout showing, and included mapping, soil geochemistry, IP-Resistivity and magnetic survey, trenching, and drilling in 1985, 1987, and 1990. Three wide spread reconnaissance holes were also drilled in 1978 for uranium exploration, apparently with negative results.

The work carried out in 1993 included property-wide airborne geophysics (Mag-EM), till geochemistry (600 x 100 m), and geological mapping, as well as prospecting and detailed till geochemistry (200 x 50 m) in selected areas. The Trout showing was mapped in detail and core relogged. The 1994 programme included linecutting, ground geophysics, grid mapping, trenching, and drilling, as well as prospecting and detailed geochemistry. A new grid was cut on the Stubb area and the old Trout grid refurbished to carry out ground geophysics (MaxMin) in the winter and help the mapping and prospecting in the summer. The Stubb grid was mapped and prospected in detail, followed by trenching (876 m) of the main showings areas. Four grid lines were also surveyed by IP as a test. Four targets were drilled (9 DDH, 875 m). Drilling on the Trout showing (12 holes, 1221 m) concentrated on the showing area and on two geophysical targets. Prospecting, reconnaissance IP lines to follow-up the airborne survey, and biogeochemistry were done in the Little Quartz Lake and the Trapper-Trout areas.

Geology and Mineralization

The property is situated on the eastern edge of the Cheslatta caldera Complex and underlain by felsic volcanics and sediments of the Jurassic Hazelton Group, andesitic volcanics of the Late Cretaceous Kasalka Group, felsic volcanics and sediments of the Eocene Ootsa lake group, and andesitic to basaltic volcanics and sediments of the Eocene to Oligocene Endako Group. A major structure, trending approximately N60° traverses the whole property, separating mainly later Endako Group rocks, underlain by Ootsa Lake group rocks to the Northwest, from older rocks to the Southeast.

Precious metal mineralization occurs at the Trout showing (MINFILE 93F-044) and at the Stubb showing, both hosted in Kasalka Group rocks. The Trout showing contains bonanza-grade quartz-adularia mineralization (5 m @ 0.6 oz/t Au in outcrop). The 1994 drilling confirmed the presence of high grade gold mineralization (best intersection: 22.6 m @ 3.5 g/t Au including 1.8 m @ 19.8 g/t Au) and defined its geometry and controls. The known mineralization is open to the Northwest, Southwest, and at depth. The Stubb showing, discovered in 1992-1993, is of lower grade (1-4 g/t Au at surface), so far, and associated with stockwork style quartz veining in propylitized andesites with disseminated pyrite; alteration and mineralization extend for about 3 km along a northeast trending structure. The 1994 trenching and drilling defined a silicified structure extending for at least 50 m horizontally and 80 m vertically with a best intersection of 1.5 m @ 4.2 g/t. An IP target was drilled producing strong alteration, but only low grade mineralization (2m @ 0.9 g/t Au).

Several other targets, geochemical and/or geophysical anomalies warranting trenching and/or drilling have been defined, including the Little Quartz Lake area with an extensive mineralized boulder train (including one at 1 oz/t Au) and geochemical and geophysical anomalies.

YELLOW MOOSE PROPERTY

Introduction

The Yellow Moose property has potential for epithermal precious metal deposits related to Tertiary volcanism. The property is located in NTS 93F/6 and 11, in the Omineca Mining Division, consists of 9 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in late 1992 and enlarged in 1994. It is situated 90 km southwest of the town of Vanderhoof and is accessible from the Northwest by logging roads.

Exploration

Pre-1992 work was concentrated on the Gus-Arrow area and included mapping, soil geochemistry, VLF-resistivity, magnetic, and IP-Resistivity surveys, as well as some hand trenching in 1988 and 1989.

The work carried out in 1993 included property-wide airborne geophysics (Mag-EM), till geochemistry (600 x 100 m), and geological mapping, as well as prospecting and detailed till geochemistry (200 x 50 m) in selected areas. The 1994 programme included ground geophysics, prospecting, trenching, and drilling. The Gus showing and the IPA area, a geophysical anomaly, were trenched (353 m) and drilled (6 DDH, 626 m).

