

BC Geological Survey  
Assessment Report  
30726c

# KENRICH-ESKAY MINING CORP.

*(Operator)*

St. ANDREWS GOLDFIELDS LTD.

*(Owner)*

## GEOLOGICAL ASSESSMENT REPORT

*(Event Number 4251315)*

*on*

TENURE 404669

Skeena Mining Division  
NTS 104B.048

Centre of Work  
6258300N, 406800E

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## **SUMMARY**

Tenure 404669 of the Kenrich-Eskay Corey property ("Property") covers an area of 500 hectares and a portion of the Unuk River some 77 kilometres northwest of Stewart, British Columbia. Access to the property is by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter to the Property.

The Property is underlain by dioritic to gabbroic rocks the Late Triassic Stikine, or McQuillan, or Katete Mountain, Plutonic Suites (TrSMk) in a northeasterly trending fault contact with andesitic volcanic rocks of the Jurassic Hazelton Group (IJHva) to the northeast. The uppermost Formation of the Hazelton Group, the Salmon River Formation, host to the Eskay Creek massive sulphide mineral deposits 22 kilometres to the north, is indicated in the northeast corner of the adjacent claim to the north: 404668.

The area has an exploration history dating back to the turn of the century when prospectors passed through the region on their way to the interior. In the 1970's, the porphyry copper boom again brought prospectors and companies into the area.

The Eskay Creek prospect was discovered and staked in 1932 and after a significant amount of exploration, a shipment of ore was made in 1979 when 8.75 tonnes of hand-cobbed ore was mined and produced from trenches. In 1995 direct shipping ore was made; the ore was crushed and blended at the mine and then moved by rail from Kitwanga to Noranda's Horne smelter in Quebec, and by sea from Stewart to Dowa Mining's smelter in Japan.

In 1999 mineral reserves at Eskay Creek were reported as 1,355,965 tonnes grading 57.7 grams per tonne gold and 2492.57 grams per tonne silver. Additional mineralized material was 453,600 tonnes grading 15.36 grams per tonne gold and 401.14 grams per tonne silver. Mining and on-site milling of ore from the Eskay mineral deposits was initiated by Barrick Resources in 2003 and was completed in March, 2008. Since start-up in 1995 Eskay Creek has produced more than 100 tonnes of gold and 5000 tonnes of silver.

Exploration in the immediate area of the Property in 1981 resulted in the delineation of a strong 1000 metre magnetic response coincident with strong electromagnetic conductors. Two other localized magnetic highs were also delineated which are within 500 metres to the south. The northern extension of the 1000 metre magnetometer anomaly is covered by the Property (Figure 7b). Rock chip sample results disclosed a 50 metre zone with mineral values averaging 0.09% Cu. which correlates with one of the two localized magnetic highs. There were no rock chip anomalous mineral values on the Property.

In 1988 silt sampling was completed in the immediate area of the Property. Sample results from silts taken on ground covered by the Property assayed up to 530 ppb Au. (Figure 6).

Mineralization as reported from a 1988 geological survey which included the present Property ground was stated as semi-massive to massive magnetite and pyrrhotite with chalcopyrite in one to three limestone horizons and as pyrite and pyrrhotite as fine disseminations locally in the volcanoclastics.

The 2008 Lineament Array Analysis on the Property indicated predominant northwesterly trending structures that parallel the northwesterly trending South Unuk River valley, a regional structure. Northeasterly structures, paralleling the regional Unuk River structure, are also evident although not as conspicuous in the topography. Numerous short north-south and east-west structures occur that resulted from the progressive interaction of the two regional structures intersecting within the north portion of the Property.

Intersections of at least three directional faults were determined from the results of the Lineament Array Analysis. These three locations (Figure 8) are considered prime areas for mineral exploration.

# **KENRICH-ESKAY MINING CORP.**

*Tenure 404669*

*Event 4251315*



**Figure 1. LOCATION MAP**

## **INTRODUCTION**

In October, 2008 a Lineament Array Analysis was completed on Tenure 404669 (“Property”). The purpose of the program was to delineate potential structures which may be integral in geological controls to potentially economic mineral zones that may occur thereon. Tenure 404669 is one of the claims comprising the Corey property of Kenrich-Eskay Mining Corp.

Information for this report was obtained from sources as cited under Selected References. The author has not performed a personal examination of the Property.

## **PROPERTY DESCRIPTION & LOCATION**

The property consists of one claim covering an area of 500 hectares. Particulars are as follows:

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until</u>	<u>Area (ha)</u>
<a href="#"><u>404669</u></a>	Mineral	SUL 2	20140131*	500

\*Upon the approval of this assessment report.

Tenure 404669 (Sul 2 mineral claim) is registered in the name of St. Andrews Goldfields Ltd., and is optioned to Kenrich-Eskay Mining Corp. the “operator”.

## **LOCATION AND ACCESS**

The Property is located within BCGS. map-sheet 104B.048 in northwestern British Columbia, approximately 77 km north-northwest of Stewart and 22 kilometres south of the formerly productive Eskay Creek deposits.

Access to the Property is either by helicopter from Stewart or by fixed-wing aircraft from Terrace, Stewart, or Smithers to various airstrips in the area and then via helicopter.

## **PHYSIOGRAPHY AND CLIMATE**

The Property is situated within the Physiographic Division designated as the Coast Range and is characterized by northern rain forests and sub-alpine plateau and covers the confluence of the northwesterly flowing South Unuk River with the southwesterly flowing Unuk River. Elevations range from 200 metres in the Unuk River valley to 910 metres along a ridge in the south.

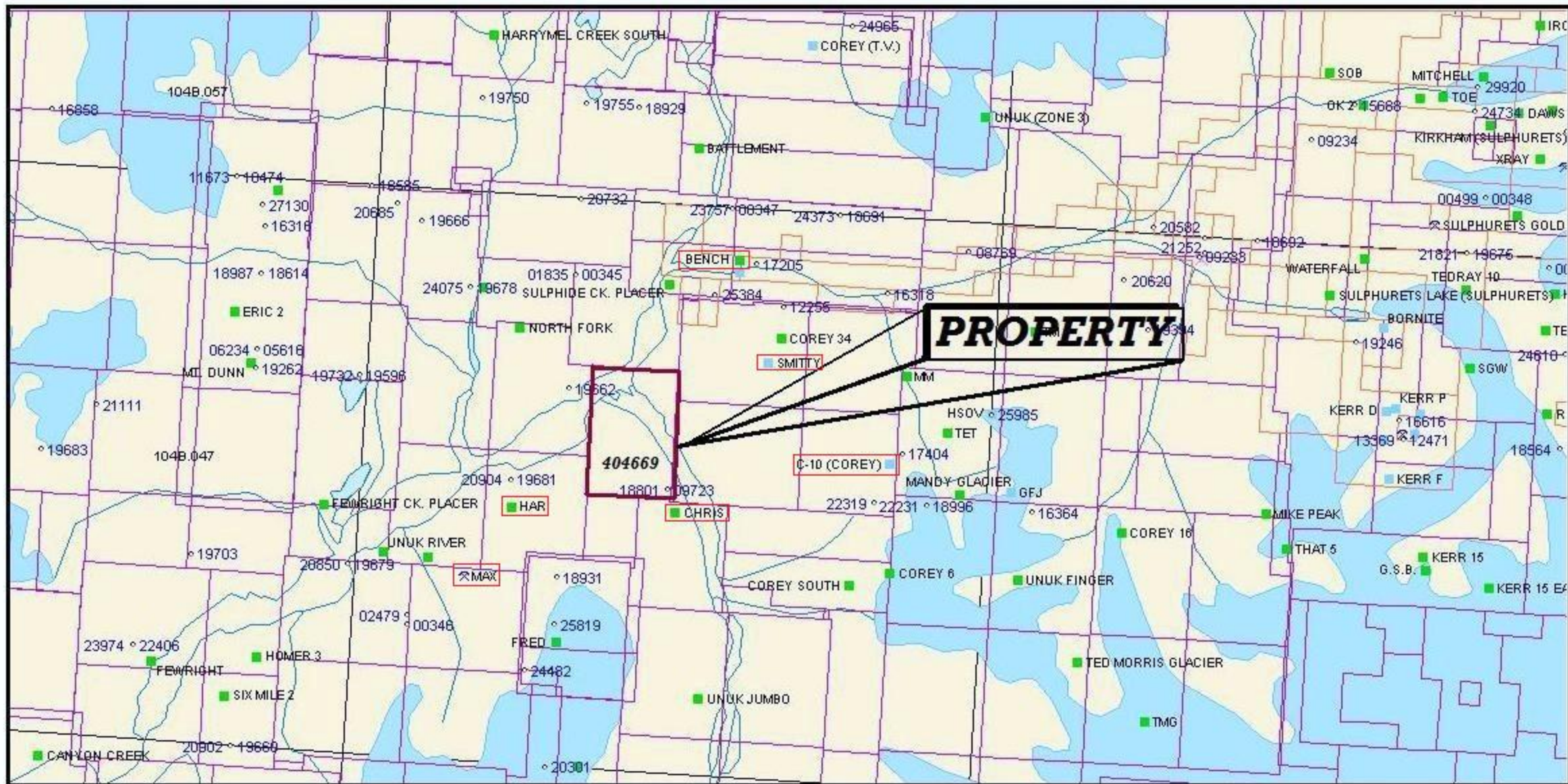
Water for all phases of the exploration program could be available from the Unuk River, South Unuk River, or from creeks within the confines of the Property. Water would be scarce to nonexistent from the creeks during the long winter season.

Precipitation commonly exceeds 200 cm per annum, with short mild summers and very wet spring and fall periods. Thick accumulations of snow are common during the winter hence a short surface exploration season averaging four months of the year.



**KENRICH-ESKAY MINING CORP.**

**Tenure 404669      Event Number 4251315**



### Figure 2. CLAIM LOCATION



# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event Number 4251315



**Figure 3. CLAIM MAP**

## **HISTORY: REGIONAL**

The most significant mineral deposit in the region is the Eskay Creek located 22 kilometres north of the Property. The history of Eskay Creek property as reported by MINFILE is as follows:

The **Eskay Creek property** has a long history of intermittent exploration since its discovery and staking in 1932 by T.S. Mackay. Early work identified more than 30 distinct mineralized zones in upper Coulter and Eskay creeks along a line of gossanous bluffs that extends more than 7 kilometres. Earliest exploration focused on the southern part of this area where the Mackay adit was driven for 110 metres. The Mackay adit lies 9 kilometres southwest of the 21 zone. In the northern part, underground development at the Emma adit totalled 180 metres of drifting and crosscuts. The Emma adit lies 3 kilometres southwest of the 21 zone. Surface work included several thousand metres of diamond drilling, numerous trenches, pits and opencuts. In 1971, a 1.5-tonne sample of high-grade ore was extracted from trenches on the 22 zone, which lies 2 kilometres southwest of the 21 zone. In 1979, these trenches were mined to produce 8.75 tonnes of hand-cobbed ore (Exploration in British Columbia 1989). In 1996, surface and underground exploration diamond drilling totaled 36,576 metres.

