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# GEOLOGICAL REPORT ON THE ROX 1,2 CLAIM GROUP JERVIS INLET AREA, SOUTHWEST B.C.

	ancouver Mining Division
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Gold Commissioner's Ottice	
VANCOUVER, B.G. ite	Channel Resources Inc.,
201-74	4 W.Hastings St.,
Vancou	ver, B.C. V6C 1A5

by

Andris Kikauka, B.Sc., F.G.A.C.

Feb. 15, 1991

# GEOLOGICAL BRANCH ASSESSMENT REPORT



# ITEMIZED COST STATEMENT

Rox 1,2 Claim Group- White Channel Res. Inc.

# FIELD CREW

Mob/Demob July 20, 24, 1990	\$ 150.00
Geologist, A.Kikauka, July 21-23, @350/day	1,050.00
Geotechnician, I.Rose, July 21-23, @125/day	375.00

# SERVICES

Room/board/fuel/equipment	@60/day/man	360.00
Report		250.00
	tota	1 2,185.00

#### SUMMARY

The Rox 1,2 Claim Group consists of 2 contiguous, staked mineral claims comprising 20 units. The claims are located 38 km. northeast of Powell R.,B.C. at the headwaters of the Lois R. and are accessed by logging roads which parallel the river. The claim group lies within the Vancouver Mining Division.

The claims are underlain by mixed volcanic and sedimentary rocks of the Lower and Middle Jurassic Bowen Island Group, forming a roof pendant within Late Jurassic and Cretaceous plutonic rocks of the Coast Range Complex. Lithologies within the roof pendant consist of tuffaceous sandstone, argillaceous siltstone, andesitic flows/sills, chloritic schist, carbonate, and chert. This sequence forms an elongated (15 km. long X 1-2 km.wide) roof pendant representing a steeply dipping remnant of pre-Cretaceous strata deformed during the emplacement of the Coast Range Plutonic Complex.

A portion of this roof pendant northwest of Mt.Diadem has been intermittently explored for base and precious metals for the past 65 years. As a result of work by at least 12 different groups, numerous exploration targets have been identified.

Located at the head of No Man's Ck. (2 km. north-northwest of Mt.Diadem), at an elevation of 1,100 m., a 0.1-0.3 m. wide gold bearing quartz vein is exposed in three creek beds over a strike length of 250 m. The vein is sparsely mineralized with pyrite, sphalerite, chalcopyrite, arsenopyrite, and native gold. The vein occurs in a shear zone that trends northeast and dips vertically. This vein is hosted by chlorite-rich volcanics to the south and quartz diorite to the north. A significant amount of fine grained gold was observed from panned concentrate obtained from stream sediment below the quartz vein exposure. Assay value up to 197.62 g/t Au have been reported from this quartz vein. The linear and penetrative structure associated with this brittle-ductile geological contact suggest that there is potential for this quartz vein and related shear zone to continue at depth and along strike.

Numerous base metal occurrences are localized in shear zones and/or volcanic-sediment contacts within the roof pendant. Vein/replacement mineralization consists of sphalerite, galena, chalcopyrite, pyrite, pyrrhotite, arsenopyrite, and greenokite. Veins, pods, and lenses of sulphide mineralization vary from 0.1-5.0 m. width and can be traced for 1.0-25.0 m. along strike. Significant precious metal values are reported from this sulphide-rich mineralization, but it is erratic. The Rox 1,2 Claim Group is highlighted by a significant gold prospect that warrants detailed exploration. A second phase of exploration which includes trenching, mapping, and geochemistry is recommended. Contingent on the results of phase 2, a third phase of exploration, which includes diamond drilling, is warranted.

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## 1.0 INTRODUCTION

This report summarizes geological surveys carried out between July 21-23, 1990 on the Rox 1,2 claims. The author, Mr. Andris Kikauka, planned and supervised all fieldwork and was present on the subject claims from July 21-23, 1990.

# 2.0 LOCATION, ACCESS, TOPOGRAPHY

The Rox 1,2 Claim Group is located 8.2 km. north of Hotham Sound, and 38 km. northeast of Powell R.,B.C.

The claims can be accessed by a logging road from Lang Bay that follows the Lois R. This road comes to within 1.0 km. of the southern edge of the claim boundary. From the end of the road a trail follows the creek bed up to the alpine meadows above tree line. The property can also be accessed from No Man's Ck. via logging roads that follow the Brittain R. valley from the mouth of the river at Jervis Inlet. A 3.0 km. trail along No Man's Ck. from the Brittain R. valley gives access to the east portion of the claim group.

Elevations on the Rox 1,2 claim group range from 700-1675 m. The slopes are generally moderate to steep. Cliffs and very steep terrain are generally absent from the claim area, but immediately north and souteast of the claim there are numerous cliffs. A matterhorn shaped peak, Mt.Diadem (elev. 1785 m.) is located immediately southeast of the Rox 1,2 claim group. The general topography of the area is rugged.

## 3.0 PROPERTY STATUS

The Rox 1,2 claims consist of two contiguous staked mineral claims in the Vancouver Mining Division. The claims are owned by White Channel Resources Inc.