Geology and Mineralization

The property is located on the southeastern edge of the Cheslatta Caldera Complex and underlain by intermediate volcanic and volcanoclastic rocks of the Jurassic Hazelton Group, andesitic volcanics of the Late Cretaceous Kasalka Group, felsic volcanics and sediments of the Eocene Ootsa Lake group, and andesitic to basaltic volcanics and sediments of the Eocene to Oligocene Endako Group. Structurally the property is at the boundary of a broad area of predominantly Tertiary volcanics to the Northwest and older rocks to the Southeast. A major structure, trending approximately N60° traverses the whole property; this structure is the same as that which crosses the Cutoff property. Major N150° lineaments have also been observed.

Mineralization is hosted in pyroclastic and volcanoclastic sediments of the Ootsa Lake Group rocks. Broad zones of silicification and pyritization with high Hg, As, Sb, and Au, occur at the Gus and IPA showings (up to 2.7 g/t Au at the Gus). Stibnite mineralization with high mercury occurs at the Arrow and Argus showings. The 1994 trenching and drilling at the Gus and IPA showings confirmed the correlation of geophysics with alteration and pyritization, confirming the presence of a large scale mineralizing system on this property.

BREWSTER LAKE PROPERTY

Introduction

The Brewster Lake property has potential for epithermal precious metal mineralization related to the Eocene events, polymetallic Au-enriched veins related to Eocene or Cretaceous intrusions, and base metal mineralization within the Hazelton Group. The property is located in NTS 93F/7, in the Omineca Mining Division, consists of 4 4-Post claims, and is owned 100% by COGEMA. It was staked in 1992. It is situated 95 km south of Vanderhoof and straddles the Kluskus Forest Service Road.

Exploration

There is little information in assessment files about pre-1992 work on the property, but old drill pads were seen in the southwest corner. The work carried out in 1993 included property-wide airborne geophysics (Mag-EM), till geochemistry (600 x 100 m), and geological mapping, as well as some prospecting, mainly in the western part and along the main logging road.

Geology and Mineralization

The property is underlain in the North by a black clastic chert-pebble conglomerate sequence of the Lower Cretaceous Skeena Group and in the southern two-thirds by felsic to mafic tuffs and volcanoclastics interfingering and interbedded with siltstone and argillite of the Lower to Middle Jurassic Hazelton Group. The property is cut by a major NNW structure which forms the eastern edge of the Nechako Horst. No major zone of alteration or mineralization was noted on the property, but only a minimal time was spent on prospecting in 1992. Several mineralized quartz-carbonate boulders were found in till along the main logging road; they contain up to 2 g/t Au. The till geochemistry delineated several anomalies: Au-As-base metals, Au-As-Sb-Hg, and base metals (Cu, Pb, Mo).

A major porphyry Cu-Mo showing (CH prospect) occurs immediately to the South of the property and the Chu deposit, 4 km to west contains 38 Mt @ 0.125 MoS₂.

QUARTZ LAKE PROPERTY

Introduction

The Quartz Lake property has potential for epithermal precious metal deposits related to Tertiary volcanism. The property is located in NTS 93B/12 and 93C/911, in the Cariboo Mining Division, consists of 16 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in late 1992. It is situated 70 km west of the town of Williams Lake and is accessible by logging roads from Highway 20.

Exploration

There is no indication of any pre-1992 mineral exploration. There are several seismic lines from oil exploration in the early 1980's.

The work carried out in 1993 included property-wide airborne geophysics (Mag-EM), till geochemistry (600 x 100 m), and geological mapping, as well as prospecting.

Geology and Mineralization

The property is underlain by felsic to mafic volcanics and sediments of the Eocene Ootsa Lake group, and basaltic volcanics of the Miocene Chilcotin Group. A major structure, trending approximately N150° traverses the property.