In 1999, Eskay Creek was 100 per cent owned and operated by Homestake Canada Inc. following an amalgamation between Homestake and Prime Resources Group Inc. Reserves on January 1, 1999 were 1,355,965 tonnes grading 57.7 grams per tonne gold and 2492.57 grams per tonne silver. Additional mineralized material was 453,600 tonnes grading 15.36 grams per tonne gold and 401.14 grams per tonne silver (Exploration in BC 1998, page 23 and [www.homestake.com](http://www.homestake.com)).

Drill targets in 1998 included 21C, a rod-shaped pyritic zone within footwall rhyolite. It reaches the surface at the original 21 zone trenches excavated in the 1930s (near the 21A deposit) and plunges gently northward for 900 metres, passing below and 200 metres down dip of the 21B deposit to its truncation by the Argillite Creek fault. Based on 1998 drilling the 21C zone is estimated to contain 303,000 tonnes of milling ore at a grade of 16.4 grams per tonne gold and 72 grams per tonne silver, with very low levels of deleterious elements (Exploration in BC 1998, page 23). Barrick Gold Corporation acquired 100 per cent interest in the mine through the December 2001 merger with Homestake.

For the year ended December 31, 2002 the proven and probable reserve was 1,229,995 tonnes ore grading 34.22 grams per tonne gold and the resource was 435,448 tonnes ore grading 15.15 grams per tonne gold (WWW <http://www.barrick.com/>, December 29, 2003). In 2003, Barrick continued to develop new ore zones at the mine. A spiral ramp system was advanced to access ore at the deepest levels in the NEX trend, which plunges north at about 55 degrees.

Production began late in the year from a new stope in the 44 zone, some 300 metres below surface. Fill-in drilling of the Water Tower zone, a footwall zone similar to 21C, found erratic gold grades and assessment of the zone continues. Exploration at Eskay Creek made use of 35,500 metres of surface and underground diamond drilling.

The main focus of the 71-hole surface program was the 22 zone, situated 2 km south of the mine site. Drilling also expanded known resources in the 21C, 21A and 21E zones. At the northern end of the deposit, deeper holes tested the area down plunge from the NEX and Hangingwall zones.



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## **HISTORY: REGIONAL (cont'd)**

### **Eskay Creek property (cont'd)**

In 2004, Barrick Gold Corporation completed 18,055 meters of drilling in 54 holes in exploration around the mine. Exploration was carried out mainly on the Deep Adrian and 22 zone areas, to the north and south of the existing mine workings, respectively. Before the end of 2005, the mine was forecast to produce 5,500 kilograms of gold and 290,000 kilograms of silver for the year. Since start-up in 1995 ore grade has diminished and at the beginning of 2005 the average reserve grade was 36 grams per tonne gold and 1600 grams per tonne silver (Exploration and Mining in BC 2005, page 22). In 2005, a comprehensive geologic review identified targets that were tested by approximately 16,000 metres of drilling from mine workings.

Mining was completed at Eskay Creek in March 2008, with processing of stockpiled ore expected to continue for a short time, at which point the mine will be closed and reclaimed. Since start-up in 1995 Eskay Creek has produced more than 100 tonnes of gold and 5000 tonnes of silver.

## **HISTORY: COREY PROPERTY**

The history of the Corey property is described in a 1994 assessment report by Van Damme & Mosher (AR 23,805) as follows:

The earliest work conducted on what is now the Corey Property the staking and excavation of two adits on the Cumberland group of claims between 1898 and 1903. A shipment of hand-cobbled ore is reported to have been made during the 1930's.

Only limited exploration was carried out within the area until 1960's when a regional survey was conducted by Newmont during which time the Ox and Fox Claim Groups were staked, surrounding the earlier Cumberland crown grants. Up to 1983, the area south of Sulphurets Ck. Saw a series of small exploration program conducted by E and B Explorations, Nor-Con Explorations and Dupont Canada. In 1986 Catear Resources Ltd. staked the Corey 1-8 claims and conducted a program of rock and silt geochemistry and prospecting. At the same time Skelly Resources Ltd. staked Sul-2 and Unuk 20 claims.

Bighorn Development Corp. optioned the Corey property in 1987 and subsequently staked an additional 516 claim units, Corey 10-45. A property wide program of silt, soil and rock geochemistry, prospecting and detailed evaluation was completed. Detailed work consisted of geological mapping, 49 meters of trenching and 590 meters of diamond drilling in six holes at the Cumberland prospect. During this period Bel Pac Industries Ltd. acquired the Sul 1-2 and Unuk 20 claims.

In 1988 Bighorn carried out a follow up program and completed 647 meters of diamond drilling in six holes on the C-10 prospect. At this time Kenrich Mining Corp., formerly Farquest Energy Corp., optioned the Sul 1-2 and Unuk 20 claims. Also Ambergate Explorations Inc., formerly Nica Ventures Inc., acquired the Nica 1 claim.

1989 saw Kenrich and Ambergate conduct geological and geophysical surveys on the combined claims.

During 1990 Ambergate drilled two holes totalling 86 meters on the Nica 1 and Kenrich drilled seven diamond drill holes totalling 486.4 meters on the Unuk 20 claim. The latter part of '90 saw Kenrich-Ambergate augment their property holdings with the acquisition of the Corey 1-8 and Corey 10-45 claims.

## **HISTORY: COREY PROPERTY (cont'd)**

In 1991 Placer Dome optioned the Sul 1-2, Nica 1 and Unuk 20 claims from Kenrich-Ambergate. An exploration program of geological mapping, geochemical sampling and ground geophysics was completed. Placer also evaluated the Cumberland and C-10 prospects at this time.

In 1992 Placer Dome carried out an extended program of geochemical, geophysical, and diamond drilling on the option. The rest of the property underwent varying degrees of exploration or review by Kennecott Canada Inc., Inco Exploration and Technical Services Inc., and Homestake Canada Ltd. This work consisted primarily of reconnaissance geochemical and geological surveys.

In 1993, with the completion of an extensive geological, geochemical, and limited geophysical and trenching program Kenrich and Ambergate further expanded the property's limits by purchasing the Dwayne 1, Carl, and Jo Jo Claims. (AR 23,805).

Kenrich continued exploration on the Corey property from 1994 to, and including 2008.

## **HISTORY: TENURE 404669 AREA**

The history on some of the more significant mineral showings on the Corey Property and peripheral to Tenure 404669 (Figure 2) are reported in the MINFILE records as follows

### **Bench showing (Massive Sulphide Cu-Pb-Zn)**

MINFILE 104B.010

Four kilometres northeast

The first recorded work on the Bench zone was a stream sediment sampling program carried out by Placer Dome in 1991. Follow up work was carried out by Kenrich and Ambergate in 1993 when 10,575m of rough-flagged grid was established in the general area. The grid was mapped at 1:5,000 and soil samples were collected at 25 metre intervals, with some infill at 12.5m intervals where anomalies were encountered. Five hand-dug and blasted trenches were excavated and a limited VLF-EM and ground magnetic survey was carried out. In 1994, Kenrich established an additional 1,200 metres of grid for an IP, VLF-EM and ground magnetic survey. Work on the Bench zone in 1995 consisted of collecting 376 soil samples at 25 metre intervals on lines spaced 100 metres apart, in addition to reconnaissance geologic mapping. In 1996, Kenrich Mining Corp. carried out detailed mapping, collected 105 rock samples, and drilled nine diamond drill holes totaling 1,384 metres

During 1997, Homestake carried out check mapping of surface exposures and relogging of drill core for the Bench zone. Analytical work was carried out on 54 rock samples from the Bench zone as well as 20 samples from existing drill core. Homestake also drilled one diamond drill hole to a depth of 780.18m.

### **C10 Corey prospect (Polymetallic Veins Ag-Pb-Zn+/-Au)**

MINFILE 104B 240

Five kilometres east

The first recorded work done on the C-10 showing was carried out by Bighorn Development in 1987, when six rock samples and one silt sample were collected from the area. Further work by Bighorn in 1988 consisted of construction of a grid and collection of 40 additional rock samples. Limited silt sampling was also carried out at this time. Later in the 1988 field season, Bighorn drilled six short diamond drill holes at the C-10 prospect.



## **HISTORY: TENURE 404669 AREA (cont'd)**

### **C10 Corey prospect (Polymetallic Veins Ag-Pb-Zn+/-Au) (cont'd)**

In 1986, Kenrich Mining Corporation along with Ambergate Explorations Ltd. acquired the Sul and Nica Claims and by 1990, acquired much of the Corey package of claims that they presently hold. In 1994, Kenrich and Ambergate amalgamated under the one company, Kenrich Mining Corp. In 1989 and 1990, Kenrich and Ambergate performed basic assessment work consisting of geological mapping, surface geochemistry and geophysics and diamond drilling of geophysical. Minor additional rock sampling was carried out by Kenrich in 1994.

### **Cumberland prospect (Massive Sulphide Cu-Pb-Zn; Au pyrrhotite veins)**

MINFILE 104B.011

Four kilometres northeast

The Cumberland showing (104B 011) is located on the south bank of Sulphurets Creek, 1500 metres upstream from the confluence with the Unuk River. It is also immediately south of the Bench zone (104B 010). Two adits were excavated on the Cumberland during the 1890's and a very small shipment of hand-sorted ore was reported. The prospect appears to have volcanogenic massive sulphide attributes, and has been frequently examined and partially explored by diamond drilling (Catear and Bighorn, 1988, six holes) and geological mapping and geophysics (Placer Dome, 1991). During the 1993 field program, a limited amount of time was spent re-examining the Placer Dome geological map. As well, several contour soil geochemical lines were completed up hill, south of the showing area. In 1995, preliminary mapping around the showing recognized Salmon River stratigraphy. In 1996, the property was mapped in detail with the discovery of bedded barite mineralization. The showings were trenched and drilled. Drilling demonstrated that these showings are not structurally controlled but are probably stratiform in nature. Two holes were drilled under the main Cumberland Showing demonstrating that the mineralization is continuous and is not cut off by faulting.