<u>Claim name</u>	<pre># of units</pre>	_Record #	Record Date	Expiry Date
Rox 1	10	2851	July 1, 90	-
Rox 2	10	2852	July 1, 90	

The total area of the claim, allowing for overlap of previously staked claims, is approximately 300 hectares.

#### 4.0 AREA HISTORY

The Mt. Diadem area has recieved intermittent exploration since the 1920's. In 1927 Brittain R. Mining Co.drove two small adits 1.5 km. northwest and 2.0 km. north-northwest of Mt.Diadem. In 1947-50 INCO Canada Ltd. and Bralorne Mines did some open cuts and a short adit in the area of the headwaters of No Man's Ck.(a summary of this work is included in the 1950 Minister of Mines Annual Report).

In 1954 Copper Ridge Silver Zinc Mines Ltd. held 19 claims in the area. Assessment work consisted of mapping and prospecting.

In 1957, W.R.Bacon wrote a summary of the geology of the area for the B.C.Dept.of Mines. Seven months of field work is condensed in Bulletin No.39, Geology of Lower Jervis Inlet, which describes the Mt.Diadem area in considerable detail.

In 1965 Vanco Explorations Ltd. held 17 claims northwest of Mt.Diadem which were called the Linda Group. In 1967 Citation Explorations Ltd.held 73 claims and optioned the Linda Group. In 1970 Tiger Silver Mines optioned the Linda Group and carried out geochemical and geophysical surveys. In 1971 Brittain R.Syndicate optioned 23 claims and performed geophysical and geochemical surveys.

The claims were allowed to lapse and were staked by Fury Explorations Ltd.(Diadem Claim) and R.Schmidt (Fox Claim) in 1978.

In 1982 Anaconda Canada Explorations Ltd. performed a regional stream sediment survey which included the Mt.Diadem area. In 1983 Anaconda optioned the Fox and Diadem Claims and staked additional ground to the north and south of these claims. Anaconda had a seven man crew working the claims for five months. The work program consisted of geological mapping, trenching, geophysical and geochemical surveys, and diamond drilling. Most of the work was concentrated on the base metal showings near the upper and lower adit with very little work performed on the quartz veins of No Man's Ck.

The Geological Survey of Canada mapped the lower Jervis Inlet area in 1989, resulting in an updated age correlation with the use of isotope dating and fossils (Friedman,R.M.,1990).

#### 5.0 GENERAL GEOLOGY

Mixed volcanic and sedimentary rocks of the Lower and Middle Jurassic Bowen Island Group form a series of northwest trending pendants within Late Jurassic and Early Cretaceous plutonic rocks of the Coast Range Plutonic Complex. These pendants occur along lower Howe Sound and Jervis Inlet and are interpreted to be coeval in part with volcanic rocks of the Bonanza Fm.(Vancouver Island) and the Harrison Lk.Fm. These roof pendants have been referred to as "Inclusions", "Screens", "Septa", and "Great Xenoliths" and represent steeply dipping remnants of pre-Cretaceous strata deformed during the emplacement of the Coast Range Plutonic Complex.

Mt.Diadem forms part of a ridge consisting of Lower and Middle Jurassic Bowen Island Group sediments and volcanics that form a 15 km.long and 1-2 km. wide roof pendant. Lithology along the east portion of the pendant consists of dark green coloured, chlorite rich massive volcanic flows and tuffs which contain intercalations of grey-black coloured cherty tuff, and foliated, rusty, pyritic, argillaceous siltstone. The west portion of the pendant contains well banded clastic sediments, minor carbonate, and intercalations of mafic-intermediate tuffs/flows and/or sills.

The 800 km.long and 100 km.wide Coast Range Plutonic Complex follows the entire west part of the province of British Columbia. In the Mt.Diadem area, a feldspar rich diorite and quartz diorite are the dominant rock type of the Coast Range Plutonic Complex. Minor granite and feldspar porphyry occur near the roof pendant contacts.

The most prominent feature of the Mt.Diadem area is the near vertical attitude of the bedding and cleavage within the roof pendant strata. It is suggested by Bacon (1957) that the term "pendant" is misleading. He states that "these belts are not wedge shaped, but are more likely to be steeply-dipping leaves between batholithic walls". This suggests a deep down dip extension of the near vertical pendant in contrast to small, patchy remnants of the roof pendant in the Sechelt Peninsula.

Base and precious metal mineralization occurs along shear zones and lithological contacts as vein/replacement zones. Various polymetallic and simple sulphides in a quartz gangue occur as veins, lenses, pods, and breccia zones. Gold bearing quartz, located at the head of No Man's Ck.is well documented by Minister the of Mines Annual Report, 1950 (see appendix A, B). Base metal mineralization with minor precious metal values, is present at the head of the Lois R.(upper and lower adits) and on the north slope of Mt.Diadem (see fig.3).

#### 6.0 PROPERTY HISTORY

The Rox 1,2 Claim Group covers the north portion of the Mt.Diadem area mineral occurrences (which includes the gold bearing quartz vein at the head of No Man's Ck.). The property also contains a portion of the upper adit and Mt.Diadem adit base metal showings.