No in-situ precious metal mineralization has been found; but there are abundant mineralized epithermal quartz boulders concentrated in the Northeast of the property. Adjacent to the North is the Clisbako property which contains epithermally altered and mineralized outcrops in several areas.

Till geochemistry and mineralized boulder trains point to a target situated in low-lying area in the centre of the property; kaolinized brecciated rhyolite was observed on the periphery of this area.

SNAG PROPERTY

Introduction

The Snag property has potential for epithermal precious metal mineralization related to the Eocene events and base metal mineralization within the Hazelton Group. The property is located in NTS 93F/12 in the Omineca Mining Division, consists of 5 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 75 km south of the town of Burns Lake and is accessible from the North by logging roads via a ferry across Intata Reach.

Exploration

There is no information in assesment files about any pre-1992 work on the property. The work carried out in 1994 included property-wide till geochemistry (600 x 100 m), and geological mapping and prospecting.

Geology and Mineralization

The property is underlain by sediments and andesitic volcanics of the Late Cretaceous Kasalka Group, intermediate to felsic volcanics and sediments of the Jurassic Hazelton Group, cut by rhyolitic dykes of probable Eocene age. Structurally the property is near the boundary between the Tertiary Cheslatta Caldera Complex to the Northeast and older rocks to the Southwest. The Uduk showing, epithermal Au in Ootsa Lake Group rhyolites occurs 5 km to the Northwest. No major zone of alteration or mineralization was noted on the property, but only a minimal time was spent on prospecting in 1992. Three extensive trains of mineralized epithermal quartz boulders were found in till along the eastern boundary of the property; these boulders contain up to 7.6 g/t Au, but their source has not yet been located.

TONKA PROPERTY

Introduction

The Tonka Lake property has potential for epithermal precious metal mineralization related to the Eocene events. It is located in NTS 93F/12 in the Omineca Mining Division, consists of 1 4-Post claim, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 75 km south of the town of Burns Lake and is accessible from the North by logging roads via a ferry across Intata Reach.

Exploration

Earlier work (1989) consisted of prospecting and a small soil grid near the showing. The work carried out in 1993 included property-wide till geochemistry (400 x 100 m), and geological mapping and prospecting, as well as some biogeochemistry.

Geology and Mineralization

The property is underlain by massive andesite of the Upper Cretaceous Kasalka Group. A major north-south lineament cuts through the property. A broad zone of massive quartz veins, grading up to 0.5 g/t Au, occurs at the north end of Tonka Lake. Strong geochemical anomalies and the distribution of mineralized boulders in the till indicate that higher grade mineralization occurs further to the North and South, with a probable extent of 2 to 3 km.

LUCAS PROPERTY

Introduction

The Lucas property has potential for epithermal precious metal mineralization related to the Eocene event. It is located in NTS 93F/11 in the Omineca Mining Division, consists of 20 2-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 90 km south of the town of Vanderhoof and is accessible from the Northeast by logging roads and a 4-WD road to the west end of Lucas lake.

Exploration

There is no record in assessment files of any previous work on this property. The work carried out in 1994 included property-wide geological mapping and prospecting.

Geology and Mineralization

The property is situated within the Cheslatta Caldera Complex and underlain by andesites of the Upper Cretaceous Kasalka Group and andesitic basalts of the Eocene to Oligocene Endako Group, cut by rhyolitic dykes of the Ootsa lake Group. The property is located on a Regional Geochemical Survey lake sediment geochemical anomaly (Au-As-Sb-Hg). Propylitically altered andesites, locally with silicification and pyritization, form a 1-1.5 km northeasterly trend centred on the most anomalous lake. Highest Au so far was 310 ppb; several samples are high in Hg, As, and Sb, up to, respectively, 1.3, 333, 155 ppm.