### **Har showing (Cu skarn)**

MINFILE 104B 009

Two kilometres southwest

In 1960, a rusty zone within sheared diorite on the south side of the Unuk River was mapped.

### **Max developed prospect (Fe skarn)**

MINFILE 104B 013

Three kilometres southwest

In 1962, a 22.7-tonne bulk sample was taken for metallurgical test work. Drilling between 1960 and 1962 indicated a body of medium-grade magnetite estimated to contain 11,176,550 tonnes averaging 45 per cent iron (Energy, Mines and Resources CORPFILE - Granduc Mines Limited, Annual Report, 1962).

### **Smitty prospect (Massive Sulphide Cu-Pb-Zn; Hot Spring Ag-Au)**

MINFILE 104B 395

Two kilometres east

The Smitty prospect was discovered by Kenrich-Eskay Mining Corporation on their Corey property in 2004. A total of 11 drill holes were drilled at the Smitty zone during the 2005 program (CR05-1 to CR05-9, CR05-24 and CR05-25). The intervals of Eskay-equivalent mudstones that host the surface showing at Smitty are clearly intruded and disrupted by mafic sills of a closely similar age to the mudstones.



## **HISTORY: TENURE 404669 (PROPERTY)**

In 1981 Tsolum Resources Ltd. completed localized and limited geological, geophysical, and geochemical surveys on the Chris and Anne mineral claims designated as the South Unuk River Property. The northern portion of the survey, on the Anne mineral claim, was on ground covered by Tenure 404669 and is shown on accompanying Figures 7., 7a., and 7b.

The survey results on the Property portion as shown on the maps and reported by Allen (1981) are as follows:

**Geological:** The rock type is fine to medium grained chloritic tuff, tuffaceous siltstone and massive greenstone (unit 1 Figures 7 and 7a);

**Geophysical:** Allen, 1981 reports that:

Two zones of strong magnetic response that are generally coincident with moderate to strong electromagnetic conductors have been located. One of these zones starts at Line 1S 1+00W and strikes at a bearing of 335 to line 8N, 5+75 W and beyond. This zone is in excess of 1000 metres in length, has magnetic anomalies varying from +11,000 to -9,000 gammas, and peak to peak VLF dip angle values of up to 65 degrees. The zone is interpreted to consist of 2 sub-parallel continuous bands - one anomalous in magnetite concentration and the other anomalous in electrical conductivity (massive pyrrhotite-chalcopryrite mineralization]. Results essentially confirm geological observations. At the northwest end of the zone, the geophysics indicates that the two bands are very close together (possibly within a few metres) with the magnetic band occupying the eastern flank. Whereas near line 0, there is a distinct separation of some 50 metres between the two bands, again with the magnetite-rich band to the east, and a wide strong conductive zone to the west (AR 9723).

The above reported zone occurs on the Property.

**Geochemical:** The highest assay from rock chip samples taken on the Tenure 404669 ground returned 1740 ppm (0.17%) Cu. This sample was one of five consecutive samples over 50 metres (estimated from map) which averaged 980 ppm (0.09%) Cu. The 50 metre section correlates with a localized magnetometer high of 60,515 gammas.

## **GEOLOGY: TENURE 404669 AREA**

A capsule geology of the **Eskay Creek** area as reported by MINFILE is as follows:

The Eskay Creek deposits lie in the centre of the Iskut-Sulphurets gold camp in the Unuk River valley. Bedrock in the Unuk map area consists of a thick (more than 5000 metres) succession of Upper Triassic to Middle Jurassic volcano-sedimentary arc-complex lithologies (Stuhini and Hazelton groups) underlain by Permian and older arc and shelf sequences (Stikine Assemblage) and overlain by Middle and Upper Jurassic marine-basin sediments (Bowser Lake Group). Rocks have been folded, faulted and weakly metamorphosed, mainly during Cretaceous time. Dioritic to granitic rocks that crop out east and west of the Prout Plateau represent at least four intrusive episodes spanning Triassic to Tertiary time. Remnants of Pleistocene to Recent basaltic eruptions are preserved locally (Exploration in British Columbia 1989).

The Eskay Creek deposits area is underlain by a northwest-facing sequence of interbedded volcanoclastic rocks, flows and sediments of the Lower-Middle Jurassic Hazelton Group. Strata strike north- northeasterly and dip moderately to the northwest. The presence of fossils, pillow lavas and hyaloclastites suggests that many of the rocks were deposited in a subaqueous environment.

## **GEOLOGY: TENURE 404669 AREA (cont'd)**

### **Eskay Creek (cont'd)**

An 1100-metre section straddling Eskay Creek is divided into 6 lithostratigraphic sequences, from oldest to youngest: (1) lower volcano-sedimentary unit: inferred basement to the footwall dacite unit including the oldest rocks on the property; (2) footwall dacite unit: dacite lapilli, crystal and lithic tuffs interbedded with black mudstone and water lain tuff (includes the "datum dacite" member; (3) rhyolite unit: rhyolite breccia and tuff; minor mudstone;

(4) contact unit: basal rhyolite-mudstone breccia ("transition zone") grading upwards into carbonaceous mudstone; (5) hanging wall andesite unit: pillowed andesite flows and breccias with thin carbonaceous mudstone interbeds; and (6) upper sedimentary unit: thin-bedded siltstone and fine sandstone with minor arenite-conglomerate beds.

The lower volcano-sedimentary unit is of unknown thickness and consists of mixed andesitic to dacitic volcanoclastic rocks and immature fine to medium grained sedimentary rocks. This unit is correlated with the Lower Jurassic Betty Creek Formation (Hazelton Group)

The footwall dacite unit comprises in excess of 100 metres of drab grey to white dacite tuff, tuffaceous wacke and mudstone. Dacitic volcanics are predominantly tuff and ash-flow tuff, with lesser volumes of lithic tuff and breccia. An important marker, the datum dacite member, comprises pink to green, fine grained, feldspar phyrlic tuff and lapilli breccia; it occurs near the top of the unit. The footwall dacite unit was assigned to the Lower Jurassic Mount Dilworth Formation (Hazelton Group) but recent interpretations suggest that it is a member of the Lower Jurassic Betty Creek Formation (Hazelton Group).

The rhyolite unit ranges from 30 to 110 metres thick and consists of grey to white aphyric breccia, tuff breccia, lapilli tuff, tuff and subordinate massive rhyolite. Thin intercalations of mudstone and water lain tuff occur locally and provide markers. This unit is correlated with the Lower Jurassic Mount Dilworth Formation (Hazelton Group). The contact unit consists of an areally restricted basal member of rhyolite-mudstone breccia (the "transition zone") that grades into a widespread upper member of carbonaceous mudstone. The entire contact unit ranges from less than 1 to more than 60 metres thick. The upper member is carbonaceous, pyritic and locally tuffaceous, laminated black mudstone. The contact unit can be correlated with the unnamed lower member of the Lower-Middle Jurassic Salmon River Formation (Hazelton Group). It is the host to most of the mineralization in the 21 zone (21A and 21B deposits) (Exploration in British Columbia 1989).

The hangingwall andesite unit is a flow and sill complex in excess of 150 metres thick. It consists of rusty brown weathering, light grey to dark green pillow breccias with subordinate massive flows, dikes or sills, and hyaloclastite horizons. Thin mudstone units occur as interflow sediments. The upper sedimentary unit consists of a thick sequence of thin-bedded (turbiditic) siltstone, shale and fine sandstone. It includes strata of the lithologically similar Salmon River Formation (Hazelton Group) and Middle-Upper Jurassic Ashman Formation (Bowser Lake Group). The Salmon River Formation sediments are distinguished by the presence of volcanic material.

The major structure on the property is interpreted to be an asymmetric anticline which plunges gently to the northeast. The anticline is broken by a series of high-angle faults. Major faults strike north-northeast; minor ones north-northwest. Several northerly to northeasterly trending lineaments also traverse the property.

The geology of some of the more significant mineral showings within the immediate area of Tenure 404669 as reported by MINFILE is as follows. These mineral showings are all within the confines of the Kenrich-Eskay Core property.

## **GEOLOGY: TENURE 404669 AREA (cont'd)**

### **Bench showing (Massive Sulphide Cu-Pb-Zn)**

MINFILE 104B.010

Four kilometres northeast

A north-plunging syncline was mapped through the center of the Bench zone. Mafic pillow lavas of the Early to Middle Jurassic Salmon River Formation (Hazelton Group) are exposed in the core of the syncline, followed outward by a band of undivided Salmon River Formation rocks, a band of Middle Jurassic Mount Dilworth Formation (Hazelton Group) rocks and ultimately a broad exposure of undivided Salmon River Formation rocks. Units observed include rhyolite flows, breccias, and tuffs in contact with argillites.

### **Chris showing (Cu, Au, Fe, Skarn)**

MINFILE 104B.125

200 metres southeast

The Chris occurrence is situated within rock of the Upper Triassic Stuhini Group. Lower Jurassic Unuk River Formation rock (Hazelton Group) lies to the immediate east of this occurrence. The Triassic rocks have a uniform north to northwest trend with dips varying from east to west, indicating some degree of folding. The most abundant rock types on the property include fine to medium-grained chloritic andesitic tuff, tuffaceous siltstone, and minor massive greenstone. The tuff is usually thin-bedded to laminated, and has a weak to locally strong foliation usually parallel to bedding. A recrystallized limestone occurs interbedded with the tuff and appears laminated as a result of shearing. Feldspathic sandstone occurs interbedded with the tuffaceous units and feldspar porphyry also occurs as a conformable sill or flow. Minor diorite dykes and offshoots from the Triassic and younger "Max" diorite body cut the property rocks. The "Max" diorite occurs over 2 kilometres to the west and is associated with the Max (104B 013) iron deposit.

### **C10 Corey prospect (Polymetallic Veins Ag-Pb-Zn+/-Au)**

MINFILE 104B 240

Five kilometres east

Alteration of a tuffaceous volcanic to sericite schist contain up to 30 per cent quartz veinlets and lenses. This zone was reported to contain up to 10 per cent pyrite with minor fine-grained sphalerite. The C-10 area is thought to be part of a northwest-trending pyrite-sericite schist alteration zone extending as much as 6.5 kilometres and 0.8 to 1.6 kilometres in width. Silicification in this zone increases with depth, as well as towards the east. Silicification in the C-10 zone comprises quartz veinlets and stockworks. A sulfide stringer zone up to 800m in width occurs along the east margin of the pyrite-sericite schist band, consisting of numerous sub-horizontal stringers, pods and lenses containing siderite, chalcopyrite, pyrite, sphalerite, galena and arsenopyrite. The zone has been described as a large argillic alteration and shear zone in rocks of intermediate composition feldspar-phyric volcanic rocks cut by numerous monzonite dikes. Rock chip samples were collected from rocks described as ankeritic quartz-rich lenses containing tetrahedrite, pyrite, pyrrhotite and scorodite, as well as from phyllitic andesitic tuff.