From 1947-50 INCO Canada Ltd. and Bralorne Mines Ltd. performed work on the claims which included geological mapping, trenching, slucing, and construction of a cabin near the head of No Man's Ck., with trail access to the Brittain R.valley. This work led to the discovery of a gold bearing quartz vein (traced along strike for 800 feet) that contains visible free gold with assay values up to 5.77 oz/t Au. The vein occurs in a narrow shear that strikes northeast and dips vertically. The vein can be traced along creekbed exposures at 3,600 ft.(1,100 m.) elevation. The southern portion of the vein is hosted by chlorite-rich volcanics. A well defined shear zone with the quartz diorite hosts the north portion of the vein. Mineralization consists of pyrite, chalcopyrite, native gold within sphalerite, arsenopyrite, and the quartz.

In 1982, Anaconda Canada Explorations Ltd.sampled stream sediments from creeks draining the Mt.Diadem area. A multi-element Cu-Pb-Zn-Ag-Au-Sb-Bi-Mo geochemical high was identified in the area of the Rox 1,2 Claims. The results warranted a major follow up which included 10 km. GENIE horizontal loop EM, geological mapping, geochemical surveys, and trenching. Rock chip samples from 3 separate creek gully exposures of the No Man's Ck.quartz vein assayed as follows; 1) 24.3 g/t Au (16 cm.wide). 2) 30.4 g/t Au (7 cm.wide) and 27.0 g/t Au (8 cm.wide), two veins separated by 2 m. of altered country rock which was not assayed. 3) 9.4 g/t Au (30 cm.wide). The 1983 Anaconda report recommended trenching and diamond drilling this vein (Riccio, L., 1983).

Several occurrences of gold bearing pyrrhotite and arsenopyrite were located 200-500 m.west of the No Man's Ck. quartz vein. The following assays were obtained; 5.5 g/t Au (3 cm.wide), 5.1 g/t Au (5 cm.wide), 3.7 g/t Au (3 cm.wide). These showings are found in shear zones within the central portion of the roof pendant where the volcanics contact a thick sequence of sediments to the west (Riccio,L,.1983).

#### 7.0 1990 FIELD PROGRAM

From July 21-23, a geologist and geotechnician carried out geological mapping and surveying. The purpose of this program was to cover the claim group with a comprehensive geological survey and to identify mineral deposits.

Utilizing a hip chain and compass, a 1:12,000 geological map of the claim group was surveyed, which included 1:5,000 detailed geological mapping in the area of No Man's Ck.

#### 8.0 RESULTS

# 8.1 GEOLOGY AND MINERALIZATION

Geological mapping has identified a sequence of Lower and Middle Jurassic volcanics and sediments of the Bowen Island Group. This northwest trending, steeply dipping belt interpreted as a roof pendant is within the Coast Range Plutonic Cretaceous Complex. Chloritic andesite tuffs/flows, tuffaceous sandstone, and diorite sills dominate the east part of the pendant (Rox 2 Claim). Thw west part of the pendant (Rox 1 Claim) contains argillaceous siltstone, tuffaceous sandstone, and minor chert, carbonate, andesite flows and/or sills.

The following lithological units were identified on the Rox 1,2 Claims;

#### LOWER AND MIDDLE JURASSIC BOWEN ISLAND GROUP

- 1 Tuffaceous sandstone, siltstone, chloritic schist (dk.green-grey colour, weak northwest trending foliation developed).
- 2 Tuffaceous sandstone, siltstone (dk.green-grey colour, sub-rounded felsic fragments 1-5 mm.size with chloritic rims stretched out,weak foliation developed trending northwest).
- 2a Andesitic flows and/or sills (dk.green colour, 10-100 cm.wide lenses up to 100 m.long, intercalated within the sediments, approx. 20% exhibits medium grain size intrusive texture.
- 2b Andesitic flows with pillow lava texture preserved.
- 3 Siltstone, argillaceous and graphitic, minor interbedded carbonate (containing well preserved ammonites resembling Sinemurian Arnoceras kwakiutlanus), and minor lapilli tuff (10-150 cm. wide and 200 m.long lenses, 1-15 mm. sub-rounded clasts).
- 3a Andesitic flows and/or sills (dk.green-grey colour, 10-100 cm.wide, 10-100 m.long lenses intercalated within the sediments, approx.20% exhibits medium grain size intrusive texture).
- 4 Siltstone, sandstone, (grey-black colour, steeply dipping, well-bedded 1-5 cm.layers), minor black chert.
- 4a Andesitic flows, (dk.green colour, massive).

#### CRETACEOUS COAST RANGE PLUTONIC COMPLEX

5 Quartz diorite, diorite, granite, and minor feldspar porphyry.

The Bowen Island Group volcanics and sediments have been deformed by the Coast Range Plutonic Complex producing near vertical orientated bedding and cleavage. Isoclinal folding axes and axial plane cleavage strikes northwest which roughly parallels the trend of the bedding. Relatively small displacement (1-4 m.) shearing parallels the axial plane and has cut parasitic folds making the fold axes interpretation of the vergence of major difficult. However, if viewed from Skwim Lake, the sediments of unit 4 form an antiformal axes. Unit 1-3 contains north-northwest trending shears throughout. Minor north and northeast trending shears are related to sulphide mineralization present on the east part of the claim group.