LUCAS WEST PROPERTY

Introduction

The Lucas West property has potential for epithermal precious metal mineralization in the Eocene Ootsa Lake Group. It is located in NTS 93F/11 in the Omineca Mining Division, consists of 20 2-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 95 km south of the town of Vanderhoof and the nearest logging road is 1 km south of the property.

Exploration

There is no record in assessment files of any previous work on this property. The work carried out in 1994 included property-wide geological mapping and prospecting.

Geology and Mineralization

The property is situated within the Cheslatta Caldera Complex and underlain by rhyolites and tuffaceous sediments of the Eocene Ootsa Lake Group and basalts of the Eocene to Oligocene Endako Group. The property is located on a Regional Geochemical Survey lake sediment geochemical anomaly (Au-As-Sb-Hg). No in-situ mineralization was found; but several large chalcedonic quartz boulders were located; they are low in Au but anomalous in Hg, Sb, As. Sediments from a stream draining the lake in the northeast corner of the property contain 45 ppb Au with moderately anomalous As.

SAUNDERS PROPERTY

Introduction

The Saunders property has potential for epithermal precious metal mineralization in the Eocene Ootsa Lake Group. It is located in NTS 93F/11 in the Omineca Mining Division, consists of 20 2-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 105 km southwest of the town of Vanderhoof and is accessible by a major logging road which bisects the property.

Exploration

There is no record in assessment files of any previous work on this property. The work carried out in 1994 included property-wide geological mapping and prospecting, as well as till geochemistry along the road that bisects the property.

Geology and Mineralization

The property is situated within the Cheslatta Caldera Complex and underlain by rhyolites and tuffaceous sediments of the Eocene Ootsa Lake Group and andesitic basalts and basalts of the Eocene to Oligocene Endako Group. The property is located on a Regional Geochemical Survey lake sediment geochemical anomaly (Au-As-Sb-Hg). Two mineralized shears were found in Lower Endako andesitic basalts. The one south of the road grades up to 2.3 g/t Au; the one north of the road has yielded only low Au so far, but is anomalous in Hg and As. Stream sediments are also distinctly anomalous in Au and As.

LAIDMAN PROPERTY

Introduction

The Laidman property has potential for mesothermal and, possibly, epithermal precious metal mineralization. It is located in NTS 93F/3 in the Omineca Mining Division, consists of 16 2-Post claims and 4 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 125 km southwest of the town of Vanderhoof and is accessible by a major logging road that bisects the property.

Exploration

There is no record in assessment files of any previous work on this property. The work carried out in 1994 included property-wide till geochemistry (400 x 100 m), geological mapping, and prospecting.

Geology and Mineralization

The property is situated on the Nechako Arch and underlain mainly by a Cretaceous quartz monzonite which cuts Jurassic Hazelton Group volcanic tuffs and tuffaceous sediments; these sediments are widely hornfelsed and generally rich in sulphides. A major regional lineament trending about N80° that bisects the Nechako Arch, cuts through the property which has been located on a Regional Geochemical Survey till geochemical anomaly (Au-As-Sb±Cu-Pb-Zn). Mineralization was found in three areas: a boulder train of very angular chaledonic quartz, low in Au but high in As, Sb, Hg, Ba and Mn, and quartz veins in sheared granite in two locations; one grades up to 2.5 g/t Au and the other, although low in Au, is anomalous in Pb and Zn. The tills show extensive and strong Au-As-Sb anomalies, as well as indications of broad zones of carbonate and/or sericite alteration in the intrusive.

TAM PROPERTY

Introduction

The Tam property has potential for mesothermal to epithermal polymetallic Au mineralization. It is located in NTS 93F/3 in the Omineca Mining Division, consists of 2 2-Post claims and 1 4-Post claim, and is owned 100% by COGEMA Resources Inc. It was staked in 1994. It is situated 125 km southwest of the town of Vanderhoof and is accessible from the Northwest by logging roads and an old cat trail usable with ATVs.