Property-scale mapping shows the east flank of Mt. Madge, including the area of the C-10 showing, as either undivided Unuk River Formation or an andesite breccia and tuff unit of the Salmon River Formation.

Drilling in 2005 by Kenrich has confirmed the presence of a large gold-copper-zinc hydrothermal feeder system at the C-10 Zone.

## **GEOLOGY: TENURE 404669 AREA (cont'd)**

### **Cumberland prospect (Massive Sulphide Cu-Pb-Zn; Au pyrrhotite veins)**

MINFILE 104B.011

Four kilometres northeast

The area near the junction of Sulphurets Creek and the Unuk River is underlain by a series of north to northwest trending Hazelton Group intermediate (dacite/andesite) composition volcanic flows, pyroclastics and pillow lavas recently interpreted by company geologist as being part of the Middle Jurassic Salmon River Formation. Locally, they consist of red, green and purple volcanic breccia, conglomerate, sandstone, argillaceous siltstone with intercalated crystal and lithic tuffs. The stratigraphic and structural relationships are not well defined but the regional strike is to the northeast with an east dip.

Locally, andesite, tuff-volcanic breccia, argillite and conglomerate are the most common rock types. The eastern part of the claim is underlain by pillowed andesite, dark grey to green in color, and forms a massive cliff 30 to 40 metres in height. The tuff is grey to green in color with poorly sorted angular fragments with some flow banding. The volcanic breccia is similar to the tuff with larger unsorted angular fragments. Sediments in contact with the volcanics include a dark green-grey, massive chert and argillic conglomerate, which is characterized by a sandy matrix with rounded cobbles to boulders.

Minor mineralization consisting of disseminated pyrite is ubiquitous throughout the volcanics and argillite. Two mineral deposits were reported to have been developed by constructing two short adits close to the contact between the sediments and volcanics in 1935.

At an elevation of about 370 metres, a sheared and brecciated zone in the volcanics, striking northwest and dipping steeply northeast, contains small, irregular lenses and stringers of quartz, barite and calcite. In an adit driven along the north side of a dyke that cuts the shear zone, is a vein of quartz, calcite and barite which hosts pyrite, galena, sphalerite, tetrahedrite, stibnite and some argentite. In 1935, a grab sample taken from an old dump of these workings assayed 0.69 grams per tonne gold, 3586.2 grams per tonne silver, 0.5 per cent copper, 8.0 per cent lead and 4.0 per cent zinc. A reported 18 tonnes of similar material was mined but never located (Minister of Mines, Annual Report 1935, page B12).

To the northeast of this adit, at an elevation of about 412 metres, is a quartz replacement zone that is reported to consist of veinlets and lenses of quartz with stringers and blebs of chalcopryite, pyrrhotite, pyrite, sphalerite and galena. The zone strikes about 345 degrees and dips 70 degrees east. Apparently 14 tonnes of this material was mined and left at the portal to the adit. In 1935, a representative sample from this dump assayed 8.9 grams per tonne gold, 82.28 grams per tonne silver, 0.3 per cent copper, 3.0 per cent lead and 10.0 per cent zinc (Minister of Mines, Annual Report 1935, page B12).

In 1987, a 0.5 to 0.75 metre zone was mapped at the Cumberland adit entrance. The host rock in the vicinity of the showing consists of highly fractured andesite with thin quartz-pyrite fracture fillings. Other sulphides include chalcopryite, sphalerite and traces of galena.

The heavily mineralized zone strikes between 140 to 150 degrees and dips 85 degrees northeast. A grab sample from this massive sulphide zone assayed 4.32 grams per tonne gold and 169.37 grams per tonne silver (Assessment Report 16318).



## **GEOLOGY: TENURE 404669 AREA (cont'd)**

### **Har showing (Cu skarn)**

MINFILE 104B 009

Two kilometres southwest

A Triassic or younger granodiorite to quartz diorite stock intrudes the Upper Triassic Stuhini Group volcanoclastics and sediments. Skarn-type mineralization including magnetite, chalcopyrite, specularite and pyrite is localized within Triassic interbedded limestones near the contact with the quartz diorite.

In the eastern part of the Har claims, sericite, chlorite and biotite schists are interbedded with limestones and minor black argillite. To the west, hornblende diorite and quartz diorite intrude these sediments. The diorite was described as being heavily carbonitized with iron-bearing carbonate and hosting disseminated specularite with up to 10 per cent pyrite. In other places, the massive diorites are carbonized and host sporadic malachite staining

Opposite the mouth of Harrymel Creek, a small north-northwest trending fault cuts the diorite. A magnetite-epidote-garnet skarn has developed along this fault within altered andesitic schists and garnet-bearing schists

### **Max developed prospect (Fe skarn)**

MINFILE 104B 013

Three kilometres southwest

A Triassic or younger diorite to quartz diorite stock intrudes the Upper Triassic Stuhini Group volcanoclastics and sediments. Skarn-type mineralization including magnetite, chalcopyrite, pyrrhotite and pyrite is localized within folded lenticular Triassic limestone near the margin of an irregular quartz diorite stock.

The Stuhini Group sedimentary rocks consist of limestone, sandstone and argillite. The limestone near the magnetite skarn zones is grey to black in colour, elsewhere, it is bluish grey, white to ivory. The composition varies from pure to graphitic and argillaceous limestone. West of Cebuck Creek, the limestone is tightly folded and is more than 30 metres thick in contrast to magnetite-rich areas where it ranges from 3 to 15 metres in thickness. The sandstone is fine to medium-grained, grey to brown in colour and massive. The fine-grained black sediments classed as argillite range from soft mudstone to chert.

Alteration consists of recrystallization and chloritization (regional metamorphism). Contact metamorphism is represented by the development of actinolite-diopside-epidote-garnet skarn. The skarn and magnetite mineralization are closely related.

### **Smitty prospect (Massive Sulphide Cu-Pb-Zn; Hot Spring Ag-Au)**

MINFILE 104B 395

Two kilometres east

The prospect contains volcanogenic massive sulphides (VMS) within Eskay-type mudstones and occurs near the contact with Eskay-type tholeiitic basalts.

## **GEOLOGY: PROPERTY**

MapPlace internet downloads on the geology of the Property show that the Property is predominantly underlain by dioritic to gabbroic rocks the Late Triassic Stikine, or McQuillan, or Katete Mountain, Plutonic Suites of (TrSMk) in a northeasterly trending fault contact with andesitic volcanic rocks of the Jurassic Hazelton Group (IJHva) to the northeast.

The Hazelton Group is divided into the Lower Jurassic Unuk River Formation of non marine volcanic rocks, the Middle Jurassic Betty Creek Formation of volcanic rocks, and the Middle to Upper Jurassic Salmon River Formation of non marine and marine sediments

The Hazelton Group volcanics (IJHva) appear to be the same as the rocks that Britton (1989) designated as the Upper Triassic to Lower Jurassic Unuk River Formation which is reported as:

...green and grey intermediate to mafic volcanoclastics and flows with locally thick interbeds of fine-grained immature sediments. The volcanics are reported to be dominantly massive to poorly bedded plagioclase (& hornblende) porphyritic andesite. The sediments are predominantly grey, brown, and green thinly bedded tuffaceous siltstone and fine-grained wacke. These Norian to Sinemurian age rocks of the Unuk River Formation constitute the lowermost unit of the Hazelton Group. The basal contact with Triassic strata appears to lie near the top of a thick sequence of clastic sedimentary rocks. Neither an angular unconformity nor a widespread conglomerate marks the lower contact.

The Hazelton Group sediments of Middle Jurassic to Upper Jurassic age, the Salmon River Formation, are indicated to occur on the adjacent claim to the north. This Formation contains the most favorable stratigraphic horizons for the location of economic zones of mineralization as evident from the Eskay Creek gold-silver deposit some 22 kilometres to the north.

The Salmon River Formation is a late to post volcanic episode comprised of banded, predominately dark coloured, siltstone, greywacke, sandstone, intercalated calcarenite, minor limestone, argillite, conglomerate, littoral deposits, volcanic sediments and minor flows.

### **Structure**

The northern portion of the Property covers the junction of the northwestward flowing South Unuk River, an indicated regional structure, with the main southwestward flowing Unuk River, an indicated major structural feature; possibly a graben.