The gold-bearing quartz vein, located at the 1,100 m. contour at the head of No Man's Ck., follows a northeast trending shear zone that is hosted by tuffaceous sandstone and chloritic schist to the south and a quartz diorite to the north. Detailed mapping of the vein area has traced it for a strike length of 250 m. The average width of the vein is 0.2 m. This data is based on three creek exposures on the middle and north branch of No Man's Ck. Overburden obscures the northeast and southwest extension of the zone/quartz vein. The middle branch exposure shear exhibits two 0.08 m. wide guartz veins separated by 2 m. of altered country rock. The north branch exposure contains light grey coloured fault gouge within a shear zone that trends 050 and dips 75 degrees NW. This attitude is consistent along the strike length of the vein. Several specks of native gold were observed in the quartz and panned concentrate from stream sediment directly below the quartz vein showed a streak of fine grained native gold.

Veins, lenses, and pods of pyrrhotite and arsenopyrite hosted by unit 2 were located 200-400 m. west of the No Man's Ck. vein. These north trending, steeply dipping showings can be traced along strike for 5-50 m. but rarely exceed 0.03 m. width. The occurrences are related to fractures within the andesite flows/sills of unit 2a and there contact with unit 2.

Base metal occurrences on the Rox 1,2 include the north portion of the upper adít and Mt.Diadem adit. Vein/replacement mineralization consisting of pyrite, sphalerite, galena, chalcopyrite, pyrrhotite, and (cadmium sulphide) greenokite traced along sheared contacts of sediments and volcanics. Brecciated zones were observed to widths in excess of 5 m., but the average width of the base metal showings is 0.7 m. Split drill core that remains at the upper adit showings indicates sulphide bearing intersections in excess of 2 full core boxes (50 ft.), but it appears that mineralization is largely pyrrhotite.

#### 9.0 CONCLUSION

The Rox 1,2 Claim Group has potential to host an economic gold deposit with some Cu-Zn-Ag values based on the following reasons;

1) A well documented gold bearing quartz vein with assay values up to 5.77 oz/t Au is traced along surface for 250 m., and has an average width of 0.2 m.

2) This vein follows a linear shear zone that cuts a brittle quartz diorite and a more ductile tuffaceous sandstone and chloritic schist contact zone. This geological structure is similar to the Bralorne gold veins which are continuous for over one mile vertically and horizontally.

3) The vein appears narrow on surface, however there has never been any trenching or drilling to test the true width of gold bearing mineralization.

4) The presence of visible gold in quartz and significant amounts of fine grained gold in panned concentrates taken from stream sediments below the vein suggest this vein may contain localized high grade ore.

#### 10.0 RECOMMENDATIONS

A second phase of exploration is recommended to provide detailed follow up of the known mineral trends and to explore unmapped areas. The following program is recommended;

1) Trenching across the quartz vein(s) and wall rock of known exposures of the No Man's Ck. vein.

2) Fill in and extension trenching of vein and wall rock of the covered portions of the No Man's Ck. vein.

3) Detailed geological mapping and rock sampling.

4) Geological mapping and prospecting of a 1.0 X 0.5 km. area at the head of No Man's Ck.(1050-1250 m.elev.).

Contingent on the results of phase 2, a third phase of work, which includes drilling, is recommended.

11.0 PROPOSED BUDGET

PHASE 2

Geologist and 3 Geotechnicians - 15 days	\$ 9,500
Trenching	3,000
Camp costs	3,000
Assays	2,000
Helicopter support	2,000
Report	500

Phase 2 total=20,000

PHASE 3

Diamond drilling, 1000 m. @ \$100/m. 100,000

Respectfully submitted-

A. Kikaner

Andris Kikauka, B.Sc., F.G.A.C.

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REFERENCES

Bacon, W.R., 1957, Bulletin No.39, Geology of Lower Jervis Inlet, BCDM.

Minister of Mines Annual Report, 1950, BCDM.

Riccio,L.,1983, Geological, geophysical, and geochemical report, Anaconda Canada Expl.Ltd., Assessment Report # 11,641.

Friedman, R.M., Age of the Bowen Island Group, SW Coast Mtns., B.C., Can. J.of Earth Sciences, Vol.27, 1990

# STATEMENT OF QUALIFICATIONS

I, Andris Kikauka, do hereby declare that;

- I graduated from Brock University, Faculty of Geological Sciences, St.Catharines, Ont., 1979, receiving Hons. B.Sc., First Class.

- From 1976-79 have performed geological fieldwork for Uranium on the Canadian Shield.

- From 1979-90 have performed geological fieldwork for precious and base metals on the Cordillera of Western Canada.

- I am a fellow in good standing with the Geological Association of Canada.