Exploration

There is no record in assessment files of any previous work on this property. The work carried out in 1994 included property-wide geological mapping and prospecting.

Geology and Mineralization

The property is underlain by Jurassic Hazelton Group felsic to intermediate volcanics cut by Eocene? rhyolitic dykes and sills. The Tam Property is located near the major regional lineament trending about N80° that separates the Nechako Arch from the southern part of the Nechako basin. The property is located near a recently discovered Au showing and on Regional Geochemical Survey till and lake sediment geochemical anomalies (Au-As-Sb-Hg-Cu-Pb-Zn). The lake sediment anomalies are extremely strong, reaching 256 ppb Au in lake within and near the property. Mineralization was found in two locations and consists of large quartz veins grading over 5 g/t Au and 480 g/t Ag. There is no doubt that this property is within a major alteration with good potential for Au-Ag mineralization.

HOLY CROSS PROPERTY

Introduction

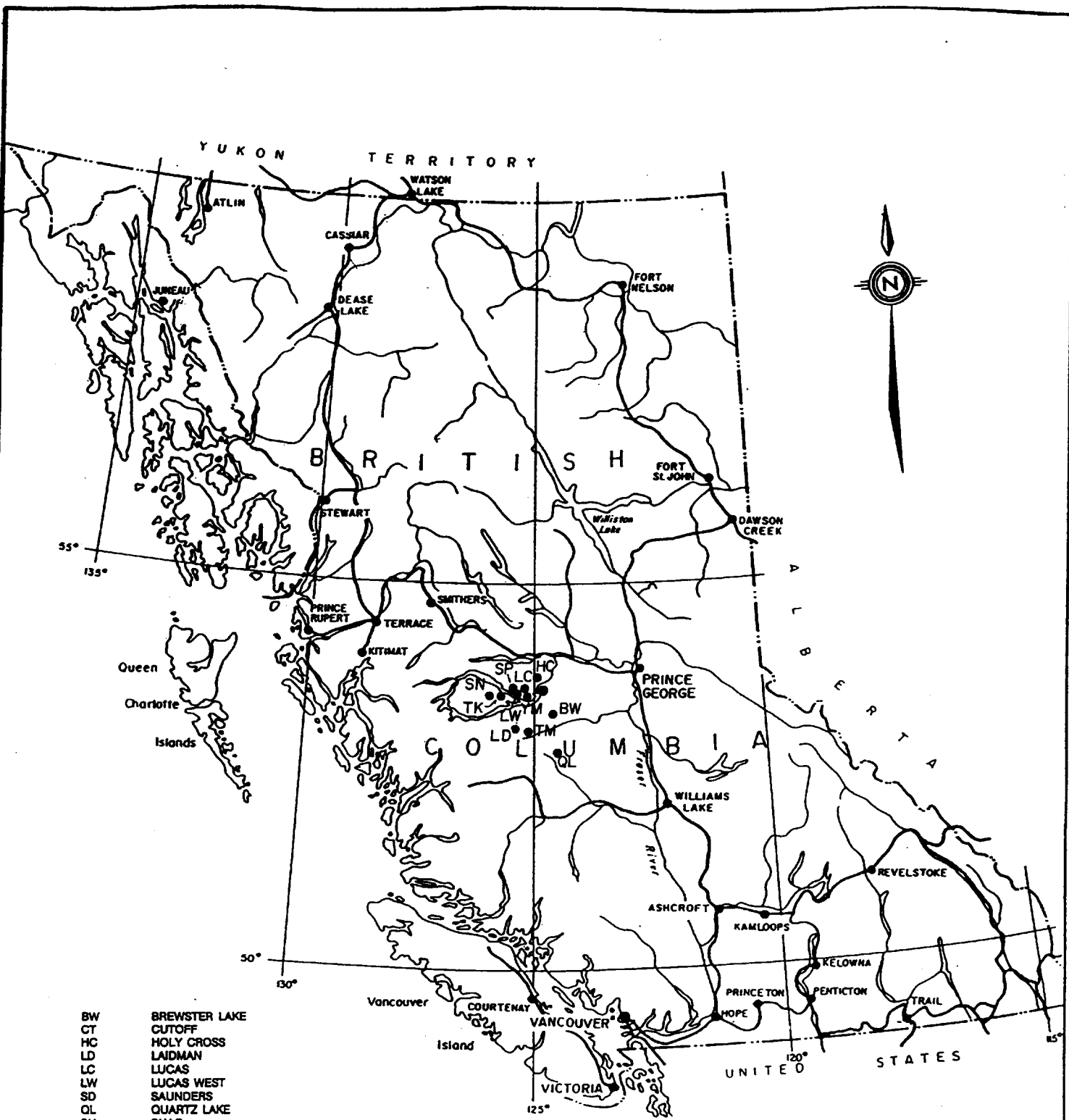
The Holy Cross Property has potential for epithermal precious metal mineralization hosted in Tertiary and Late Cretaceous volcanic rocks. Some indications of base metal mineralization are also present. It is located in NTS 93F/15, in the Omineca Mining Division, consists of 2 4-Post claims, and is owned 100% by COGEMA Resources Inc. It was staked in late 1994. It is situated 35 km south of the town of Fraser Lake and is accessible from the North and East by several logging roads and a mining road.