## **MINERALIZATION: REGIONAL**

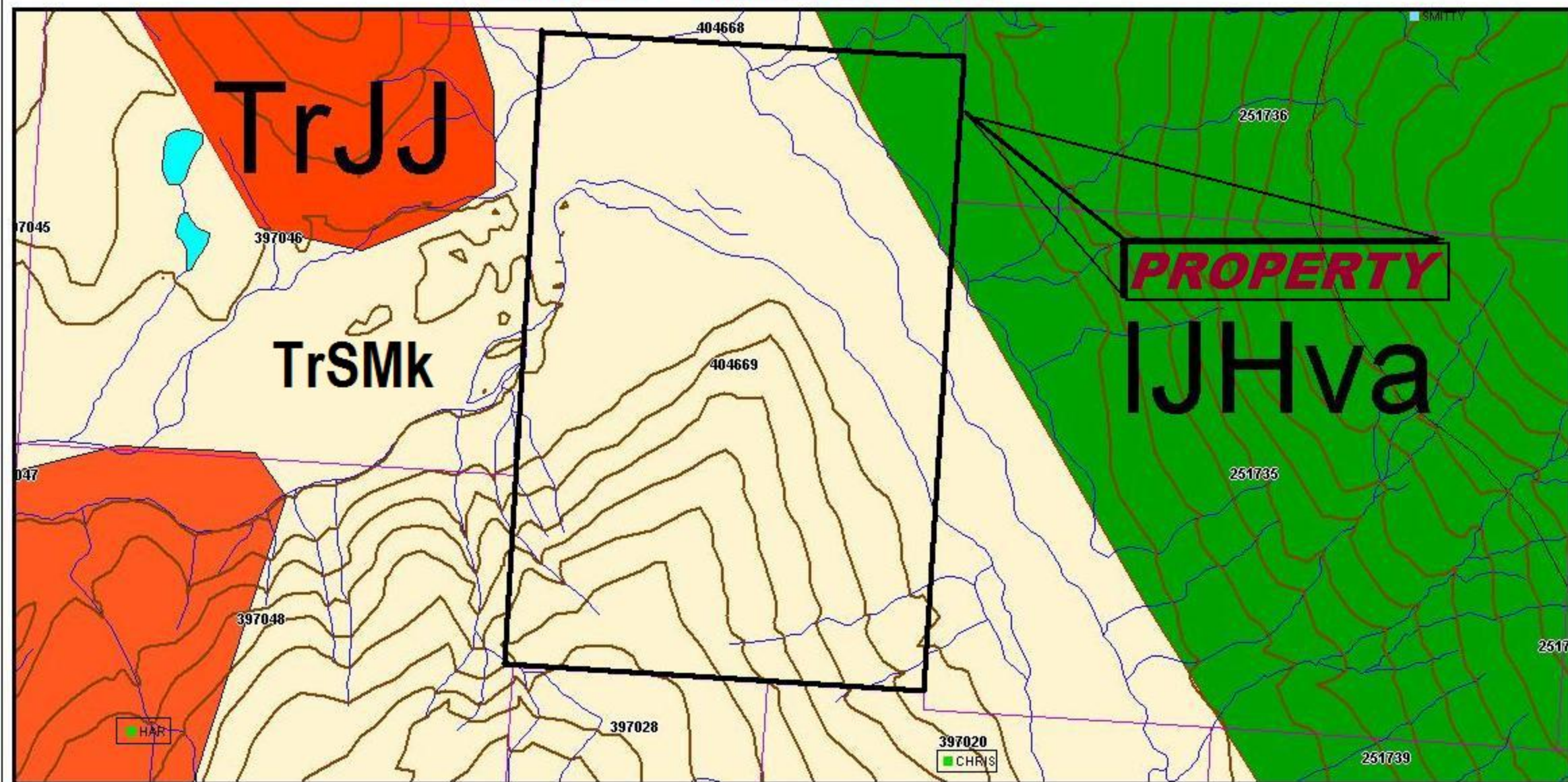
The mineralization at **Eskay Creek** located 22 kilometres north of Tenure 404669 is reported by MINFILE (104B 008) as:

Many zones of mineralization have been recognized at Eskay Creek. These include the 5, 6, 10, 22, 23, 28 and Porphyry zones; Mackay and Emma adit areas; and the #1 to #5 bluffs. The 21 zone has undergone extensive exploration and underground development and represents a major portion of reserves at Eskay Creek. Two new zones, NEX and Hangingwall, were discovered in 1995.

The bulk of mineralization in the 21 zone occurs as a stratabound sheet within carbonaceous mudstones of the contact unit and underlying rhyolite breccia, beneath mostly barren andesite flows. In the north, sulphide layers also occur in the hangingwall andesite unit.

# KENRICH-ESKAY MINING CORP.

*Tenure 404669 Event Number 4251315*



**Figure 5. GEOLOGY**



# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event 4251315

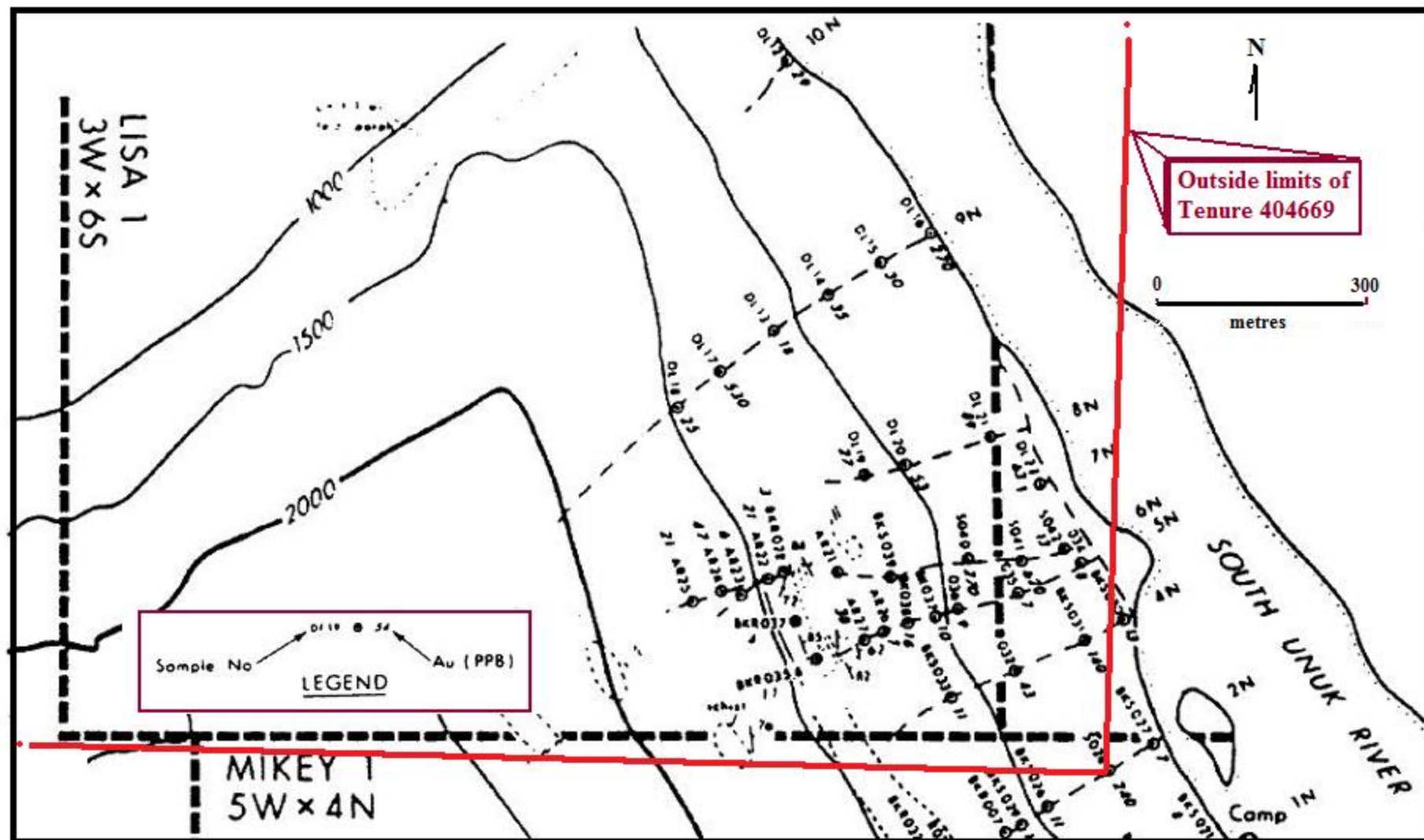


Figure 6. 1988 Exploration Results on Tenure 404669 Ground

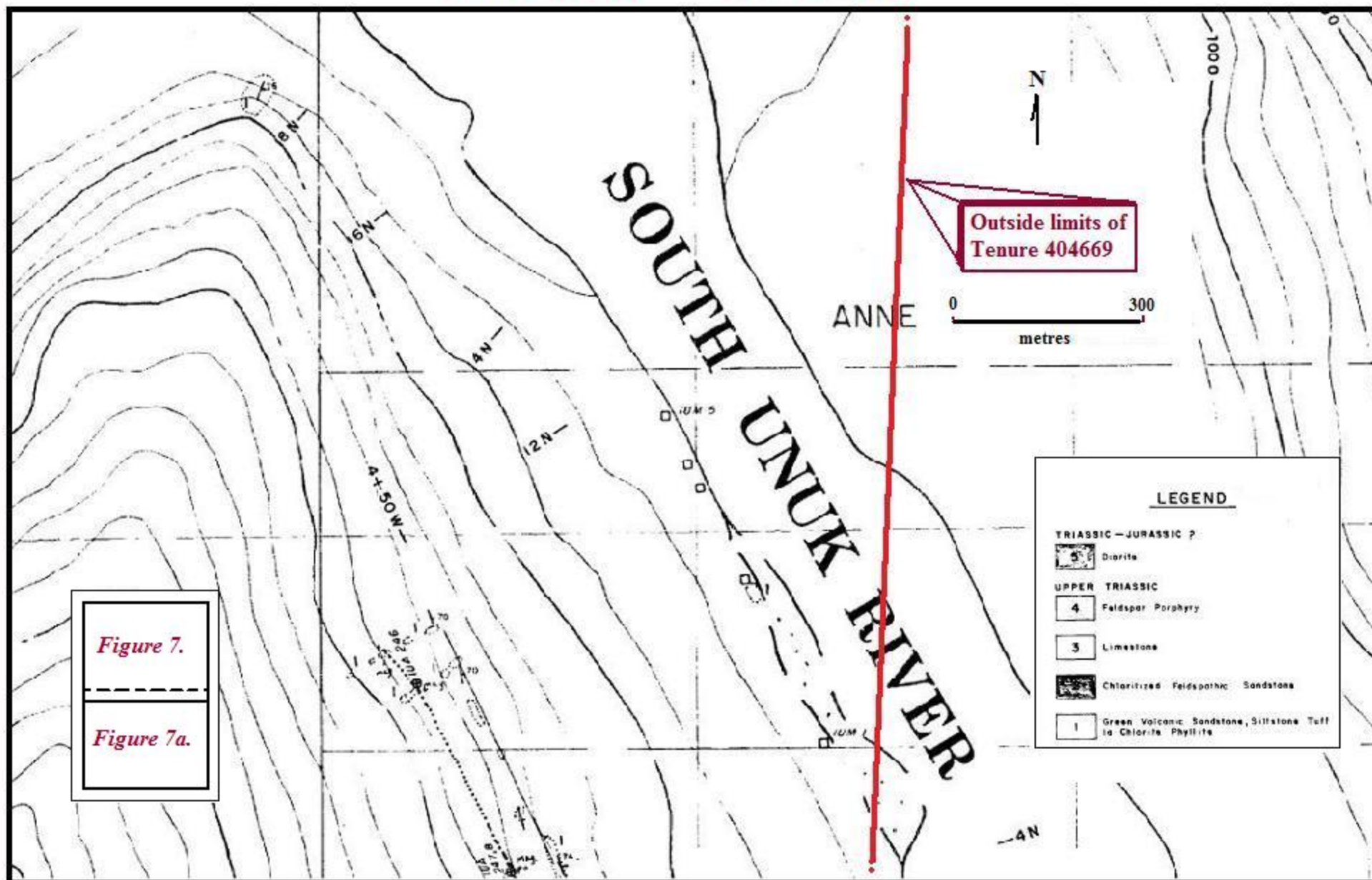
Base Map from South Unuk Gold Ltd. (Kruckowski, 1988)



# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event 4251315



**Figure 7. 1981 Exploration Results on Tenure 404669 Ground**  
Base Map from Tsolum Resources Ltd. (AR 09723)

# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event 4251315

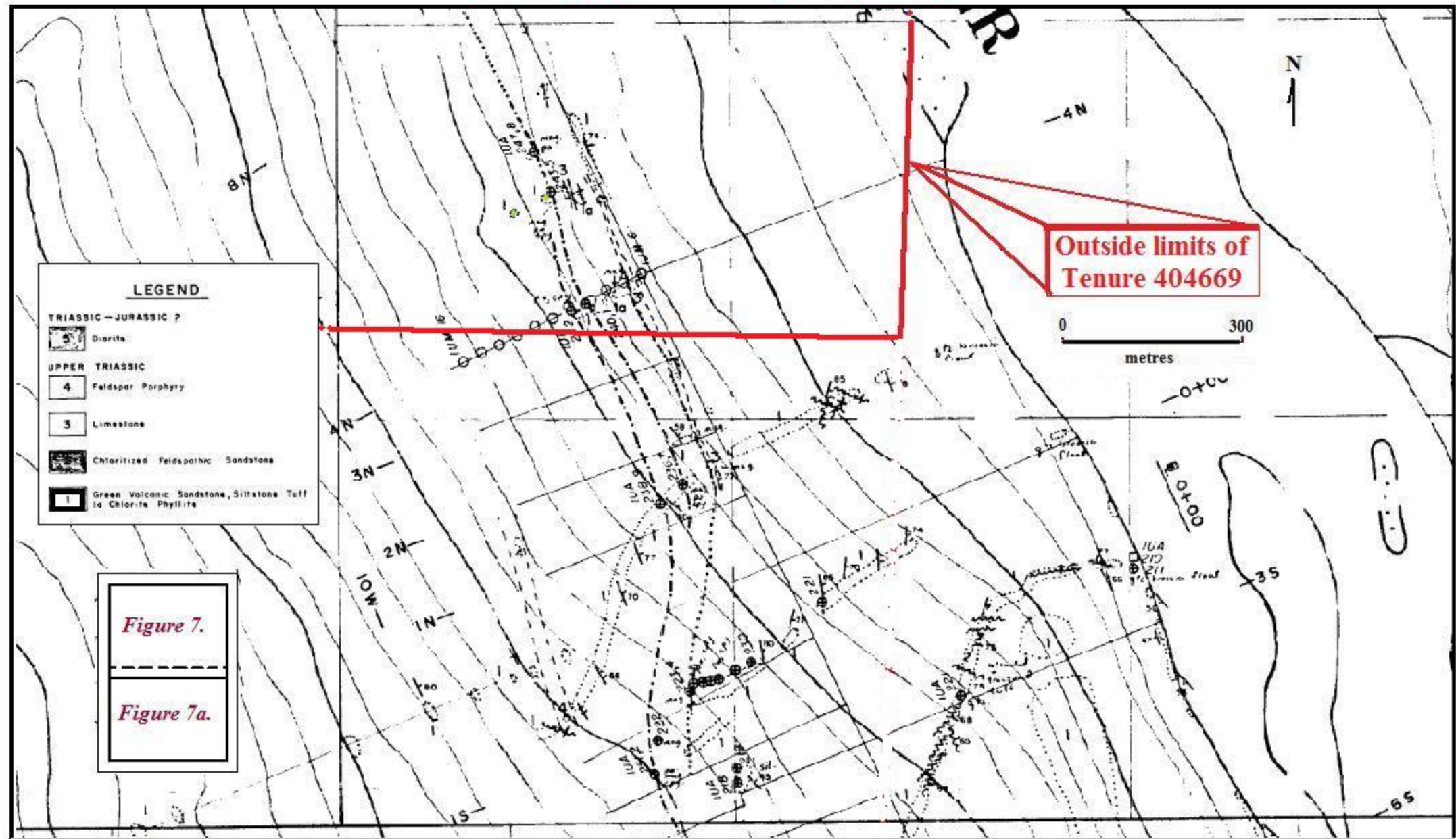


Figure 7a. 1981 Exploration Results on Tenure 404669 Ground

Base Map from Tsolum Resources Ltd. (AR 09723)



# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event 4251315

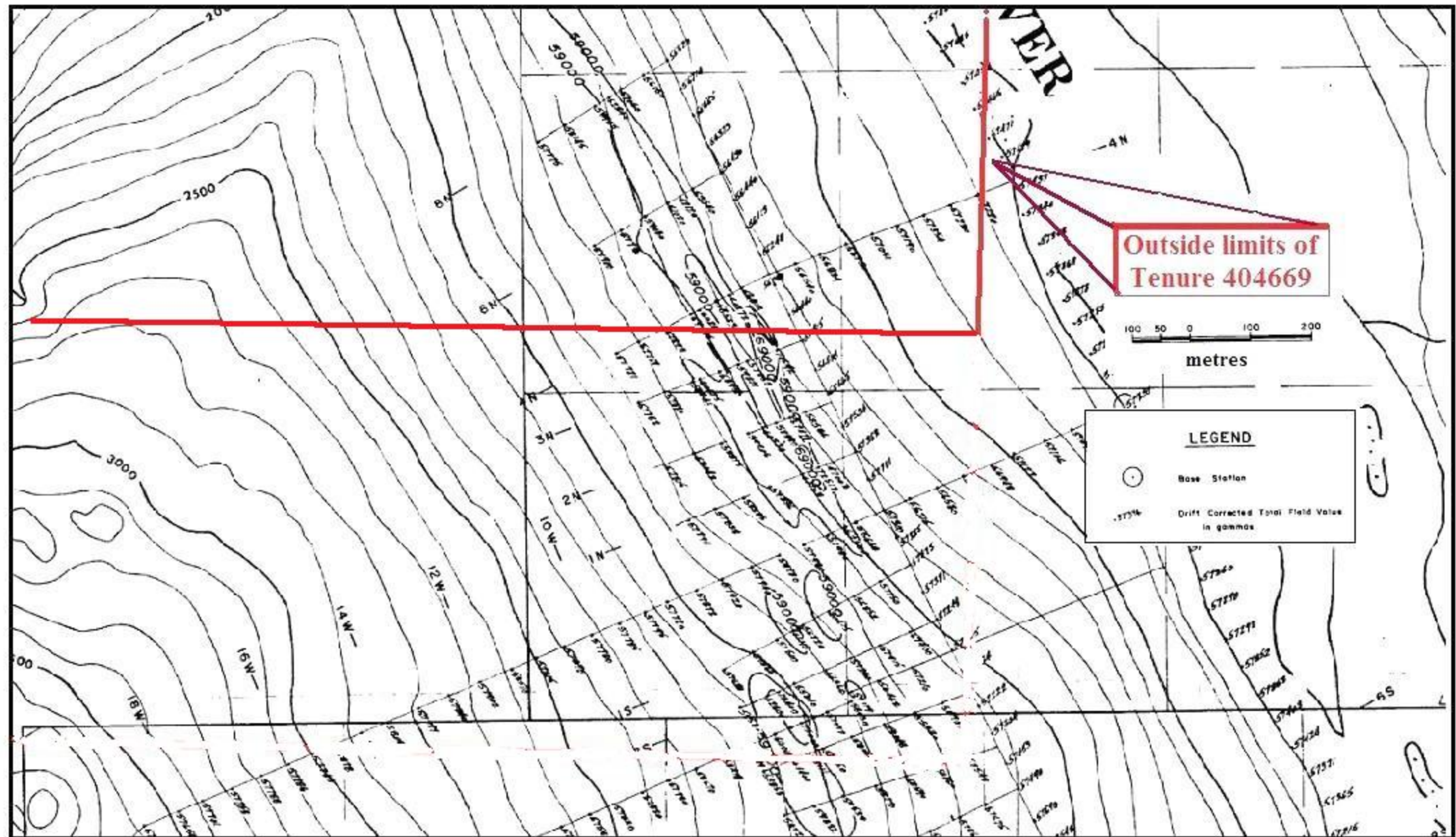


Figure 7b. 1981 Exploration Results on Tenure 404669 Ground  
Base Map from Tsolum Resources Ltd. (AR 09723)

## **MINERALIZATION: REGIONAL (cont'd)**

### **Eskay Creek (cont'd)**

As traced by diamond drilling the entire zone extends 1400 metres along strike, 250 metres downdip and is from 5 to 45 metres thick. It is open to the northeast and downdip. Mineralization displays both lateral and vertical zoning.

Antimony, arsenic and mercury-rich mineral assemblages in the south change to zinc, lead and copper-rich assemblages in the north.

Vertical zoning is expressed as a systematic increase in gold, silver and base metal content up-section.

Based on mineral associations and continuity of grade, the 21 zone has been divided into two deposits: the 21A (formerly called the South zone) and the 21B (which includes the former Central and North zones, now linked by drilling). The deposits are separated by 140 metres of weak mineralization. Two new mineral zones, the 21C and Pumphouse, have recently been discovered. The 21C is centred about 450 metres due north of the 21A deposit. It is a discrete mineral zone 100 metres downdip from the 21B deposit and subparallel to it. The Pumphouse zone is located immediately northeast of Pumphouse Lake, east of the southern end of the 21B deposit.

Drilling in the 21A deposit area has outlined a mineralized zone approximately 280 metres long and up to 100 metres wide. Thickness is variable, averaging about 10 metres. The deposit is contained within the contact unit and underlying rhyolite unit.

The deposit can be subdivided into an upper, stratabound zone of disseminated to near-massive stibnite and realgar within the contact unit, and a lower, stockwork zone of disseminated sphalerite, tetrahedrite and pyrite within the rhyolite unit. High-grade (> 15 grams per tonne) gold and silver mineralization occurs in variably sheared carbonaceous mudstone and mudstone-rhyolite breccia. A diverse suite of metallic minerals has been identified.

Zones of nearly massive stibnite, realgar and orpiment pass along strike and downdip into disseminated domains where sulphides occur in veinlets, as feathery masses, or as heavy impregnations along shears or in the mudstone matrix. The breccia matrix is variably pyritic. Both breccia matrix and clasts contain needles of stibnite and arsenopyrite. Gold occurs as native gold, amalgam and possibly in mercurian wurtzite. Silver occurs as native silver, amalgam, tetrahedrite and unnamed silver-lead-arsenic-sulphur minerals. Mineralization is associated with areas of intense alteration. Both members of the contact unit are overprinted with varying amounts of magnesian chlorite, muscovite, chalcedonic silica, calcite and dolomite; pyrobitumen is ubiquitous.