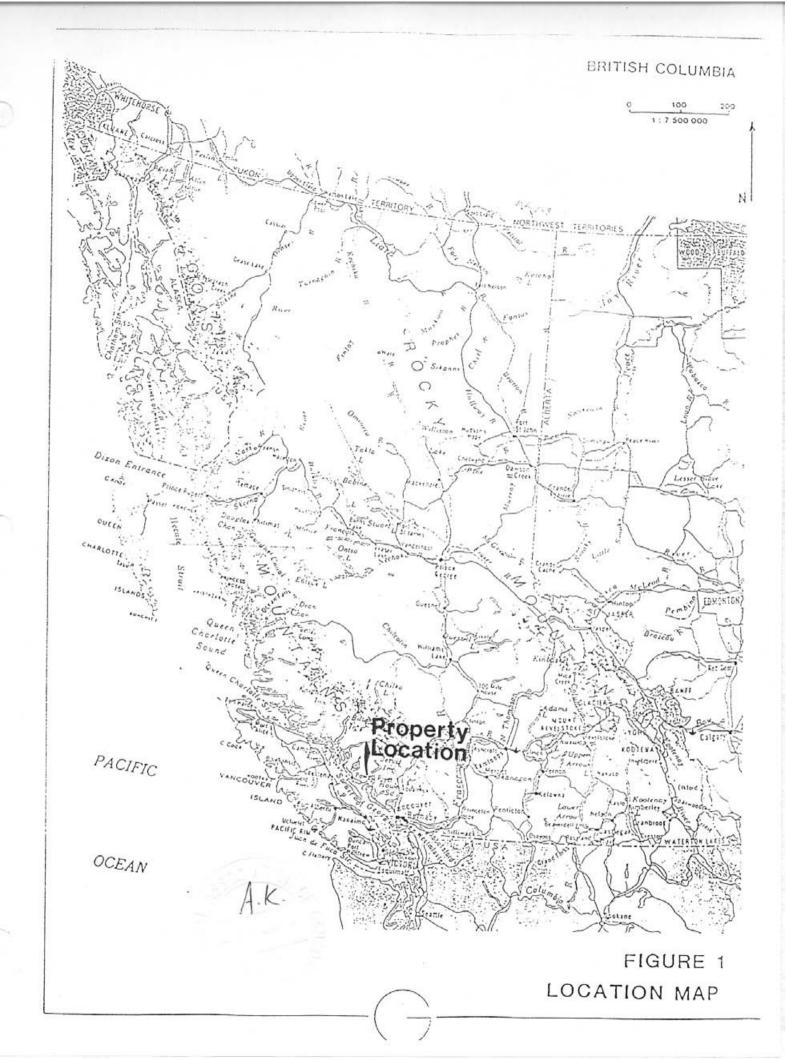
- Personally participated in the field work of this report, reviewed and assessed the data.

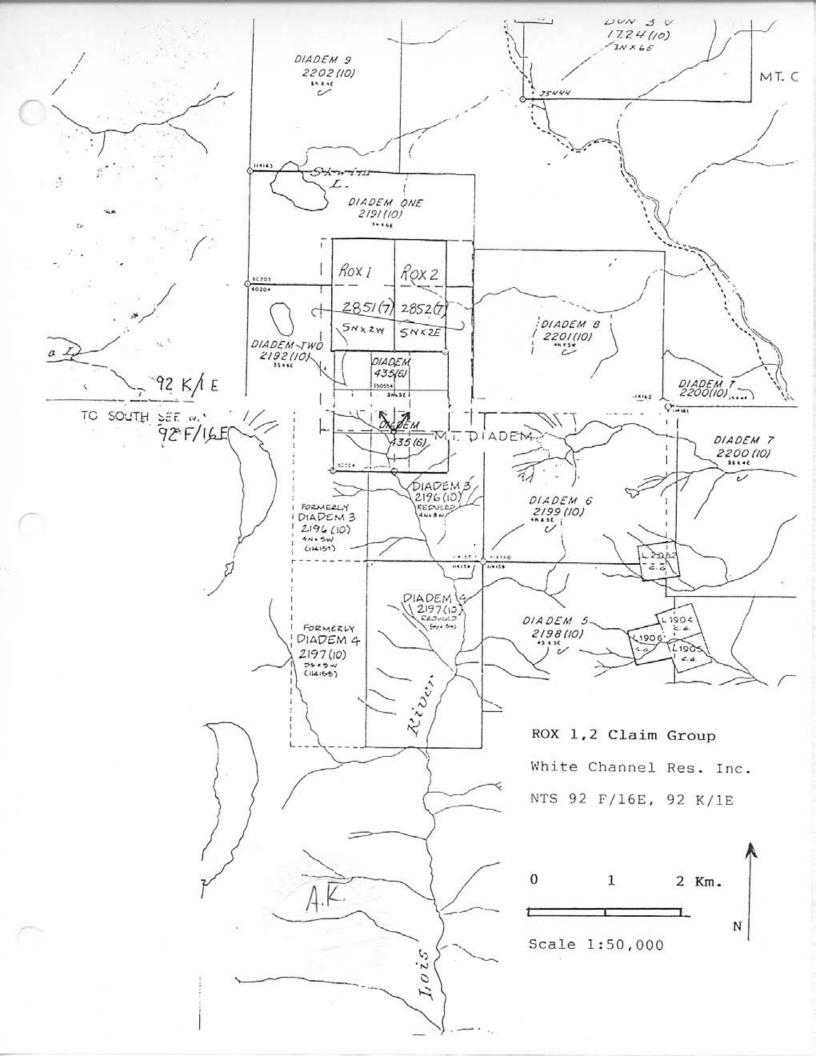
- I am a director of White Channel Resources Inc.