Exploration

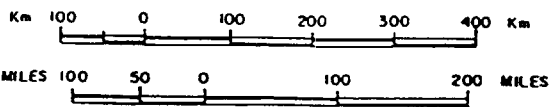
Earlier work included mapping, soil geochemistry, trenching, and geophysics.

Geology and Mineralization

The property is located near the eastern edge of the Cheslatta Caldera Complex in a dome of older rocks surrounded by Ootsa rhyolites and Endako andesites, along a major NE trending lineament similar to the Fish Lake lineament on the Cutoff property. The showing is hosted mainly in rhyolites somewhat similar to Ootsa rhyolites, but intimately intermixed with andesites that resemble Kasalka, or possibly Hazelton, andesites. Basal Kasalka conglomerate, pink syenitic to monzonitic rocks, Endako, and older, basalts occur within the uplift. Older rocks show frequent epidote and hematite (coarse specularite) alteration, sometimes with mesothermal looking quartz veins in pyritic shears. Epithermal mineralization occurs within a 4 to 6 km² area of pyritization and frequent silicification in the upper reaches of the northern part of Holy Cross Mountain in an area of frequent outcrop. The best mineralization occurs in Noranda's Trench 1 is a massive chalcedonic grey quartz vein. Best assay of 12 samples (Sept. 25, 1994) is 12.4 g/t Au with 6.8 g/t Ag and very low As, Sb, Hg. Noranda's chip samples gave 8.5 m @ 1 g/t Au. Extensive trenching by Noranda has exposed only one zone of significant mineralization (> 1 g/t Au) in trench 1, but soil anomalies reaching several 100 ppb's (up to 2.5 g/t Au) do not appear to have been followed-up. COGEMA's 1992 and 1994 till geochemistry confirms some of these soil anomalies. Several boulder trains of mineralized epithermal quartz have also been found.