Disseminated to microfracture-filling mineralization in the rhyolite unit is characterized by low to moderate tenor gold (1-15 grams per tonne) and locally high silver, associated with base metal sulphides and minor to trace antimony, arsenic and mercury minerals. Tetrahedrite, pyrite, sphalerite and galena predominate, with minor aktashite and chalcopyrite. Realgar and orpiment are rare to nonexistent. Carbon and graphite are absent.

Beneath stratabound mineralization of the contact unit, the rhyolite unit is highly fractured and intensely altered. Fracturing, alteration intensity and metal tenor appear to increase toward the upper contact. Within 3 to 4 metres of the upper contact, rhyolite-hosted mineralization is characterized either by massive chlorite-gypsum-barite rock or by quartz-muscovite-sulphide breccia.



## **MINERALIZATION: REGIONAL (cont'd)**

### **Eskay Creek (cont'd)**

Mineralization in the footwall dacite unit commonly occurs in the datum dacite member. It consists of semi massive to disseminated, crystalline pyrite, sphalerite, tetrahedrite, galena and chalcopyrite.

The 21B deposit is approximately 900 metres long, from 60 to 200 metres wide and locally in excess of 40 metres thick. It is displaced on the east by the northeast trending Pumphouse Creek fault and related north trending splays. The deposit is open to the northeast along strike, to the immediate east on fault-offset segments, and is partially open to the west at depth. It displays varied styles of mineralization and alteration. The southernmost 600 metres of the 21B deposit (the former Central zone) is characterized by stratabound and stratiform high-grade gold and silver-bearing base metal sulphide layers. Banded sulphide mineralization occurs in carbonaceous and tuffaceous mudstones of the contact unit. Sulphides form disseminated, semi massive and massive laminae and bands, up to 12 metres thick, that appear to parallel bedding in the mudstones. In approximate order of abundance sulphide minerals include amber sphalerite, tetrahedrite, boulangerite and bournonite with minor pyrite and galena.

Gold and silver occur as 5 to 80-micron grains of electrum within fractured sphalerite, commonly in contact with galena. Realgar and stibnite are absent. Gangue minerals include magnesian chlorite, muscovite and quartz with lesser amounts of dolomite and calcite.

Peripheral to and beneath banded sulphide mineralization are areas of micro fracture veinlets and disseminations of tetrahedrite, pyrite and minor boulangerite. Gangue minerals include magnesian chlorite, muscovite, potassium feldspar and calcite. Footwall, rhyolite-hosted stockwork mineralization is volumetrically insignificant in comparison with either the 21A deposit or the northern 21B deposit.

In contrast, the northern 300 metres of the 21B deposit (the former North zone) exhibits considerable geological and structural complexity. Although host rock stratigraphy is similar to that found to the south, mineralization occurs at several different stratigraphic levels. Gold, silver and base metal-rich lenses occur in hangingwall unit interflow mudstones as well as in the contact unit mudstone and underlying rhyolite unit breccias. Very high grade mineralization occurs deeper in the rhyolite unit in association with crosscutting zones of fracture-related alteration. The mineralized zone is thick and cut by zones of strong shearing. Hangingwall mineralization is hosted by two mudstone beds near the base of the hangingwall andesite unit and is associated with pervasive chlorite alteration and locally heavy barite.

Near-massive dark sphalerite, galena and tetrahedrite with lesser amounts of pyrite and chalcopyrite occur as two partially stacked lenses.

Mineralization in the contact unit is dominantly comprised of sphalerite, tetrahedrite and possibly boulangerite with varying amounts of galena and chalcopyrite. Alteration minerals are again chlorite, muscovite, quartz and calcite. Mineralized textures vary from crudely banded massive sulphides to thick and thin sulphide bands intercalated with mudstone.

Crosscutting mineralization in the contact and rhyolite units occurs as siliceous (quartz-healed) and carbonate-rich breccias with anastomosing, crustiform veinlets and disseminations of coarse-grained iron-rich sphalerite, fine-grained pyrite, with minor galena, chalcopyrite and tetrahedrite group minerals. Gold occurs as spectacular films, wires or blebs associated with fractured sphalerite.

## **MINERALIZATION: REGIONAL (cont'd)**

### **Eskay Creek (cont'd)**

Lead isotope analyses of galena samples collected from Eskay Creek veins and massive sulphide lenses coincide with early Jurassic lead ratios from the Kitsault, Stewart, Sulphurets and Iskut mining camps. Isotopic data are taken to indicate a widespread, early Jurassic mineralizing event. The Eskay Creek deposits are also products of this event (Exploration in British Columbia 1989).

The 21 zone mineralization is unusual. There is a close spatial and apparently temporal relationship between what conventional models describe as low-temperature epithermal and volcanogenic massive sulphide deposit types.

Epithermal mineralization, characterized by gold, silver, arsenic, antimony and mercury mineral suites, forms massive and stratabound lodes as well as more usual crosscutting veins and disseminations. Massive sulphide mineralization show typical "syngenetic" ore textures but atypical mineralogy and precious metal enrichment. 1995 and 1996, drilling and underground exploration on the 21B zone have outlined proven and probable reserves of 1,090,000 tonnes grading 65.14 grams per tonne gold, 2949.0 grams per tonne silver, 5.6 per cent zinc and 0.77 per cent copper (Information Circular 1996-1, page 5). During 1994 the access road to the mine area was completed and construction of minesite facilities was completed by fall. The first shipment of ore started January 1995, two years after application to the provincial government for a Mine Development Certificate. The direct shipping ore was crushed and blended at the mine and then moved by rail from Kitwanga to Noranda's Horne smelter in Quebec, and by sea from Stewart to Dowa Mining's smelter in Japan. At a daily mining rate of 245 tonnes, annual production is estimated at 6,220 kilograms of gold and 83,000 kilograms of silver, together with copper and zinc. The operating cost is forecast to be US\$187 per ounce gold equivalent. Eskay Creek will become the fourth largest silver producer in the world. Zinc will be recovered using the solvent extraction - electrowinning method (Information Circular 1995-1, pages 9-10).

In 1996, reserves were 1.08 million tonnes at 65.5 grams per tonne gold, 2930 grams per tonne silver, 0.77 per cent copper and 5.6 per cent zinc (Exploration in BC 1996, page B5).

As of January 1, 1997, proven and probable reserves at Eskay Creek were estimated at 1,267,340 tonnes grading 59.38 grams per tonne gold and 2718.86 grams per tonne silver. Geological resources at January 1, 1997 were 252,200 tonnes grading 18.55 grams per tonne gold and 1083.43 grams per tonne silver (George Cross News Letter No. 25 (February 5), 1997). As of January 1, 1998, proven and probable reserves were 1,356,240 tonnes grading 58.05 grams per tonne gold and 2684.57 grams per tonne silver. Geological resources (mineralized material) were 336,565 tonnes grading 20.13 grams per tonne gold and 411.43 grams per tonne silver (Prime Resources Group Inc., Press Release, January 22, 1998).

## **MINERALIZATION: TENURE 404669 AREA**

### **Bench showing (Massive Sulphide Cu-Pb-Zn)**

MINFILE 104B.010

Four kilometres northeast

Little outcrop mineralization has been encountered at the Bench zone. Disseminated sphalerite, galena and pyrite were found in one location in sediments of the Troy Ridge member. Elsewhere, discontinuous disseminated to semi-massive lenses of pyrite and pyrrhotite have been locally observed along contacts between sediments (Troy Ridge member) and mafic volcanics (John Peaks member) in the eastern portion of the Bench zone. Up to 10 per cent disseminated pyrite and pyrrhotite are locally encountered within tuffaceous sediments throughout the area.

## **MINERALIZATION: TENURE 404669 AREA**

**Chris** showing (Cu, Au, Fe, Skarn)

MINFILE 104B.125

200 metres southeast

Mineralization consists of massive magnetite and pyrrhotite, with chalcopyrite occurring in one to three limestone horizons. Magnetite occurs as layers in relatively pure limestone, whereas the sulphides occur in thin beds of green chloritic limestone that have almost completely been replaced. Chalcopyrite occurs as streaks and disseminations in massive magnetite and pyrrhotite, and locally in commonly siliceous tuff units that underlie massive sulphide layers.

All rock units have been moderately chloritized. Only minor development of skarn silicates occurred, with garnet and diopside occurring erratically as scattered grains and masses in the magnetite or sulphide rich limestone host. Locally, fine-grained silica occurs in tuff. Quartz veins and quartz cemented breccia are common in some fault zones.

A 1988 rock sample (character unknown) assayed 249 grams per tonne silver. Other rock samples contained as much as 0.37 grams per tonne gold. Stream samples up to 10 grams per tonne gold were also obtained (Personal Communication, Terry Heinrich).

**C10 Corey** prospect (Polymetallic Veins Ag-Pb-Zn+/-Au)

MINFILE 104B 240

Five kilometres east

A sample of the pyritic sericite schist contained 1.30 grams per tonne gold. A pyrrhotite-chalcopyrite float sample contained 9.53 grams per tonne gold and 115.89 grams per tonne silver (Assessment Report 16364). Another sample taken from a location 600 metres to the west-northwest contained 2.06 grams per tonne gold. A float sample found about 1 kilometre north of this assayed 55.54 grams per tonne silver (Assessment Report 17404).

**Cumberland** prospect (Massive Sulphide Cu-Pb-Zn; Au pyrrhotite veins)

MINFILE 104B.011

Four kilometres northeast

Mineralization at the Cumberland occurs in mafic volcanic units, possibly pillow basalt and breccia and thin mudstone horizons. Mineralization is composed of lenses 0.5 to 3.0 metres wide of massive sphalerite, barite, galena and pyrite. Sampling of this material has returned assay values as high as 9.4 grams per tonne gold, 93 grams per tonne silver, 0.45 per cent copper, 2.70 per cent lead and 9.80 per cent zinc. The zone of mineralization is highly sheared and disrupted and both the mineralization and host rocks have a pronounced mylonitic fabric and a steep plunge. A re-examination of rocks mapped by Placer as conglomerate and mudstone revealed rhyolite breccia and tuffaceous mudstone. The rhyolite is aphyric, cream to white coloured, with flow-banded to massive fragments in a dark gray, siliceous matrix. These rhyolite units possibly lie in the structural footwall of the Cumberland showing. Prospecting and soil geochemical traverses 1000 metres south of the showing (at 800 metres elevation) identified two possible extensions of the rhyolite horizons. In 1997, three outcrops of massive barite mineralization containing galena, sphalerite and associated silver mineralization were discovered and sampled returning assays up to 12,171 grams per tonne silver in grab samples and 4046 grams per tonne silver in a one-metre channel sample.