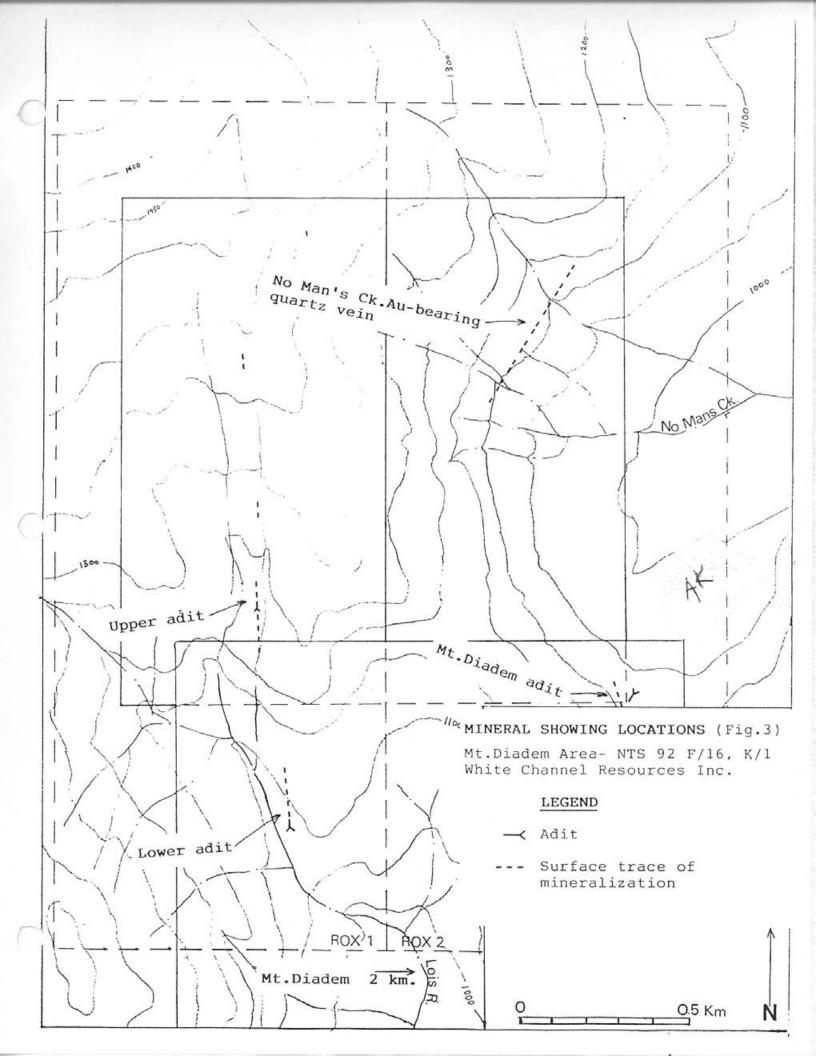
Respectfully submitted-

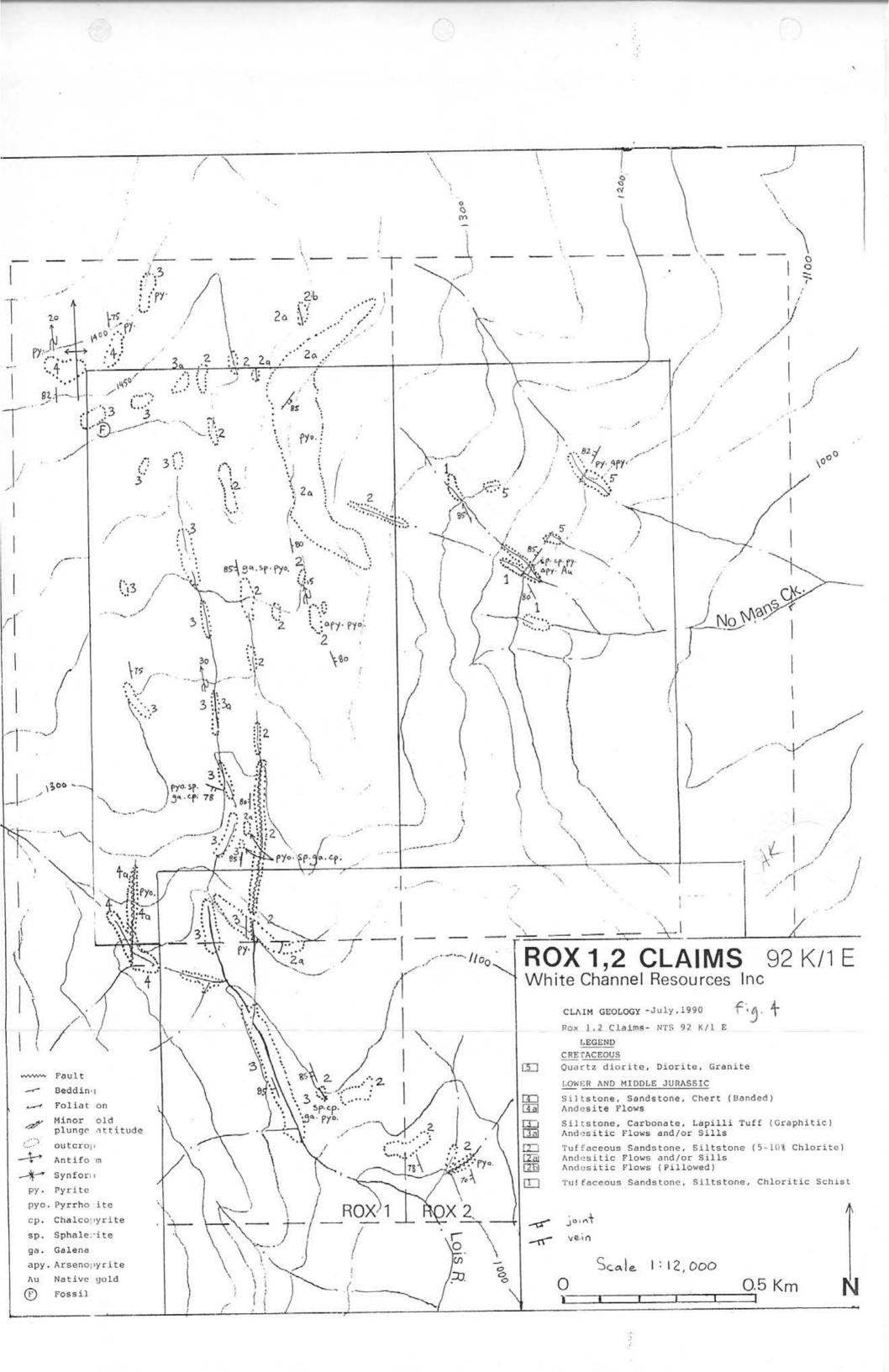