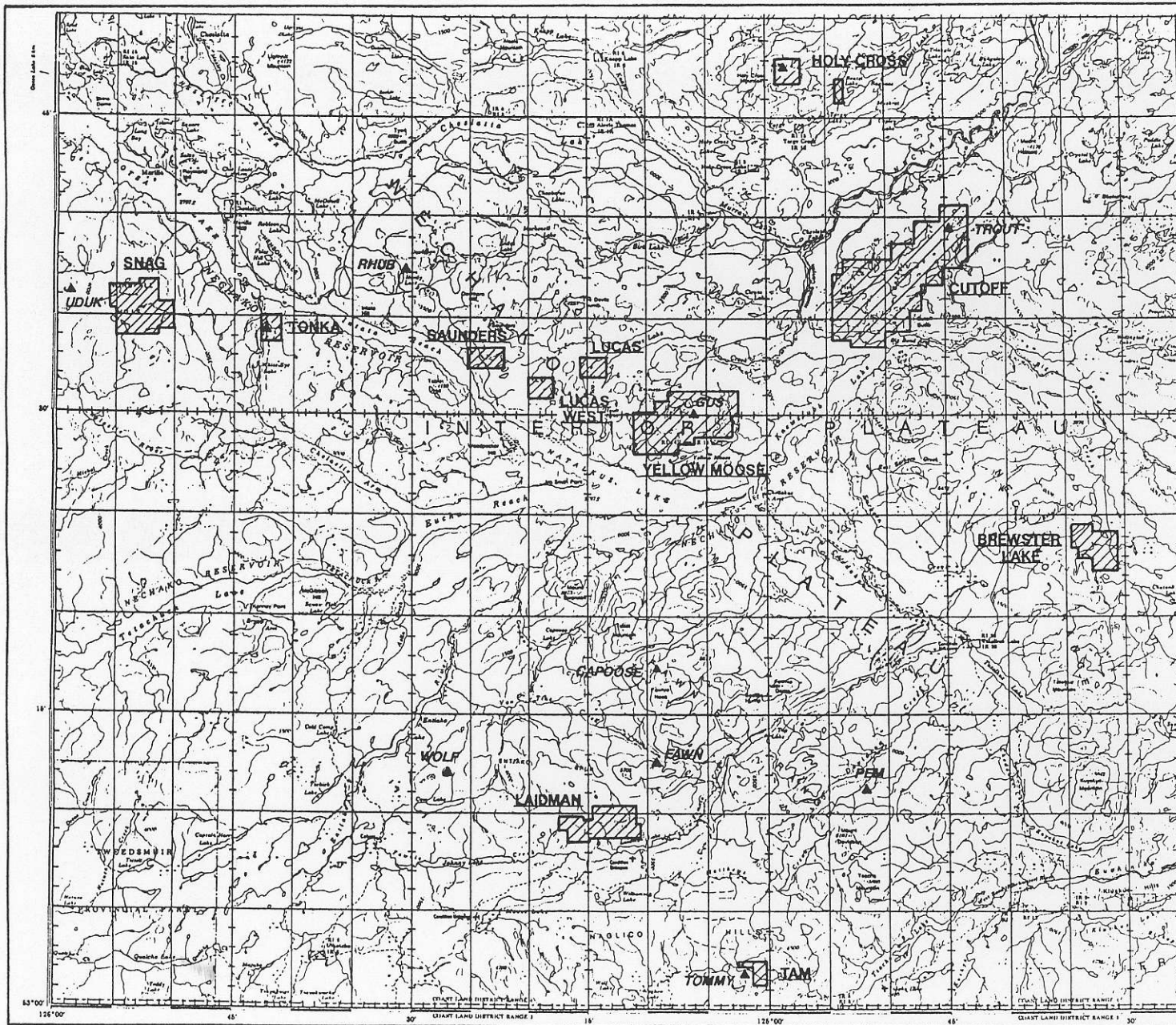
- BW BREWSTER LAKE
- CT CUTOFF
- HC HOLY CROSS
- LD LAIDMAN
- LC LUCAS
- LW LUCAS WEST
- SD SAUNDERS
- QL QUARTZ LAKE
- SN SNAG
- TM TAM
- TK TONKA
- YM YELLOW MOOSE




BRITISH COLUMBIA

NECHAKO PROJECT

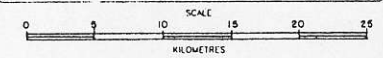
LOCATION OF PROPERTIES



LEGEND

 COGEMA PROPERTY

 GUS SHOWING



NECHAKO PROJECT

LOCATION OF PROPERTIES IN THE
NORTHERN NECHAKO BASIN

Figure 2

Date: Nov. 1994