## **MINERALIZATION: TENURE 404669 AREA (cont'd)**

### **Har** showing (Cu skarn)

MINFILE 104B 009

Two kilometres southwest

Skarn-type mineralization including magnetite, chalcopyrite, specularite and pyrite is localized within Triassic interbedded limestones near the contact with the quartz diorite. The skarn hosts abundant disseminated magnetite, specularite with pyrite and chalcopyrite

### **Max** developed prospect (Fe skarn)

MINFILE 104B 013

Three kilometres southwest

The Max deposit consists of massive magnetite mineralization and associated chalcopyrite, pyrrhotite and pyrite. The zone occurs at the contact between the diorite and sedimentary sequence with almost all of the chalcopyrite and magnetite occurring within the sedimentary sequence. Typical skarn-type metamorphism is evident within the sediments and diorite immediately below the magnetite zone.

Immediately east of the Max deposit, medium-grained diorite is in fault contact with the sedimentary rocks. Minor disseminated chalcopyrite occurs within the diorite. Also, a gossanous zone within the dioritic intrusive is mineralized with chalcopyrite and molybdenite (Property File - Newmont Map, 1960's).

### **Smitty** prospect (Massive Sulphide Cu-Pb-Zn; Hot Spring Ag-Au)

MINFILE 104B 395

Two kilometres east

The VMS mineralization comprises bedded massive pyrite, chalcopyrite, sphalerite, galena and tetrahedrite within mudstone of the Middle Jurassic Salmon River Formation, Hazelton Group. The massive sulphide portion of the discovery is up to 0.9 metres thick in outcrop. The massive sulphide and mudstone are within a wider band of rhyolite, intermediate volcanics and volcanoclastic sediments close to the contact with overlying basalt correlative with the Eskay rift volcanic-sedimentary succession. A chip sample across 0.9 metres yielded 0.62 per cent copper, 0.14 per cent lead, 4.32 per cent zinc and 159 grams per tonne silver.

### **Sulphide Creek Placer**

MINFILE 104B.227

Five kilometers north

The area around the junction of Sulphurets (formerly Sulphide) Creek and the Unuk River is underlain by Lower Jurassic Hazelton Group volcanics and volcanoclastics of the Unuk River Formation. The rocks are comprised of altered tuffs and lithic tuffs with minor chert, andesite and chloritic schists.

In 1929, free gold was reported in river gravels at the junction of Sulphurets (Sulphide) Creek and Unuk River. The gold is described as flaky and considerably worn and fine colours were seen in every pan of material tested. Local irregularities were noted in the bedrock near the placer gravels.

In 1935, a composite sample, taken from sand bars at the mouth of Sulphurets Creek, which contained abundant alluvial pyrite assayed 1.03 grams per tonne gold, trace silver, trace copper (Annual Report 1935, page B10).

## **MINERALIZATION: TENURE 404669**

Kruchkowski (1988) reports on mineralization on the Mikey and Lisa claims (AR 18801) which are in part covered by the Property (Figure 6) as:

...semi-massive to massive magnetite and pyrrhotite with chalcopyrite occur in one to three limestone horizons. Magnetite occurs as layers in the relatively pure limestone units whereas the sulfides occur in thin beds of green chloritic limestone that have been almost completely replaced. The mineralized horizons range in thickness from 0.5 metres to at least 7 metres thick. Chalcopyrite occurs as streaks and disseminations in massive magnetic and pyrrhotite and locally in commonly siliceous tuff units that underlie the massive sulfide layers. Pyrite and pyrrhotite occur as fine disseminations locally in the volcanoclastics especially where they appear to have been silicified. Some of the magnetite-rich beds are vuggy and partly converted to limonite, indicating that some of the sulfides may have been leached out by weathering of other than that indicated by the anomalous gold values from the 1988 stream silt samples.

## **2008 LINEAMENT ARRAY ANALYSIS**

A lineament array analysis was completed on Tenure 404669 to determine potential controlling structures to volcanogenic massive sulphide copper/lead/zinc mineralization hosted by dioritic to gabbroic rocks the Late Triassic Stikine, or McQuillan, or Katete Mountain, Plutonic Suites of (TrSMk) or the andesitic volcanic rocks of the Lower Jurassic Hazelton Group (IJHva). Both of these mineral deposit types occur in the area and host massive sulphide mineralization and/or polymetallic veins.

Hill shade maps obtained from MaPlace were utilized as the base map for the lineament array analysis. The analysis was accomplished using a stereographic projection viewing of the maps and marking the lineaments on an overlay. A total of 76 lineaments were marked as indicated on Figure 8, compiled into a 10 degree class interval, and plotted on a rose diagram as indicated on Figure 9.

## **INTERPRETATION**

The 2008 Lineament Array Analysis on the Property indicated predominant northwesterly trending structures that parallel the northwesterly trending South Unuk River valley, which is a regional structure. Northeasterly structures, paralleling the regional structure of Unuk River, are also evident although not as conspicuous in the topography. Numerous short north-south and east-west structures occur resulting from the interaction of the two regional structures within the north portion of the Property.

Intersections of at least three directional faults were determined from the results of the Lineament Array Analysis.

The intersecting structural locations, A, B, & C as shown on Figure 8, would be prime exploration sites for the location of potential zones of structurally controlled mineralization. All three locations would be favourable exploratory sites for massive sulphide mineralization or polymetallic veins as at the Kenrich C10 Corey mineral showing five kilometres east or skarn mineralization as at the MAX deposit three kilometres southwest.



# KENRICH-ESKAY MINING CORP.

Tenure 404669

Event 4251315

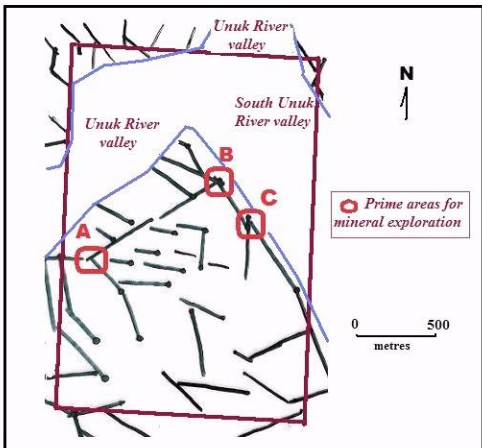
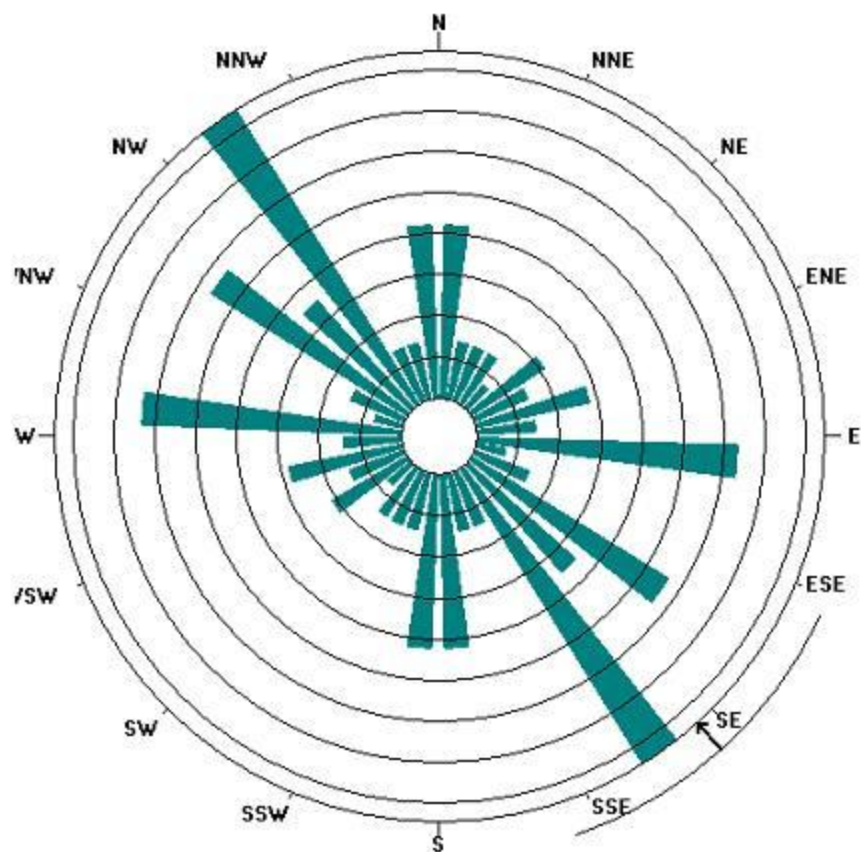


Figure 8. LINEAMENTS

# KENRICH-ESKAY MINING CORP.

Tenure: 404669

Event: 4251315



No. of Data = 76

Sector angle = 10°

Scale: tick interval = 2% [1.5 data]

Maximum = 15.8% [12 data]

Mean Resultant dir'n = 136.316

[95% Confidence interval = ±61

Circ. Median = 139.00-319.00

Circ. Mean Dev. about median = 38.30°

**Figure 9. ROSE DIAGRAM**

Respectfully submitted  
Sookochoff Consultants Inc.



Laurence Sookochoff, PEng.

**STATEMENT OF COSTS**

Lineament Array Analysis -----	1,000.00
Maps -----	1,000.00
Report 2.0 days @ \$1,000.00 -----	<u>2,000.00</u>
	\$4,000.00
	=====



## **SELECTED REFERENCES**

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- |             |           |
|-------------|-----------|
| Corey 10;   | 104B 240. |
| Bench       | 104B 010  |
| Cumberland  | 104B 011  |
| E & L;      | 104B 006. |
| Eskay;      | 104B 008. |
| Iliad;      | 104b 230. |
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| North Fork; | 104B 226. |
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## **CERTIFICATE**

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. and state that:

- 1) I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2) I have been practicing my profession for the past forty-two years.
- 3) I am registered and in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 4) This report is based on information as itemized in the Selected Reference section of this report and from the Lineament Array Analysis completed by the author.



Laurence Sookochoff, P. Eng.

Vancouver, BC