A. Kikankan

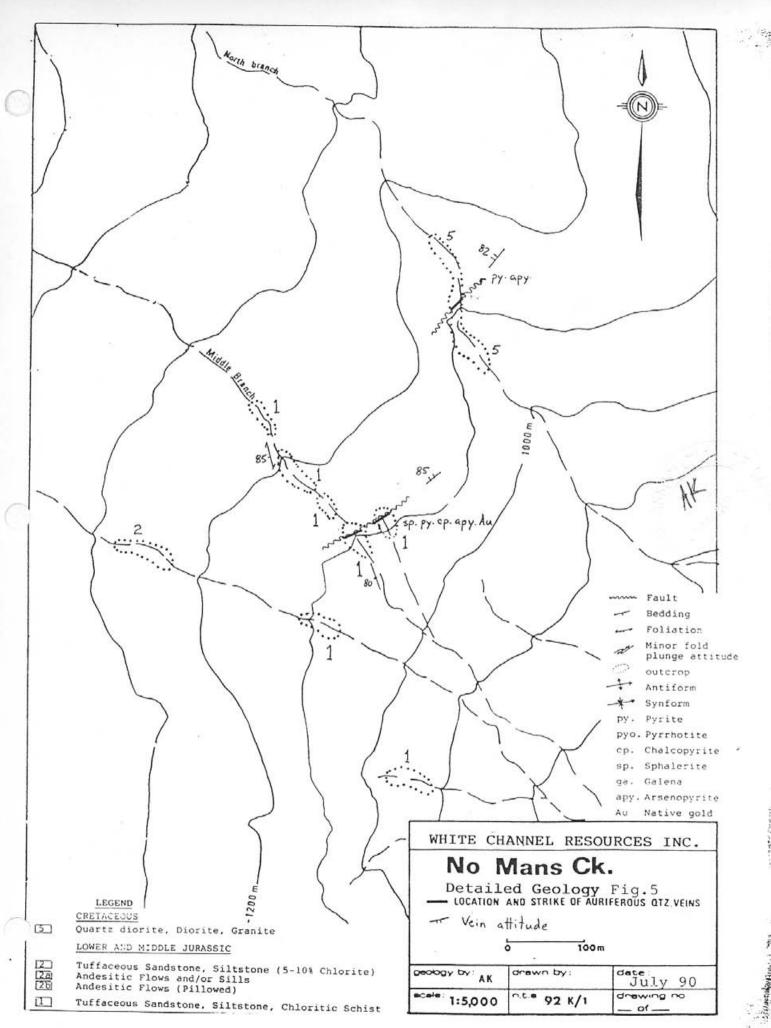
Andris Kikauka, B.Sc., F.G.A.C.

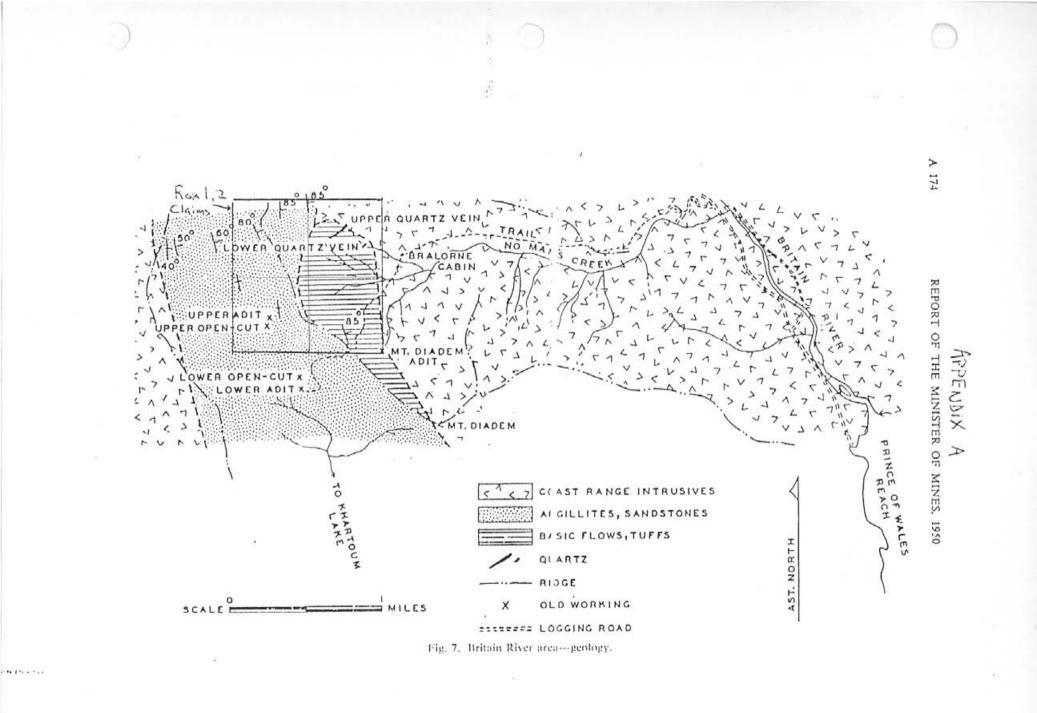






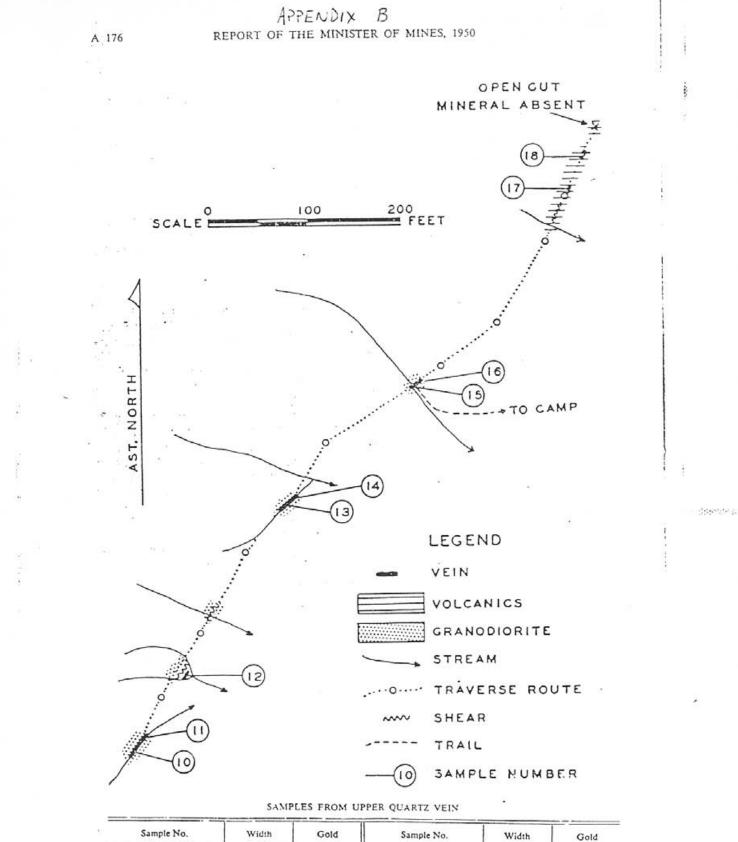






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Sample No.	Width	Gold	Sample No.	Width	Gold
10 11 12 13 14	Inches 7 2 1 2 5	Oz. per Ton Nil 0.42 5.77 1 62 1.68	15 16 17 18	Inches 8 8 9	Oz. per Ton 0.20 0.02 0.01 0.01

# APPENDIX C



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ECO-TECH LABORATORIES LTD.

ASSAYING • ENVIRONMENTAL TESTING 10041 East Trans Canada HWY, Remiority, B.C. V2C 223 (1004) 573/5700 Firk 675-4567

## CENCERTICAL LABORATORY METHODS

#### SAMPLE PROPARATION (STANDARD)

- 1. Soil or Sediment: Samples are dried and then sieved through 80 mesh nylon sieves.
- 2. Rock, Core: Samples dried (if necessary), crushed, riffled to pulp size and pulverized to approximately -140 mesh.
- 3. Heavy Mineral Separation: Samples are screened to -20 mosh, washed and separated in Tetrabromothane. (SG 2.96)

# KETTELES OF ANALYSIS

All methods have either certified or in-house standards carried through entire procedure to ensure validity of results.

1. Exiti-Element Cd, Cr, Co, Cu, Fe (acid soluble), Pb, En, Ni, Ag, Zn, Mo

Direction

Finish

Hot aqua-regia

Atomic Absorption, background correction applied where appropriate

A) Multi-Element ICP

- - -

Direction	Finish
Hot aqua-regia	ICP

18. Gold

.....

Digestion Finish

- a) Fire Assay Preconcentration Atomic Absorption followed by Aqua Regia
- b) 10g sample is roasted at 600°C then digested with hot Aqua Regia. The gold is extracted by MIEK and determined by A.A.